

AMERICAN UNIVERSITY OF NIGERIA



UNDERGRADUATE CATALOG 2018 – 2021

Undergraduate Catalog Disclaimer

American University of Nigeria makes every reasonable effort to provide accurate information in this catalog. This Catalog is effective from 2018 academic year and the content is subject to change. Its purpose is to provide current students and other interested persons with information about the institution. The university reserves the right to change without prior notice, rules and regulations relating to admission, instruction, and graduation; to alter course offerings, and change the calendar. All changes will be effective as authorized by the appropriate offices. It is the student's responsibility to remain aware of expectations for his/her level of study. It is recommended that students regularly check this Catalog for possible changes.

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Welcome Message from the President

I am delighted to welcome every member of our learning community to the new 2018-21 academic year. This will be the fourteenth full academic session in the history of our great university.

I warmly greet our new and returning students to this beautiful campus. You are the reason this university exists, and we are honored by your decision to study here.

We welcome also our dedicated faculty and staff members back on campus in our collective effort to train a new breed of African leaders, committed to the well-being of their community, their nation, and the continent.



AUN is an institution with the core philosophies of entrepreneurship and development. It has been internationally recognized as one of the most distinguished and innovative universities not only in Nigeria, but also in Africa. We are proud of our many accomplishments during our relatively brief existence. We are also proud of the many breakthroughs by our students and our alumni in business, public service, entrepreneurship, IT, and other fields of endeavor.

As we begin a new session, I want to remind you all of our shared commitment to AUN's core values of Excellence, Integrity, and Service. At AUN, these values form not only our motto, but also our way of life. I encourage all of us to demonstrate this commitment ourselves, and to demand it from our colleagues.

As I noted in my inauguration speech on May 19, 2018, AUN is a wonderful gift to Nigeria and Africa. The best way to thank the Founder, His Excellency Atiku Abubakar, for this gift is to make AUN sustainable for generations of students to come. I feel honored to be your president at this very important stage of our university, and to be working with all of you in our collective effort of making AUN sustainable. You'll be hearing much more about sustainability during the year ahead, and I hope you will all welcome and embrace this shared responsibility as much as I do.

Once again, I welcome you to our beautiful campus and to a new academic year.

Go, Stallions!

Dawn Dekle, PhD
President

From the Vice President for Academic Affairs & Provost



AUN was founded with the core philosophy of entrepreneurship and development. The university provides world-class American-style education to youths of Nigeria, Africa, and beyond. An AUN education, even if rigorous, is student-centered and goal-oriented.

As we begin the 2018-21 academic session, I welcome our dedicated faculty members back to campus. I want to say how proud I am of your collective dedication and commitment to the success of our students. Each of you has brought great honor and recognition to AUN through your teaching and research. Permit me to salute most especially our founding faculty members who have stayed with this great university from its inception—we thank each of you for your faith in AUN.

Our students, both returning and new students, I welcome you back home. As in the past, we have high expectations of all of you. Remember that the primary objective of your coming to AUN is your academic advancement. We are all here to help you succeed in your educational and career goals. AUN faculty members are among the best any university can boast of and they are all here to help you succeed. You will be amazed at how helpful your professors can be.

I am delighted to introduce our learning community to this revised undergraduate catalog. The catalog will take effect this Fall 2018 semester and contains our policies and guidelines relating to academic programs and conduct. We have introduced new courses to enrich our current offerings and provide more options for the students. These programs are in tandem with global trends in higher education and demands, and our continuous commitment to providing overseas-quality education at home, in the serene city of Yola.

Let me also note that as a technology-driven university, AUN encourages the university community to explore innovative ways to drive sustainability.

Welcome once again.

Professor Muhammadou M. O. Kah

Vice President for Academic Affairs & Provost

UNIVERSITY PROFILE

History

American University of Nigeria (AUN) was founded by former Vice President Atiku Abubakar, GCON, in Yola, the capital of his home state of Adamawa, Northeast Nigeria.

Having first established a private primary and secondary school, ABTI Academy (now AUN Academy) in 2002, His Excellency Atiku Abubakar approached the American University (AU) in Washington, DC, for advice and assistance in establishing an American-style university. That university was licensed as ABTI University in 2003, and the ground was broken for the buildings in October 2004 on the land originally donated by the 11th Lamido Adamawa, the late Alhaji (Dr.) Aliyu Musdafa, CFR. Today, it is seated on more than 2,500 acres.

The renamed ABTI American University of Nigeria set up an outstanding international Board of Trustees, which included Bishop Desmond Tutu of South Africa, Professor Robert Pastor (1947–2014) from AU, Washington, and a chairman, Ahmed Joda, CFR, a distinguished indigenous technocrat. The first class of students—124 in all—was admitted in the Fall of 2005/Spring 2006. The first President was David Huwiler, PhD.

The institution was conceived as a university which would focus on development issues while providing an education modeled after the best US practices in content and pedagogy. The three constituent schools were Arts & Sciences, Business & Entrepreneurship, and IT & Computing. In 2007, the name of the institution was changed to its present name of American University of Nigeria (AUN). The pioneer class of 92 students graduated in 2009. Every class since then has graduated on schedule.

In 2008, the National Universities Commission (NUC) accredited AUN programs and re-accredited them in 2013. In 2012, AUN launched a graduate program, the Executive Master's degree in Information Technology. Since then, more programs up to the Ph.D. level have been approved by the NUC.

AUN has its own power station and from its inception has provided 24 hour Internet connection, a unique feat in Nigeria. In 2014, it opened the new Robert A. Pastor Library and E-Learning Center, home of its award-winning e-library.

Location

AUN is located in Yola, the capital city of Adamawa State. The AUN campus occupies a serene savannah vegetation most of which was used as farmland. Adamawa, one of the six states in northeast Nigeria, shares the longest borderline with Cameroon. Yola is accessible by road and air, and daily flights from the Yola Airport connect through Abuja to regional, national and international locations.

Campus

The main campus on the Yola southern bypass is both attractive and modern. The main campus comprises 16 buildings including nine comfortable Residence Halls, a spacious cafeteria, a large commencement hall, administrative buildings, School of Arts & Sciences building, and Peter Okocha building which houses the School of Law. A new library complex, The Robert A. Pastor Library and E-Learning Center, has been

completed and contains a library section, state-of-the-art classrooms, study rooms, reading zones, the Advising Unit, Honor Society tutoring center, and the Atiku Center for Leadership, Entrepreneurship and Development. The North Campus, which used to be the temporary site, is located across the street from the main campus. It provides dedicated space and buildings that include the new fully furnished Faculty (housing) Village, and the Community Development Center. All buildings are fully air-conditioned and installed with modern facilities. The entire campus has wireless Internet connectivity and the residences are provided with security personnel, 24-hour electricity, clean running water, and cable television.

Health and Safety

AUN works diligently to ensure the safety of its students, members of staff and faculty. The Safety Unit monitors and drives fire prevention efforts including the campus fire alarm systems and the maintenance of extinguishers. The unit also oversees regular fire drills and the fire response team (two fire engines and 10 crew members). The unit is complemented by the AUN Health Center, which is fully staffed by professionals and equipped with two ambulances. Health services are available to students, faculty and staff 24 hours a day, seven days a week.

The AUN Security and Safety Department is charged with saving lives and protecting property while working to provide a safe living, teaching and learning environment. It focuses on positive interactions and building relationships. The officers use a team approach to problem solving, conflict resolution, and the university's development concept. They are the first responders to all campus emergencies. Officers also conduct parking enforcement, traffic control, aerial research, surveillance, as well as equine and canine patrol of both campuses.

Security and Safety officers work closely with the school administration, students, faculty and staff members, the host community, and local law enforcement teams. They provide a police presence and security for student events and all university activities. The Security and Safety Department also conducts regular security training and education, fire training and education, and conducts investigations of policy and institutional violations.

Environment

AUN has a formal Environmental Unit responsible for campus-wide trash collection, cleaning and 100 percent recycling of all waste produced by the institution. The AUN Recycling Center makes handcrafts and eco bricks from all plastic and glass waste and compost from all paper and organic waste. The Sustainability team and Facilities Management unit oversee the efficient use of such resources.

Vision

AUN seeks to become a great center of learning and research for Nigeria and Africa, and a catalyst for development in the entire world. In the words of its Founder, it sees its role as a "Development University." Thus, the University will honor the traditional university roles of repository and transmitter of culture and knowledge, and center for the creation of new knowledge. As a "Development University," it will also focus on the practical roles that a great university must play in the development of a great nation and continent.

Mission

To these ends as a “Development University,” AUN will foster the creation of leaders committed to sustaining a democracy in which diverse people share in the rights and responsibilities of citizenship, are proficient in creating and applying technology to wise purpose, and are dedicated to securing a humane and prosperous world.

AUN will become a place where students' dreams become Africa's future. At AUN, lives will be transformed for service and leadership to lead Africa and the world in what will surely be the challenging years ahead. To realize this vision and fulfill our mission, we will focus our planning on the following strategic goals: AUN will

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|---------|---|
| Goal 1: | Be the Development University for Africa. |
| Goal 2: | Retain and recruit faculty with the highest standards of academic excellence who are devoted to teaching, research and mentoring students to solve societal problems. |
| Goal 3: | Foster and build an environment that develops students who are problem solvers, and whose lives are transformed for service and leadership. |
| Goal 4: | Develop and encourage the effective use of technology to support learning and research by students and faculty. |
| Goal 5: | Develop the physical environment to support the learning, teaching and research goals of a Development University. |
| Goal 6: | Accelerate and sustain financial growth to achieve financial stability. |
| Goal 7: | Help create and sustain a social and political environment supportive of these goals. |

Values Statement

Our values statement defines what we hold in common as members of the AUN community, and informs our vision and mission statements.

- We believe that tolerance and understanding among national, ethnic, and religious groups are essential to the success of Nigeria or any other nation. The University will actively work to instill these values in its students and will itself reflect them in its policies.
- We believe that the University, in all of its activities, shall demonstrate the highest standards of integrity, transparency, and academic honesty.
- We believe that freedom of expression is fundamental to any intellectual community and affirm that all members of the AUN community will have the freedom to express any opinion without fear of reprisals of any kind.

Sustainability

AUN has adopted a strategic vision to be a Sustainability Leader in all facets of its operations not only in Education and in Africa but also globally.

AUN Learning Outcomes

I. Capacity to think critically and independently, and apply knowledge to solve problems

- Students will develop the skills to analyze, synthesize, and evaluate data and information.
- Students will communicate effectively through expressive and receptive methods (written, oral, quantitative, visual) using appropriate resources, including digital technologies.
- Students will be able to identify, appreciate, and strategize everyday problems.
- Students will develop emotional intelligence.

II. Understanding the importance of sustainable development

- Student will innovate to solve social and development problems.
- Students will develop the ability to apply knowledge to solve social problems.
- Students will develop social responsibility to others through engaging in community service-based projects.
- Students will demonstrate an understanding of national and global issues to function effectively as responsible democratic citizens and global change agents.
- Students will understand and develop the capacity to function effectively in other cultures.
- Students will be able to define their identity in relation to cultural and social differences to include gender, religion, ethnicity, and different lifestyles.

III. Disciplinary and Interdisciplinary knowledge, skills and values

- Students will gain mastery of both disciplinary and interdisciplinary knowledge through their majors and minors. They will be able to use this knowledge to understand their world and participate in civil society.
- Students will gain an appreciation for a liberal arts education.

IV. Ethics

- Students will develop the capacity to act on ethical judgments.
- Students will conduct themselves with honesty and integrity.
- Students will develop a personal code of ethics to guide decision-making rooted in a sense of responsibility as a member of society.

V. Leadership

- Students will become responsible and courageous leaders who will hold themselves and others accountable.

VI. Sustainability

- Students will understand and appreciate economic, political, environmental, and social connections in order to build a sustainable future.
- Students will develop the discipline to manage abundant or scarce resources.

VII. Entrepreneurship

- Students will develop the knowledge and skills to recognize and act innovatively on business and social opportunities.

VIII. Life Skills, Personal Development, and Careers

- Students will be able to prioritize and manage resources effectively.
- Students will be able to manage and resolve conflict productively.
- Students will be able to master independent living skills.
- Students will be able to practice physical, emotional, spiritual wellness.
- Students will be able to compete effectively for a job.
- Students will become lifelong learners.

AMERICA IN YOLA: HOW AN AMERICAN EDUCATION IS DIFFERENT

Coming to AUN and experiencing an American-style university education is new for most African students and for their parents. We are very conscious of the cultural differences (and similarities) between Nigeria and the United States and work hard to develop an intercultural understanding among all members of the AUN community. An American-style education focuses on critical thinking, problem solving and leadership development. In addition, our education is based on the following principles: that every individual deserves equal respect, is unique, and deserves the knowledge and skills to be good citizens in order to improve society.

GENERAL EDUCATION

Unlike universities in many other countries, in addition to studying a specialty such as "Petroleum Chemistry" or "Marketing" or "English Literature," American universities have programs in "General Education." That means students study more broadly; they learn ideas from other specialties. They learn ethics, and history, and culture, and languages, and literature, and science. We call this a "well-rounded" education. We are training not just specialists, but also knowledgeable global citizens.

MAJORS AND MINORS

As in all universities, each student is expected to specialize in a particular course of study. In the American system, such specialties are called "majors." All students will graduate with a particular major. Some students also want to learn about another field of study in some depth, but not as their primary focus. In the American system, such sub-specialties are called "minors." Thus, one could major in Economics and minor in Journalism, or have some other combinations.

ELECTIVES:

Some courses are required of all students, and some are courses that students choose themselves as electives. Students (with the help of their Chair and academic advisors) get to choose which course in science--for example--is most interesting and helpful. Even "majors" and "minors" allow students to make some individual choices within their respective specialties.

The result is that at the end of four years with us, no two students have taken exactly the same courses. Everyone would have had an individual education, because everyone has different talents, interests and goals. Everyone is an individual, and every education unique.

CLASS PARTICIPATION

Because some of the distinctive features of American education are to help train students to think for themselves, be creative, and solve new problems, students are required to actively participate in class. They don't just sit and absorb what comes from teachers, books, and the Internet. They are expected to ask questions, discuss the course materials with fellow-students and professors, read avidly, think critically, and confidently defend their own ideas. They are also expected to respectfully challenge, engage and debate with their instructors. These, we believe, will help students learn how to become creative, assertive adults; and the activities count towards the final grades for each course taken.

UNDERGRADUATE PROGRAMS

MAJORS

School of Arts & Sciences

B.Sc. Communications and Multimedia Design

Concentrations:

Journalism
Multimedia Design
Public Relations & Advertising
Radio/Television/Film

B.A. Economics

B.A. English Literature and Language

Concentrations:

Language
Literature

B.A. International and Comparative Politics

Concentrations:

International Relations
Peace and Conflict Resolutions
Public Administration

B.Sc. Natural and Environmental Sciences

Concentrations:

Bioinformatics
Biomedical Sciences
Biostatistics
Conservation Biology
Environment and Health
Public Health

B.Sc. Petroleum Chemistry

General

Concentration:

Oil and Gas Chemistry
Petrochemical and Polymer Science

School of Business & Entrepreneurship

B.Sc. Accounting

B.Sc. Business Administration

General

Concentration:

Finance

Marketing

B.Sc. Entrepreneurship Management

School of Engineering

B.Eng. Chemical Engineering

B.Eng. Computer Engineering

B.Eng. Electrical & Electronics Engineering

B.Eng. Systems Engineering

B.Eng. Telecommunications Engineering

School of IT & Computing

B.Sc. Computer Science

Concentration

Artificial Intelligence

Cryptography & Blockchain

Networks & Distributed Computing

Software Engineering

Systems

B. Sc. Information Systems

Concentrations:

Information Security & Assurance

Mobile application Development

Telecommunication & Applied Networking Technologies

Business/Big Data Analytics

Geographic Information System (GIS)

System Dynamics

B.Sc. Software Engineering

B.Sc. in Telecommunications & Wireless Technologies

School of Law

Bachelor of Laws (LLB)

MINORS

School of Arts & Sciences

Economics
English Literature and Language
History
International and Comparative Politics
Journalism
Mathematics
Multimedia Design
Natural and Environmental Sciences
Public Relations/Advertising
Radio/Television/Film
Statistics
Writing

School of Business & Entrepreneurship

Accounting
Business Administration
Entrepreneurship Management
Finance
Marketing
Social Entrepreneurship

ADMISSIONS

The American University of Nigeria places great emphasis on excellence. Just as it strives to build the finest academic programs in Africa, it also strives to admit the very best students from Nigeria, West Africa and around the world. Accordingly, admissions are selective and candidates are admitted solely on the basis of their academic qualifications.

Rolling Admissions

AUN has a rolling admission policy. The admissions office will admit students prior to the Fall or Spring semesters until the University is at full capacity. After this, all admitted applicants will be deferred to the next intake.

In accordance with the traditional American academic calendar, at AUN there are two regular intake terms per academic year. The Fall intake is in August and the Spring intake is in January. Unless a student indicates otherwise on his or her application, the student is admitted for the intake that is closest to the time of acceptance. The exception to this rule is when the University reaches full capacity for the term. Students are then notified if their acceptance is deferred to an intake that occurs later than the one for which they applied.

Advanced Standing/Placement

Advanced Standing/Placement credits for A-Levels, approved Diploma Programs and Advanced Placement Testing for certain courses may be granted to students who have achieved an exceptional level of preparation through A-levels, approved diploma programs, advanced placement testing and/or other equivalent means. Advanced standing requires the approval of the Dean, in consultation with the Registrar and the Director of Academic Advising.

Transfer Student Admission Requirements

Students who have successfully completed college/university level coursework prior to their acceptance at AUN should submit official transcripts and course description with their application. Transfer credits are evaluated by the Registrar's Office, in consultation with the appropriate Deans prior to AUN enrolment.

Official transcripts must be received at least one month before the orientation to enable the Registrar's office process the transfer. Grades earned in courses accepted for transfer will not be included in the GPA of the student at AUN. However, the credits earned will be counted towards the total number required for graduation and only courses where students earned a grade of 'C' or higher will be considered for transfer to AUN. A maximum of 60 credit hours from accredited institutions of higher learning may be accepted and used to satisfy major and general education requirements.

All Students who have completed 2 years or more or have completed 60 transferable credit hours and above from an accredited university with a CGPA of 2.0/4.0 or higher OR 2.5/5.0 or higher will be admitted without having to present the University with any high school or examination documentation. Students who do not meet the above-mentioned criteria must apply with their high school credentials.

AUN reserves the right to deny credit for any courses taken at other institutions for any reason. Courses taken more than 10 years prior to acceptance will require additional review. Only those courses that are comparable to AUN courses in content and rigor may be approved for transfer.

Students transferring credits from a university on a quarter system may receive 2/3 of an AUN credit hour for each quarter hour earned. For example, four quarter hours from a transfer institution equals 2.67 credit hours at AUN. AUN may allow a maximum of 12 credits to transfer that are recorded on a pass/fail basis.

Visiting Student (Non-degree)

A visiting student is one who is enrolled at another institution, either in Nigeria or abroad, and who seeks to enroll at AUN but not to earn an AUN degree. Students in this category are not formally admitted to AUN. To apply as a visiting student, the student submits a visiting student application available from the Office of the Registrar (registrar@aun.edu.ng), an official transcript or other formal record of the student's post-secondary work and a letter from the student's home institution confirming that the student is in good standing. Non-native speakers of English who have not studied at institutions in which English is the language of instruction must provide TOEFL or IELTS scores. Students visiting AUN from partner universities under the Global Liberal Arts Alliance (GLAA) program should contact the Study Abroad Office.

Withdrawal from AUN

Notice of withdrawal from the University must be given in writing. Forms for the purpose are available online www.aun.edu.ng/registrar/forms. All re-admission policies will apply once the Withdrawal form is processed.

Readmission

A student whose studies at the University are interrupted for any reason for a period of two or more semesters (excluding the Summer session) is required to submit a formal application for readmission, together with a reapplication fee to the Office of the Registrar (registrar@aun.edu.ng). All prior balances must be cleared in order for a readmission application to be considered.

The application and supporting documentation for readmission must be received at least one month before classes resume in the semester that the student wishes to attend. The only exception to the readmission policy is when written authorization is given for a leave of absence or to study at another collegiate institution. This authorization must be obtained prior to the interruption of study.

A student who is readmitted is subject to the academic requirements and regulations in effect at the time of readmission.

TUITION & FEES PAYMENTS

Payment Requirements

The University requires all students' tuitions and fees to be fully paid prior to the start of each semester. All payments for tuition, housing, dining and other costs as defined in the tuition and fee structure for the current semester must be made in full before a student may move into his/ her room and before he/she may attend classes.

Payment Plans

Tuition and fees are due before the first day of each semester; unless a deferred payment agreement is submitted to AUN. With the deferred payment agreement, the Student/Parent/Guardian is required to pay tuition and fees in specified installments over a period of months. Any charges that are not covered under the deferred payment agreement are due upon registration. The University will not accept letters promising to pay.

In the event that a student chooses to defer payment, the student(s)/parent(s)/guardian(s) are responsible for selecting one of the two deferred monthly payment plan options. Both of these options require an initial (down) payment. This initial (down) payment must be made at the time the deferred payment plan agreement is returned. The outstanding balance not covered by scholarships, grants and bank loans is payable through Guaranty Trust Bank (GTBank) PLC (visit our website for account details) prior to registration being finalized and official registration completed.

Students with CGPA below 2.0 and all graduating seniors are not eligible to be enrolled on a deferred payment plan.

All students who owes the University are not eligible to graduate

Outstanding balances due can be paid by one of the following acceptable means: certified check, cashier's check, manager's check, money order, and/or bank draft. Personal checks will not be accepted.

Failure to make the appropriate satisfactory financial arrangements for the balance due by the due date may warrant a cancellation of the class schedule or a withdrawal from semester.

Deposits

Students are required to make all deposits in a timely manner. The housing deposit payment requires the student's advance attention. Non-payment of this fee may impact whether or not a student is admitted and/or guaranteed residence in the halls.

After a student has been accepted by the University, the student reserves a room by paying the housing deposit. The payment should be made to the American University of Nigeria GTBank account. Students are encouraged to reserve a room quickly, as spaces are allocated on a first come, first serve basis. Please note that students who do not reserve a room in advance of the deadline are not guaranteed a dormitory space on campus.

Refunds

Please see the refund schedule below for students who withdraw (or are withdrawn) from courses:

Fall & Spring Semester

From early registration from the previous semester to the

Last day of registration	100%
First week of classes	75%
Second week of classes	50%
Third week of classes	25%
Fourth week of classes	0%

Summer

From early registration from the previous semester to the last day of	
Registration	100%
Day 1 to Day 3 of the first week of classes	75%
Day 4 to Day 6 of the first/second week of classes	50%
Day 7 to Day 9 of the second week of classes	25%
From day 10 upwards	0%

Administrative Withdrawals

First quarter of the semester	100%
Second quarter of the semester	75%
Third quarter of the semester	50%
Fourth quarter of the semester	25%

Note: There are no refunds for other charges aside from tuition.

Account Responsibility

The University is the guardian of the deposits made to a student's account. It is our duty to protect any credit balance on this account, but unlike banks, we handle the accounts as an academic institution. If there is a credit balance on an account, the student may use that credit balance for the purchase of additional text books in the AUN Bookstore. A student may not remove cash from the account even with the permission of the parent/guardian, but the student may use that credit balance for any other purchases on campus. Much like a savings account, the credit balance in the student's account at the end of a semester is there to cover tuition and fees for the following semester.

The University has a duty to maintain the credit balance, which is available for students to view throughout their study at AUN. This credit will be used to cover new tuition and fee charges posted to the students' accounts. At the end of the year, if the original depositor would like to have the funds remaining in the account returned, the University will need to have the original (hard copy) of the request letter in addition to the original depositor's signature (and two signatures on the reverse side just as would happen at the bank), the deposit/transfer instructions, and a completed AUN Clearance Form (available from the Bursar). Upon completion and verification of all the requirements, the remaining funds will then be returned to the original depositor. If the balance is not requested within one year of a student's intended graduation date, the money is forfeited to the University in its entirety.

STUDENT AFFAIRS AND STUDENT LIFE

The American University of Nigeria is a diverse Nigerian and international learning community dedicated to the continued growth and development of students both inside and outside of the classroom. AUN is committed to preparing students to be educated and enlightened citizens through exposure to and engagement in learning activities and experiences that are designed intentionally to prepare them for challenges in a global society. Through involvement in residential living, student activities, leadership development experiences, athletics, student governance, and many other extra-curricular programs and activities, students will find many opportunities to enhance their overall development and prepare them to make significant contributions both in Nigeria and in the world.

Office of Vice President for Life and Dean of Students

The Office of the Dean of Students is responsible for providing students with impartial, independent and confidential support regarding University policies and procedures. This office provides assistance to students who are considering withdrawal from the University, students who must miss class for an extended period of time, or to students who are challenged with family or personal crises. The office assists students in the resolution of problems, provides information and referral about campus resources, and promotes initiatives that address students' needs and interests. In addition, the office provides educational and co-curricular activities and experiences that encourage students to have a positive college experience.

Student Activities and Involvement

The Office of Student Activities and Involvement is designed to provide a series of programs and activities to support the leadership development and organizational development of students. The office provides a wide range of educational, social, and cultural events, both staff and student initiated, to expand the opportunities for learning outside of the classroom. Additionally, the office provides support and direction to student clubs and organizations, the Student Government Association, the Campus Activities Board, Honor Societies, and religious affiliated groups.

Emerging Leaders Academy

The Emerging Leaders Academy is designed to develop a cadre of student leaders who are capable, competent and prepared to effectively lead in a global society. Our goal is to develop leaders who are motivated to accomplish their goals in life and make positive changes in their lives and work. The Academy provides a forum for students to develop the necessary training to assume leadership roles, focus on identify development, and to gain skills that prepare them for life's challenges while opening their eyes to the many possibilities for involvement in an environment where they can make a positive difference. Students can apply and are selected to participate in this year long academy.

Career Services

AUN provides information and assistance to students related to choosing a major and planning a career, internship/summer employment, job search tools, and career trend information. The Career Services Center serves as a resource to students who are also looking for graduate school opportunities. The Center sponsors a series of career and graduate fairs to connect students and alumni with companies and graduate schools that are looking to recruit. Additionally, the Center provides a series of workshops and

learning activities to prepare students for interviews, résumé preparation, and application preparation. A wide array of career resources are available including books, printed materials, handouts, databases, career software, web-based information, and graduate school materials.

Residence Life

The Office of Residence Life is responsible for the management of all residential facilities on the campus of AUN. Their goal is to provide a living and learning environment in the halls that is conducive to the overall development of students. They are responsible for the selection, training and supervision of the residence hall staff and they develop all residence hall policies and procedures and oversee maintenance and housekeeping in the halls. The residence hall staff is also responsible for providing educational programs and activities in the halls to enhance the overall learning of resident students. The residence hall staff oversees and manages the residential judicial process and handles minor judicial cases with the advice and direction of the Director of Judicial Affairs. Residential judicial offenses should be brought to the immediate attention of the residence hall staff.

Housing Assignments and Card Services

The Office of Housing Assignments and Card Services is responsible for assigning all students into University housing, providing each student with an official ID card during matriculation at AUN, as well as retrieving and/or deactivating same during dismissals, suspensions, loss or as situations may warrant. The office also provides students who are on meal plan with appropriate access to the cafeteria while also controlling the daily meal access based on meal plan type. Students are advised to seek advice before selecting a meal plan. Additionally, the office is responsible for conducting the housing selection process for currently enrolled students in choosing a residential space each semester.

Faculty and Global Affairs Office

Faculty and Global Affairs Office promotes global learning, global partnerships and exchanges, and supports international students and scholars at AUN. The office connects diverse networks of scholars, students and community leaders engaging in international issues and scholarship. The office serves AUN faculty, staff, students and partners doing a world of good.

Students can experience life in a different culture and gain a comprehensive understanding of the historical, artistic, political, and social traditions of a completely different environment while pursuing an approved course of study towards their degree requirements. The programs are open to all students in good academic standing and are subject to the appropriate travel approvals and departmental course approvals. The office provides pre-departure workshops and cross-cultural training for all students who intend to study abroad. For additional information, go to the section on Academic Resources and Consolidated Student Support Services for AUN Students.

Health and Wellness

The AUN Health Center is situated on the main campus. Each student upon registering for the first time at the University must provide evidence of a recent physical examination. This documentation is necessary for students to receive treatment in the AUN Health Center. The Center has competent and committed health care professionals working round the clock. All of the Center's staff members are well

trained and undergo mandatory retraining to keep up with international best practices in their fields. Additionally, the Center and the team members are managed by a Director of Health Services.

The Center provides medical care for the university community: staff, faculty members, and students. The Center is well equipped with state-of-the-art facilities, including cardiac monitors, ventilators, oxygen concentrators, and defibrillators. The AUN Health Center provides inpatient and outpatient care 24/7 throughout the year. We have well-maintained private and semi-private rooms to house patients. Fully air-conditioned, the Center ensures maximum comfort to both in and outpatients. Our lab is well maintained and fully equipped as well, having the latest automated hematology analyzers, chemistry analyzers, and other modern equipment to ensure accurate lab results. We do microbiology, hematology, biochemistry, immunology, serology, molecular biology, and urine and stool studies. Our lab is open on all working days from 8.00 am to 9.00 pm, and the lab technicians are always on call 24/7.

The pharmacy at the AUN Health Center is well-stocked, and we procure drugs only from reliable providers and well-known brands like GSK, Novartis, Pfizer, and Cipla. We are extremely careful in prescription and brand selection to provide the best for our clients. At the AUN Health Center, we use a computerized medical management system to keep patients' information and treatment records. All patients' records are confidential and can be accessed only by trusted health care professionals. We have two ambulances that are well-equipped and are managed by a rapid-response team. Ambulance services are available 24/7 throughout the year.

All AUN students are insured under a comprehensive plan which covers all medical expenses incurred at the Center. Expatriate staff and faculty members are covered under Cigna insurance. Expats can, and students do, get free medical care at the Center. Staff members who are not insured under Cigna can get treatment and pay through payroll deduction.

Psychological Services

The University hires a Clinical Psychologist to address the psychological needs of our students. The Office of Psychological Services works directly with students who are either referred or self-selected for psychological treatment. In addition to developing treatment plans for students, the office provides a series of workshops that focus on mental health issues to include such topics as test-taking anxiety, stress management, drug and alcohol abuse, depression, and adjustment to university life.

Community Service Learning

At AUN, we believe that the overall development of students should include a focus on experiences that connect them to their respective communities. To that end, AUN employs a Director of Community Outreach and Service Learning who is responsible for the development and implementation of programs and activities that create opportunities for students to prepare for a lifelong commitment to community service and civic engagement through a series of organized community service learning experiences. Students can participate in a wide range of community service opportunities in the greater Yola and Jimeta areas. Trips are planned weekly and transportation is provided for students who wish to engage in community service activities. Residence hall councils are also involved in developing community service projects for residents who have an interest in community service.

Campus Safety and Security

AUN is a safe and secure campus and takes seriously the general welfare of all of its students, faculty and staff. AUN employs and trains its own security staff and provides 24 hours a day of coverage for the entire campus community to include main campus, north campus, and University controlled off-campus facilities. All University residence halls have 24 hour security coverage and there is a guarded security gate at all entrances to the campus and all University properties. The University does not provide security for students while they are off-campus or who live in off-campus facilities.

Religious Life

AUN is committed to freedom of religious expression and respect for diverse religious traditions. Opportunities are available to participate in worship services and transportation is provided to local churches and mosques.

Orientation and First Year Experience

The University provides a comprehensive Orientation Program for all new students and parents to provide an overview of all University programs and services and to assist with the transition to college life. The First Year Experience program is designed to provide continuous support and direction to new students throughout their first year at the University. Students participate in a series of workshops, seminars, and activities that focus on academic success and making greater connections to the University community. For more details, see First Year Experience - (AUN 101).

Judicial Affairs

The Office of Judicial Affairs is responsible for the facilitation of the Student Code of Conduct. It is the intent of the AUN judicial process to foster high standards of behavior while promoting a safe environment that respects the rights of all students. In addition, the Judicial Affairs staff strives to inform the University community of activities and programs, which provide resources and information for those students who are new or challenged in their environment. The Director of Judicial Affairs is responsible for providing oversight to the judicial affairs process.

Athletics

AUN provides a wide range of opportunities for students to participate in competitive and recreational sporting events. AUN has highly rated teams representing males and females in intercollegiate and recreational sports that include soccer, basketball, volleyball, tennis, swimming, chess, scrabble, badminton, polo, and track and field. Athletics offers a wide array of instructional programs that include aquatics, fitness and tennis. A fully equipped fitness center is available for students to use on a daily basis as well as a gymnasium for competitive and recreational sports activities and events. The University also offers a number of student athletic clubs and organizations.

Student Code of Conduct

The central commitment of the American University of Nigeria is to develop thoughtful and responsible human beings with the highest moral and ethical standards, within the context of a very diverse yet

collaborative academic environment. This commitment is founded on the following core values of the University:

- Tolerance and understanding among national, ethnic, and religious groups;
- Freedom of Expression; and
- Non-discrimination in the admission and employment processes with regard to gender, age, religion, nationality, ethnicity, physical ability, political affiliation, or personal relationships.

Excellence and integrity are the core principles that guide us.

This Student Code of Conduct is designed to benefit and assist the AUN community in forming the highest standards of ethics and morals among its members. It is designed to foster the University's commitment to excellence and equity, while affirming the shared values that make community life possible. Students with alleged violations of the Student Conduct Code should contact the Office of the Dean of Students to receive further information on disciplinary procedures (See Appendix A for the full text of the Student Code of Conduct).

ACADEMIC SUCCESS

Role of Students

Students at AUN are active learners. They search for knowledge, conduct research, evaluate information, learn from their educational experiences, express their observations and conclusions effectively and persuasively, use technologies as tools for learning and expression, and develop an ability to engage in entrepreneurship and business in service to the development of their community and country. They help their fellow students, contribute to class discussions, work collaboratively on projects, learn from challenges and criticisms, work to improve their skills and knowledge, and together create a university learning community, and a university devoted to development. They are committed to the highest standards of integrity.

Role of Chairs as Advisor

The Chair of each academic program guides and directs students in terms of advising major subject requirements, major electives, etc., ensuring the student meets all necessary requirements for graduation.

Role of the Faculty

The faculty members at AUN have received their advanced degrees from the world's finest universities and have substantial experience as University professors. Their role at AUN is to shape the education programs so that they are on the cutting edge of higher education internationally, respond to the goals and objectives of an AUN education, and meet the highest standards of excellence. Their role is also to present an instructional program that is rigorous and calls for students to understand, evaluate, and apply knowledge. They challenge students to be creative and critical thinkers, and to learn from doing, thinking and communicating so that they will be life-long learners. Thus, faculty at AUN will challenge students to think and to form their own opinions and substantiate them with careful reasoning and documentation. AUN Faculty members are committed to generating new knowledge that can be applied to solve the problems of our community, country and globe.

All faculty members are available to meet with students concerning their course work or interests in future research/study. Faculty members hold weekly office hours to address student questions or concerns. Students may make an appointment by speaking with the faculty member before or after class, sending an e-mail, or visiting the faculty member during the posted hours.

Role of Academic Advisor

When students enroll at AUN, they are assigned an academic advisor who works with them throughout the duration of their study at the University. The primary purpose of academic advising is to provide effective guidance and support so that students can maximize the educational opportunities and make solid decisions about their future, both inside and outside the classroom. The student and advisor work closely together to identify the best course of study for the student based on interests and skills.

Students are encouraged to explore all disciplines of study, a practice that is supported by AUN's liberal arts curriculum. Although students will choose a particular major of study, they are strongly encouraged to enroll in courses outside their area of study to enhance their understanding and expand their worldview. Students can change their major at any point for their academic career. After identifying a major, the student will have additional advising support from a designated faculty advisor and chair within their program of study.

At AUN, we believe that academic advising is directly related to the success of our students. The advising staff is responsible for assisting students in shaping their academic experience and developing goals and

objectives to ultimately achieve their aspirations in life. Advisors provide guidance to students as they design a program of study, select appropriate courses, and complete the registration process. The advising staff works with students through the orientation process and throughout their education to ensure that students have a successful transition into the University. This office also provides support and direction for students experiencing academic difficulty during their studies.

Course Syllabus

Each instructor distributes a course syllabus at the first meeting of each class. The syllabus outlines the course content and learning outcomes, indicates major topics and assignments, explains the grading system for the course and provides information on required books and readings, as well as supplementary texts and sources of information. It is the student's responsibility to complete all assignments and come to class prepared, having completed any readings or other assignment as required during semester dates.

Class Attendance

American University of Nigeria has a mandatory Class Attendance Policy **requiring** each student to attend a minimum of 75% of class sessions in each of their registered courses. No **unexcused** absences are permitted. A student, who, incurs absences in excess of fifteen percent (25%) of the class hours for that course will not be allowed to sit the final examination for the course. Students who have not attended class at least once by the 10% date of the course can be administratively withdrawn by the instructor. Students are expected to attend all classes, without exception.

Classes at AUN are small in order to encourage interaction and discussion with the instructor and other students and to make activity-based learning possible. Thus, it is essential that students be punctual and attend all classes. The instructors include the attendance policy and other expectations on the course syllabus. A student who is registered for a course and fails to adhere to attendance policy outlined by the university is subject to receiving a failing grade in the course for non-attendance.

Cumulative Assessment

The assessment of student progress is cumulative. The weight of the course does not depend solely on the final examination; rather, it is spread across multiple opportunities for the student to demonstrate mastery of the material. Assessment may include quizzes, mid-term exams, out-of-class and in-class written work, participation in class discussions, presentations, contributions to group projects and activities, research papers, journals and other methods of assessing student performance. Each course syllabus clearly states the methods of assessment and their relative weight in calculating the final course grade.

Most degree programs at AUN require students to complete a seminar course or capstone project. Projects completed in a capstone seminar serve as a testimony to the learning, innovation, use of technology and spirit of inquiry fostered by the institution.

Textbooks and Required Materials

Students are expected to purchase textbooks and supplies that are required in their courses. Students are encouraged to use E-books (a digital textbook source) to access some textbooks while others can be purchased from the campus bookstore. Additionally, one copy of most texts is on reserve in the library.

Writing

The purpose of the **Writing Center** as a support system is to help nurture and develop students' writing and reading skills. The Center guides students through the development of their essay drafts, term papers or senior research projects into grammatically correct and meaningful submissions. The Center staff and tutors also mentor students through the proofreading stages during one-to-one sessions. It is important to emphasize that the Writing Center is not an editing center and that neither staff nor tutors write essays or term papers for students; rather, it is a space where through collaboration, grammatical inconsistencies, common errors in writing, different referencing styles, the ethical use of information, and other related matters are identified and addressed so that students can independently correct and improve on their papers before submitting them to their instructors.

The Writing Centre is a key element in what we do at AUN and will continue to play critical roles in supporting students to nurture and fully develop their literacy, communication and study skills.

Writing Across The Curriculum

AUN is committed to the principle that writing is a key component in a liberal education. Writing, a means of communicating information, thoughts and opinions, is an important tool in the creation of new ideas. Writing facilitates discovery and exploration of new knowledge and demands clear and critical thinking...all hallmarks of an educated person. The writing process allows students to refine rough ideas into clear expressions and hone various skills that students can later apply or transfer to other tasks and situations, i.e. techniques of invention and discovery, creation of organization patterns, constructively critiquing, and receiving criticism graciously. Employers recognize the written communication skill as one of the most significant attributes when making decisions regarding employment and further leadership opportunities. Therefore every faculty member, regardless of discipline, is expected to provide opportunities and support to students to enable them develop their writing, critical thinking, organizational and analytical skills in each course. Every AUN course will have at least one significant writing assignment. The Writing Center will assist with grammar and mechanics while course instructors will assess content.

Technology Across The Curriculum

New information technologies are changing the way we live and learn. AUN expects students to make full use of computers and related technology in all their courses and independent studies. The University is committed to ensuring that all graduates possess a high level of competence in information technology (IT). Our commitment to IT is underscored by the policy of requiring successful completion by all students of an IT course--CIE 111 – Introduction to Computers and Computing--besides others that they may take as free or major electives. Students should expect to use computers in every class in order to complete assignments, write papers, conduct class activities, conduct research, access data electronically, produce presentations for class, and solve problems.

Student-Centered Approach

The University is committed not only to challenging students and providing them with demanding and rigorous courses, but also with providing the support systems to ensure that students have every opportunity to succeed. AUN maintains a low student-faculty ratio, so that every student has opportunities to interact directly with faculty. At AUN, students receive individual attention not only from faculty, but from staff and administration as well. The intention at AUN is that every student who is admitted and puts Fourth the effort required will succeed. The University will provide the tools, resources, and support to make that success possible.

Library

The AUN Library, also known as Department of Digital Services (DDS), was established with the mission of supporting and advancing the research and information needs of the AUN community by facilitating access to scholarly materials. The award winning e-Library is housed on the main campus in the Robert A. Pastor Library and eLearning Center. It offers facilities for students to conduct research, study, and work in small groups.

The Pastor Center has a seating capacity of over one thousand, a modern auditorium which comfortably sits 250 people, 18 lecture rooms, two conference rooms, and 19 study rooms. Likewise, DDS provides desktops for the general use of the patrons.

The Pastor E-Library has three floors where one can find the Information Desk/Library Reception, the 24/7 reading-study section, the Atiku Center for Leadership, Entrepreneurship, and Development, Academic Advising and Retention, **the Mathematics Tutorial Services**. DDS is constituted by three service units, i.e. Information Literacy Unit, Reference & Information Services Unit, and Research & Cataloguing Unit.

The Information Literacy Unit provides instructional services that promote the acquisition of skills which enhance access to and ethical use of information resources.

The Reference and Information Services Unit guides users to appropriate information resources. Among its services are research support for students and faculty (accessing databases, selecting topics, and citing sources), interlibrary loan, and evaluation of textbooks for adoption.

The Research and Cataloguing Unit is responsible for processing and cataloguing information materials of all formats and developing the AUN Digital Institutional Repository (DIR). The DIR preserves and makes accessible the intellectual products of the AUN community. The Research and Cataloguing Unit facilitates the use of Open Access and Open Educational resources among faculty, staff, and students. DDS is subscribed to over 30 online e-book and journal databases with specialized and multidisciplinary content. Physical holdings include 26,000 volumes, over 200 print periodicals titles, and an expanding audio-visual collection.

The online public access catalog can be consulted at <http://library.aun.edu.ng>

Computers and Information & Communications Technology (ICT)

Students are encouraged to use computers in all academic work in order to gain proficiency in hardware application-use and Internet research. In support of ICT training, the university requires that all students enroll in a tutorial course that enables them to make the most effective use of the university's ICT resources. A required technology and computing course builds the students' knowledge of computational and telecommunication technologies and associated thinking skills for problem solving across the disciplines, assessing ICT advances, and refining the ability to use technology to obtain a university level education.

The campus is equipped with high-speed wired and wireless service. From any location on campus students can access the university network, their e-mail accounts, or the different Internet services. The university provides support for students who encounter problems or need help with their ICT equipment. The university's ICT infrastructure and satellite/radio and fiber teleport are among the best in sub-Saharan Africa.

Classroom and Laboratory Technology

Classrooms are equipped with instructional technology including overhead projection systems, smart boards, and data displays. Class discussions and presentations are supported by visual and audio aids, which students are expected to use in their class presentations. Computer laboratories and facilities are available to support student learning.

The main campus contains an Arts and Sciences building, which houses twelve state-of-the-art laboratories in biology, chemistry, physical sciences, zoology, the Mathematics Department's Computer Laboratory as well as lecture theaters, classrooms, seminar rooms, and faculty offices. In addition, the main campus houses computer laboratories that support instruction in ICT and are available for student use.

AUN Literacy Program

As a 'development university', the first in Africa, AUN has the responsibility of ensuring that the students are equipped with language, literacy and communication skills which meet and go beyond standard university requirements. The assessment of competencies begins upon resumption at university for all first year students. The students will be required to take placement examinations - English Language and Mathematics.

Students who perform below the required admission levels will enroll in an English remedial course, referred to as WRI 100.

Only when the student receives a passing grade at the end of the semester of entry can he/she now begin a university level writing course. However, upon enrolment in E+, the student can also take some other approved first year courses such as AUN 101 and CIE 111.

There are many resources to help students reach their full potentials and graduate with the required competencies in their respective majors. They include the Academic Advising & Retention Unit and the Writing Center, and learning programs such as the Book Club, Grammar Experience, Study Skills, and Writing Across the Curriculum (WAC).

Transfer students will have to demonstrate acceptable competence in English language before they are allowed to transfer to AUN.

Prof Idorenyin Akpan Communications and Multimedia Laboratory

This facility exclusively designed for the CMD program is housed in the first floor of the Robert Pastor e-Library. It is an all-purpose multimedia lab fitted with state of the art technologies and connected to the internet and communication spectrum all year round. It boasts of several units of the latest iMacs, Keystations, workstations, super Canon scanners, the EOS Rebel XT Digital Camera, projectors, television display units, Pixma DVD Printer, Barcode Scanner, Pablo Drawing Boards fitted with Cintiq Interactive Pen. The computers are fitted with Adobe Creative Clouds, Final-Cut Pro, Anime Studio Software, Autodesk 3 Software and the Red Giant Software. All of these are intended to give the students a real feel of what is obtainable in world class studios. The lab can seat 50-student comfortably at various stage of media content production activities. It supports the teaching and practicum in radio/television post production courses, graphics, multimedia designs, photographic, creative advertising works and filmic edits. The facility is open round the clock with dedicated technical hands willing to help students through.

CMD TV Studio

The CMD TV Studio is equally housed in the ground floor of the Robert Pastor e-Library and used primarily for teaching and production of videography-related courses and contents. It is fully digitalized for the students' best learning experiences and opened 24 hours for students' use. Equipment provided can serve both the indoor and outdoor experiences of the students. The equipment includes various types and quantities of cameras such as the 5D MARK III; the 70D-, 6D-, 7D-, 500D-DSLRs; high definition video cameras (HDV); the GO-PRO; EVP View Finder; Revo Track Slider; V-Control Power Grip; various categories of lenses and filters; various units and directions of microphones with high fidelity; well-designed lighting system; beautiful furnishing and space for more creative work as well as a teleprompter unit. The TV studio is expected to be fitted with a transmitter soon for live broadcast of students' project, which currently are streamed on the CMD website, YouTube and other vid-cast platforms. Post production work are done in the Akpan Communications and Multimedia Lab.

CMD Radio Studio

The CMD radio production facility currently transmits via the internet using the TuneIn radio app. Our investment in radio production is enormous as we still believe that our location in the North-East of Nigeria call for greater attention to the production of radio contents that have enormous development potential for the unreached huge population. In 2016, the radio facility was used to produce over 60 episodes of the USAID sponsored Technology Enhanced Learning for All (TELA) contents that was aired all year round. It was equally used to train radio drama content producers from the North East of Nigeria. A highly digitalized outfit, it is equipped with units of M-Audio Key Station, Alesis Speaker and Key Station, the Numark Playback Machine, the Yamaha Sound Mixer, units of the M-Sound and Auray sound systems, various grades of microphones especially the Auray and Behringer brands. It is expected to fitted soon with a transmitter for live telecast. Currently students' projects are aired on the CMD website, YouTube and other vid-cast platforms. Post production work are done in the Akpan Multimedia and Digital Lab. The drive for content creation in all the production facilities is fueled by the development mantra of the American University of Nigeria.

ACADEMIC SUPPORT AND LEARNING SUCCESS

The purpose of the Academic support and Learning Success is to provide guidance and support to AUN students throughout their program of study at AUN. Academic Support and Learning Success provides a bouquet of support to help AUN students achieve their academic goals and be the best they can be. It offers various resources that strengthen academic skills and performance, including Honor Society tutorials and Natural and Environmental Sciences Tutoring, Writing Center support, Academic Advising, First Year Experience seminars, Study Abroad exchange, academic skill development, study skill enhancement workshops, and more.

First Year Experience

The University provides a comprehensive Orientation Program for all new students and parents to provide an overview of all University programs and services and to assist with the transition to college life. The First Year Experience program is designed to provide continuous support and direction to new students throughout their first year at the University. Students participate in a series of workshops, seminars, and activities that focus on academic success and making greater connections to the University community. For more details, see First Year Experience - (AUN 101).

Honor Society Tutoring

Members of the AUN Honor Society are available to tutor undergraduate students in a wide range of courses offered by the University. These tutors assist fellow students by helping with class work, as well as homework assignments. Students may be matched up one-on-one with tutors who fit their academic needs or may participate in group workshops. These tutoring opportunities support many of the disciplines and programs that are offered at the university. The Honor Society tutors are located in the Robert A. Pastor Library and E-Learning Center. It is important to note that Honor Society tutors do not do assignments for other students; rather they provide guidance and also help explain difficult concepts to students under the guidance of a faculty member who oversees the center.

Creativity Society

The Creativity society will include an AUN Debate Society; AUN Poetic Society; AUN Drama and Performing Arts Society; AUN Chess Society, etc. This will encourage inter-departmental and interschool competitions, and the selected team to represent the University in international competitions.

Natural and Environmental Sciences Tutoring (NEST)

NEST aims at assisting the NES major students who may require extra academic support with such classes as biology, physics, chemistry, NES 101 and others. The NEST center is located in the Arts and Sciences building in the biology lab supported by students, lab assistant and a faculty advisor.

Writing Center

The purpose of the Writing Center as a free support system is to help nurture and develop students' academic writing, reading, critical thinking and research skills. The Center guides students through the writing process and assists in the logical development of essay drafts, term papers or senior research projects. The Center staff and tutors also mentor students during one-to-one sessions and workshops. It is important to emphasize that the Writing Center is not an editing center and that neither staff nor tutors write essays or term papers for students, rather, it is a space where through collaboration the synthesis of ideas, word choice, sentence structures, citation difficulties, and other related matters are identified and addressed so that students can independently correct and improve on their papers before submitting them to their instructors.

The Writing Centre is at the core of what we do at AUN and will continue to play critical roles in supporting students to acquire or enhance their literacy, communication and study skills.

Additional information can be found at <http://www.aun.edu.ng/wc>

Mathematics Center

The goal of the Mathematics Resource Center is to provide support for students requiring extra attention to do well in their academic work, as well to simulate an enabling environment for those interested in maturing their Mathematical and/or Statistics skills. The Center is staffed by faculty and a number of excellent senior students very knowledgeable in the different areas of both Mathematics and Statistics at which they provide tutorial assistance mostly on a one-to-one basis at most times of both the weekdays and weekends. Students who visit the Center with their assignments and homework are given quality explanation of basic Mathematics/Statistics concepts, principles, and theoretical underpinnings of their work, so that they can use their understanding of these core essentials of the subjects to solve their own problem. The Center does not assist students solve assignment and homework exercises. Students have the option of a follow-up visit with specific tutors especially with faculty members, if they so desire.

Mathematics Computer Laboratory

The Mathematics Lab is an "all computing" support facility for on-hand teaching and learning. A number of Statistical and Mathematical applications are installed on the systems for the practical demonstration that must accompany the formal lecture of some courses, as well as for use afterwards at a student's free time, including weekends when it is more convenient for the diligent students to self-practice. Lab demonstrators are usually on hand to answer questions and help out with the basics that are necessary for a student to get going. The Lab has been used extensively for the computing aspect of the STEM project outreach to the local community.

Academic Advising & Retention

Academic advising is a unique resource for undergraduate and postgraduate students, aimed at ensuring each individual's academic path has both direction and purpose. AAR provides support for students throughout their academic programs, guiding them in making sound choices that reflect their educational and professional goals.

The services offered to AUN students include the following:

- Academic planning advice
- Assistance with selecting courses and transferring credits
- New Student orientation/registration
- Support with degree planning
- Assistance with transitioning into AUN
- Exploration of Schools, Majors, Minors, Concentrations
- Support for students at academic risk (CGPA<2.0)
- Referral to various learning resources (Counseling, Honor Society tutoring, Writing Center services and so on)
- Recognition of students (Dean's List, President's List, Scholarly Leadership, Most Improved Student)
- Support for international students in transition

Faculty Advising

Students in each degree programs have been divided by the total number of Faculty members in that program to serve as their Faculty Advisors for continuous engagement and support to students assigned to them and as a requirement and a component of faculty responsibilities, The Faculty Advisors are designated Chairs of the various departments. Their priority is to ensure that Third Year and Fourth Year standing students are on the path to timely graduation. Program Advisors guide students' decisions in completing their major course requirements and guiding their choices of major electives. Program Advisors will also guide students on their choices of majors, minors, and concentrations. All Third Years are strongly encouraged to see their Chairs before their Senior year to seek counsel regarding their senior year course options.

Academic Advisors

When students enroll at AUN, they are assigned an academic advisor who works with them throughout the duration of their study at the University. The primary purpose of academic advising is to provide effective guidance and support so that students can maximize the educational opportunities and make solid decisions about their future, both inside and outside the classroom. The student and advisor work closely together to identify the best course of study for the student based on interests and skills.

Students are encouraged to explore all disciplines of study, a practice that is supported by AUN's liberal arts curriculum. Although students will choose a particular major of study, they are strongly encouraged to enroll in courses outside their area of study to enhance their understanding and expand their worldview. Students can change their major at any point for their academic career. After identifying a major, the student will have additional advising support from a designated faculty advisor and chair within their program of study.

At AUN, we believe that academic advising is directly related to the success of our students. The advising staff is responsible for assisting students in shaping their academic experience and developing goals and objectives to ultimately achieve their aspirations in life. Advisors provide guidance to students as they design a program of study, select appropriate courses, and complete their registration process. The advising staff works with students through the orientation process and throughout their education to

ensure that students have a successful transition into the University. They also provide support and direction for students experiencing academic difficulties during their studies.

Academic Advisors can help students succeed by:

- exploring programs
- addressing concerns about students' studies and directing them to the appropriate learning resource
- clarifying students' academic goals
- selecting courses that relate to students' goals and interests
- identifying skill-building opportunities
- devising a study plan if the student is struggling
- exploring academic options when faced with personal/family emergency
- determining where to go for additional information

Peer Tutoring

The Peer Tutoring Program is designed to help students with difficulties in any course due to particularly challenging subject matters, gaps in student preparation, loss of time due to illness, or other factors. Peer tutors are undergraduates who have performed well in specific courses and who have been trained in tutoring pedagogies, policies and techniques. Our peer tutoring program is available to all undergraduates. Please note that AUN undergraduates are permitted to use only those tutoring services authorized by the Office of the Dean of Student Affairs.

Study Abroad

With the advice and consent of the Study Abroad Office, students are welcome to apply to study at accredited Universities in various parts of the world. Credits earned from studying overseas are transferred back to AUN, to ensure that participating students are able to graduate on schedule. The Office of Study Abroad guides and advises students on every step of the application process and provides pre-departure sessions and opportunities for sharing experiences upon return.

AUN has partnerships with various organizations and Universities worldwide on programs that will foster global understanding and study abroad opportunities. The following are some study abroad opportunities under such partnerships:

Global Liberal Arts Alliance (GLAA)

AUN is a member of the Global Liberal Arts Alliance (GLAA) – an alliance of 29 liberal arts universities in 18 countries. Through AUN's membership in this organization student, selected through a competitive process, have the opportunity to participate and gain international experience through GLAA summer institutes and GLAA-sponsored conferences and research opportunities. Students can also broaden their experience and interact with students in other countries by enrolling in Globally Connected courses. A Globally Connected course "connects" students at two GLAA universities located in different countries enrolled in similar courses thus providing an international dimension to both courses that they would not have otherwise had. Please speak with the GLAA faculty liaison for further information on the Alliance and how you can take advantage of the opportunities AUN's membership provides. Under the auspices of the GLAA, AUN has two popular study abroad opportunities for students:

a) The Global Scholar Program (GSP)

The GSP prepares students for leadership and personal effectiveness in an increasingly interconnected world through the individually designed study of a topic of global focus. This usually involves an in-depth investigation of a significant issue that transcends national borders. Under this program, students will spend two semesters abroad in any two universities that make up the Alliance. (Students can obtain the list of Universities from the Study Abroad office).

This program is intended for highly motivated students seeking experience and active responsibility beyond their AUN experience. Students are expected to take the lead in identifying a topic of global focus which can be fulfilled by including study and out-of-class learning at institutions in two other countries either in Europe, Asia or North America (examples: feminism and social justice in a Middle East location contrasted with similar in China; global health education styles in Africa compared with the Midwest US or Europe; or journalism as a force for political action in an Asian, North American, and European context). In collaboration with a home campus faculty advisor, students explore the types of courses that might be taken at home institution and at the other two institutions in support of study of the topic of global focus. Students work with their academic faculty advisor to develop a sequence of study appropriate for the proposed global focus topic, whether as a component of a major or a set of broader educational goals. On completion, students become part of a Community of Scholars. Students who have participated in this program from various colleges and universities will convene periodically (either virtually or in person) for focused thematic discussion with mentoring and support provided by the associated network of faculty advisors. To participate, students should obtain an Expression of Interest form from the Study Abroad desk in the President's Office or email: studyabroad@aun.edu.ng. Students should normally be in their sophomore year to participate, but it is important for incoming students to consider this opportunity early.

b) Minor in Globalization Studies

The Globalization Studies program focuses on developing a multidisciplinary understanding of the history, characteristics, impact and implications of globalization. Examples of such effects might include (but are not limited to) the effects of the movement of capital and people, transnational social trends, the social or political outcomes resulting from global production networks and value chains, the geopolitics of demand and supply of oil and other key commodities, environmental concerns driven by global climate change, or social justice issues related to regional conflicts and resultant refugee migration patterns. The program is designed to develop in undergraduates an understanding of the relationship between local and global issues, insight into human differences and similarities, the ability to go beyond an ethnocentric view of others, and to foster global citizenship.

Under this program, students will spend two semesters in any two Alliance universities. They will also choose specified courses that meet program learning outcomes. Globalization Studies involves both course-based and experiential learning in a transnational context. On successful completion, Students earn a Minor in Globalization Studies in addition to their Majors. Interested students should obtain an Expression of Interest form from the Study Abroad Office or **email: studyabroad@aun.edu.ng**.
Association of American International Colleges & Universities (AAICU).

AUN is a member of the AAICU, a consortium of 25 colleges across 19 countries. AUN holds the seat of Vice-President of the AAICU. The AAICU runs a Direct Educational Exchange Program where member universities can sign a Memorandum of Understanding, valid for two years, which allows them to exchange students.

AUN has signed a MOU with Richmond, The American International University in London. Richmond offers two full scholarships to qualified AUN students in exchange for a research study visit at AUN. To take advantage of the various study abroad opportunities available, students are encouraged to contact the Study Abroad office or email: studyabroad@aun.edu.ng.

Medical Study at St. George's University

AUN has a Memorandum of Understanding with St. George's University Grenada for studies leading to MD and DVM degrees. Under the MOU, qualifying graduates of AUN's pre-approved pre-medicine/pre-veterinary programs will proceed to complete the MD or DVM degrees at St. George's University. For the MD degree, the first 2 years of medical study is at St. George's School of Medicine, Grenada, and the final 2 years of clinical rotations at affiliated hospitals in the United States and/or UK; for the DVM, the first 3 years of veterinary study is in Grenada, and their final clinical year at affiliated veterinary school in the United States, UK, Canada, Australia, or Ireland.

In addition to all the above, AUN has an expanding portfolio of partnerships with various other universities including Tulane University and American University Washington DC, Kansas State University, among others.

ACADEMIC REGULATIONS

Academic Course Load

Bachelor's degrees awarded at AUN require the successful completion of at least 123 credit hours. An undergraduate student admitted to and enrolled in a degree program earns an average of 15 credits per semester.

The maximum load for a student in the Fall and Spring semesters is 18 credit hours and 6-7 credits hours in the Summer session. In some cases, students may be restricted to fewer credit hours based on prior academic performance. In order to be considered for an Overload (more than the maximum course load), students must have at least a 3.25 CGPA, and receive approval from Academic Advising and their Dean.

Academic Forgiveness

This policy is reserved for special circumstances where a student may require extra support that is beyond the current policies stated. Forgiveness may apply to any academic matter as it relates to the student. This may include course requirements, grade, grade point average, graduation, credits and others. A request for Academic Forgiveness must be made in writing to the person involved immediately after the event. The final Academic Forgiveness approval comes from the Provost.

Academic Integrity

The university is committed to academic honesty and integrity and has developed procedures to deal with instances of academic dishonesty. Students are responsible for the honest completion and representation of their work. Students are expected to act ethically in pursuit of higher learning and to avoid types of behaviors that impair effective assessment. Academic dishonesty is prohibited in all programs of the university.

Academic Misconduct Subject to Disciplinary Action

Academic misconduct is an act in which a student:

- (a) Seeks to claim credit for the work or efforts of another without authorization or citation;
- (b) Uses unauthorized materials or fabricated data in any academic exercise;
- (c) Forges or falsifies academic documents or records;
- (d) Intentionally impedes or damages the academic work of others;
- (e) Engages in conduct aimed at making false representation of a student's academic performance; or
- (f) Assists other students in any of these acts

Possible Disciplinary Sanctions

The following are the disciplinary sanctions that may be imposed by an instructor for academic misconduct:

- (a) An oral or written notice of misconduct;
- (b) An assignment to repeat the work, to be graded on its merits;
- (c) A lower or failing grade on the particular assignment or test;
- (d) A lower grade in the course;
- (e) A failing grade in the course;

- (f) A non-deletable failing grade in the course;
- (g) Suspension from the University;
- (h) Expulsion from the university.

Any class related infractions are initially managed by the instructor, however, the instructor may present the infraction to the Judiciary Affairs committee for review and impose consequences.

Admission to Classes

Students will not be admitted to classes unless they have registered and their name appears on the official class roster.

Auditing Courses

A student may audit a course with the permission of the instructor. Final approval from Academic Advising and the Dean must also be gained. Audit tuition/fees apply and registration is completed through the Office of the Registrar. Auditing is on a non-participating basis unless other arrangements are made between the instructor and the student. The audited course will not count towards degree requirements and a final grade of 'AU' will be assigned to the transcript.

Concentration

A Concentration is a list of specified courses within an area of disciplinary or interdisciplinary study, which is completed on an optional basis and is noted on the academic transcript. A Concentration provides students the opportunity to develop in-depth knowledge representing a sub-specialization or emphasis within the core discipline or major.

A concentration includes a minimum of 12 semester hours and a maximum of 21 semester hours of specialized course work with no less than 50% of the concentration credits upper level credits. The requirements and the curriculum for a concentration are determined by the academic School offering the concentration.

*Concentrations must be pursued and completed concurrently with a degree program.

Course Add/Drop

Students enrolled in courses have the duration of the Add/Drop period to change course selections. The Add/Drop period will run for two weeks, 10 business days, after the Fall and Spring semesters begin. For the Summer Session, the Add/Drop period will run for 3-4 business days. No changes to registration can be made after the end of Add/Drop. Faculty reserves the rights to deny admittance to a course if that course has met more than twice.

Course Withdrawal

After the end of Add/Drop, students are able to withdraw from courses if they choose not to continue or if they are unable to continue (i.e. due to personal issues or if they are forced to leave AUN due to suspension or dismissal). If a student withdraws from a course they will be held financially liable for the course based on the withdrawal tuition refund schedule. **There will be no refund of housing or meal plans for students who withdraw from courses.**

If a student withdraws from a course during Week 2 through Week 6 of the Fall and Spring semesters (refer to the Academic Calendar for the Summer session) a final grade of 'W' will be input on the student's academic record. After the sixth week of class the student will earn a 'WP' (Withdrawal Pass) or 'WF' (Withdrawal Fail) based on their academic performance in the course, as determined by the faculty member teaching the course. Withdrawals are not accepted after the last day of classes. A 'WP' is not accepted during the last two weeks of the Fall and Spring semesters or the last week of the Summer session.

In order to withdraw from courses, students must notify Academic Advising and their professor of their intent to withdraw from the course by completing a Course Withdrawal Form.

Note: the student's discontinuing attendance in class and/or notifying an instructor of a status change does not constitute an official action.

Declaration/Change of Major

Students are strongly encouraged to consult with Academic Advising prior to making changes to their academic record. A Declaration of Major and Change Major forms are available in the Office of the Registrar. Students may also declare Minors through the Office of the Registrar.

Double Counting

Double Counting refers to instances when a course taken to fulfill one requirement counts simultaneously toward a major, minor, concentration or a prerequisite. Up to 8 credits and/or no more than 2 courses may be double counted while the candidate fulfills the minimum number credits stipulated for the completion of every Program at AUN. Students must also adhere to any policy restrictions on double counting enforced by the academic departments.

Double Major

Students can declare more than one major if they have a minimum 2.50 cumulative GPA and if at least 18 credits are unique to each major. Individual academic unit or teaching units may require a higher GPA and have other requirements that exceed the regulations.

If the majors are offered by more than one academic unit within the University, then students will designate at the time of declaration of the majors the single academic unit in which they will be registered and from which they will be graduated. Students will need to satisfy the general academic unit requirements of that single academic unit. When majors lead to different degrees (e.g., B.A. and B.S.), students will specify which degree they wish to be awarded. Electives may be used to satisfy double major requirements.

Enrollment/Course Registration

Enrolled students receive registration information/instructions via their AUN e-mail accounts each semester. Students who fail to register for courses during Registration or Late Registration (the first week of classes) will not be eligible to take courses during that semester. New students enroll in courses during Orientation (an event held prior to the first day of the classes in the fall and spring semesters). All students are mandated to meet with Academic Advising prior to registration.

Note: Course prerequisites and/or Class Restrictions are strictly enforced.

Enrolment/Early Registration & Registration

Students enroll in courses and, where applicable, the connected sections during the registration period prior to the beginning of classes each semester or during early registration. The early registration period is provided in the second half of each semester (OR after the midterm) for enrolled students to select courses for the next semester. Upon resumption, students enrolling for the first time register for courses during an orientation period. This takes place before classes begin, and; previously enrolled students may make changes to their schedules at this time. At the American University of Nigeria, a course is an individual subject a student enrolls in; and it may be offered in multiple sections, and at different times during the week.

Examinations

The semester does not officially end until the last examinations are completed. Final examinations must be taken as scheduled by the Office of the Registrar.

Grades

Grades (midterm and final) are assigned based upon the student's performance in courses. Students are required to check their official grades and academic standing via the University Self-Service Portal, after release by the Office of the Registrar.

Grading System

At the end of each semester, faculty assign letter grades based upon the student's performance in courses. The grades listed below are calculated in the grade point average. Grades assigned at AUN equate the following performance levels:

Grades

A	(95-100%)
A-	(90-94%)
B+	(87-89%)
B	(84-86%)
B-	(80-83%)
C+	(75-79%)
C	(70-74%)
D	(60-69%)
F	(0-59%)

A- to A	Truly outstanding work that demonstrates an excellent command of the subject.
B- to B+	Work that represents a good command of the subject and is beyond usual expectations for the course.
C to C+	Work that represents a command of the subject and meets expectations. C is the minimum pass level for all Major and Minor courses (including concentrations). C is also the minimum pass level for WRI 101 and WRI 102.
D	Work considered at a minimal passing level, but demonstrates significant gaps in knowledge and falls short of expectations.

- F** Work that demonstrates substantial shortcomings in knowledge and/or is insufficient in quality to warrant awarding credit for the course.
- F*** Judicial Sanction
- WF** (Withdrawal Fail) At the time of withdrawal, the student had failing grade. A student must obtain a Course Withdrawal Form. If the approval is granted, the transcript will indicate that the student withdrew with a failing grade (WF). Withdrawals are not accepted after the last day of classes for each semester.

Grading Scale (4.0):

The following are the grading scales used in AUN's 4-point grading system

A	4.0	A-	3.7	B+	3.3	B	3.0
B-	2.7	C+	2.3				
C	2.0	D	1.0	F	0.0		
F*	0.0	WF	0.0 (F)				

The grade point average (GPA) is determined by dividing the total grade points by the total number of course credits for which the student has been enrolled.

The GPA includes only those courses taken for conventional grades (A-F) and WF. Final grades that will not be calculated into the student GPA are as follows:

- AU** Audit - Students may audit courses with the approval of the Chair, advisor and Dean. Permission from the instructor must also be gained. Audit tuition/fees apply and registration is completed through the Office of the Registrar. Auditing is on a non-participating basis unless other arrangements are made between the instructor and student.
- AW** Administrative Withdrawal - Course and/or semester withdrawal for documented Medical or Judicial (i.e. Suspension, University Dismissal) reasons.
- IP** In Progress - Current course work, final grade pending/ to be assigned.
- I** Incomplete - given to a student who, due to extenuating circumstances (i.e. confirmed illness, death of family member), is unable to complete the course requirements. The student has six weeks into the subsequent semester (includes the Summer session) to complete the course work. If the work is not completed within the six weeks and a final grade (A-F) is not submitted to the Office of the Registrar by the instructor, the incomplete grade is dropped and the grade of 'F' is automatically assigned.
- TR** Transfer - Approved transfer credit. Transfer credits accepted from other institutions are included in the total number of credits applicable to degree requirements, but grades earned in these courses are not used when computing the GPA (see the "Transfer of Credit" section for more information).
- W** Withdrawal - students may withdraw from a course without GPA penalty, during Weeks 2 through 6, of the Fall and Spring semesters. A student must obtain a Course Withdrawal Form. If approved, a final grade of 'W' will be assigned to the transcript.

WP Withdrawal Pass - students may withdraw from a course without GPA penalty, after Week 6, but before the last two weeks, of the Fall and Spring semesters. A student must obtain a Course Withdrawal Form. If the approval is granted, the transcript will indicate that the student withdrew with a passing grade (WP).

Any grade below C is not accepted for major or minor credit. Any grade below D does not satisfy general education requirements – exception WRI 101 and WRI 102. Students will be required to retake any course if the grade earned does not satisfy the requirement. Students are required to take courses for a letter grade (A-F) in order to earn credit towards degree requirements.

Regarding Pass and Fail (P/F) grades, a grade of P indicates a quality of performance no less than C (2.00) on the grading scale outlined above. Performance below this level is reported as 'F'. If the course is remedial, grades of 'P' and 'F' are not included in the credit hours required for graduation and the student's GPA is not affected positively or negatively. However, if the course is taken for credit the grade of 'F' will negatively impact the student's GPA.

Change of Final Grade

Once reported, a final grade cannot be changed except to remove a grade of 'I' (Incomplete) or to correct a grade recorded in error. To remove a final grade recorded incorrectly, the faculty member must complete a Change of Grade form indicating that an error was made; the request must include supporting documentation. The form requires the signature/approval of the Dean.

Student Academic Grievance Policy

If a student feels that he/she has been assigned an inaccurate grade due to a clerical error or miscalculation of grade average, the student should first approach the course instructor with a request to review the grade computation. If the instructor detects an error, he/she can submit a Change of Grade form to the Office of the Registrar. The student must make the request with his/her instructor within the first 30 calendar days of the semester or term immediately following the receipt of the grade being questioned.

If the student has a concern after the instructor has reviewed the grade calculation, the student may appeal further to the academic Dean of the school that offers the course. The appeal to the Dean must be initiated within 10 calendar days of the instructor's notification to the student of the determination.

The Dean will review the case and reach a determination in consultation with the student and the instructor. After this process is completed, the only grounds for appeal would be that the appeal process was not conducted as described above. That appeal should be directed to the Director of Academic Advising who will forward it to the Academic Review Committee for review. The student must make this appeal within 10 calendar days of notification by the Dean of the determination. An appeal to the Academic Review Committee must be made via e-mail with supporting documentation attached.

Repetition of Courses

AUN students have the option to repeat courses to try to improve their academic performance. If the student successfully repeats the exact course, this grade, whether it is a higher grade or not, replaces the original grade in the calculation of the student's GPA. The original grade remains on the transcript, as well as the new grade, but only the most recent grade is used in grade point calculations. The student earns the credit hours for the course only once upon passing the course. To repeat a course, the student signs up for it at registration just as

he/she would for a class that had not previously been taken. The repeated course counts in the student's load for the semester in which it is taken.

If a course is repeated, each attempt, including the final grade, is entered separately on the permanent academic record. Unless specifically indicated otherwise, only one successful attempt of a course is counted toward fulfillment of graduation credit requirements.

Independent Study

Students may independently pursue areas of study beyond regularly scheduled courses. In the Catalog, the course code for any Independent Study is 492. Each School offers this opportunity through designated independent study courses designed by instructors. An independent study project is a student's research on a topic agreed upon by the student and the instructor. Independent Study is not suitable for group instruction, paid work or activities outside the competence and/or concern of one of AUN's existing departments.

To qualify, students must have completed/earned at least 60 credit hours, and be in good standing with a CGPA of 2.0 or higher. All Independent Study credits must be taken for the assigned letter grade (A-F) and credit value (1-6). Only one independent study is allowed per semester and no more than six (6) independent study credits can be taken when completing undergraduate coursework; and of these, up to three (3) credits can be used to satisfy major (course) requirements (if in line with degree requirements and approved by the appropriate Department Chair and Dean).

Once the dean of the school has approved the Independent Study application, the form must be submitted to the Office of the Registrar where the course will be added to the student's schedule of classes.

Applications for Independent Study must be submitted by the end of the first week of classes of the applicable semester.

Internship for Academic Credit

An internship is an opportunity for students to combine academic study with substantial work experience. Academic departments may have additional requirements; however, generally the baseline requirements for enrolment in an internship are successful completion of a minimum of 60 credit hours of coursework and a CGPA of 2.0 or higher.

For every internship credit earned, a minimum of 60 hours of training and work is required (i.e. a total of 180 hours of internship experience equates to three (3) credit hours). Academic requirements for internship credit are above and beyond these working hours. The number of credits earned per internship can range from one (1) to six (6) credits determined by the hours of work at the internship. **Students can only register for six (6) credits of internship credit during their undergraduate degree, of which no more than three (3) credits can be used to satisfy major requirements** (if in line with degree requirements and approved by the appropriate Department Chair and Dean).

All Internship credits must be taken for a letter grade (A-F) and must be a minimum of 6 weeks in duration. The internship must be completed prior to the beginning of the subsequent semester.

Internship forms are available at the Office of the Registrar and must be submitted during the normal Registration period of the semester the internship will take place. In order to register, students must have satisfied all prerequisites, secured the internship position and identified a faculty member who is willing to oversee their course of study within the appropriate department. The supervising faculty member must establish the academic requirements (i.e. learning outcomes, research paper requirements and timelines, etc.). Additional requirements may vary by department. The course number 493 is associated with all program internships.

Registration Procedures

The Office of the Registrar will provide specific course information before early registration each semester. Courses listed may be canceled if there's insufficient enrolment. The Registrar's office reserves the right to change class schedules and adjust individual section enrolments as necessary. Students must be present at the first meeting of every class (lecture and laboratory) to validate their registration. If students cannot attend the first meeting, they must notify the instructor beforehand if they intend to continue in that section. Otherwise, they may be delisted from the class.

It is the student's responsibility to ensure that tuition is paid, and to note that courses can only be dropped before tuition liability begins. Courses can also be cancelled by the Registrar's office if the student is suspended, dismissed, or if the section is cancelled. All deadlines should be verified from the academic calendar.

Registration involves three main steps:

Advisement and consultation

Selection and registration of courses

Payment of fees

Students must attend the section of the course for which they are registered. No instructor may authorize a student to shift from one section of the course to another without following official Add/Drop procedures.

Students are responsible for registering on time and for the correct courses. Students may not attend classes they are not enrolled in and will not receive credit for these courses. Students may not register or add courses retroactively.

Students will receive the "F" grade if they stop attending classes without officially dropping the course.

Minors

A minor is a course sequence within an area of study providing a degree of specialization within that area, a specialty within a discipline, or a specialty integrating several disciplines. Minors balance introductory and advanced coursework. Students wishing to obtain a minor are encouraged to contact their academic advisor. Please note that no more than six (6) credits of minor coursework can overlap with major or general education requirements.

Minor should have normally completed a minimum of 30 credits of course work and be in good academic standing. The following rules apply:

- The minor consists of a minimum of 18 credits, including at least nine credits in courses at or above the 300 level.

- At least nine credits of the 18 credits required for the minor must be taken in residence at AUN.
- At least six credits of the nine credits at or above the 300 level must be taken in residence at AUN
- A minimum GPA of 2.00 must be earned in courses completed to satisfy the minor. Students seeking a minor in must successfully complete the following courses as prescribed by each school

WRI 101 and WRI 102 Requirement

Students must complete WRI 101 and WRI 102 courses alongside the General Education requirement in the first two years of study. Adherence to this rule provides not only competent skills for university writing but also provides opportunities for offering courses with Writing pre-requisites. **Students must obtain a C grade or better** for Writing as it satisfies the general education requirements, failure to do so, requires students to repeat the subject matter.

Late Course Registration

A period of Late Registration occurs at the beginning of each semester. Students who unavoidably arrive late to campus and/or are physically unable to participate during the regular registration period may register during the first week of classes, on a space-available basis. After five complete days of classes (refer to the Academic Calendar for the Summer session), students will no longer be able to register for courses and must wait until the following semester. A late registration fee of 30,000 Naira may be applied when students miss the regular registration period and seek to enroll during Late Registration - the first week of classes.

Undergraduate Student Status

A full-time student is one who is admitted in a degree program at AUN and registers for 12 or more credit hours each semester. A student may drop one or more courses and still be considered a full time student provided he/she maintains enrolment in at least 10 credit hours. Any student enrolled in fewer than 10 credit hours or registered for fewer than 12 credit hours is considered a part time student. Part time students are not permitted to reside in dormitory.

Students are further classified according to the number of credit hours and required courses they have completed. First year students have accumulated 0-29 credit hours. Second year students have successfully completed between 30 and 59 credit hours.. Additionally, to have second year standing, the student must have successfully completed WRI and MAT. Students who have not completed these requirements after two semesters of attendance at AUN must complete them in no more than one additional semester and summer

Third year students have earned 60-89 credit hours and successfully completed the courses described in their major's course of study plan for the first two years. Students who have not completed these requirements after four regular semesters of attendance at AUN must complete them in no more than one semester and summer.

Fourth students have earned 90 or more credit hours, a CGPA of at least 2.0, and successfully completed the courses listed in the first six semesters of their course of study plan. Students who have not completed these requirements after six regular semesters of attendance at AUN must complete them in no more than one semester and summer

Credit hours completed - Student Status

0-29 First Year

30-59 Second Year

60-89 Third Year

90 - plus Fourth Year

This does not apply to students in the law program.

Students who do not make sufficient academic progress are subject to suspension or dismissal from the University (See 'Academic Performance Policy').

Time Limit for Degree Completion

The maximum duration of an undergraduate program, excluding deferment approvals, is six years (twelve semesters) as a full time student, eight years (sixteen semesters) for a part-time student, and seven years (fourteen semesters) for the Law program.

The grade point average (GPA) is determined by dividing the total grade points by the total number of course credits for which the student has been enrolled.

The GPA includes only those courses taken for conventional grades (A-F) and WF. Final grades that will not be calculated into the student GPA are as follows:

- AU Audit - Students may audit courses with the approval of the Chair, advisor and Dean. Permission from the instructor must also be gained. Audit tuition/fees apply and registration is completed through the Office of the Registrar. Auditing is on a non-participating basis unless other arrangements are made between the instructor and student.

- AW Administrative Withdrawal - Course and/or semester withdrawal for documented Medical or Judicial (i.e. Suspension, University Dismissal) reasons.

- IP In Progress - Current course work, final grade pending/ to be assigned.

- I Incomplete - given to a student who, due to extenuating circumstances (i.e. confirmed illness, death of family member), is unable to complete the course requirements. The student has six weeks into the subsequent semester (includes the Summer session) to complete the course work. If the work is not completed within the six weeks and a final grade (A-F) is not submitted to the Office of the Registrar by the instructor, the incomplete grade is dropped and the grade of 'F' is automatically assigned.

- TR Transfer - Approved transfer credit. Transfer credits accepted from other institutions are included in the total number of credits applicable to degree requirements, but grades earned in these courses are not used when computing the GPA (see the 'Transfer of Credit' section for more information).

- W Withdrawal - students may withdraw from a course without GPA penalty, during Weeks 2 through 6, of the Fall and Spring semesters. A student must obtain a Course Withdrawal Form. If approved, a final grade of 'W' will be assigned to the transcript.

- WP Withdrawal Pass - students may withdraw from a course without GPA penalty, after Week 6, but before the last two weeks, of the Fall and Spring semesters. A student must obtain a Course Withdrawal Form. If the approval is granted, the transcript will indicate that the student withdrew with a passing grade (WP).

Any grade below C is not accepted for major or minor credit. Any grade below D does not satisfy general education requirements. Students will be required to retake any course if the grade earned does not satisfy the requirement. Students are required to take courses for a letter grade (A-F) in order to earn credit towards degree requirements.

Regarding Pass and Fail (P/F) grades, a grade of P indicates a quality of performance no less than C (2.00) on the grading scale outlined above. Performance below this level is reported as 'F'. If the course is remedial, grades of 'P' and 'F' are not included in the credit hours required for graduation and the student's GPA is not affected positively or negatively. However, if the course is taken for credit the grade of 'F' will negatively impact the students GPA.

Grade Appeal

Recognizing, however, that the evaluation of student performance is based upon the professional judgment of instructors, and notwithstanding the exceptions noted at the end of this policy, appeals will not be considered unless based upon one or more of the following factors:

- An error was made in grade computation.
- Standards different from the documented departmental, school, or university policies were used in assigning the grade.
- In determining the grade, it is evident that the instructor departed substantially from his or her previously articulated, written standards, without notifying the affected student(s).

If a student feels that s/he has been assigned an inaccurate grade due to any or a combination of the factors stated above, the student should first approach the course instructor in writing within 30 calendar days immediately after the final grade has been published, with a request to review the grade. The instructor has two weeks to review the request and provide a written decision to the student with express reasons justifying the grade or acknowledging the mistake. If the instructor detects an error, s/he should submit a duly completed and signed Change of Grade form to the Office of the Registrar.

If the student has a concern after the instructor has reviewed the grade calculation, the student may appeal further to the chair of the department as it relates to the program. The appeal to the chair must be in writing and initiated within 10 working days of the instructor's feedback based on the student's grievance.

The department chair will review the case and reach a determination in consultation with the student and the instructor within two weeks. After this process is completed, the only grounds for further appeal would be that the appeal process was not conducted as described above. That appeal should be directed to the dean of the school that offers the course. An appeal to the Academic Review Committee must be made via e-mail with supporting documentation attached by the parties involved.

Individual graded assignments that contribute to a final course grade are not subject to appeal unless it can be established that the grade for the individual assignment was given for one of the three impermissible reasons cited above, and resulted in an unfair final grade.

Finality of Appeal

There shall be no further appeal from the decision of the grade appeal committee except for procedural errors. No appeals from these decisions are allowable to the president or to the Board of Directors.

Repeating a Course

Students have the option to repeat courses to improve their academic performances. No student with a D or an F grade in any major/minor credit bearing course is permitted to repeat the course more than thrice. If the student is unsuccessful after the third attempt, the student will no longer be able to pursue the same degree at AUN. A student who wishes to repeat a course with a passing grade may do so but may only do the same course a total of three times.

Grade Replacement

AUN students have the option to repeat courses to try to improve their academic performance. If the student successfully repeats the exact course, this grade, whether it is a higher grade or not, replaces the original grade in the calculation of the student's GPA. The original grade remains on the transcript, as well as the recent grade; only the most recent grade is used in grade point calculations. The student earns the credit hours for the course only once upon passing the course. The repeated course counts in the student's load for the semester in which it is taken.

If a course is repeated, each attempt, including the final grade, is entered separately on the permanent academic record. Unless specifically indicated otherwise, only one successful attempt of a course is counted toward fulfillment of graduation credit requirements.

Incomplete Grade

The grade of Incomplete may be given to a student who, due to extenuating circumstances (i.e. documented and confirmed illness, death of family member), is unable to complete the course requirements. An 'I' may be given only if the student is receiving a passing grade at the time the request is made. Arrangements for an incomplete must be made prior to the end of the course and the incomplete form must be filled out by the faculty member in its entirety and submitted to the Office of the Registrar prior to the last day of classes for the semester. The incomplete form requires a full explanation of the remaining coursework and the submission deadlines.

If a student receives an 'I', s/he has six weeks into the subsequent semester (includes the Summer session) to complete the course work. If the work is not completed within the six weeks and a final grade is not submitted to the Office of the Registrar by the instructor, the incomplete grade is dropped and the grade of 'F' is automatically assigned.

No grade of 'I' will be recognized by the Office of the Registrar without proper documentation. A 'W' (withdrawal) may not be given to remove a grade of 'I'. An 'I' may not stand as a permanent grade.

Course Substitution

Program chairs may suggest course substitutions in a student's Program of Study based on the student's previous academic records and experiences. Substitute courses should have similar content to those specified in the degree requirements. In some instances, more advanced content could be substituted. Substitutions do not reduce the number of credits required for the degree and must be recorded on the student's Program of Study.

Students may fulfill certain requirements with courses outside the curriculum listings. This provides limited flexibility when required courses are unavailable, or when new "special topics" courses are created by other departments and are relevant to the intentions of the requirement. In all cases, proposed substitutions excluding General Education courses must be approved by the Chair and DEAN..

Students may apply for one course substitution within their Major program all course substitution application for major requirements must initially be reviewed by the Academic Advisor.

Waiving Requirements

Waiving requirements is defined as satisfying degree or program requirements by means other than those specified in the Academic Catalog. Current AUN student may petition to be waived from course requirements based on previous coursework. Course(s) waived does not reduce the number of credits required to graduate. Student must complete a Request for Course Waiver Form and provide requesting documents with the form to the office of Registrar. Student may be asked to demonstrate their proficiency in the course(s) to be waived. The decision to grant a waiver is at the discretion of the school's chair and dean.

Valedictorian

Valedictorians are students selected to address the graduating class at one of the university's commencement ceremonies. A unique valedictorian is selected for each ceremony. Students are selected for this honor based on sustained academic excellence and other outstanding accomplishments that contribute to life at AUN, and the community.

Deferral/Leave of Absence

Undergraduate students who must interrupt their studies for any reason must submit a request for deferral/leave of absence prior to their departure from campus to the office of the Registrar. Submitting a deferral/Leave of Absence' form (with the required signatures) ensures that students will be able to return to AUN without reapplying for readmission. Students are able to take a leave or defer for one or two regular semesters (Fall and Spring) of deferral/leave before resuming their studies. If a student is unable to return after two consecutive semesters of leave, including the Summer Session, the student will be removed from enrolment (in-active) at AUN and will be required to reapply to resume studies. The leave becomes void if the student attends any domestic or foreign collegiate institutions during the period of leave without prior written approval from the Registrar. In such instances, students must complete a 'Permit to Study' form prior to study abroad in order to transfer credits to AUN (See the 'Permit to Study' section for more information).

Medical Withdrawal Policy

When a student discontinues attending courses due to medical reasons, in certain cases, it may be possible for that student to receive a pro-rated refund of tuition. If a student is hospitalized due to an emergency (which renders him/her unable to withdraw from courses) the Registrar can process an approved retroactive Medical Withdrawal based on the last date that the student attended class. In order to receive this pro-rated refund of tuition, the student must submit a Course Withdrawal form to the Office of the Registrar with evidence of his/her hospitalization (to be verified by the AUN Director of Health and Wellness). The form will indicate the student's last date of attendance by each instructor. If the petition is approved and provided that the retroactive withdrawal falls within the tuition cancellation period (based on the administrative withdrawal chart – see the Tuition and Fees section), the student's account will be credited with their tuition refund (housing and meal plans are not refundable). All medical withdrawal petitions will be reviewed by Academic Advising, the Registrar, AUN Clinic and the Dean of Students. If approved, a final grade of AW will be assigned to the transcript.

Readmission to AUN

A student whose studies at the University are interrupted for any reason for a period of two or more semesters (excluding the Summer session) or a student who Withdrew from the University is required to submit a formal application for readmission, with a reapplication fee to the Office of the Registrar (registrar@aun.edu.ng). All prior balances must be cleared for a readmission application to be considered. The application and supporting documentation for readmission must be received at least one month before classes resume in the semester that the student wishes to attend. The only exception to the readmission policy is when written authorization is given for a leave of absence or to study at another collegiate institution. This authorization must be obtained prior to the interruption of study.

A student who is readmitted is subject to the academic requirements and regulations in effect at the time of readmission.

ACADEMIC PERFORMANCE AND STANDING

Academic Integrity Code

The central commitment of AUN is to develop thoughtful and responsible human beings with the highest moral and ethical standards, within the context of a very diverse yet collaborative academic environment. This commitment is founded on the following core values of the University:

- Tolerance and understanding among national, ethnic, and religious groups;
- Freedom of Expression; and
- Non-discrimination in the admission and employment processes with regard to gender, age, religion, nationality, ethnicity, physical ability, political affiliation, or personal relationships.

Excellence and integrity are the core principles that guide us.

This Academic Integrity Code is designed to benefit and assist the AUN community in forming the highest standards of ethics and morals among its members. It is designed to foster the University's commitment to excellence and equality, while affirming the shared values that make community life possible. Students with alleged violations of the Academic Integrity Code should contact the Office of the Dean of their respective program to receive further information on disciplinary procedures (See Appendix B for the full text of The Academic Integrity Code).

Academic Performance Policy

An undergraduate student who fails to maintain the academic average required by the university and/or fails to make satisfactory academic progress towards completion of degree requirements is subject to probation, suspension and/or dismissal. All students of the American University of Nigeria are required to meet baseline academic standards in order to continue with their studies. The minimum satisfactory standard of achievement is a cumulative grade point average (CPGA) of 2.0.

Continued Enrolment

Continued enrolment at AUN depends upon an undergraduate student's ability to maintain satisfactory academic progress towards attaining a degree. The university measures this ability by the student's cumulative grade point average. To assist students in maintaining satisfactory progress, AUN has adopted academic standards designed to provide early identification of students who are experiencing academic difficulty and to provide timely intervention through academic support programs.

Regulations regarding academic probation, restriction, suspension, and dismissal are designed to provide close supervision of the academic progress of AUN students. At the end of each semester, student records will be reviewed and sanctions will be imposed. A change in students' academic status can occur following any semester when the student's cumulative GPA falls below 2.0. Students under academic sanction are subject to restrictions with respect to academic course load as determined by the Director of Academic Advising and Retention.

Each student's transcript will be evaluated at the end of each academic semester. . Students liable for academic sanction will receive written notification and the notice will stipulate the terms of the

sanction. Parents/Guardians of students, who have signed the consent form, will also be notified of the actions imposed on their child/ward.

The following are academic designations that can be imposed:

Good Standing

Undergraduate students who maintain a cumulative grade point (CGPA) average of at least 2.0 are considered to be in academic good standing and are eligible for continued enrolment at AUN.

Probation

This is an indication of serious academic difficulty and applies whenever a student's cumulative grade point average (CGPA) falls below 2.0. Students who are placed on academic probation at the end of each semester (including summer session) may continue with enrolment and the student's course load registration will be limited to 12 credits. The standing *Probation* will appear on the transcript for that semester.

Restriction

Academic Restriction is designed to reduce the credit load of students in academic peril. When a student's CGPA is less than 2.0 for two consecutive semesters and having been on Academic Probation the previous semester, the student's course load registration will be limited to 12 credits in the subsequent semester. The standing *Restriction* will appear on the transcript for that semester.

Suspension

After Probation and Restriction standing and continued poor academic performance, a student's enrolment will be suspended for one semester (Fall/Spring, including summer). If the student wishes to return to the university, s/he must contact Registrar's office and submit a request letter for reinstatement (Readmission). This must be done one month before the beginning of the semester.

Once a student's request for reinstatement (readmission) has been approved by the respective school and the student continues with his/her enrolment, if the CGPA falls below 2.00, s/he will be (indefinitely) dismissed. The standing *suspension* will appear on the transcript for that semester.

Appeal of Academic Suspension

A student may appeal an academic suspension due to continuous poor academic performance. There are only two grounds for appeal:

- 1) Dispute of grade or evaluation
- 2) Extenuating circumstances*

In the case of dispute of grade or evaluation, the student must be able to demonstrate that the grade average or evaluation was incorrectly calculated and should be sufficiently higher as to remove the student from the circumstances that led to the dismissal. In the case of extenuating circumstances, the student must be able to demonstrate that s/he encountered unusual circumstances during the previous semester that caused poor academic performance and s/he is sufficiently capable academically to clearly perform at an acceptable academic level in the subsequent semester to meet the requirements for satisfactory academic performance.

**Extenuating circumstances are defined by the University as “Exceptional circumstances which are outside the control of the student and which have prevented, or will prevent, him/her from performing in assessment at the level expected or required of him/her.”*

Extenuating circumstances might include:

- o *Illness (serious) affecting the student*
- o *Bereavement*
- o *Serious illness affecting a close family member*
- o *Unforeseeable or unpreventable events*

Independent documentary evidence, such as medical certificates, must be provided in all cases to verify extenuating circumstances.

Appeal Process

The process for appeal of dismissal requires that the student submit a formal appeal application to the Director of Academic Advising & Retention requesting a review by the Academic Review Committee stating clearly the reasons for the appeal. Notification of the verdict will be sent to the student via e-mail when the Committee renders a final decision, of the receipt of the appeal. Submission of an appeal does not guarantee a favorable review. All records of appeal will be forwarded to the Office of the Registrar to be included in the student's record.

Dismissal

Students whose CGPA falls below 2.00 after suspension of one semester, will be recommended for Academic (indefinite) Dismissal and can no longer seek reinstatement (readmission).

HONORS PROGRAM

American University of Nigeria recognizes that academic excellence is of critical importance for each student. Thus, AUN is committed to ensuring that each course and program offered is academically challenging and meets the highest international standards of excellence and performance. The University also acknowledges that some students seek additional challenges, opportunities, and distinctions as they develop their talents and knowledge. Thus, the University offers an Honors Program that enables highly motivated students to earn honors credits in their courses and academic degree programs. For truly exceptional students, a “University Honors” is available.

Course Honors

The student applies for course honors by indicating on the Honors Application Form his\her desire to pursue honors in the particular course. This form is to be submitted no later than week 12 prior to the following semester. The form is available from the Office of the Registrar. To be eligible, the student must have a CGPA of 3.0 or higher at the time of applying.

The course instructor(s) will review the application and determine the additional requirements and assignments that the student will need to complete by the end of that semester.

The instructor, with the approval of the appropriate program chair and dean will inform the student no later than the second week of the applicable semester whether the honor's application has been

approved or rejected. If approved, both the student and the course instructor must agree in writing, to the required additional work; and it is normally equivalent to 20% of the regular course requirements. In order to be eligible to receive course honors, the student will be required to complete the additional assignments and the entire course with a final grade of “B” or higher. A grade below “B” is deemed inadequate for attaining a course honors.

If a student does not complete the additional work to fulfill the course honors, or attains a grade lower than a B, the instructor will reflect the grade accordingly without the designation of Honors. If the student is unable to complete the approved requirements due to extenuating circumstances, the student must notify his/her instructor in writing and the details will be concluded at the discretion of the instructor(s) concerned.

Program Honors

Students may apply for Program Honors no later than week 12 of the second year (59-79 earned credits) by completing the Honors Application Form which is available at the Office of the Registrar. This form indicates the student's intention to pursue the Program Honors. The course instructor(s) will review the application and determine the additional requirements and assignments that the student will need to complete by the end of that semester.

To be eligible, the student must have a CGPA of 3.0 or higher. The instructor, with the approval of the appropriate program chair and dean, will inform the student no later than the second week of the applicable semester whether the honor's application has been approved or rejected.

Both the student and the course instructor must agree in writing, to the additional work required. In order to be awarded with designation of Honors, the student, by the time of graduation, must have successfully completed all additional requirements as determined by the program, maintain a CGPA of 3.0, and achieved a B grade in the program honor's course(s). If after starting the program, a student falls short of expectation, and for instance has a GPA that is lower than 3.0, continuation in the academic honors program will be at the discretion of the program chair.

There is a caveat to the minimum passing grade for program honors. Grades below “B” are deemed inadequate to fulfill the requirements for attaining a program honors. Hence, a student with a grade below “B” in their program must sit for and pass the Senior Research Project courses in their departments to obtain the usual degrees, without honors. If you complete the honors program, you will not be required to fulfill the Senior Research Project requirements. If a student does not complete the additional work to fulfill the program honors, the instructor will reflect the final grade without the designation of Honors. If the student is unable to complete the requirements due to extenuating circumstances, the student must notify his/her instructor in writing and the details will be concluded at the discretion of the instructor(s) concerned

ACADEMIC RECOGNITION

The University is proud to recognize student academic leadership and excellence — acknowledging students for President's List, Deans' List, Scholarly Leadership, Most Improved, Peer Mentors, and other honorable titles - whose outstanding initiative and contributions to academia improve the campus community.

Deans' List and President's List

All students who achieve a term GPA of 3.5 to 3.799 will earn the **Deans' List** recognition. The **President's List** recognition will be given to students who achieve a term GPA of 3.8 or higher in all courses taken that semester.

Students that have contributed to expanding and sharing scholarly work by presenting at conferences, publishing articles and participating in exceptional activities, such as the Model UN, are acknowledged in the Scholarly Leadership award.

Students that have achieved a CGPA of 2.0 – 2.69 are eligible to be recognized as the 'Most Improved' and are awarded a certificate.

The university seeks opportunities to recognize exceptional contributions to academic, scholarly and extracurricular activities.

Honor Society

AUN sponsors the Honor Society for students who maintain exceptionally strong academic performance. Students are eligible for membership in the Honor Society beginning in their second year. Applicants must have completed/earned 30 credit hours or more and have a minimum CGPA of 3.5. To maintain membership, the student must earn CGPA of 3.5 or higher. Honor Society members are eligible to participate in special activities and may have the distinction of being called upon to represent the University in leadership roles and as mentors to other students.

TRANSFER OF CREDIT

Transfer of Credit

Candidates transferring from other higher institutions are subject to the following conditions; must be on good standing (not on probation or dismissal) and the institution they are transferring from must be accredited by a recognized body.

A maximum of 60 credit hours from accredited institutions of higher learning may be accepted and used to satisfy major and general education requirements at AUN.

Grades earned in courses accepted for transfer will not be included in the GPA of the student at AUN. However, the credits earned will count towards the total number required for graduation and only courses where students earned a grade of 'C' or higher will be considered for transfer to AUN.

Students who have successfully completed college/university level coursework prior to their acceptance at AUN are required to submit along with their transfer application, material/course descriptions/syllabi for course evaluation to the Registrar not later than 2 weeks before new student orientation. Courses will NOT be evaluated for possible transfer until an official transcript, course syllabi/descriptions are submitted to the Registrar. Transfer credits are evaluated by the Registrar's Office, in consultation with the appropriate Deans prior to enrolment at AUN.

All students who have completed 2 or more years or have completed 60 transferable credit hours and above from an accredited university with a CGPA of 2.0/4.0 or higher or 2.5/5.0 or higher will be admitted without having to present the University with any secondary school or examination documentation. Students who do not meet the above-mentioned criteria must apply as new students.

Transfer applicants from affiliate institutions will be awarded both credit and grade while applicants from other accredited universities/institutions will be awarded only credits

AUN reserves the right to deny credit for any courses completed more than five (5) years prior to matriculation as an undergraduate at AUN. Only those courses that are compatible to AUN courses in content and rigor may be approved for transfer.

Students should seek the approval of the program chair for transfer of credit prior to taking any course at another institution to ensure the course(s) is/are comparable and will be acceptable for transfer. AUN reserves the right to deny credit for any courses taken at other institutions for any reason.

Students who have successfully completed University level coursework at other accredited institutions may submit official transcripts to the Office of the Registrar (with their application to Admissions if prior to matriculation). The official transcript must be sent directly from the other institution to AUN. The transcript will be evaluated and authenticated. The student will be notified of acceptable transfer credits and course equivalents via AUN e-mail. Only those courses that are comparable to AUN courses in content and rigor may be approved for transfer. Courses taken more than 10 years prior to acceptance will require additional review.

Grades earned in courses accepted for transfer credit, including study abroad courses, will not be included in the CGPA. However, the credits earned will be counted towards the total number required for graduation and only courses where students earn a final grade of 'C' or higher will be considered for transfer to AUN. A maximum of 60 credit hours from all institutions of higher learning may be accepted and used to satisfy major and general education requirements, or serve as free electives. For transferred courses the final grade of 'TR' will appear on the transcript.

Students transferring credits from a university on a quarter system, may receive 2/3 of an AUN credit hour for each quarter hour earned. For example, four quarter hours from a transfer institution equals 2.67 credit hours at AUN. AUN may allow a maximum of 12 credits to transfer that are recorded on a pass/fail basis.

AUN students who study abroad in an AUN approved abroad program are eligible to transfer credits from their coursework abroad. Please see the 'Permit to Study' section for more information.

Permit to Study (Study Abroad)

An enrolled student who plans to take courses at another college or University (either domestically or internationally) to transfer credit to AUN must be in good academic standing and have a solid record of good conduct. Permits to Study may not be authorized for courses at non-accredited four-year institutions, and all AUN Transfer of Credit policies apply.

Prior to study at another institution, students must receive approval from their Dean, their Department Chair, Academic Advising and the Registrar using the 'Permit to Study' form. With proper approvals in place, transfer of credit can be applied to both major and general education requirements when appropriate.

Students intending to study outside the country must be in close communication with the Coordinator of Study Abroad Program regarding application requirements and arrangements with the host University. Upon return to AUN, students must submit an official transcript to the Office of the Registrar. The official transcript must be sent directly from the other institution to AUN. The transcript will be evaluated and authenticated. The student will be notified of accepted transfer credits and course equivalents via AUN e-mail. Only those courses that were previously approved on the Permit to Study form will transfer. For details of Study Abroad see the section on Academic and Consolidated Services for AUN Students. We will evaluate transcripts of A-Level students on an individual basis and determine what credits will be transferred.

AUN accepts to transfer passing grades A-D on all relevant A-level subjects. It is at the discretion of each school to accept credit transfer a passing grade of E at the A 'level.

DEGREE CONFERRAL/GRADUATION

Graduation Requirements

Students at AUN are required to complete a minimum of 123 credit hours in all majors except for law (minimum of 177 credits in a 4 year DE track and 208 credits in a 5 year UTME track - for the LLB degree); with a minimum cumulative grade point average (CGPA) of 2.0 on a scale of 4.0. Candidates must successfully complete the General Education requirements of the University, in addition to requirements that are specific to the student's degree program, in order to be eligible for degree conferral. Candidates must have paid all tuition, fees, fines, and charges.

To be eligible for the award of an LLB degree, a candidate must have satisfactorily completed and earned the minimum number of credit hours prescribed for the degree (200 credit hours for candidates admitted through the UME and 177 credit hours for candidates admitted through Direct Entry). This will involve successfully completing the approved compulsory and elective/optional courses of the School and other department of the University.

Application for Graduation

Final year students (completed 105 credits or more – SOL 167 or more) are required to submit an Application for Graduation to the Office of the Registrar within the deadlines stated on the academic calendar. Application forms are available online www.aun.edu.ng/registrar/forms.

Only after an application has been received will the academic degree audit will be processed. Candidates will be notified by the Office of the Registrar if additional information is needed and/or discrepancies are found via AUN e-mail. Students who fail to satisfy all degree requirements must reapply for graduation in a future semester (adhering to all guidelines stated above).

If the University Senate approves summer semester, students who have satisfied all but two courses and no more than 8 credits are eligible to participate and walk in the commencement ceremony. All outstanding coursework must be completed by the end of the academic year (Summer) that the student participates in the commencement ceremony.

Degree/Graduation Honors

University Honors, cum laude, magna cum laude and summa cum laude are awarded upon degree conferral for students whose CGPA is 3.5-3.699 (University Honors), a CGPA of 3.7-3.799 (cum laude), a CGPA of 3.8-3.899 (magna cum laude) and a CGPA of 3.9 or higher (summa cum laude). These graduation honors are printed in the graduation program, on the diploma and on the student's transcript. Graduation sashes and honors will only be noted during the Commencement ceremony and in the Commencement booklet if all requirements have been completed.

Names on Diploma

The name and order of names that appears on a student's diploma will be consistent with the name and order of names that appears in the student's file upon admission and is corroborated by a passport or valid identity card and/or a birth certificate.

National Youth Service Corps

All recent AUN graduates (with no outstanding balance) will have their names submitted to the NYSC office for mobilization in the next available Batch, per NYSC calendar/guidelines only. All recent graduates must check their AUN e-mails to receive information from the Office of the Registrar regarding NYSC instructions/dates.

Diploma Replacement

If an original AUN diploma is destroyed or lost, a duplicate may be ordered from the Registrar's Office. The Duplicate Diploma Request Form must be filled by the alumni; and any evidence that the original diploma was lost, stolen or destroyed must be attached to the Request Form (e.g., police report, fire department report). If the original diploma is damaged, the Duplicate Diploma Request Form must be submitted to the Registrar's Office with the damaged diploma attached. The reverse side of the duplicate diploma will be stamped with the words, "Duplicate issued on MM/DD/YY to replace lost/destroyed original diploma." In order to receive this duplicate, alumni must fill a Diploma Request Form, online www.aun.edu.ng/registrar/forms.

ACADEMIC RECORDS

The Office of the Registrar provides these services: creating, maintaining and transmitting academic records; scheduling classrooms; course registration; evaluating transfer credit; auditing degree progress and completion; verifying enrolment/degree completion; coordinating NYSC Batch submissions, and issuing academic transcripts and diplomas.

Student Records

A file is maintained for each student who registers at American University of Nigeria. After an applicant is matriculated, his/her record is maintained by the Office of the Registrar. Additional files may be kept by the Academic Advising Office and/or a student's individual School/Department, however, the primary source of academic information will be housed in the Office of the Registrar. The purpose of the official student record is to document the student's academic career/history.

Students have the following rights regarding their education records: The rights

- 1) to have access to their education records,
- 2) to consent to release their records to a third party and
- 3) to seek amendment of information on the record, if the student demonstrates an inaccuracy.

In order to view their academic records, students must submit a Student Record Request form to the Office of the Registrar. After submitting the form, students will be invited to the Office of the Registrar via AUN e-mail within 10-15 business days to view their file. All files and the information in the files must remain in the Office of the Registrar during viewing.

Any alteration or misuse of official student records and/or an attempt to alter or misuse them, will result in immediate dismissal of any student or employee involved. The University reserves the right to initiate legal proceedings as it sees fit in instances of misuse, alteration and/or fraud. Upon graduation, or if a student leaves the University, his or her files are sealed and archived at AUN.

Confidentiality of Student Records

A student's personal information will only be shared with any other person within the University and/or with an external person or agency with the express consent of the student via a signed Consent form (available in the Office of the Registrar). Confidential information will be shared on a 'need to know' basis. The following are exceptions in which prior consent from the student is not required to release confidential information:

- Unless the student expressly requests restriction of its release, Directory information can be shared without prior consent. This includes the student's name, address, telephone number, major, dates of attendance and degrees/awards received.
- In case of imminent and serious threat to the safety or health of the student and/or others.
- Where disclosure of the information is legally mandated.
- To prevent a criminal act.
- Where the information is disclosed to University officials who have a legitimate educational interest in the records.
- Where the information is disclosed to third parties in accordance with national and/or University regulations governing the release of such information.

Transcripts

Students and alumni may obtain transcripts of their academic history from the Office of the Registrar. A request for transcript must be initiated by the student only as requests from individuals other than the student will not be honored. After submitting a processing fee and verification of payment receipt by the Bursar, students can request their transcript in writing (email to registrar@aun.edu.ng) using their AUN e-mail accounts or go online for details

<http://www.aun.edu.ng/academics/registrar/students/101-transcripts> Once the request has been made and payment has been received, it may take between 5-10 business days for processing.

A notation will be made on all AUN transcripts confirming that English is the official medium of communication and instruction for all courses taught at AUN.

The University will not issue a transcript that reflects only a part of the student's record, nor will it make copies of transcripts on file from other colleges and universities.

A notation will be made on all AUN transcripts confirming that English is the official medium of communication and instruction for all courses taught at AUN.

Verification of Enrolment/Degree

On request, the Office of the Registrar can provide a letter verifying enrolment/degree completion at the University. When applying for scholarships and/or submitting employment applications, this verification certifies that the student is/was enrolled. A request for enrolment verification must be student initiated and made via e-mail to registrar@aun.edu.ng and it will take 5-10 business days to process.

A notation will be made on all verification confirming that English is the official medium of communication and instruction for all courses taught at AUN.

GENERAL EDUCATION PROGRAM

The General Education Program is designed to provide course work and experience consistent with the mission and vision of the University and relevant to the needs of Nigeria, the region, and the world. All students must complete the General Education Program requirements to be eligible for graduation. The General Education Program is a rigorous sequence of University level courses that provides a broad foundation in multiple disciplines and opportunities for students to integrate their knowledge and develop their critical thinking skills. The program covers the basic areas of human knowledge and understanding, as well as essential skills.

The General Education program requirements comprise of 50 credit hours in core disciplines drawn from the School of Arts and Sciences, the School of Business and Entrepreneurship, and the School of IT and Computing. Courses completed in meeting the General Education Program core requirements may be applied toward meeting the requirements for the student's major degree program, depending on the requirements of that major. Students should consult with Academic Advising for guidance on course selection within the General Education Program.

Community Development (CDV) Courses

AUN is committed to Community Development and seeks to instill this commitment in our students. As a Development University, it is imperative that we foster this concept and practice. All students are required to do a course in Community Development. In addition, by emphasizing community development AUN is giving a practical example in Corporate Social Responsibility (CSR), which, hopefully, our students will bring with them throughout their career as they move into positions where they and their businesses can engage in CSR to the benefit of local and other communities.

In CDV courses, students are introduced to the concepts of community service, citizenship, and critical reflection through an interdisciplinary service project to the community. They are exposed to the harsh realities and challenges facing the local community and lend their time and talents to implementing sustainable improvements. They work in one of AUN's designated community service development programs. AUN Community Development courses integrate meaningful community service with instruction and reflection to enrich the learning experience, teach civic responsibility, and improve our community and country. A CDV course is a semester long course with at least 25 hours of community engagement.

General Education (GENED) Requirement

General Education supports a Liberal Arts experience that prepares students for success in their majors and personal & professional lives after graduation.

Students are required to complete all General Education courses as listed below. Each major may have prescribed GENED courses; students must refer to their specific major program.

Discipline	Course Code	Course Title	Credit Hours
First Year Experience (total 1 credit)	AUN 101	First Year Experience	1
Arts and Humanities (total 9 credits)	GEN 102	Nigerian Peoples and Culture	3
	GEN 103	History and Philosophy of Science	3
	PHI 300	Ethics and Leadership	3
Community Service (total 3 credits)	CDV 2xx	Community Development	3
Critical Thinking and Problem Solving (total 3 credits)	AUN 300	Critical Thinking and Problem Solving	3
Entrepreneurship (total 6 credits)	ENT 101	Introduction to Entrepreneurship	3
	ENT 325	Social Entrepreneurship	3
Information Technology (total 3 credits)	CIE 111	Introduction to Computers and Computing	3
Mathematics <i>Based on placement test</i>	<i>MAT 100 or</i>	<i>Pre-Algebra</i>	<i>0</i>
And	MAT 110 or MAT 112 or MAT 210	<i>This course is NOT counted towards graduation credits.</i> University Algebra	3
Statistics (total 6 credits)	STA 101	Pre-Calculus Calculus I Introduction to Statistics	3
Natural and Physical Sciences (total 7 credits)	BIO, CHE, GEO, NES, PHY (Lab)	Refer to course description.	4
	BIO, CHE, GEO, NES, PHY (no Lab)		3
Social and Behavioral Sciences (total 6 credits)	ANT, CIV, ECO, HIS, ICP, PSY, SOC	Refer to course description	3
	ANT, CIV, ECO, HIS, ICP, PSY, SOC		3
Writing (total 6 credits)	<i>WRI 100</i> or WRI 101	<i>Introduction to Composition</i> <i>This course is NOT counted towards graduation credits.</i>	<i>0</i>
	<i>Based on placement test and</i> WRI 102	Composition I	3
		Composition II	3
		TOTAL	50

SCHOOL OF ARTS AND SCIENCES

DEAN'S MESSAGE



Patrick Fay

Interim Dean, School of Arts & Sciences and Associate Professor of Political Science, B.A., B.Ph. Mental and Moral Philosophy, 1970; Basic Certificate in Systems Analysis, 1978; Diploma in Computers in Education, 1979; Diploma in Administrative Science, 1979; Master of Public Administration., 1981; Certified Diploma in Accounting and Finance, 1993; M.Sc.(Econ.) in Policy Studies, 1996 ; M.A. European Union Law, 2001; Diploma in Politics and Government, 2004; Doctorate in Governance, 2008; License in Theology, 2011; B.Sc. (Open) in Management, Politics, Environment, Law & Introduction to Diabetes, 2012; Postgraduate Diploma in Diplomatic Studies, 2014.

Patrick Fay joined AUN as an Associate Professor in January 2015. Prior to that, he was a member of the Irish Diplomatic Service for 16 years, including serving as Ambassador to Lesotho for four and a half years and ending his career as Ambassador to Nigeria for four years. He holds a Doctorate in Governance, Masters' degrees in Public Administration, Policy Studies and European Union Law, in addition to other post-graduate qualifications in diplomacy and in peace and conflict studies. His research interest is in human rights. Hobbies are reading and music. He is married with three grown-up children, two daughters and a son.

WELCOME

Welcome to the School of Arts and Sciences (SAS). This is the biggest of the schools at AUN. Students have a wide choice of degree programs on offer. We offer degrees in Communications and Multimedia Design, Economics, International and Comparative Politics, English Literature and Language, Natural and Environmental Sciences, and Petroleum Chemistry. Within some of these degrees, students may opt for different concentrations; for example, in the degree in Natural and Environment Sciences, a student can concentrate on Biomedical Sciences, Environment and Health, Conservation Biology, Public Health, Biostatistics and Bioinformatics. In addition, the General Education Department is located within the School.

Irrespective of the degree program chosen, the American University of Nigeria places strong emphasis on developing particular skills in all its courses. These skills are critical thinking, oral and written communication, applied knowledge in real world settings, intercultural skills, teamwork skills and ethical approaches. Syllabi are designed to develop and enhance these skills.

SCHOOL OF ART AND SCIENCES

The School of Arts and Sciences offers the following degree programs:

School of Arts & Sciences

B.Sc. Communications and Multimedia Design

Concentrations:

- Journalism
- Multimedia Design
- Public Relations & Advertising
- Radio/Television/Film

B.A. Economics

B.A. English Literature and Language

Concentrations:

- Language
- English Literature

B.A. International and Comparative Politics

General

Concentrations:

- International Relations
- Peace and Conflict Resolutions
- Public Administration

B.Sc. Natural and Environmental Sciences

Concentrations:

- Bioinformatics
- Biomedical Sciences
- Biostatistics
- Conservation Biology
- Environment and Health
- Public Health

B.Sc. Petroleum Chemistry

General

Concentrations:

- Oil and Gas Chemistry
- Petrochemical and Polymer Science

Each of these programs is designed to reflect high standards in curriculum and instruction; to prepare the graduates with the values, skills, and knowledge to be successful in their future careers. Additionally, the degrees are structured to provide flexibility for students to select elective courses, areas of concentration and/or a minor.

Bachelor of Arts (B.A.) and Bachelor of Science (B.Sc.) degree programs within the School require the successful completion of course work in the major field of study in addition to satisfying general education requirements. Students are encouraged to work closely with their Chair in designing their programs of study and to consider completing a minor in a subject that will complement their career objectives.

Minors offered through the School of Arts and Sciences include:

- Public Relations/Advertising
- Economics
- English Literature and Language
- International and Comparative Politics
- Journalism
- Mathematics
- Multimedia Design
- Natural and Environmental Sciences
- Statistics
- Radio/Television/Film
- Writing
- Globalization Studies

General Education (GENED) Requirement

General Education supports a Liberal Arts experience that prepares students for success in their majors, personal and professional lives after graduation.

Students are required to complete all General Education courses as listed below.

Each major may have prescribed GENED courses; students must refer to their specific program.

Discipline	Course Code	Course Title	Credit Hours
First Year Experience (total 1 credit)	AUN 101	First Year Experience	1
Arts and Humanities (total 9 credits)	GEN 102	Nigerian Peoples and Culture	3
	GEN 103	History and Philosophy of Science	3
	PHI 300	Ethics and Leadership	3
Community Service (total 3 credits)	CDV 2xx	Community Development	3
Critical Thinking and Problem Solving (total 3 credits)	AUN 300	Critical Thinking and Problem Solving	3
Entrepreneurship (total 6 credits)	ENT 101	Introduction to Entrepreneurship	3
	ENT 325	Social Entrepreneurship	3
Information Technology (total 3 credits)	CIE 111	Introduction to Computers and Computing	3
Mathematics*	<i>MAT 100 or</i>	Pre-Algebra	0
and	MAT 110/MAT 112 or	University Algebra/Pre-Calculus	3
	MAT 210	Calculus I	3
Statistics (total 6 credits)	STA 101	Introduction to Statistics	3
Natural and Physical Sciences (total 7 credits)	BIO, CHE, GEO, NES, PHY (Lab)	Refer to Course Description	4
	BIO, CHE, GEO, NES, PHY (no Lab)		3
Social and Behavioral Sciences (total 6 credits)	ANT, CIV, ECO, HIS, ICP, PSY, SOC	Refer to Course Description	3
	ANT, CIV, ECO, HIS, ICP, PSY, SOC		3

Writing* (total 6 credits)	WRI 100/WRI 101 and	Introduction to Composition/ Composition I	0 3
	WRI 102	Composition II	3
TOTAL			50

Writing and Mathematics Requirement*

Dependent on the results of the placement test, this will determine the number of courses required.

<i>If a student is placed in...</i>		Credit Hours
WRI 100 Intro. to Composition	<i>This is a non-university credit bearing course and does NOT count towards the overall total graduation credits required. This course does not satisfy GENED requirement.</i>	0
MAT 100 Pre Algebra	<i>This is a non-university credit bearing course and does NOT count towards the overall total graduation credits required. This course does not satisfy GENED requirement.</i>	0
MAT 110 University Algebra	ECO, NES, PETROCHEM students, this course does not satisfy GENED requirement. For ELL, ICP majors - this course satisfies GENED requirement.	3
MAT 112 Pre-Calculus	For NES students, this course does not satisfy GENED requirement. For ELL, ICP majors - this course satisfies GENED requirement. This course does not satisfy GENED requirement except for IS major students.	3
MAT 210 Calculus I	Course satisfies GENED requirement for NES, ECO majors.	3

Free Elective Requirement

Free Elective courses (min. 9 credits) are required for all SAS majors. Students are strongly encouraged to visit their program chair for course selection consultation.

FREE ELECTIVE (min. 9 credits)	Course Code	Course Title	Credit Hours
	XXX xxx	Visit program chair	1-4
	XXX xxx		1-4
	XXX xxx		1-4

BACHELOR OF SCIENCE IN COMMUNICATIONS AND MULTIMEDIA DESIGN (CMD)

Global or local political and socio-cultural change in modern societies cannot be understood without first understanding media and communications. Communication technologies and the various organizations that have evolved around them have fundamentally changed the way we lead our lives and the patterns of culture, economics and politics in modern societies. The complexity and dynamic nature of modern communication requires a cutting-edge curriculum that is interdisciplinary, technologically driven, modern, and practical. In pursuit of the development mission of the American University of Nigeria, students of Communications & Multimedia Design learn about media not only as agents and agencies of information, education and entertainment, but also as agents and agencies of development, peace building and change. Our mission is to produce graduates who are agents of change – skilled in using modern multimedia forms to tell stories that can change their societies. Most of the courses are very practical and are deliberately designed to answer ‘how to’ questions.

To accomplish this, the CMD program employs a flexible approach that allows students to become a Communications and Multimedia generalist or to specialize in any of the professional concentrations, including Public Relations & Advertising (PRAD), Journalism, Multimedia Design, and Radio/TV/Film. Each concentration offers a balanced mixture of basic and advanced laboratory and lecture courses. Laboratory courses sharpen students' skills, while lecture courses enable students to view the profession from a variety of perspectives. Students also have the option to double-concentrate.

Classes are taught in state-of-the-art computer labs and classrooms. The department has two well-equipped media labs as well as an emerging TV/Radio production and broadcast facility. The networked labs are equipped with the latest software and served by in-house servers and databases. Separate Mac labs designed for advertising, graphics, photo-journalism, and multimedia are equipped with appropriate film and flatbed scanners, CD/DVD drives and burners, DV decks, and printers. The Professor Idorenyin Akpan Digital and Multimedia Laboratory and production facilities are housed in the new Robert A. Pastor Library and E-Learning Center.

Upon completion of all degree requirements, students will receive a Bachelor of Science in Communications and Multimedia Design, with concentration in any four of the following:

- 1) Journalism
- 2) Multimedia Design
- 3) Public Relations & Advertising (PRAD)
- 4) Radio/Television/Film

To be allowed to declare a concentration, students must be in good academic standing and must have completed 60 credits (at least 30 of them in CMD courses).

Students in consultation with the program Chair may elect to declare a no-concentration option - in effect pursuing a general degree in communications and multimedia. Such an option (which involves two

courses from each concentration in addition to Major requirements) prepares students for a comprehensive understanding of the various disciplines in the profession.

Career Direction

Communications and Multimedia graduates can embark upon rewarding and prosperous careers in fields such as journalism, government or corporate relations, advertising management, marketing communications, digital design, animation, broadcast media production, mediation, public affairs, public policy, media policy and regulation, speech writing, print, electronic or online reporting and/or editing, media planning and buying, sales promotions, public relations, etc. They can also be social media entrepreneurs.

Concentrations

The following is a description of the four areas of Concentration in CMD.

Journalism

The journalism concentration trains students to become Journalists who are sensitive to Africa's development challenges. Through courses such as Peace Journalism, Online/Digital Journalism etc, students are trained to tell stories sensitively using modern platforms. Students learn to become creative and analytical writers. They also learn fair and accurate reporting using multiple sources. Most journalism graduates plan to seek jobs in newspapers (online and print), magazines (online and print), wire services, special interest publications. In short, the AUN journalism concentration is a training ground for careers as electronic and print reporters, editors, producers, copywriters, scriptwriters, news/project managers, copy editors, correspondents, columnists, or editorial writers. Graduates can also look forward to becoming social media entrepreneurs, drawing on the tools of new media to maintain a strong voice online.

Multimedia Design

The multimedia concentration provides students with the skills needed to succeed as professionals in photojournalism, graphic design, multiple media use and applications, digital audio and video production, media producing, animation, videography, multimedia design, web design. Skills are taught within the context of visual storytelling assignments and include a thorough discussion of communications ethics and standards.

Public Relations & Advertising (PRAD)

The PRAD concentration focuses on principles and strategies of public relations and advertising, including the branding of products through tools of marketing communications. Courses ensure a broad understanding of consumer behavior, targeting audiences, deciding strategy, and creating goal-directed advertising and PR campaigns for business organizations, governments, communities, causes etc. Students are exposed to various elements in PR & Advertising ranging from public diplomacy to contemporary approaches to marketing communications. This concentration is a training ground for PR

practitioners, advertising account executives, media planners, media buyers, advertising layout & design specialists, advertising copy writers, brand managers, interactive media advertising specialists, marketing communications researchers, etc.

Radio/Television/Film

The Radio/TV/film concentration is designed for students interested in joining the ranks of professional TV program producers and filmmakers. Students learn the rudiments of organizing and structuring audio and visual material in cinematic formats. Students are also exposed to scriptwriting, radio, television and film production, cinematography, film directing, third world cinema, documentary film, film criticism and blacks in film. Students learn to write, direct, edit, and exhibit short films on celluloid, and they develop critical thinking in order to analyze the powerful aesthetic, psychological, and socio-political influences of film, Radio and TV media.

Bachelor of Science in Communications and Multimedia Design Degree Requirements

All CMD students must complete a series of courses (credits) in consultation with the program chair to ensure all requirements have been fulfilled.

CMD majors are required to successfully complete the following credit hours upon graduation:

Communications and Multimedia Design

Communications and Multimedia Design Credit Hours Requirement					
CONCENTRATION AREA	MAJOR				Overall Graduation Requirement
	GENED	CORE	Free Elective	Concentration Electives	
	Total Credit Hours				
Journalism	50	48	9	18	125
Multimedia Design	50	48	9	18	125
Public Relations & Advertising	50	48	9	18	125
Radio/TV and Film	50	48	9	18	125

The number of credits is represented above. This is only a guide and for further clarification, students should visit their advisor/program chair.

Core (48 credits)

All CMD students are required to complete the following 48 credits of *CORE* courses.

Requirement	Course Code	Course Title	Credit Hours
CORE (48 credits)	CMD 110	Introduction to Communication Studies	3
	CMD 120	Writing for the Mass Media	3
	CMD 122	Principles of Multimedia Designs	3
	CMD 211	Globalization, Develop. & the Mass Media	3
	CMD 212	Principles of Public Relations & Advertising	3
	CMD 213	Principles of Journalism	3
	CMD 220	Intercultural Communications	3
	CMD 223	Foundations of Broadcasting	3
	CMD 302	Research in Communication	3
	CMD 313	Media Law and Ethics	3
	CMD 316	Public Speaking & Event Management	3
	CMD 333	Theories of Communication	3
	CMD 413	Social Media Dynamics	3
	CMD 490	Senior Research Project	3
	CMD 493*	Communication Internship	3
	CMD 499	Capstone Career Project	3

*Students will not be allowed to register for an internship (CMD 493) until they have earned 90 credit hours (12 credits of which must be within the area of concentration).

All CMD students are encouraged to enroll in CMD 400 (Special Topics in Communications and Multimedia Design) whenever it is on offer.

Concentration Electives

Students are required to successfully complete 18 credits within their concentration of interest.

Electives	Course Code	Course Title	Credit Hours
Journalism (18 Credits) <i>choose any 6 courses.</i>	CMD 207	Peace Journalism	3
	CMD 228	Newswriting and Reporting	3
	CMD 224	Online /Digital Journalism	3
	CMD 324	Editorial and Critical Writing	3
	CMD 325	News Editing and Production	3
	CMD 303	Photojournalism	3
	CMD 412	Public Diplomacy	3
	CMD 417	Foreign Correspondence	3
	CMD 418	Specialized Reporting	3
	CMD 425	Feature Writing	3
Multimedia Design (18 Credits) <i>choose any 6 courses</i>	CMD 115	Basic Photography & Videography	3
	CMD 125	Introduction to Visual Culture	3
	CMD 215	Descriptive & Illustrative Drawing	3
	CMD 226	Design Studio	3
	CMD 311	User Experience & User Interface Design	3
	CMD 322	Website & Mobile App Design	3
	CMD 323	Creative Advertising Strategy	3
	CMD 327	Digital Animation	3
	CMD 328	Multimedia Graphics Designs	3
	CMD 424	Multimedia Authoring	3
Public Relations & Advertising (18 Credits) <i>choose any 6 courses</i>	CMD 115	Basic Photography and Videography	3
	CMD 225	Business Communications	3
	CMD 323	Advertising Creative Strategies	3
	CMD 412	Public Dip. & Strategic Media Interven.	3
	CMD 414	Management of Advertising Agencies & PR Consultancies	3
	CMD 416	Advertising/PR Campaigns	3
	CMD 421	Media Relations	3
	CMD 432	Community Relations	3
	CMD 443	Economic & Social Issues in PRAD	3
	CMD 448	Integrated Marketing Communications	3
Radio/Television/Film (18 Credits) <i>choose any 6 courses</i>	CMD 115	Basic Photography & Videography	3
	CMD 216	Broadcast Media Aesthetics	3
	CMD 221	Newswriting and Reporting	3

	CMD 319	Announcing & Performance	3
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Continued...

	CMD 326	Radio, FILM & TV Production	3
	CMD 331	Film & Video Editing	3
	CMD 419	Web Broadcast Operations	3
	CMD 435	TV/Film Editing	3
	CMD 444	Cinematography	3
	CMD 447	Screenwriting	3

Communications & Multimedia Double Concentration

Students enrolled in the Communications and Multimedia Design program may pursue a second concentration; however, students must satisfy the requirements in both concentration areas. Students should visit their program chair for more details.

**SAMPLE FOUR YEAR STUDY PLAN FOR BACHELOR OF SCIENCE IN COMMUNICATIONS &
MULTIMEDIA DESIGN JOURNALISM CONCENTRATION
FALL & SPRING ADMISSION**

This study plan is a guide only.

This study plan does not reflect remedial courses (MAT 100/WRI100). Due to faculty and scheduling changes some courses may not be offered during the semesters indicated. Check with your faculty and academic advisors along with your program chair each semester to be up to date with changes to the study plan.

FIRST YEAR

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
1	MAT 110 or MAT 112 or MAT 210	Maths and Statistics	3	Placement test	GENED
		Mathematics			GENED
	WRI 101	Writing	3		
		Composition I			
	GEN 102 or GEN 103	Arts & Humanities	3	None	
		Select one			
	AUN 101	First Year Experience	1	None	GENED
		First Year Experience			
	CIE 111	Info. Technology	3	None	GENED
		Intro. to Computers & Computing			
CMD 110	Introduction to Mass Media Studies	3	None	CORE	
Total			16		
2	ANT, CIV, ECO, HIS, ICP, PSY, SOC	Social & Behavioral Sc.	3	None	GENED
		Select one			
	STA 101	Maths & Statistics	3	MAT 110 or higher	GENED
		Intro. to Statistics			
	BIO, CHE, GEO, NES, PHY	Natural & Physical Sc.	4	None	GENED
		Select one (Lab)			
	WRI 102	Writing	3	WRI 101	GENED
		Composition II			
ENT 101	Entrepreneurship	3	None	GENED	
	Intro. to Entrepreneur				
Total			16		

SECOND YEAR – CMD JOURNALISM

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
3	CMD 212	Principles of Public Relations & Advertising	3	CMD 110	CORE
	GEN 102 or GEN 103	Arts & Humanities	3	None	GENED
		Select one			
	ANT, CIV, ECO, HIS, ICP, PSY, SOC	Social & Behavioral Sc.	3	Refer to course description.	GENED
		Select one			
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	CMD 120	Writing for Mass Media	3	WRI 101	CORE
	CMD 213	Principles of Journalism	3	CMD 110	CORE
Total			18		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
4	CMD 122	Principles of Multimedia Design	3	None	CORE
	CDV 2xx	Community Service	3	None	GENED
		Community Development			
	BIO, CHE, GEO, NES, PHY	Natural & Physical Sc.	3	None	GENED
		Select one (no Lab)			
	CMD 220	Intercultural Communication	3	CMD 110	CORE
	CMD 211	Globalization, Development & Mass Media	3	None	CORE
Total			15		

THIRD YEAR – CMD JOURNALISM

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
5	AUN 300	Critical Thinking & Problem Solving	3	min. 3rd yr. standing	GENED
		Critical Thinking & Problem Solving			
	CMD 223	Foundations of Broadcasting	3	CMD 122, min. 3rd yr. standing	CORE
	CMD 316	Public speaking & Events Management	3	None	CORE
	ENT 325	Entrepreneurship	3	ENT 101	GENED
		Social Entrepreneurship			
	PHI 300	Arts & Humanities	3	min. 3rd yr. standing	GENED
		Ethics & Leadership			
Total			15		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
6	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	CMD 302	Research in communication	3	CMD 110	CORE
	CMD 333	Theories of Communication	3	CMD 110 & CMD 211	CORE
	CMD xxx	See Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	CMD 313	Media Law & Ethics	3	CMD 110	CORE
Total			15		

FOURTH YEAR – CMD JOURNALISM

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
7	CMD 413	Social Media Dynamics	3	4 th yr. standing	CORE
	CMD xxx	See Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	CMD xxx	See Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	CMD 499	Capstone Project	3	4 th yr. standing	CORE
	CMD 493	Communication & Multimedia Internship	3	min. 3rd yr. standing	CORE
Total			15		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
8	CMD xxx	See Concentration Elective list	3	Refer to course description.	CONCENTRATION ELECTIVE
	XXX xxx	Visit program chair	3	Refer to course description.	FREE ELECTIVE
	CMD xxx	See Concentration Elective list	3	Refer to course description.	CONCENTRATION ELECTIVE
	CMD xxx	See Concentration Elective list	3	Refer to course description.	CONCENTRATION ELECTIVE
	CMD 490	Senior Research Project	3	min. 3rd yr. standing	CORE
Total			15		

**SAMPLE FOUR YEAR STUDY PLAN FOR BACHELOR OF SCIENCE (BSc.) IN COMMUNICATIONS
AND MULTIMEDIA DESIGN (BSc CMD) MULTIMEDIA DESIGN CONCENTRATION
FALL AND SPRING ADMISSION**

This study plan is a guide only.

This study plan does not reflect remedial courses (MAT 100/WRI100). Due to faculty and scheduling changes some courses may not be offered during the semesters indicated. Check with your faculty and academic advisors along with your program chair each semester to be up to date with changes to the study plan.

FIRST YEAR

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
1	MAT 110 or MAT 112 or MAT 210	Maths and Statistics	3	Placement test	GENED
		Mathematics			
	WRI 101	Writing	3		GENED
		Composition I			
	GEN 102 or GEN 103	Arts & Humanities	3	None	GENED
		Select one			
	AUN 101	First Year Experience	1	None	GENED
		First Year Experience			
2	CIE 111	Info. Technology	3	None	GENED
		Intro. to Computers & Comp.			
	CMD 110	Introduction to Mass Media Studies	3	None	CORE
	Total		16		
	ANT, ECO, CIV, HIS, ICP, PSY, SOC	Social & Behavioral Sc.	3	None	GENED
		Select one			
	STA 101	Maths & Statistics	3	MAT 110 or higher	GENED
		Intro. to Statistics			
	BIO, CHE, GEO, NES, PHY	Natural & Physical Sciences	4	None	GENED
		Select one			
	WRI 102	Writing	3	WRI 101	GENED
		Composition II			
	ENT 101	Entrepreneurship	3	None	GENED

		Intro. to Entrepreneurship			
Total			16		

SECOND YEAR – MULTIMEDIA DESIGN

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
3	CMD 212	Principles of Public Relations & Advertising	3	CMD 110	CORE
	GEN 102 or GEN 103	Arts & Humanities	3	None	GENED
		Select one			
	ANT, CIV, ECO, HIS, ICP, PSY, SOC	Social & Behavioral Sc.	3	Refer to course description	GENED
		Select one			
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	CMD 120	Writing for Mass Media	3	WRI 102	CORE
	CMD 213	Principles of Journalism	3	CMD 110	CORE
Total			18		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
4	CDV xxx	Community Service	3	None	GENED
		Community Development			
	BIO, CHE, GEO, NES, PHY	Natural & Physical Sc.	3	None	GENED
		Select one (no Lab)			
	CMD 122	Principles of Multimedia Design	3	None	CORE
	CMD 220	Intercultural Communication	3	CMD 110	CORE
	CMD 211	Globalization, Development & Mass Media	3	None	CORE
Total			15		

THIRD YEAR – CMD MULTIMEDIA DESIGN

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
5	AUN 300	Critical Thinking & Problem Solving	3	min. 3rd yr. standing	GENED
		Critical Thinking & Problem Solving			
	CMD 223	Foundations of Broadcasting	3	min. 3rd yr. standing or CMD 122	CORE
	CMD 316	Public speaking & Events Mgt.	3	None	CORE
	ENT 325	Entrepreneurship	3	ENT 101	GENED
		Social Entrepreneurship			
	PHI 300	Arts & Humanities	3	min. 3rd yr. standing	GENED
		Ethics & Leadership			
Total			15		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
6	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	CMD 302	Research in Communications	3	CMD 110	CORE
	CMD 333	Theories of Communication	3	CMD 110 & CMD 211	CORE
	CMD xxx	See CMD Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	CMD 313	Media Law & Ethics	3	CMD 110	CORE
Total			15		

FOURTH YEAR – CMD MULTIMEDIA DESIGN

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
7	CMD 413	Social Media Dynamics	3	4 th yr. standing	CORE
	CMD xxx	See Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	CMD xxx	See Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	CMD 499	Capstone Project	3	min. 3rd yr. standing or CMD 213	CORE
	CMD 493	Communication & Multimedia Internship	3	min. 3rd yr. standing	CORE
Total			15		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
8	CMD xxx	See Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	XXX xxx	see program chair	3	Refer to course description	FREE ELECTIVE
	CMD xxx	See Concentration Elective list	3	4 th yr. standing	CONCENTRATION ELECTIVE
	CMD xxx	See Concentration Elective list	3	4 th yr. standing	CONCENTRATION ELECTIVE
	CMD 490	Senior Research Project	3	min. 3rd yr. standing	CORE
Total			15		

**SAMPLE 4 YEAR STUDY PLAN –BACHELOR OF SCIENCE IN COMMUNICATIONS AND
MULTIMEDIA DESIGN - PUBLIC RELATIONS & ADVERTISING CONCENTRATION
FALL AND SPRING ADMISSION**

This study plan is a guide only.

This study plan does not reflect remedial courses (WRI 100/MAT100). Due to faculty and scheduling changes some courses may not be offered during the semesters indicated. Please check with your faculty and academic advisors along with your program chair each semester to be up to date with changes to the study plan.

FIRST YEAR

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
1	MAT 110 or MAT 112 or MAT 210	Maths and Statistics	3	Placement Test	GENED
		Mathematics			
	WRI 101	Writing	3	None	GENED
		Composition I			
	GEN 102 or GEN 103	Arts & Humanities	3	None	GENED
		Select one			
	AUN 101	First Year Experience	1	None	GENED
		First Year Experience			
	CIE 111	Info. Technology	3	None	GENED
		Intro. to Computers & Computing			
	ENT 101	Entrepreneurship	3	None	GENED
		Intro. to Entrepreneurship			
Total			16		
2	ANT, CIV, ECO, HIS, ICP, PSY, SOC	Social & Behavioral Sc.	3	None	GENED
		Select one			
	CMD 110	Intro. to Mass Media Studies	3	None	CORE
	BIO, CHE, GEO, NES, PHY	Natural & Physical Sc.	4	None	GENED
		Select one			
	WRI 102	Writing	3	WRI 101	GENED
		Composition II			
	STA 101	Maths and Statistics	3	MAT 110 or higher	GENED
Introduction to Statistics					
Total			16		

SECOND YEAR – CMD PUBLIC RELATIONS & ADVERTISING CONCENTRATION

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
3	CMD 122	Principles of Multimedia Design	3	None	CORE
	CDV xxx	Community Service	3	None	GENED
		Community Development Service			
	BIO, CHE, GEO, NES, PHY	Natural & Physical Sciences	3	Refer to course description	GENED
		Select one			
	CMD 220	Intercultural Communication	3	CMD 110	CORE
	CMD 211	Globalization, Develop. & Mass Media	3	None	CORE
Total			15		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
4	CMD 212	Principles of Public Relations & Advertising	3	CMD 110	CORE
	GEN 102 or GEN 103	Arts & Humanities	3	None	GENED
		Select one			
	ANT, CIV, ECO, HIS, ICP, PSY, SOC	Social & Behavioral Sciences	3	Refer to course description	GENED
		Select one			
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	CMD 120	Writing for Mass Media	3	WRI 101	CORE
	CMD 213	Principles of Journalism	3	CMD 110	CORE
Total			18		

THIRD YEAR – CMD PUBLIC RELATIONS & ADVERTISING CONCENTRATION

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
5	CMD 333	Theories of Communication	3	CMD 110 & CMD 211	CORE
	CMD 302	Research in Communication	3	CMD 110	CORE
	XXX xxx	see program chair	3	Refer to course description	FREE ELECTIVE
	CMD 313	Media Laws and Ethics	3	CMD 213	CORE
	CMD xxx	See list of CMD Concentration courses	3	Refer to course description	CONCENTRATION ELECTIVE
Total			15		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
6	CMD 223	Foundations of Broadcasting	3	3rd yr. standing, CMD 122	CORE
	AUN 300	Critical Thinking & Problem Solving	3	min 3 rd yr. standing	GENED
		Critical Thinking & Problem Solving			
	CMD 316	Public Speaking & Events Management	3	None	CORE
	ENT 325	Entrepreneurship	3	ENT 101	GENED
		Social Entrepreneurship			
	PHI 300	Arts & Humanities	3	min. 3rd yr. standing	GENED
		Ethics & Leadership			
Total			15		

FOURTH YEAR - CMD PUBLIC RELATIONS & ADVERTISING CONCENTRATION

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
7	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	CMD xxx	See Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	CMD xxx	See Concentration Elective list	3	4 th yr. standing	CONCENTRATION ELECTIVE
	CMD xxx	See Concentration Elective list	3	4 th yr. standing	CONCENTRATION ELECTIVE
	CMD 490	Senior Research Project	3	min. 3 rd yr. standing	CORE
Total			15		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
8	CMD 499	Capstone Project	3	min. 3rd yr. standing or CMD 213	CORE
	CMD xxx	See Concentration Elective list	3	4 th yr. standing	CONCENTRATION ELECTIVE
	CMD xxx	See Concentration Elective list	3	4 th yr. standing	CONCENTRATION ELECTIVE
	CMD 413	Social Media Dynamics	3	4 th yr. standing	CORE
	CMD 493	Communication & Multimedia Internship	3	min. 3rd yr. standing	CORE
Total			15		

**SAMPLE 4-YEAR STUDY PLAN – BACHELOR OF SCIENCE IN COMMUNICATIONS AND
MULTIMEDIA DESIGN RADIO/TELEVISION AND FILM CONCENTRATION
FALL AND SPRING ADMISSION**

This study plan is a guide only.

This study plan does not reflect remedial courses (WRI 100/MAT100). Due to faculty and scheduling changes some courses may not be offered during the semesters indicated. Please check with your faculty and academic advisors along with your program chair each semester to be up to date with changes to the study plan.

FIRST YEAR

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
1	MAT 110 or MAT 112 or MAT 210	Maths and Statistics	3	Placement test	GENED
		Mathematics			
	WRI 101	Writing	3		GENED
		Composition I			
	GEN 102 or GEN 103	Arts & Humanities	3	None	GENED
		Select one			
	AUN 101	First Year Experience	1	None	GENED
		First Year Experience			
	CIE 111	Info. Technology	3	None	GENED
		Intro. to Computers & Computing			
	ENT 101	Entrepreneurship	3	None	GENED
		Intro. to Entrepreneurship			
Total			16		
2	ANT, CIV, ECO, HIS, ICP, PSY, SOC	Social & Behavioral Sc.	3	None	GENED
		Select one			
	CMD 110	Intro. Mass Media Studies	3	None	CORE
	BIO, CHE, GEO, NES, PHY	Natural & Physical Science	4	None	GENED
		Select one			
	WRI 102	Writing	3	WRI 101	GENED
		Composition II			
	STA 101	Maths & Statistics	3	MAT 110 or higher (min. 'C' grade)	GENED
		Intro. to Statistics			
Total			16		

SECOND YEAR – CMD RADIO/TELEVISION AND FILM CONCENTRATION

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
3	CMD 122	Principles of Multimedia Design	3	None	CORE
	CDV xxx	Community Service	3	None	GENED
		Community Service			
	BIO, CHE, GEO, NES, PHY	Natural & Physical Sc.	3	Refer to course description	GENED
		Select one			
	CMD 220	Intercultural Communication	3	CMD 110	CORE
	CMD 211	Globalization, Develop. & Mass Media	3	None	CORE
Total			15		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
4	CMD 212	Principles of Public Relations & Advertising	3	CMD 110	CORE
	GEN 102 /GEN 103	Arts & Humanities	3	None	GENED
		Select one			
	ANT, CIV, ECO, HIS, ICP, PSY, SOC	Social & Behavioral Sc.	3	None	GENED
		Select one			
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	CMD 120	Writing for Mass Media	3	WRI 101	CORE
	CMD 213	Principles of Journalism	3	CMD 110	CORE
Total			18		

THIRD YEAR CMD RADIO/TELEVISION AND FILM CONCENTRATION

THIRD YEAR CMD RADIO, TELEVISION AND FILM CONCENTRATION					
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
5	CMD 333	Theories of Communication	3	CMD 110 & CMD 211	CORE
	CMD 302	Research in Communication	3	CMD 110	CORE
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	CMD 313	Media Laws and Ethics	3	CMD 213	CORE
	CMD xxx	See Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
Total			15		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
6	CMD 223	Foundations of Broadcasting	3	3rd yr. standing, CMD 122	CORE
	AUN 300	Critical Thinking & Problem Solving	3	min. 3rd yr. standing	GENED
		Critical Thinking & Problem Solving			
	CMD 316	Public Speaking & Events Mgt.	3	None	CORE
	ENT 325	Entrepreneurship	3	ENT 101	GENED
		Social Entrepreneur.			
	PHI 300	Arts & Humanities	3	min. 3 rd yr. standing	GENED
		Ethics & Leadership			
Total			15		

FOURTH YEAR – CMD PUBLIC RELATIONS & ADVERTISING

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
7	XXX xxx	see program chair	3	Refer to course description	FREE ELECTIVE
	CMD xxx	See Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	CMD xxx	See Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	CMD xxx	See Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	CMD 490	Senior Research Project	3	4 th yr. standing	CORE
Total			15		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
8	CMD 499	Capstone Project	3	min. 3 rd yr. standing	CORE
	CMD xxx	See Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	CMD xxx	See Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	CMD 413	Social Media Dynamics	3	4th yr. standing	CORE
	CMD 493	Communication & Multimedia Internship	3	min. 3 rd yr. standing	CORE
Total			15		

BACHELOR OF ARTS (B.A.) IN ECONOMICS

Economists study how individuals, firms, and countries make difficult choices about how to use scarce resources to achieve their goals – be it individual welfare, firm profits, or national well-being. These choices are evaluated under a small set of powerful concepts: rationality, efficiency, equity, and stability. Economists model real-world situations and use deductive reasoning to arrive at the model's implications, and test the conclusions of the model empirically using statistical and analytical techniques. The undergraduate curriculum in economics at AUN is designed to:

- provide a solid foundation in modern economic theory
- assist students in applying these theoretical perspectives to issues of economic efficiency, growth, globalization, equity and social justice, wealth and poverty, individual freedom, discrimination, cultural values, and the physical and biological environment
- illuminate the interaction of the subject with related fields such as political science and finance, among others.
- encourage critical and independent thought about economic policies and programs in an ever-changing world order
- develop the capacity to do quantitative analysis and research using statistical and mathematical techniques and
- provide the students with a deep understanding of the evolution of economic, political and financial systems over time.

An undergraduate major in economics opens many possibilities for employment. These options include employment in:

- financial institutions
- businesses and corporations
- local, state, and federal governments
- financial consulting firms
- non-profit and non-government organizations

In addition, there is potential for graduates to conduct post-graduate study and research. Students of economics are trained in economic theory and empirical techniques, as well as in the application of economics to such fields as business, political science, and law. Therefore, they are well suited to pursue graduate education in economics or other subjects, both locally and abroad. Future employment possibilities for students entering graduate school include teaching and research in colleges and universities, as well as senior positions in industry and government.

As a Economics major, students are required to successfully complete the following credit load upon graduation.

Bachelors of Arts in Economics Degree Program Requirement

All Economics students must complete a series of courses (credits) in consultation with the program chair to ensure all requirements have been fulfilled.

Bachelor Of Arts (B.A.) In Economics Credit Hours Requirement								
Program	MAJOR							Overall Graduation Requirement
	GENED	Core	Free Elective	Technical Elective	ECO-Elective	Non-ECO Elective	General Elective	
	Minimum Total Credit Hours							
Economics	50	30	min. 9	6	12	9	min. 9	min. 125

General Education Requirement (50 credits)

This general education requirement below is specific to *Economics* program. Students are required to complete all General Education courses as listed.

Discipline	Course Code	Course Title	Credit Hours
First Year Experience (total 1 credit)	AUN 101	First Year Experience	1
Arts and Humanities (total 9 credits)	GEN 102	Nigerian Peoples and Culture	3
	GEN 103	History and Philosophy of Science	3
	PHI 300	Ethics and Leadership	3
Community Service (total 3 credits)	CDV 2xx	Community Development	3
Critical Thinking and Problem Solving (total 3 credits)	AUN 300	Critical Thinking and Problem Solving	3
Entrepreneurship (total 6 credits)	ENT 101	Introduction to Entrepreneurship	3
	ENT 325	Social Entrepreneurship	3
Information Technology (total 3 credits)	CIE 111	Introduction to Computers and Computing	3
Mathematics* <i>Based on placement test</i>	MAT 100 or	<i>Pre-Algebra</i>	0
and	MAT 110 or	<i>This course is NOT counted towards graduation credits.</i>	
	MAT 112 or	University Algebra	3
	MAT 210	Pre-Calculus	
	STA 101	Calculus I	3
Statistics (total 6 credits)		Introduction to Statistics	3
Natural and Physical Sciences (total 7 credits)	BIO, CHE, GEO, NES, PHY (Lab)	Refer to course description	4
	BIO, CHE, GEO, NES, PHY (no Lab)		3
Social and Behavioral Sciences (total 6 credits)	ANT, CIV, ECO, HIS, ICP, PSY, SOC	Refer to course description	3
	ANT, CIV, ECO, HIS, ICP, PSY, SOC		3
Writing* (total 6 credits)	WRI 100/WRI 101 and WRI 102	<i>Intro. to Composition/Composition I</i> <i>WRI 100 is NOT counted towards graduation credits.</i>	0/3
		Composition II	3

Writing and Mathematics Requirement*

Dependent on the results of the placement test, this will determine the number of courses required.

<i>If a student is placed in...</i>		Credit Hours
WRI 100 Intro. to Composition	<i>This is a non-university credit bearing course and does NOT count towards the overall total graduation credits required. This course does not satisfy GENED requirement. Upon successful completion, a student must enroll in WRI 101.</i>	0
MAT 100 Pre-Algebra	<i>This is a non-university credit bearing course and does NOT contribute towards the overall total graduation credits required. This course does not satisfy GENED requirement. Upon successful completion, a student will enroll in MAT 110.</i>	0
MAT 110 University Algebra	This course does not satisfy GENED requirement. Upon successful completion, a student will enroll in MAT 112. NOTE – this course may satisfy FREE ELECTIVE (min. C grade required). Consult with program chair.	3
MAT 112 Pre-Calculus	This course does not satisfy GENED requirement. Upon successful completion, a student will enroll in MAT 210. NOTE – this course may satisfy FREE ELECTIVE (min. C grade required). Consult with program chair.	3
MAT 210 Calculus I	This course satisfies GENED requirement.	3

All students majoring in Economics, must complete the following course components.

Core (30 credits)

Students must complete all 10 CORE courses as listed.

Requirement	Course Code	Course Title	Credit Hours
CORE (30 credits)	ECO 210	Principles of Microeconomics	3
	ECO 220	Principles of Macroeconomics	3
	ECO 230	Introductory Maths for Economists	3
	ECO 310	Intermediate Microeconomics	3
	ECO 320	Intermediate Macroeconomics	3
	ECO 330	Foundations of Econometrics	3
	ECO 331	Econometrics I	3
	ECO 490	Senior Research Project I	3
	ECO 491	Senior Research Project II	3
	WRI 321	Preparation of Written and Oral Reports	3

Requirement	Course Code	Course Title	Credit Hours
TECHNICAL ELECTIVES (6 credits)	ECO 340	Development Economics	3
	ECO 321	Money and Banking	3
	ECO 350	International Trade	3
	ECO 351	International Finance	3
	ECO 430	Advanced Maths for Economists	3

Technical Electives

In addition to *Technical Electives*, students are also required to complete *ECO-Electives*.

ECO-Electives (12 credits)

Any 12 credits (4 courses) from the Eco-Elective list, (2) 300 level and (2) 400 level.

Requirement	Course Code	Course Title	Credit Hours
ECO- ELECTIVES (12 credits)	ECO 312	Labor Economics	3
	ECO 361	International Political Economy	3
	ECO 370	History of Economic Thought	3
	ECO 341	Environmental Economics	3
	ECO 411	Game Theory	3
	ECO 422	Monetary Economics	3
	ECO 431	Econometrics II	3
	ECO 440	Advanced Economic Development	3
	ECO 450	Industrial Organisation	3
	ECO 460	Comparative Economic Systems	3
	ECO 493	Internship in Economics	3
	SEN 470	Engineering Economics <i>This course is also a Non-ECO Elective (Business)</i>	3

Non-ECO Electives (9 credits)

Students majoring in Economics are to complement their training by completing at least three (3) courses from the following list of disciplines: *Business, Development, Finance, Government and Politics* depending on their interests. Students may select courses of any of the disciplines listed.

Requirement	Discipline	Course Code	Course Title	Credit Hours
NON-ECO ELECTIVES (9 credits)	Business	ACC 201	Principles of Financial Accounting	3
		ACC 202	Principles of Managerial Accounting	3
		ENT 325	Social Entrepreneurship	3
		SEN 470	Engineering Economics	3
	Development	ENT 326	Microfinance & Economic Develop.	3
		CDV 392	Advanced Applied Community Development	3
		ICP 135	Intro. to International Develop.	3
		ICP 302	Politics of Dev. & Underdevelop.	3
	Finance	FIN 201	Fundamentals of Financial Mgt	3
		FIN 320	Financial Institutions and Markets	3
		FIN 330	Security Analysis	3
	Government and Politics	ICP 101	Intro. to Comparative Politics	3
		ICP 131	Intro. to International Relations	3
		ICP 161	Introduction to Political Theory	3

Senior level economics electives (i.e. 300 and 400 level economics courses) could also be used to satisfy the requirement for *non-economics electives*, without double-counting the courses for major requirements alluded to above.

Course Code	Course Title	Credit Hours
ECO 431	Econometrics II	3
ECO 430	Advanced Mathematics for Economists	3
MAT 211	Calculus II	3
MAT 310	Calculus III	3
MAT 312	Linear Algebra	3
MAT 412	Differential Equations	3
STA 301	Probability and Statistics	3
STA 303	Non-Parametric Statistics	3
STA 304	Quantitative Methods in the Social Sciences	3

General Electives (10 credits)

Students are also required to complete a minimum of 10 credits of GENERAL ELECTIVES to complete the program.

Requirement	Course Code
GENERAL ELECTIVES (10 credits)	Students are encouraged to visit the program chair for further consultation.

**SAMPLE 4 -YEAR STUDY PLAN - BACHELOR OF ARTS IN ECONOMICS
FALL & SPRING ADMISSION**

This study plan is a guide only.

This study plan does not include remedial courses (MAT 100/WRI 100). Due to faculty and scheduling changes some courses may not be offered during the semesters indicated. Please check with your faculty and academic advisors along with your program chair each semester to be up to date with changes to the study plan.

FIRST YEAR

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
1	MAT 210	Maths and Statistics	3	MAT 112/Placement test	GENED
		Mathematics			
	WRI 101	Writing	3	Placement test	GENED
		Composition I			
	AUN 101	First Year Experience	1	None	GENED
		First Year Experience			
	CIE 111	Info. Technology	3	None	GENED
		Intro. to Computers & Computing			
	ANT/CIV/ECO/HIS/ICP/PSY/SOC	Social & Behavioral Sciences	3	None	GENED
		select one			
BIO/CHE/GEO/NES/PHY	Natural & Physical Sciences	4	Refer to course description	GENED	
	select one				
Total			17		
2	STA 101	Maths and Statistics	3	MAT 110 or higher	GENED
		Intro. to Statistics			
	ENT 101	Business & Entrepreneurship	3	None	GENED
		Intro. to Entrepreneurship.			
	BIO/CHE/GEO NES/PHY	Natural & Physical Sciences	3	Refer to course description	GENED
		select one			
	WRI 102	Writing	3	WRI 101	GENED
		Composition II			
GEN 102 or GEN 103	Arts and Humanities	3	None	GENED	
	select one				
Total			15		

SECOND YEAR - ECONOMICS

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
3	GEN 102 or GEN 103	Arts & Humanities select one	3	None	GENED
	ECO 210	Principles of Microeconomics	3	MAT 110 or higher	CORE
	CDV 2xx	Community Service select one	3	Refer to course description	GENED
	ECO 220	Principles of Macroeconomics	3	MAT 110 or higher (min. C grade	CORE
	ANT/CIV/ECO/ HIS/ICP/PSY/ SOC	Social & Behavioral Sciences select one	3	None	GENED
	Total		15		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
4	XXX xxx	visit program chair	3	Refer to course description	NON ECO- ELECTIVE
	ECO 230	Introductory Maths for Economists	3	MAT 112 or higher	CORE
	ECO 3xx	Refer to ECO Elective – list	3	Refer to course description	ECO-ELECTIVE
	ECO 3Xx	Refer to ECO Elective – list	3	Refer to course description	ECO-ELECTIVE
	XXX xxx	visit program chair	3	Refer to course description	FREE ELECTIVE
	XXX xxx	visit program chair	3	Refer to course description	FREE ELECTIVE
Total			18		

THIRD YEAR - ECONOMICS

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
5	ECO 310	Intermediate Microeconomics	3	ECO 201, ECO 202, MAT 112 or higher	CORE
	ECO 320	Intermediate Macroeconomics	3	ECO 210, ECO 220, MAT 112 or higher	CORE
	WRI 321	Preparation of Oral and Written Reports	3	WRI 102	CORE
	XXX xxx	visit program chair	3	Refer to course description	FREE ELECTIVE
	ECO 330	Foundations of Econometrics	3	ECO 210 & ECO 220 & ECO 230	CORE
Total			15		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
6	ECO 331	Econometrics I	3	ECO 210, ECO 220, STA 101, MAT 210	CORE
	ECO 4xx	Refer to ECO Elective – list	3	Refer to course description	ECO-ELECTIVE
	ECO xx	Refer to Technical Elective – list	3	ECO 210, ECO 220, MAT 210	TECHNICAL ELECTIVE
	ECO 4xx	Refer to ECO Elective – list	3	Refer to course description	ECO-ELECTIVE
	ECO xxx	Refer to Technical Elective – list	3	Refer to course description	TECHNICAL ELECTIVE
Total			15		

FOURTH YEAR - ECONOMICS

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
7	AUN 300	Critical Thinking & Problem Solving	3	min. 3 rd . yr. standing	GENED
		Critical Thinking & Problem Solving			
	XXX xxx	visit program chair	3	Refer to course description	NON-ECO ELECTIVES
	ECO 490	Senior Research Project I	3	ECO 310, ECO 320	CORE
	PHI 300	Arts & Humanities	3	min. 3 rd yr. standing	GENED
		Ethics & Leadership			
	XXX xxx	Refer to NON-ECO Elective – list	3	Refer to course description	NON-ECO ELECTIVE
Total			15		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
8	ECO 491	Senior Research Project II	3	ECO 310, ECO 320, ECO 331, ECO 490, WRI 321	CORE
	XXX xxx	Advanced Macroeconomics	3	ECO 310, ECO 320	GENERAL ELECTIVE
	XXX xxx	visit program chair	3	Refer to course description	GENERAL ELECTIVE
	ENT 325	Entrepreneurship	3	Refer to course description	GENED
		Social Entrepreneurship			
	XXX xxx	visit program chair	3	Refer to course description	GENERAL ELECTIVE
Total			15		

BACHELOR OF ARTS (B.A.) IN ENGLISH LITERATURE AND LANGUAGE

The Bachelor of Arts in English Literature and Language promotes language as a window through which students can view the world and understand human values. Students will develop a sound knowledge of language and culture and an ability to use the English language effectively, which will prepare them for leadership positions in government and the private sector. Students who major in English Literature and Language will:

- master the characteristics and traditions of various genres of literature
- appreciate and understand the way in which literature has developed and how it reflects timeless aspects of the human condition, and yet is rooted in culture and history
- demonstrate an understanding and appreciation of language as a system of communication
- develop a basic understanding of the English language and its linguistic characteristics
- develop a sound knowledge of language and culture and their roles in society
- use language creatively and effectively to analyze and synthesize written material and
- develop an understanding and appreciation of the values and beliefs of cultures across the world.

The program is flexible, thus providing the optimum opportunity for the student to take courses as free electives from a variety of different disciplines and to shape the program of study to suit the student's objectives. The student should consult closely with his/her Chair in selecting courses and in considering a minor.

Graduates from the program will have a variety of possible career paths. Sound knowledge of language and culture and the ability to use the English language effectively is fundamental to most occupations. The Bachelor of Arts in English Literature and Language prepares students for leadership positions and professional success in:

- law
- business
- education
- government
- politics
- diplomacy
- media

Bachelors of Arts in English Literature and Language (ELL) degree program requirement

All students pursuing the BA in English Literature and Language must complete the series of courses (credits) in consultation with the program chair to ensure all requirements have been fulfilled.

As an English Literature and Language major, students are required to successfully complete the following credit hours upon graduation:

All English Literature and Language students are required to successfully complete the following credit hour breakdown for each year/semester to meet the minimum four year program. Students should meet with their advisor/chair for further consultation.

English Literature & Language Credit Hours Requirement						
CONCENTRATION AREAS	MAJOR					Overall Graduation Requirement
	GENED	Core	Free Electives	Major Electives	Concentration Electives	
	Total Credits					
Language	50	36	min. 9	15	18	min. 128
Literature	50	36	min. 9	15	18	min. 128

English Literature & Language

Students are required to complete the Core and Free Elective as part of the program.

Requirement	Course Code	Course Title	Credit Hours
CORE (36 credits)	ENG 101	Introduction to the Study of Literature	3
	ENG 104	Semantics and Pragmatics	3
	ENG 201	Introduction to American Literature	3
	ENG 203	Language and Society	3
	ENG 211	Introduction to British Literature	3
	ENG 221	Introduction to African Literature	3
	ENG 301	Introduction to the Study of Language	3
	ENG 302	History of the English Language	3
	ENG 304	English Syntax I	3
	ENG 312	Phonetics and Phonology	3
	ENG 315	Introduction to World Literature in Translation	3
	ENG 490	Senior Research Project	3

Free Electives Requirement (9 credits)

Students are also required to complete Free Electives to fulfill major program requirements. Students are encouraged to take courses outside their major. Students may take any number of courses (1-4 credit hours), and must complete a minimum of 9 credit hours.

Requirement	Course Code	Course Title	Credit Hours
FREE ELECTIVES (min. 9 credits)	XXX xxx	Visit program chair for course selection.	1-4
	XXX xxx		1-4
	XXX xxx		1-4

Major Electives (15 credits)

All English Literature and Language student must choose five (5) courses (15 credits) from the following:

Requirement	Course Code	Course Title	Credit Hours
MAJOR ELECTIVE (15 credits)	ENG 102	Introduction to Nigerian Literature	3
	ENG 105	Stylistics	3
	ENG 202	Literature, Popular Culture, and Mass Media	3
	ENG 231	Intro. to World Literature in translation	3
	ENG 303	Introduction to Psycholinguistics	3
	ENG 307	Advanced Sociolinguistics	3
	ENG 309	Literary Criticism	3
	ENG 310	Modern Drama	3
	ENG 311	Literature in the Diaspora	3
	ENG 314	English Language in Nigeria	3
	ENG 316	Literature and Film	3
	ENG 317	Discourse Analysis	3
	ENG 320	Introduction to Creative Writing Fiction	3
	ENG 330	Language and Politics	3
	ENG 331	Language and the Law	3
	ENG 401	Studies in American Literature	3
	ENG 410	Advanced English Grammar	3
	ENG 411	Studies in British Literature	3
	ENG 412	Studies in British Literature: Shakespeare	3
	ENG 413	Oral Literature	3
	ENG 414	Studies in American Literature: Mark Twain	3
	ENG 416	Language and National Development	3
	ENG 418	Studies in English Poetry and Prose: Nineteenth Century to Present	3
	ENG 421	Studies in African Literature	3
	ENG 425	Phonetics, Phonology & Morphology	3
	ENG 441	Special Topics in English Language	3
	ENG 431	Studies in World Literature in Translation	3
	WRI 300	Writing in the Disciplines	3
	WRI 321	Preparation of Oral and Written Reports	3
	WRI 424	Creative Writing Non-Fiction	3

Students may wish to pursue a minor. Refer to the catalog for the list of minors and the requirements. Students are encouraged to visit the program chair for further consultation.

Upon completion of all degree requirements, students will receive a Bachelor of Arts in English Literature and Languages with a concentration in any two of the following:

- 1) Language
- 2) Literature

Concentration Areas

Language

The language concentration teaches students the various elements of language including syntax, phonetics, semantics, and morphology, as well as the rules and structures of grammar, bearing in mind various schools of thought in language practice. This is an interesting area that can expose students to gain proficiency in the English language and its grammatical rules and structures. Graduates with language concentration can become editors, curriculum designers of English language, instructors of English in various levels, writers of books on grammar and linguistic patterns, among others.

Literature

The literature concentration offers a wide range of academic literary works ranging from poetry, prose, and drama. It examines various literary elements, historical, economic and social backgrounds of works with a bid to understanding the underlying assumptions that these works address. Thus, providing a good grounding to understanding the literary/theoretical framework which develops skills in analyzing a literary work and gaining mastery in rhetorical competency. Therefore, graduates of this program can fit into various careers such as creative writers, publishers of newspapers/magazines, editors, bank secretaries, foreign missions, teachers and professors, television presenters, among others.

Students are required to take a minimum of six (6) courses selected from one of the two areas of concentration (language or literature). At least three of the courses must be at the 300 or 400 levels (in order to be eligible to take a 300 level course or higher, students must have successfully completed at least one (1) ENG course at the 200 level. Students are strongly encouraged to consult with their program chair when selecting concentration courses to confirm that the courses will satisfy major requirements. Students are also required to complete a research project (ENG 490) in either literature or language (3).

Concentration Electives

Language Concentration Electives

To concentrate in Language, students must successfully complete a minimum of **three (3) 300 level; or three (3) 400 level** courses.

Concentration Areas	Course Code	Course Title	Credit Hours
CONCENTRATION ELECTIVES (total 18 credits required)	ENG 303	Introduction to Psycholinguistics	3
	ENG 307	Advanced Sociolinguistics	3
	ENG 313	Semantics and Pragmatics	3
	ENG 314	English Language in Nigeria	3
	ENG 317	Discourse Analysis	3
	ENG 330	Language and Politics	3
	ENG 331	Language & the Law	3
	ENG 410	Advanced English Grammar	
	ENG 416	Language and National Development	3
	ENG 425	Phonetics, Phonology & Morphology	3
	ENG 441	Special Topics in English Language	3

Literature Concentration Electives

To concentrate in Literature, students must successfully complete a minimum of **three (3) 300 level; or three (3) 400 level** courses.

CONCENTRATION ELECTIVES (total 18 credits required)	ENG 102	Introduction to Nigerian Literature	3
	ENG 202	Literature, Popular Culture, and Mass Media	3
	ENG 309	Literary Criticism	3
	ENG 310	Modern Drama	3
	ENG 316	Literature and Film	3
	ENG 401	Studies in American Literature	3
	ENG 411	Studies in British Literature	3
	ENG 413	Oral Literature	3
	ENG 441	Special Topics in English Literature	3

**SAMPLE 4-YEAR STUDY PLAN FOR A BACHELOR OF ARTS IN ENGLISH LITERATURE AND
LANGUAGE
FALL & SPRING ADMISSIONS**

This study plan is a guide only.

This study plan incorporates credit bearing courses and omits remedial courses such as MAT 100 & WRI 100. Due to faculty and scheduling changes some courses may not be offered during the semesters indicated. Please check with your faculty and academic advisors along with your program chair each semester to be up to date with changes to the study plan.

FIRST YEAR

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
1	MAT 110 or MAT 112 or MAT 210	Maths and Statistics	3	Placement test	GENED
		Mathematics			
	WRI 101	Writing	3		GENED
		Composition I			
	GEN 102 or GEN 103	Arts & Humanities	3	None	GENED
		select one			
	AUN 101	First Year Experience	1	None	GENED
		First Year Experience			
	CIE 111	Info. Technology	3	None	GENED
		Intro. to Computers & Computing			
BIO, CHE, GEO, NES, PHY	Natural and Physical Sc.	3	None	GENED	
	Select one				
Total			16		
2	GEN 102 or GEN 103	Arts & Humanities	3	None	GENED
		select one			
	BIO, CHE, GEO, NES, PHY	Natural and Physical Sc.	4	None	GENED
		select one			
	STA 101	Maths & Statistics	3	MAT 110 or higher	GENED
		Intro. to Statistics			
	XXX xxx	visit program chair	3	Refer to course description	FREE ELECTIVE
	WRI 102	Writing	3	WRI 101	GENED
Composition II					

Total 16					
SECOND YEAR - ENGLISH LITERATURE AND LANGUAGE					
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
3	CDV 20x	Community Service	3	2 nd year standing	GENED
		Community Development			
	ENT 101	Entrepreneurship	3	None	GENED
		Entrepreneurship and Development			
	ANT/CIV/ECO/ HIS/ICP/ PSY/SOC	Social and Behavioural Science	3	None	GENED
		select one			
	PHI 300	Arts & Humanities	3	min. 3rd yr. standing	GENED
		Ethics & Leadership			
	ENG 101	Introduction to the Study of Literature	3	WRI 101	CORE
	ENG 104	Semantics and Pragmatics	3	WRI 101	CORE
	XXX xxx	Refer to ELL Elective list	3	Refer to course description	MAJOR ELECTIVE
Total			21		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
4	ENG 201	Introduction to American Literature	3	WRI 101	CORE
	ENG 203	Language and Society	3	WRI 102	CORE
	ENG 211	Introduction to British Literature	3	WRI 102	CORE
	ANT/CIV/ECO/ HIS/ICP/PSY/ SOC	Social and Behavioural Science	3	None	GENED
		select one			
	XXX xxx	See ELL Elective list	3	Refer to course description	MAJOR ELECTIVE
Total			15		

THIRD YEAR - ENGLISH LITERATURE AND LANGUAGE

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
5	XXX xxx	visit program chair	3	WRI 102	FREE ELECTIVE
	ENG 221	Introduction to African Literature	3	WRI 102	CORE
	AUN 300	Critical Thinking & Problem Solving	3	min. 3rd yr. Standing	GENED
		Critical Thinking & Problem Solving			
	XXX xxx	visit program chair	3	Refer to course description	FREE ELECTIVE
	ENG 2xx	ENG course 200 level and above	3	Refer to course description	CONCENTRATION ELECTIVE
Total			15		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
6	ENG 301	History of English Language	3	WRI 102	CORE
	XXX xxx	See ELL Elective list	3	Refer to course description	MAJOR ELECTIVE
	ENG 301	Introduction to the Study of Language	3	WRI 102	CORE
	ENG xxx	ENG course at any level	3	Refer to course description	CONCENTRATION ELECTIVE
	ENG xxx	ENG course at any level	3	Refer to course description	CONCENTRATION ELECTIVE
Total			15		

FOURTH YEAR - ENGLISH LITERATURE AND LANGUAGE

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
7	ENG xxx	Any ENG course 300 level and above	3	Refer to course description	CONCENTRATION ELECTIVE
	ENG 312	Phonetics, Phonology	3	WRI 102	CORE
	ENG xxx	Any ENG course 300 level and above	3	Refer to course description	CONCENTRATION ELECTIVE
	ENG 315	Introduction to World Literature in Translation	3	WRI 102	CORE
	ENT 325	Entrepreneurship	3	ENT 101	GENED
Social Entrepreneurship					
Total			15		

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
8	ENG 490	Snr. Research Project	3	One ENG course & WRI 102 & min. 3rd yr. standing	CORE
	ENG 304	English Syntax	3	WRI 102	CORE
	ENG xxx	ENG course 300 level and above	3	Refer to course description	CONCENTRATION ELECTIVE
	XXX xxx	Refer to ELL Elective list	3	Refer to course description	MAJOR ELECTIVE
	XXX xxx	Refer to ELL Elective list	3	Refer to course description	MAJOR ELECTIVE
Total			15		

BACHELOR OF SCIENCE (B.SC.) IN NATURAL AND ENVIRONMENTAL SCIENCES

The Bachelor of Science program in Natural and Environmental Sciences provides an advanced understanding of the natural environment through interdisciplinary scientific education and research. When majoring in Natural and Environmental Sciences, students will choose one of these six concentration areas:

1. Bioinformatics
2. Biomedical Sciences
3. Biostatistics
4. Conservation Biology
5. Environment and Health
6. Public Health

Concentrations

The following is a description of the six concentrations in Natural Environmental Sciences:

Bioinformatics is an interdisciplinary concentration that combines the knowledge of biology and computer science to analyse and solve biological problems. In an era where massive amounts of biological data are constantly being produced, there is a pressing need to develop computer software that can adequately process and analyse vast quantities of biological data. The bioinformatics concentration trains students to be able to develop software that can be used as tools to analyse and answer biological questions in the areas of medicine and health, agriculture, conservation, and other areas of life sciences.

Biomedical Sciences provides an advanced understanding of biology with a special focus on human biology. This program is designed for students who wish to further their career in the health professions: medical practice, nursing, public health, physical therapy, pharmacy, veterinary medicine, etc. It is also the degree of choice for students wishing to further their education at the graduate level in biotechnology, molecular biology, cell biology, biochemistry, microbiology, public health, and similar health fields.

Biostatistics is a branch of sciences that applies statistical knowledge in interpreting biological data. Biostatistics is an important tool used for biological research in many important areas of the life sciences, for example clinical studies, drug testing, and disease surveillance. Biostatisticians can predict outcomes of hypothetical scenarios by developing statistical models that simulate biological processes and environmental conditions.

Conservation Biology focuses on conservation issues that affect wildlife and habitats. The protection and preservation of the natural world has become a growing concern worldwide. It is an especially urgent concern in Africa because of its high rate of human population activities that disturb the environment.

Environment and Health focuses on understanding the biological and physical world, man-made pollutants released by human activities, and the impact of contemporary societal activities on human health. Through the choice of electives, students can personalize their program to emphasize either the sources of pollution and their measurement or the biological processes within the human body affected by health and disease.

Public Health is an interdisciplinary science that is concerned primarily with promoting wellbeing of human health in the larger society. Public health personnel play an important role in safe guarding the wellbeing of a human population by implementing strategies to prevent the occurrence of diseases, responding to disease outbreaks, organising awareness programs that promote healthy lifestyles, conducting public health research, and developing public health policies. Students who choose this concentration will be exposed to various subfields of Public Health.

All six concentrations provide comprehensive foundations in natural scientific inquiry through courses in biology, chemistry, toxicology, physics, and those directly related to the environment and ecology. All six concentrations prepare students for meaningful employment and for further studies at the graduate level.

The Bioinformatics concentration prepares students for careers in:

- Universities
- Medical Research Institutions
- IT sector
- Biotechnology sector
- Pharmaceutical sector

The Biomedical Sciences concentration provides the foundation for students wishing to continue their studies in medicine and health-related graduate programs. It will prepare students for careers in:

- Universities and research institutions
- Governmental agencies
- Non-governmental organizations, both Nigerian and international
- Hospitals and health clinics
- Hospitals and health clinics

The Biostatistics concentration provides the foundation for students wishing to continue their studies in medicine and health-related graduate programs. It will prepare students for careers in:

- Universities
- Medical Research Institutes
- Public health agencies
- Ministry of Health

- Public Health Non-governmental organizations, both Nigerian and international
- Governmental agencies

The Conservation Biology concentration provides the foundation for students wishing to continue their studies in medicine and health-related graduate programs. It will prepare students for careers in:

- Universities and research institutions
- Governmental agencies
- Non-governmental organizations, both Nigerian and international
- Hospitals and health clinics

The Environment and Health concentration provides the foundation for students wishing to continue their studies in medicine and health-related graduate programs. It will prepare students for careers in:

- Universities and research institutions
- Petrochemical industry
- Environmental consulting and management firms
- National and state government agencies managing health and environmental issues
- Regulatory agencies that monitor industries for pollution
- Waste management
- Municipal waste treatment facilities
- Industries and manufacturing companies
- Non-governmental organizations, both Nigerian and international

The Public Health concentration provides the foundation for students wishing to continue their studies in medicine and health-related graduate programs. It will prepare students for careers in:

- Public Health Non-governmental organizations, both Nigerian and international
- Universities
- Medical Research Institutes
- Public health agencies
- Ministry of Health

Bachelor of Science in Natural and Environmental Sciences Program Requirements

All NES students must complete a series of courses (credits) in consultation with the program chair to ensure all requirements have been fulfilled.

As a NES major, students are required to successfully complete the following credit load upon graduation. Each concentration carries its own credit load:

Natural and Environmental Sciences

Bachelor of Science in Natural and Environmental Sciences Credit Hours Program Requirements						
Concentration Areas	MAJOR					Overall Graduation Requirement
	GENED	CORE	Free Electives	Concentration Core	Concentration Electives	
	Minimum Total Credit Hours					
Bioinformatics	50	36	9	32	-	127
Biomedical Sciences	50	36	9	15	14	124
Biostatistics	50	36	9	18	10	123
Conservation Biology	50	36	9	7	21	123
Environment and Health	50	36	9	9	19	123
Public Health	50	36	9	19	9	123

CORE Requirement

The following 10 core courses (36 credit hours) are required for all Natural and Environment Sciences concentrations.

Requirement	Course Code	Course Title	Credit Hours
CORE (36 credit hours)	BIO 120	Introduction to Biology I	4
	BIO 121	Introduction to Biology II	4
	BIO 210	Communicating in the Sciences	3
	BIO 490 or NES 490	Senior Research Project I	3
	BIO 491 or NES 491	Senior Research Project II	3
	CHE 120	General Chemistry I	4
	CHE 121	General Chemistry II	4
	PHY 131	College Physics I	4
	PHY 132	College Physics II	4
	STA 305	Biostatistics	3

Chemistry Requirement*

All students must enroll in CHE 101. A placement test will be conducted in class to determine a student's chemistry foundation.		
A student may be placed in...		Credit Hours
CHE 101 Or	Introduction Chemistry <i>This course does NOT count towards the overall total graduation credits. This course does not satisfy GENED requirement.</i>	4
CHE 120	General Chemistry I	4

Free Electives

All Natural and Environment Sciences students are required to complete Free Electives to fulfill major program requirements. A minimum of 9 credits are required.

Requirement	Course Code	Course Title	Credit Hours
FREE ELECTIVES (min. 9 credits)	XXX xxx	Students are encouraged to visit the program chair for further consultation.	1-4
	XXX xxx		1-4
	XXX xxx		1-4

Bachelor of Science in NES – Bioinformatics Concentration Program Requirement

The Bachelor of Science in NES (concentration: Bioinformatics) requirements are listed here.

Bioinformatics Concentration Core

The following 10 courses totaling 32 credit hours are compulsory for bioinformatics concentration.

Concentration Requirement

Requirement	Course Code	Course Title	Credit Hours
CONCENTRATION CORE (32 credits)	BIO 230	Molecular Genetics	4
	BIO 390	Introduction to Bioinformatics	3
	CHE 350	Biochemistry	3
	CHE 210	Organic Chemistry I	4
	CIE 105	Principles of Programming I	3
	CIE 106	Principles of Programming II	3
	CIE 231	Intro to Databases, Web Technologies & Applications	3
	CSC 202	Data Structures and Algorithms	3
	CSC 213	Discrete Structures	3
	CSC 301	Systems Programming	3

Students who intend to pursue careers in medicine, pharmacy, veterinary science, or related fields are strongly recommended to take the following courses as electives. The new MCAT (from January 2015) pulls heavily from these subjects. Visit the NES program chair for further course selection consultation.

Course Code	Course Title	Credit Hours
CHE 210	Organic Chemistry 1	4
CHE 211	Organic Chemistry 2	4
SOC 101	Introduction to Sociology	3
PSY 101	Introduction to Psychology	3

**SAMPLE 4 -YEAR STUDY PLAN -BACHELOR OF SCIENCE IN NATURAL AND ENVIRONMENTAL
SCIENCES BIOINFORMATICS CONCENTRATION
FALL & SPRING ADMISSION**

NOTE – STUDENTS ARE REQUIRED TO VISIT NES PROGRAM CHAIR FOR A COMPREHENSIVE STUDY PLAN

This study plan is a guide only.

This study plan does not reflect remedial courses (MAT 100 & WRI 100). Due to faculty scheduling changes some courses may not be offered during the semesters indicated. Check with your faculty and academic advisors along with your program chair each semester to be up to date with changes to the study plan.

FIRST YEAR

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
1	WRI 101	Writing	3	Placement test	GENED
		Composition I			
	MAT 210	Maths and Statistics	3	MAT112/Placement test	GENED
		Pre-Calculus			
	AUN 101	First Year Experience	1	None	GENED
		First Year Experience			
	BIO 120	Natural & Physical Sciences	4	None	CORE
		Introduction to Biology I			
	ANT/CIV/ECO/ HIS/ ICP/ PSY/SOC	Social & Behavioral Sc.	3	None	GENED
		Select one			
CIE 111	Information Technology	3	None	GENED	
	Intro. Computers & Comp				
Total			17		
2	WRI 102	Writing	3	WRI 101	GENED
		Composition II			
	GEN 102 or GEN 103	Arts and Humanities	3	None	GENED
		Select one			
	CHE 120	Natural & Physical Sc.	4	CHE 101 or placement test	CORE
		General Chemistry I			
	BIO 121	Introduction to Biology II	4	BIO 120	CORE
Total			14		

Bachelor of Science in NES - Biomedical Sciences Concentration Program Requirement

The Bachelor of Science in NES (Biomedical) concentration requires a total of minimum 124 graduation credit hours.

Biomedical Sciences Concentration Core

The following four (4) courses totaling 15 credit hours are compulsory for Biomedical Science concentration.

Requirement	Course Code	Course Title	Credit hours
	BIO 205	Animal Form & Function	4
CONCENTRATION CORE (15 credits)	BIO 230	Molecular Genetics	4
	BIO 320	Human Anatomy and Physiology	4
	CHE 350	Biochemistry	3

Biomedical Concentration Electives Requirement

Students must complete 14 credits of concentration courses from group 1 and 2.

Group 1- minimum eleven (11) credits; Group 2 - minimum three (3) credits.

Students must complete at least 14 credits from the following courses.

Requirement	Group	Course Code	Course Title	Credit Hours
CONCENTRATION ELECTIVES (14 credits)	1 (min. 11 credits)	BIO 240	Microbiology and Immunology	4
		BIO 360	Cell and Developmental Biology	4
		BIO 380	Intro. to Biotechnology	3
		BIO 420	Human Genetics	3
		CHE 210	Organic Chemistry I	4
		CHE 211	Organic Chemistry I	4
	2 (min. 3 credits)	BIO 250	Global Health	3
		BIO 350	Introduction to Public Health	3
		BIO 450	Principles of Epidemiology	3

**SAMPLE 4 -YEAR STUDY PLAN - BACHELOR OF SCIENCE IN NATURAL AND ENVIRONMENTAL
SCIENCES BIOMEDICAL SCIENCES CONCENTRATION
FALL ADMISSION**

This study plan is a guide only.

This study plan does not reflect remedial courses (MAT 100 & WRI 100). Due to faculty and scheduling changes some courses may not be offered during the semesters indicated. Check with your faculty and academic advisors along with your program chair each semester to be up to date with changes to the study plan.

FIRST YEAR

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
1	WRI 101	Writing	3	Placement test	GENED
		Composition I			
	MAT 210	Maths and Statistics	3	MAT 112 or placement test	GENED
		Calculus I			
	AUN 101	First Year Experience	1	None	GENED
		First Year Experience			
	BIO 120	Introduction to Biology I	4	None	CORE
	CIE 111	Information Technology	3	None	GENED
Intro. to Computers & Computing					
Total			14		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
2	WRI 102	Writing	3	WRI 101	GENED
		Composition II			
	GEN 102 or GEN 103	Arts and Humanities	3	None	GENED
		select one			
	BIO 121	Introduction to Biology II	4	BIO 120	CORE
	CDV 2xx	Community Service	3	min. 2 nd yr. standing	GENED
		Community Development			
CHE 120	General Chemistry I	4	CHE 101 or placement test	CORE	
Total			17		

SECOND YEAR – NES BIOMEDICAL SCIENCES CONCENTRATION (FALL)

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
3	BIO 210	Communicating in the Sciences	3	WRI 102	CORE
	BIO 205	Animal Form & Function	4	BIO 121	CONCENTRATION CORE
	ENT 101	Entrepreneurship	3	None	GENED
		Intro to Entrepreneurship			
	CHE 121	General Chemistry II	4	CHE 120	CORE
	STA 101	Maths & Statistics	3	MAT 110 or higher	GENED
Intro. to Statistics					
Total			17		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
4	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	ANT/CIV/ ECO/HIS/ ICP/PSY/ SOC	Social & Behavioral Science	3	None	GENED
		Select one			
	GEN 102/ GEN 103	Arts & Humanities	3	None	GENED
		Select one			
	XXX xxx	Refer to elective list	4	Refer to course description	CONCENTRATION ELECTIVE
XXX xxx	See Concentration Elective list	3	Refer to course descriptions	CONCENTRATION ELECTIVE	
Total			16		

THIRD YEAR – NES BIOMEDICAL SCIENCES CONCENTRATION (FALL)

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
5	AUN 300	Critical Thinking & Problem Solving	3	min. 3 rd yr. standing	GENED
		Critical Thinking & Problem Solving			
	BIO 230	Molecular Genetics	4	BIO 121, CHE 120	CONCENTRATION CORE
	ENT 325	Entrepreneurship	3	ENT 101	GENED
		Social Entrepreneurship			
	XXX xxx	See Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	PHY 131	College Physics I	4	MAT 110 or higher (min. C grade)	CORE
Total			17		
6	CHE 350	Biochemistry	3	BIO 121, CHE 121	CORE
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	STA 305	Biostatistics	3	STA 101, MAT 210	CORE
	PHY 132	College Physics II	4	PHY 131	CORE
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
Total			17		

FOURTH YEAR – NES BIOMEDICAL SCIENCES CONCENTRATION (FALL)

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
7	PHI 300	Arts & Humanities	3	min. 3 rd . yr standing	GENED
		Ethics & Leadership			
	BIO 320	Human Anatomy and Physiology	4	BIO 205, CHE 120	CONCENTRATION CORE
	BIO/CHE/GEO/ NES/PHY	Natural & Physical Science	4	None	GENED
		select one			
	BIO 490 or NES 490	Senior Research Project I	3	BIO 121, BIO 210, STA 101, 3rd senior standing	CORE
Total			14		
8	BIO 491 or NES 491	Senior Research Project II	3	BIO 490, STA 305	CORE
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	BIO/CHE/GEO/ NES/PHY	Natural & Physical Science	3	None	GENED
		select one			
	XXX xxx	Visit program chair	3	Refer to course description	CONCENTRATION ELECTIVE
Total			12		

**SAMPLE 4 -YEAR STUDY PLAN - BACHELOR OF SCIENCE IN NATURAL AND ENVIRONMENTAL SCIENCES
BIOMEDICAL SCIENCES CONCENTRATION
SPRING ADMISSION**

This study plan is a guide only.

This study plan does not reflect remedial courses (MAT 100 & WRI 100). Due to faculty and scheduling changes some courses may not be offered during the semesters indicated. Check with your faculty and academic advisors along with your program chair each semester to be up to date with changes to the study plan.

FIRST YEAR

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
1	WRI 101	Writing	3	Placement test	GENED
		Composition I			
	BIO 120	Introduction to Biology I	4	None	CORE
	MAT 210	Maths and Statistics	3	MAT 112/ Placement test	GENED
		Calculus 1			
	AUN 101	First Year Experience	1	None	GENED
		First Year Experience			
	CIE 111	Information Technology	3	None	GENED
Intro. to Computers & Computing					
Total			14		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
2	WRI 102	Writing	3	WRI 101	GENED
		Composition II			
	GEN 102 or GEN 103	Arts and Humanities	3	None	GENED
		select one			
	CDV 2xx	Community Service	3	min. 2nd yr. standing	GENED
		Community Development			
	CHE 120	General Chemistry I	4	CHE 101/ Placement Test	CORE
	BIO 121	Introduction to Biology II	4	BIO 120	CORE
Total			17		

SECOND YEAR – NES BIOMEDICAL SCIENCES CONCENTRATION (SPRING)

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
3	STA 101	Maths & Statistics	3	MAT 110 or higher)	GENED
		Statistics			
	ANT/CIV/ECO/ HIS/ICP/PSY/ SOC	Social & Behaviour Sc.	3	None	GENED
		Select one			
	ENT 101	Entrepreneurship	3	None	GENED
		Introduction to Entrepreneurship			
	BIO 205	Animal Form & Function	4	BIO 121	CONCENTRATION CORE
CHE 121	General Chemistry II	4	CHE 120	CORE	
Total			17		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
4	CHE 210	Organic Chemistry I	4	CHE 121	CORE
	BIO 210	Communicating in the Sciences	3	WRI 102	CORE
	BIO 230	Molecular Genetics	4	BIO 121, CHE 120	CONCENTRATION CORE
	GEN 102/ GEN 103	Arts & Humanities	3	None	GENED
		Select one			
	ANT/CIV/ECO /HIS/ICP/PSY/ SOC	Social Behavioral Sc.	3	None	GENED
select one					
Total			17		

THIRD YEAR – NES BIOMEDICAL SCIENCES CONCENTRATION (SPRING)

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
5	AUN 300	Critical Thinking & Problem Solving	3	min. 3 rd yr. standing	GENED
		Critical Thinking & Problem Solving			
	XXX xxx	Refer to elective list	4	Refer to course description	CONCENTRATION ELECTIVE
	ENT 325	Entrepreneurship	3	ENT 101	GENED
		Social Entrepreneurship			
	XXX xxx	Refer to elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	PHY 131	College Physics I	4	MAT 110 or higher	CORE
Total			17		
6	PHI 300	Arts and Humanities	3	min. 3rd yr. standing	GENED
		Ethics & Leadership			
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	PHY 132	College Physics II	4	PHY 131	CORE
	BIO 320	Human Anatomy & Physiology	4	BIO 205, CHE 120	CORE
Total			14		

FOURTH YEAR – NES BIOMEDICAL SCIENCES CONCENTRATION (SPRING)

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
7	CHE 350	Biochemistry	3	BIO 121, CHE 121	CONCENTRATION CORE
	STA 305	Biostatistics	3	STA 101, MAT 210	CORE
	BIO/CHE/GEO/ NES/PSY	Natural & Physical Science select one	4	None	GENED
	XXX xxx	Refer to elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	BIO 490 or NES 490	Senior. Research Project I in Biomedical Sc.	3	BIO 121, BIO 210, STA 101, 3rd senior standing	CORE
Total			16		
8	BIO 491/ NES 491	Senior Research Project II	3	BIO 490, STA 305	CORE
	XXX xxx	visit program chair	3	Refer to course description	FREE ELECTIVE
	BIO/CHE/GEO/ NES/PHY	Natural & Physical Science Select one	3	None	GENED
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
Total			12		

Bachelor of Science in NES - Biostatistics Concentration Program Requirement

The Bachelor of Science in NES Biostatistics concentration requires a minimum 124 graduation credit hours

Biostatistics Concentration Core Requirement

The following 6 courses 18 credits are compulsory.

Requirement	Course Code	Course Title	Credit Hours
CONCENTRATION CORE (min. 18 credit)	CIE 105	Principles of Programming I	3
	MAT 211	Calculus II	3
	MAT 310	Calculus III	3
	MAT 312	Linear Algebra	3
	STA 301	Probability and Statistics	3
	STA 310	Operations Research	3

Biostatistics Concentration Electives Requirement

Students are advised to take a minimum of ten (10) credits from each group as listed.

Requirement	GROUP	Course Code	Course Title	Credit Hours
CONCENTRATION ELECTIVE (min. 10 credits)	1 (min. 3 crs.)	BIO 240	Microbiology and Immunology	4
		BIO 420	Human Genetics	3
	2 (min. 7 crs)	Visit program chair for course selection consultation.		Refer to course description

**SAMPLE 4 -YEAR STUDY PLAN – BACHELOR OF SCIENCE IN NATURAL AND ENVIRONMENTAL SCIENCES
BIOSTATISTICS CONCENTRATION
FALL & SPRING ADMISSION**

**NOTE – STUDENTS ARE REQUIRED TO VISIT NES PROGRAM CHAIR FOR A COMPREHENSIVE STUDY PLAN.
FIRST YEAR**

This study plan is a guide only.

This study plan does not reflect remedial courses (MAT 100 & WRI 100). Due to faculty and scheduling changes some courses may not be offered during the semesters indicated. Check with your faculty and academic advisors along with your program chair each semester to be up to date with changes to the study plan.

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
1	WRI 101	Writing	3	Placement test	GENED
		Composition I			
	MAT 210	Maths and Statistics	3	MAT 112/ Placement test	GENED
		Mathematics			
	AUN 101	First Year Experience	1	None	GENED
		First Year Experience			
	BIO 120	Introduction to Biology I	4	None	CORE
	CIE 111	Information Technology	3	None	GENED
Intro. to Computers & Computing					
Total			14		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
2	WRI 102	Writing	3	WRI 101	GENED
		Composition II			
	GEN 102 or GEN 103	Arts and Humanities	3	None	GENED
		select one			
	BIO/CHE/GEO/ NES/PHY	Natural & Physical Sc.	4	None	GENED
		select one			
	CHE 120	General Chemistry I	4	CHE 101/ Placement test	CORE
Total			18		

Bachelor of Science in NES - Conservation Biology Concentration Program Requirement

The Bachelor of Science in NES (Conservation Biology) requires a total of 124 graduation credit hours to fulfill the program requirement.

Conservation Biology Concentration Core Requirement

The following two courses are required for a total of 7 credit hours:

Requirement	Course Code	Course Title	Credit Hours
CONCENTRATION CORE (7 credits)	BIO 230	Molecular Genetics	4
	NES 201	Introduction to Natural and Environmental Sciences	3

Conservation Biology Concentration Elective Requirement

Students must complete a minimum total of 21 credits of courses from either Group 1-4. Students are encouraged to visit the NES program chair for course selection consultation.

Requirement	Group	Course Code	Course Title	Credit Hours
CONCENTRATION ELECTIVE (21 credits)	1 (min. 7 crs.)	NES 202	Principals of Ecology	4
		NES 310	Behavioral Ecology	3
		NES 401	Community Ecology and Population Biology	3
		NES 406	Plant Community Ecology	3
		BIO 205	Animal Form and Function	4
		BIO 206	Applied Botany	4
		BIO 220	Animal Behavior	3
	2 (min. 6 crs.)	NES 300	Environmental Policy and Risk Management	3
		NES 320	Special Topics in NES	3
		NES 342	Environmental Toxicology	3
		NES 344	Environmental Risk Assessment	3
		NES 420	Environmental and Occupational Health	3
		NES 430	Environmental Chemistry (cross listed with CHE 322)	3
		NES 440	Environmental Impact Assessment	3
		GEO 312	Soil Science and Environmental Change	4
	3 (min. 3 crs.)	BIO 250	Global Health	3
		BIO 350	Introduction to Public Health	3
		ICP 434	Global Environmental Politics	3
		ECO 405	Environmental & Natural Resource Economics	3
		ECO 341	Environmental Economics	3
	4 (min. 5 crs.)	See program chair for course selection consultation	Refer to course description	

**SAMPLE 4 -YEAR STUDY PLAN – BSc IN NATURAL AND ENVIRONMENTAL SCIENCES
CONSERVATION BIOLOGY - CONCENTRATION
FALL ADMISSION**

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FIRST YEAR

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
1	WRI 101	Writing	3	Placement test	GENED
		Composition I			
	MAT 210	Maths and Statistics	3		GENED
		Mathematics			
	AUN 101	First Year Experience	1	None	GENED
		First Year Experience			
	BIO 120	Introduction to Biology I	4	None	CORE
	ANT/CIV/ECO/ HIS/ICP/PSY/SOC	Social & Behavioral Sc.	3	None	GENED
		Select one			
CIE 111	Information Technology	3	None	GENED	
	Intro. to Computers & Computing				
Total			17		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
2	WRI 102	Writing	3	WRI 101	GENED
		Composition II			
	BIO 121	Intro. to Biology II	4	BIO 120	CORE
	BIO/CHE/GEO/ NES/PHY	Natural & Physical Sc.	4	None	GENED
		select one			
	CHE 120	General Chemistry I	4	CHE 101 or placement exam	CORE
Total			15		

SECOND YEAR – NES CONVERSATION BIOLOGY CONCENTRATION (FALL)

Semester	Course	Course Title	Credit Hours	Prerequisite	Requirement
3	CDV 2xx	Community Service I	3	None	GENED
		Community Development			
	NES 201	Intro. to Natural and Environmental Sc.	3	None	CONCENTRATION CORE
	BIO 210	Communicating in the Sciences	3	WRI 102	CORE
	GEN 102/GEN 103	Arts & Humanities	3	None	GENED
		Select one			
	CHE 121	General Chemistry II	4	CHE 120	CORE
Total			16		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
4	STA 101	Maths & Statistics	3	MAT 110 or higher	GENED
		Intro. to Statistics			
	ENT 101	Business & Entrepreneurship	3	None	GENED
		Intro. to Entrepreneurship			
	XXX xxx	Refer to Concentration Elective list	4	Refer to course description	CONCENTRATION ELECTIVE
	XXX xxx	Refer to Concentration Elective list	4	None	CONCENTRATION ELECTIVE
Total			14		

THIRD YEAR – NES CONVERSATION BIOLOGY CONCENTRATION (FALL)

Semester	Course	Course Title	Credit Hours	Prerequisite	Requirement
5	XXX xxx	Refer to Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	AUN 300	Critical thinking & Problem Solving	3	min. 3 rd yr. standing	GENED
		Critical Thinking & Problem Solving			
	ENT 325	Entrepreneurship	3	ENT 101	GENED
		Social Entrepreneurship			
	PHY 131	College Physics I	4	MAT 110 or higher	CORE
	BIO 230	Molecular Genetics	4	BIO 121, CHE 120	CONCENTRATION CORE
Total			17		
6	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	PHY 132	College Physics II	4	PHY 131	CORE
	XXX xxx	Refer to Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	XXX xxx	Refer to Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	STA 305	Biostatistics	3	STA 101, MAT 210	CORE
Total			16		

FOURTH YEAR – NES CONVERSATION BIOLOGY CONCENTRATION (FALL)

Semester	Course	Course Title	Credit Hours	Prerequisite	Requirement
7	PHI 300	Arts & Humanities	3	None	GENED
		Ethics & Leadership			
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	XXX xxx	Refer to Concentration Elective list	4	Refer to course description	CONCENTRATION ELECTIVE
	NES 490 or BIO 490	Senior Research Project I	3	BIO 121, BIO 210, STA 101, min. 4th yr. standing	CORE
Total			13		
8	NES 491 or BIO 491	Senior Research Project II	3	NES 490 or BIO 490 and STA 305	CORE
	XXX xxx	Refer to Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	ANT/CIV/ECO/HIS/ ICP/PSY/ SOC	Social & Behavioral Sciences	3	None	GENED
		Select one			
	XXX xxx	Visit your program chair	3	Refer to course description	FREE ELECTIVE
	BIO/CHE/GEO/NES/PHY	Natural & Physical Sc.	3	None	GENED
Total			15		

**SAMPLE 4 -YEAR STUDY PLAN – BSc IN NATURAL AND ENVIRONMENTAL SCIENCES
CONCENTRATION CONSERVATION BIOLOGY
SPRING ADMISSION**

This study plan is a guide only.

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FIRST YEAR

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
1	WRI 101	Writing	3	Placement test	GENED
		Composition I			
	MAT 210	Maths and Statistics	3	MAT 112/ Placement test	GENED
		Calculus I			
	AUN 101	First Year Experience	1	None	GENED
		First Year Experience			
	BIO 120	Introduction to Biology I	4	None	CORE
	ANT/CIV/ECO/ HIS/ICP/PSY/SOC	Social & Behavioral Sc.			
		Select one			
	CIE 111	Information Technology	3	None	GENED
Intro. to Computers & Computing					
Total			17		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
2	WRI 102	Writing	3	WRI 101	GENED
		Composition II			
	BIO 121	Intro. to Biology II	4	BIO 120	CORE
	BIO/CHE/GEO/ NES/PHY	Natural & Physical Sc.	4	None	GENED
		select one			
	CHE 120	General Chemistry I	4	CHE 101 or placement exam	CORE

Total				15	
SECOND YEAR – NES CONVERSATION BIOLOGY CONCENTRATION (SPRING)					
Semester	Course	Course Title	Credit Hours	Prerequisite	Requirement
3	CDV 2xx	Community Service I	3	min. 2 yr. standing	GENED
		Community Development			
	STA 101	Maths & Statistics	3	MAT 110 or higher	GENED
		Intro. to Statistics			
	GEN 102/ GEN 103	Arts & Humanities	3	None	GENED
		select one			
	XXX xxx	Refer to Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	CHE 121	General Chemistry II	4	CHE 120	CORE
Total			16		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
4	ENT 101	Business & Entrepreneurship	3	None	GENED
		Intro. to Entrepreneurship			
	BIO 210	Communicating in the Sciences	3	WRI 102	CORE
	XXX xxx	Refer to Concentration Elective list	4	Refer to course description	CONCENTRATION ELECTIVE
	NES 201	Intro. to Natural and Environmental Sc.	3	None	CONCENTRATION CORE
	BIO 230	Molecular Genetics	4	BIO 121, CHE 120	CONCENTRATION CORE
Total			17		

THIRD YEAR – NES CONVERSATION BIOLOGY CONCENTRATION (SPRING)

Semester	Course	Course Title	Credit Hours	Prerequisite	Requirement
5	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	AUN 300	Critical thinking & Problem Solving	3	min. 3rd yr. standing	GENED
		Critical Thinking & Problem Solving			
	STA 305	Biostatistics	3	STA 101 and MAT 210	CORE
	PHY 131	College Physics I	4	MAT 110 or higher	CORE
	GEN 102/ GEN 103	Arts & Humanities	3	None	GENED
Select one					
Total			16		
6	BIO 490/ NES 490	Senior Research Project I	3	BIO 121, BIO 210, STA 101, 3rd yr. standing	CORE
	PHY 132	College Physics II	4	PHY 131	CORE
	GEN 102 or GEN 103	Arts and Humanities	3	None	GENED
		Select one.			
	XXX xxx	Refer to concentration elective list.	3	Refer to course description	CONCENTRATION ELECTIVE
	ENT 325	Business & Entrepreneurship	3	ENT 101	GENED
Social Entrepreneurship					
Total			16		

FOURTH YEAR – NES CONVERSATION BIOLOGY CONCENTRATION (SPRING)

Semester	Course	Course Title	Credit Hours	Prerequisite	Requirement
7	ANT/CIV/ECO/ HIS/ ICP/PSY/SOC	Social & Behavioral Sc.	3	None	GENED
		Select one			
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	XXX xxx	Refer to Concentration Elective list	4	Refer to course description	CONCENTRATION ELECTIVE
	NES 491 or BIO 491	Senior Research Project II	3	NES 490, STA 305	CORE
Total			14		
8	XXX xxx	Refer to Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	PHI 300	Arts & Humanities	3	min. 3 rd . yr. standing	GENED
		Ethics & Leadership			
	XXX xxx	Visit your program chair	3	Refer to course description	FREE ELECTIVE
	BIO/CHE/GEO/ NES/PHY	Natural & Physical Sc.	3	None	GENED
Total			12		

Environment and Health Concentration Program Requirement

The Bachelor of Science in NES (Environment and Health) requires a total of 123 graduation credit hours to fulfill degree requirements.

Environment and Health Concentration Core Requirement

A student must complete the following 3 courses (9 credit) of concentration core courses.

Requirement	Course Code	Course Title	Credit Hours
CONCENTRATION CORE (9 credits)	NES 201	Introduction to Natural and Environmental Sci.	3
	NES 342	Environmental Toxicology	3
	BIO 450	Principles of Epidemiology	3

Environment and Health Concentration Elective Requirement

Students are required to complete the following 19 credits from each group: Group 1-minimum three (3) credits; Group 2 - minimum nine (9) credits; Group 3 – minimum eight (7) credits.

Requirement	Group	Course Code	Course Title	Credit Hours
CONCENTRATION ELECTIVE (19 credits required)	1 (min. 3 credits)	BIO 240	Microbiology and Immunology	4
		BIO 250	Global Health	3
		BIO 350	Introduction to Public Health	3
	2 (min. 9 credits)	NES 300	Environmental Policy and Risk Management	3
		NES 340	Pollution: Sources and Effects	3
		NES 344	Environmental Risk Assessment	3
		NES 420	Environmental and Occupational Health	3
		NES 430 or CHE 322	Environmental Chemistry cross listed – Environmental Chemistry	3
		NES 440	Environmental Impact Assessment	3
		GEO 312	Soil Science and Environmental Change	4
		CHE 210	Organic Chemistry I	4
		CHE 211	Organic Chemistry II	4
		CHE 350	Biochemistry	3
	3 (min. 7 credits)	See program chair for course selection consultation	Refer to catalog description	

**SAMPLE 4- YEAR STUDY PLAN – BSc IN NATURAL AND ENVIRONMENTAL SCIENCES
ENVIRONMENT AND HEALTH CONCENTRATION
FALL ADMISSION**

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FIRST YEAR

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
1	WRI 101	Writing	3	Placement test	GENED
		Composition I			
	MAT 210	Maths and Statistics	3	MAT 112/ Placement Test	GENED
		Mathematics			
	AUN 101	First Year Experience	1	None	GENED
		First Year Experience			
	BIO 120	Introduction to Biology I	4	None	CORE
	ANT/CIV/ECO/ HIS/ICP/PSY/SOC	Social & Behavioral Science	3	None	GENED
		select one			
	CIE 111	Information Technology	3	None	GENED
Introduction to Computers & Computing					
Total			17		
2	WRI 102	Writing	3	WRI 101	GENED
		Composition II			
	GEN 102 or GEN 103	Arts and Humanities	3	None	GENED
		select one			
	CHE 120	General Chemistry I	4	CHE 101 or placement test	CORE
	BIO 121	Introduction to Biology II	4	BIO 120	CORE

Total	14
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SECOND YEAR – NES ENVIRONMENT AND HEALTH CONCENTRATION (FALL)

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
3	BIO 210	Communicating in the Sciences	3	WRI 102	CORE
	CDV 2XX	Community Service	3	min. 2 nd yr. standing	GENED
		Community Development			
	STA 101	Maths & Statistics	3	MAT 110 or higher	GENED
		Intro. to Statistics			
	NES 201	Intro. to Natural and Environmental Sciences	3	None	CONCENTRATION CORE
CHE 121	General Chemistry II	4	CHE 120	CORE	
Total			16		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
4	GEN103/ GEN 102	Arts & Humanities	3	None	GENED
		Select one			
	ENT 101	Business & Entrepreneurship	3	None	GENED
		Intro. to Entrepreneurship			
	XXX xxx	Refer to elective list.	3	Refer to course description	CONCENTRATION ELECTIVE
	PHY 131	College Physics I	4	MAT 110 or higher	CORE
	ANT/CIV/ECO/ HIS/ICP/ PSY/SOC	Social & Behavioral Sc.	3	None	GENED
Select one					
Total			16		

THIRD YEAR - NES ENVIRONMENT AND HEALTH CONCENTRATION (FALL)

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
5	XXX xxx	Refer to Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	ENT 325	Business Entrepreneurship	3	ENT 101	GENED
		Social Entrepreneurship			
	NES 342	Environmental Toxicology	3	BIO 121, CHE 121, NES 201	CONCENTRATION CORE
	AUN 300	Critical Thinking & Problem Solving	3	Refer to course description	GENED
		Critical Thinking & Problem Solving			
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
Total			15		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirements
6	PHI 300	Arts & Humanities	3	min. 3 rd yr. standing	GENED
		Ethics & Leadership			
	XXX xxx	Refer to Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	PHY 132	College Physics II	4	PHY 131	CORE
	XXX xxx	Refer to Concentration Elective list	4	Refer to course description	CONCENTRATION ELECTIVE
	STA 305	Biostatistics	3	STA 101, MAT 210	CORE
Total			17		

FOURTH YEAR - ENVIRONMENT AND HEALTH CONCENTRATION (FALL)

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirements
7	XXX xxx	Visit program chair	3	Refer to course description	CONCENTRATION ELECTIVE
	BIO 450	Principles of Epidemiology	3	BIO 250, STA 305	CONCENTRATION CORE
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	BIO/CHE/ GEO/ NES/PHY	Natural & Physical Sc.	4	Refer to course description	GENED
		Select one			
	NES 490 or BIO 490	Senior Research Project I in NES	3	BIO 121, BIO 210, STA 101, 3 rd yr. standing	CORE

Total			16		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirements
8	NES 491 or BIO 491	Senior Research Project II	3	NES 490 or BIO 490, STA 305	CORE
	BIO/CHE/ GEO/NES/ PHY	Natural & Physical Science	3	Refer to course description	GENED
		Select one			
	XXX xxx	Refer to Concentration Elective list	3		CONCENTRATION ELECTIVE
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
Total			12		

**SAMPLE 4- YEAR STUDY PLAN – BSc IN NATURAL AND ENVIRONMENTAL SCIENCES
ENVIRONMENT AND HEALTH CONCENTRATION
SPRING ADMISSION**

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FIRST YEAR

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
1	WRI 101	Writing	3	Placement test	GENED
		Composition I			
	MAT 110 or MAT 112 or MAT 210	Maths and Statistics	3		GENED
		Mathematics			
	AUN 101	First Year Experience	1	None	GENED
		First Year Experience			
	BIO 120	Introduction to Biology I	4	None	CORE
	ANT/CIV/ECO/ HIS/ICP/ PSY/SOC	Social & Behavioral Sc.	3	None	GENED
		Select one			
	CIE 111	Information Technology	3	None	GENED
Intro. to Computers & Computing					
Total			17		
2	WRI 102	Writing	3	WRI 101	GENED
		Composition II			
	GEN 102 or GEN 103	Arts and Humanities	3	None	GENED
		select one			
	CHE 120	General Chemistry I	4	CHE 101 or placement test	CORE
	BIO 121	Introduction to Biology II	4	BIO 120	MAJOR
Total			14		

SECOND YEAR – ENVIRONMENT AND HEALTH CONCENTRATION (SPRING)

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
3	ENT 101	Business & Entrepreneurship	3	None	GENED
		Intro. to Entrepreneurship			
	CDV 2XX	Community Service	3	min. 2 nd yr. standing	GENED
		Community Development			
	STA 101	Maths & Statistics	3	MAT 110 or higher	GENED
		Intro. to Statistics			
	GEN103/ GEN 102	Arts & Humanities	3	None	GENED
		Select one			
	CHE 121	General Chemistry II	4	CHE 120	CORE
Total			16		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
4	XXX xxx	Refer to Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	XXX xxx	Refer to Concentration Elective list	3	None	CONCENTRATION ELECTIVE
	XXX xxx	Refer to Concentration Elective list	4	None	CONCENTRATION ELECTIVE
	BIO 210	Communicating in the Sciences	3	WRI 102	CORE
	PHY 131	College Physics I	4	MAT 110 or higher	CORE
Total			17		

THIRD YEAR - ENVIRONMENT AND HEALTH CONCENTRATION (SPRING)

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
5	AUN 300	Critical Thinking & Problem Solving	3	min 3 rd . yr. standing	GENED
		Critical Thinking & Problem Solving			
	NES 201	Intro. to Natural & Environment Sc.	3	None	CONCENTRATION CORE
	XXX xxx	Refer to Concentration Elective list	4	Refer to course description	CONCENTRATION ELECTIVE
	ENT 325	Business Entrepreneurship	3	ENT 101	GENED
		Social Entrepreneurship			
	ANT/CIV/ECO /HIS/ICP/PSY/ SOC	Social & Behavioral Sc.	3	None	GENED
		Select one			
Total			16		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirements
6	PHI 300	Arts & Humanities	3	min. 3 rd yr. standing	GENED
		Ethics & Leadership			
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	PHY 132	College Physics II	4	PHY 131	CORE
	XXX xxx	Refer to Concentration Elective list	4	Refer to course description	CONCENTRATION ELECTIVE
	BIO/CHE/ GEO/NES/ PHY	Natural & Physical Science	3	None	GENED
		Select one			
Total			16		

FOURTH YEAR - ENVIRONMENT AND HEALTH CONCENTRATION (SPRING)

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirements
7	XXX xxx	Visit program chair	3	Refer to course description	CONCENTRATION ELECTIVE
	STA 305	Biostatistics	3	STA 101, MAT 210	CORE
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	BIO/CHE/ GEO/ NES/PHY	Natural & Physical Science Select one	3	Refer to course description	GENED
	NES 490 or BIO 490	Senior Research Project I in NES	3	BIO 121, BIO 210, STA 101, 3 rd yr. standing	CORE
Total			15		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirements
8	NES 491 or BIO 491	Senior Research Project II	3	NES 490 or BIO 490, STA 305	CORE
	NES 342	Environmental Toxicology	3	BIO 121, CHE 121, NES 201	CONCENTRATION CORE
	BIO 450	Principles of Epidemiology	3	BIO 250, STA 305	CONCENTRATION CORE
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
Total			12		

Bachelor of Science in NES – Public Health Concentration Program Requirement

The Bachelor of Science in NES (concentration: Public Health) requires a total of 123 graduation credit hours to fulfill degree requirements.

Public Health Concentration Requirement

Students are required to complete six (6) courses (19) credit hours from the list to fulfill graduation requirements.

Requirement	Course Code	Course Title	Credit Hours
CONCENTRATION CORE (19 credits)	BIO 240	Microbiology and Immunology	4
	BIO 250	Global Health	3
	BIO 350	Introduction to Public Health	3
	BIO 450	Introduction to Epidemiology	3
	LAW 313	Medical Law and Ethics I	3
	STA 301	Probability and Statistics	3

Students who intend to pursue careers in medicine, pharmacy, veterinary science, or related fields are strongly recommended to take the following courses as concentration electives. The new MCAT (from January 2015) pulls heavily from these subjects.

Course Code	Course Title	Credit Hours
CHE 210	Organic Chemistry 1	4
CHE 211	Organic Chemistry 2	4
SOC 101	Introduction to Sociology	3
PSY 101	Introduction to Psychology	3

Public Health Concentration Elective Requirement

Students are required to complete minimum of nine (9) credit hours from the list to fulfill graduation requirements.

Requirement	Course Title	Credit Hours
CONCENTRATION ELECTIVES (min. 9 credits)	Visit program chair for course selection consultation.	Refer to catalog description

**SAMPLE 4 -YEAR STUDY PLAN – BACHELOR OF SCIENCE IN NATURAL AND ENVIRONMENTAL SCIENCES
PUBLIC HEALTH CONCENTRATION
FALL & SPRING ADMISSION**

NOTE – STUDENTS ARE REQUIRED TO VISIT NES PROGRAM CHAIR FOR A COMPREHENSIVE STUDY PLAN.

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FIRST YEAR

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
1	WRI 101	Writing	3	Placement test	GENED
		Composition I			
	MAT 110 or MAT 112 or MAT 210	Maths and Statistics	3		GENED
		Mathematics			
	AUN 101	First Year Experience	1	None	GENED
		First Year Experience			
	BIO 120	Natural & Physical Sciences	4	None	CORE
		Intro. to Biology I			
	ANT/CIV/ECO/ HIS/ICP/PSY/SOC	Social & Behavioral Science	3	None	GENED
		Select one			
CIE 111	Info.Technology	3	None	GENED	
	Intro. to Computers & Computing				
Total			17		
2	WRI 102	Writing	3	WRI 101	GENED
		Composition II			
	GEN 102 or GEN 103	Arts and Humanities	3	None	GENED
		select one			
	CHE 120	General Chemistry I	4	CHE 101 or placement test	CORE

	BIO 121	Intro.to Biology II	4	BIO 120	CORE
Total			14		

BACHELOR OF SCIENCE (B.SC.) IN NATURAL AND ENVIRONMENTAL SCIENCES

The Bachelor of Science program in Natural and Environmental Sciences provides an advanced understanding of the natural environment through interdisciplinary scientific education and research. When majoring in Natural and Environmental Sciences, students will choose one of these six concentration areas:

7. Bioinformatics
8. Biomedical Sciences
9. Biostatistics
10. Conservation Biology
11. Environment and Health
12. Public Health

Concentrations

The following is a description of the six concentrations in Natural Environmental Sciences:

Bioinformatics is an interdisciplinary concentration that combines the knowledge of biology and computer science to analyse and solve biological problems. In an era where massive amounts of biological data are constantly being produced, there is a pressing need to develop computer software that can adequately process and analyse vast quantities of biological data. The bioinformatics concentration trains students to be able to develop software that can be used as tools to analyse and answer biological questions in the areas of medicine and health, agriculture, conservation, and other areas of life sciences.

Biomedical Sciences provides an advanced understanding of biology with a special focus on human biology. This program is designed for students who wish to further their career in the health professions: medical practice, nursing, public health, physical therapy, pharmacy, veterinary medicine, etc. It is also the degree of choice for students wishing to further their education at the graduate level in biotechnology, molecular biology, cell biology, biochemistry, microbiology, public health, and similar health fields.

Biostatistics is a branch of sciences that applies statistical knowledge in interpreting biological data. Biostatistics is an important tool used for biological research in many important areas of the life sciences, for example clinical studies, drug testing, and disease surveillance. Biostatisticians can predict outcomes of hypothetical scenarios by developing statistical models that simulate biological processes and environmental conditions.

Conservation Biology focuses on conservation issues that affect wildlife and habitats. The protection and preservation of the natural world has become a growing concern worldwide. It is an especially urgent concern in Africa because of its high rate of human population activities that disturb the environment.

Environment and Health focuses on understanding the biological and physical world, man-made pollutants released by human activities, and the impact of contemporary societal activities on human health. Through the choice of electives, students can personalize their program to emphasize either the sources of pollution and their measurement or the biological processes within the human body affected by health and disease.

Public Health is an interdisciplinary science that is concerned primarily with promoting wellbeing of human health in the larger society. Public health personnel play an important role in safe guarding the wellbeing of a human population by implementing strategies to prevent the occurrence of diseases, responding to disease outbreaks, organising awareness programs that promote healthy lifestyles, conducting public health research, and developing public health policies. Students who choose this concentration will be exposed to various subfields of Public Health.

All six concentrations provide comprehensive foundations in natural scientific inquiry through courses in biology, chemistry, toxicology, physics, and those directly related to the environment and ecology. All six concentrations prepare students for meaningful employment and for further studies at the graduate level.

The Bioinformatics concentration prepares students for careers in:

- Universities
- Medical Research Institutions
- IT sector
- Biotechnology sector
- Pharmaceutical sector

The Biomedical Sciences concentration provides the foundation for students wishing to continue their studies in medicine and health-related graduate programs. It will prepare students for careers in:

- Universities and research institutions
- Governmental agencies
- Non-governmental organizations, both Nigerian and international
- Hospitals and health clinics
- Hospitals and health clinics

The Biostatistics concentration provides the foundation for students wishing to continue their studies in medicine and health-related graduate programs. It will prepare students for careers in:

- Universities
- Medical Research Institutes
- Public health agencies
- Ministry of Health
- Public Health Non-governmental organizations, both Nigerian and international
- Governmental agencies

The Conservation Biology concentration provides the foundation for students wishing to continue their studies in medicine and health-related graduate programs. It will prepare students for careers in:

- Universities and research institutions
- Governmental agencies
- Non-governmental organizations, both Nigerian and international
- Hospitals and health clinics

The Environment and Health concentration provides the foundation for students wishing to continue their studies in medicine and health-related graduate programs. It will prepare students for careers in:

- Universities and research institutions
- Petrochemical industry
- Environmental consulting and management firms
- National and state government agencies managing health and environmental issues
- Regulatory agencies that monitor industries for pollution
- Waste management
- Municipal waste treatment facilities
- Industries and manufacturing companies
- Non-governmental organizations, both Nigerian and international

The Public Health concentration provides the foundation for students wishing to continue their studies in medicine and health-related graduate programs. It will prepare students for careers in:

- Public Health Non-governmental organizations, both Nigerian and international
- Universities
- Medical Research Institutes
- Public health agencies
- Ministry of Health

Bachelor of Science in Natural and Environmental Sciences Program Requirements

All NES students must complete a series of courses (credits) in consultation with the program chair to ensure all requirements have been fulfilled.

As a NES major, students are required to successfully complete the following credit load upon graduation. Each concentration carries its own credit load:

Bachelor of Science in Natural and Environmental Sciences Program Requirements						
Concentration Areas	GENERAL EDUCATION	MAJOR				Overall Graduation Requirement
	GENED	CORE	Free Electives	Concentration Core	Concentration Electives	
	Minimum Total Credit Hours					
Bioinformatics	50	36	9	32	-	127
Biomedical Sciences	50	36	9	15	14	124
Biostatistics	50	36	9	18	10	123
Conservation Biology	50	36	9	7	21	123
Environment and Health	50	36	9	9	19	123
Public Health	50	36	9	19	9	123

CORE Requirement

The following 10 core courses (36 credit hours) are required for all Natural and Environment Sciences concentrations.

Requirement	Course Code	Course Title	Credit Hours
CORE (36 credit hours)	BIO 120	Introduction to Biology I	4
	BIO 121	Introduction to Biology II	4
	BIO 210	Communicating in the Sciences	3
	BIO 490 or NES 490	Senior Research Project I	3
	BIO 491 or NES 491	Senior Research Project II	3
	CHE 120	General Chemistry I	4
	CHE 121	General Chemistry II	4
	PHY 131	College Physics I	4
	PHY 132	College Physics II	4
	STA 305	Biostatistics	3

Chemistry Requirement*

All students must enroll in CHE 101.

A placement test will be conducted in class to determine a student's chemistry foundation.

A student may be placed in...		Credit Hours
CHE 101 Or	Introduction Chemistry <i>This course does NOT count towards the overall total graduation credits. This course does not satisfy GENED requirement.</i>	4
CHE 120	General Chemistry I	4

Free Electives

All Natural and Environment Sciences students are required to complete Free Electives to fulfill major program requirements. A minimum of 9 credits are required.

Requirement	Course Code	Course Title	Credit Hours
FREE ELECTIVES (min. 9 credits)	XXX xxx	Students are encouraged to visit the program chair for further consultation.	1-4
	XXX xxx		1-4
	XXX xxx		1-4

Bachelor of Science in NES – Bioinformatics Concentration Program Requirement

The Bachelor of Science in NES (concentration: Bioinformatics) requirements are listed here.

Bioinformatics Concentration Core

The following 10 courses totaling 32 credit hours are compulsory for bioinformatics concentration.

Concentration Requirement

Requirement	Course Code	Course Title	Credit Hours
CONCENTRATION CORE (32 credits)	BIO 230	Molecular Genetics	4
	BIO 390	Introduction to Bioinformatics	3
	CHE 350	Biochemistry	3
	CHE 210	Organic Chemistry I	4
	CIE 105	Principles of Programming I	3
	CIE 106	Principles of Programming II	3
	CIE 231	Intro to Databases, Web Technologies & Applications	3
	CSC 202	Data Structures and Algorithms	3
	CSC 213	Discrete Structures	3
	CSC 301	Systems Programming	3

Students who intend to pursue careers in medicine, pharmacy, veterinary science, or related fields are strongly recommended to take the following courses as electives. The new MCAT (from January 2015) pulls heavily from these subjects. Visit the NES program chair for further course selection consultation.

Course Code	Course Title	Credit Hours
CHE 210	Organic Chemistry 1	4
CHE 211	Organic Chemistry 2	4
SOC 101	Introduction to Sociology	3
PSY 101	Introduction to Psychology	3

**SAMPLE 4 -YEAR STUDY PLAN -BACHELOR OF SCIENCE IN NATURAL AND ENVIRONMENTAL SCIENCES
BIOINFORMATICS CONCENTRATION
FALL & SPRING ADMISSION**

NOTE – STUDENTS ARE REQUIRED TO VISIT NES PROGRAM CHAIR FOR A COMPREHENSIVE STUDY PLAN.

This study plan is a guide only.

This study plan does not reflect remedial courses (MAT 100 & WRI 100). Due to faculty scheduling changes some courses may not be offered during the semesters indicated. Check with your faculty and academic advisors along with your program chair each semester to be up to date with changes to the study plan.

FIRST YEAR

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
1	WRI 101	Writing	3	Placement test	GENED
		Composition I			
	MAT 210	Maths and Statistics	3	MAT112/Placement test	GENED
		Pre-Calculus			
	AUN 101	First Year Experience	1	None	GENED
		First Year Experience			
	BIO 120	Natural & Physical Sciences	4	None	CORE
		Introduction to Biology I			
	ANT/CIV/ ECO/HIS/ICP/ /PSY/SOC	Social & Behavioral Science	3	None	GENED
		Select one			
CIE 111	Information Technology	3	None	GENED	
	Introduction to Computers & Computing				
Total			17		
2	WRI 102	Writing	3	WRI 101	GENED
		Composition II			
	GEN 102 or GEN 103	Arts and Humanities	3	None	GENED
		select one			
	CHE 120	Natural & Physical Sc.	4		CORE

		General Chemistry I		CHE 101 or placement test	
	BIO 121	Introduction to Biology II	4	BIO 120	CORE
Total			14		

Bachelor of Science in NES - Biomedical Sciences Concentration Program Requirement

The Bachelor of Science in NES (Biomedical) concentration requires a total of minimum 124 graduation credit hours.

Biomedical Sciences Concentration Core

The following four (4) courses totaling 15 credit hours are compulsory for Biomedical Science concentration.

Requirement	Course Code	Course Title	Credit hours
	BIO 205	Animal Form & Function	4
CONCENTRATION CORE (15 credits)	BIO 230	Molecular Genetics	4
	BIO 320	Human Anatomy and Physiology	4
	CHE 350	Biochemistry	3

Biomedical Concentration Electives Requirement

Students must complete 14 credits of concentration courses from group 1 and 2.

Group 1- minimum eleven (11) credits; Group 2 - minimum three (3) credits.

Students must complete at least 14 credits from the following courses.

Requirement	Group	Course Code	Course Title	Credit Hours
CONCENTRATION ELECTIVES (14 credits)	1 (min. 11 credits)	BIO 240	Microbiology and Immunology	4
		BIO 360	Cell and Developmental Biology	4
		BIO 380	Intro. to Biotechnology	3
		BIO 420	Human Genetics	3
		CHE 210	Organic Chemistry I	4
		CHE 211	Organic Chemistry I	4
	2 (min. 3 credits)	BIO 250	Global Health	3
		BIO 350	Introduction to Public Health	3

		BIO 450	Principles of Epidemiology	3
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**SAMPLE 4 -YEAR STUDY PLAN - BACHELOR OF SCIENCE IN NATURAL AND ENVIRONMENTAL SCIENCES
BIOMEDICAL SCIENCES CONCENTRATION
FALL ADMISSION**

This study plan is a guide only.

This study plan does not reflect remedial courses (MAT 100 & WRI 100). Due to faculty and scheduling changes some courses may not be offered during the semesters indicated. Check with your faculty and academic advisors along with your program chair each semester to be up to date with changes to the study plan.

FIRST YEAR

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
1	WRI 101	Writing	3	Placement test	GENED
		Composition I			
	MAT 210	Maths and Statistics	3	MAT 112 or placement test	GENED
		Calculus I			
	AUN 101	First Year Experience	1	None	GENED
		First Year Experience			
	BIO 120	Introduction to Biology I	4	None	CORE
	CIE 111	Information Technology	3	None	GENED
Intro. to Computers & Computing					
Total			14		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
2	WRI 102	Writing	3	WRI 101	GENED
		Composition II			
	GEN 102 or GEN 103	Arts and Humanities	3	None	GENED
		select one			
	BIO 121	Introduction to Biology II	4	BIO 120	CORE
	CDV 2xx	Community Service	3	min. 2 nd yr. standing	GENED
		Community Development			
	CHE 120	General Chemistry I	4	CHE 101 or placement test	CORE

Total			17		
SECOND YEAR – NES BIOMEDICAL SCIENCES CONCENTRATION (FALL)					
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
3	BIO 210	Communicating in the Sciences	3	WRI 102	CORE
	BIO 205	Animal Form & Function	4	BIO 121	CONCENTRATION CORE
	ENT 101	Entrepreneurship	3	None	GENED
		Introduction to Entrepreneurship			
	CHE 121	General Chemistry II	4	CHE 120	CORE
	STA 101	Maths & Statistics	3	MAT 110 or higher	GENED
Intro. to Statistics					
Total			17		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
4	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	ANT/CIV/ ECO/HIS/IC P/PSY/SOC	Social & Behavioral Science	3	None	GENED
		Select one			
	GEN 102/ GEN 103	Arts & Humanities	3	None	GENED
		Intro. to Statistics			
	XXX xxx	Refer to elective list	4	Refer to course description	CONCENTRATION ELECTIVE
XXX xxx	See Concentration Elective list	3	Refer to course descriptions	CONCENTRATION ELECTIVE	
Total			16		

THIRD YEAR – NES BIOMEDICAL SCIENCES CONCENTRATION (FALL)

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
5	AUN 300	Critical Thinking & Problem Solving	3	min. 3 rd yr. standing	GENED
		Critical Thinking & Problem Solving			
	BIO 230	Molecular Genetics	4	BIO 121, CHE 120	CONCENTRATION CORE
	ENT 325	Entrepreneurship	3	ENT 101	GENED
		Social Entrepreneurship			
	XXX xxx	See Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	PHY 131	College Physics I	4	MAT 110 or higher (min. C grade)	CORE
Total			17		

6	CHE 350	Biochemistry	3	BIO 121, CHE 121	CORE
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	STA 305	Biostatistics	3	STA 101, MAT 210	CORE
	PHY 132	College Physics II	4	PHY 131	CORE
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
Total			17		

FOURTH YEAR – NES BIOMEDICAL SCIENCES CONCENTRATION (FALL)

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
7	PHI 300	Arts & Humanities	3	min. 3 rd . yr standing	GENED
		Ethics & Leadership			
	BIO 320	Human Anatomy and Physiology	4	BIO 205, CHE 120	CONCENTRATION CORE
	BIO/CHE/GEO/ NES/PHY	Natural & Physical Science	4	None	GENED
		select one			
BIO 490 or NES 490	Senior Research Project I	3	BIO 121, BIO 210, STA 101, 3rd senior standing	CORE	
Total			14		
8	BIO 491 or NES 491	Senior Research Project II	3	BIO 490, STA 305	CORE
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	BIO/CHE/GEO/ NES/PHY	Natural & Physical Science	3	None	GENED
		select one			
	XXX xxx	Visit program chair	3	Refer to course description	CONCENTRATION ELECTIVE
Total			12		

**SAMPLE 4 -YEAR STUDY PLAN - BACHELOR OF SCIENCE IN NATURAL AND ENVIRONMENTAL SCIENCES
BIOMEDICAL SCIENCES CONCENTRATION
SPRING ADMISSION**

This study plan is a guide only.

This study plan does not reflect remedial courses (MAT 100 & WRI 100). Due to faculty and scheduling changes some courses may not be offered during the semesters indicated. Check with your faculty and academic advisors along with your program chair each semester to be up to date with changes to the study plan.

FIRST YEAR

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
1	WRI 101	Writing	3	Placement test	GENED
		Composition I			
	BIO 120	Introduction to Biology I	4	None	CORE
	MAT 210	Maths and Statistics	3	MAT 112/ Placement test	GENED
		Calculus 1			
	AUN 101	First Year Experience	1	None	GENED
		First Year Experience			
	CIE 111	Information Technology	3	None	GENED
Intro. to Computers & Computing					
Total			14		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
2	WRI 102	Writing	3	WRI 101	GENED
		Composition II			
	GEN 102 or GEN 103	Arts and Humanities	3	None	GENED
		select one			
	CDV 2xx	Community Service	3	min. 2nd yr. standing	GENED
		Community Development			
	CHE 120	General Chemistry I	4	CHE 101/ Placement Test	CORE
	BIO 121	Introduction to Biology II	4	BIO 120	CORE

Total	17
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SECOND YEAR – NES BIOMEDICAL SCIENCES CONCENTRATION (SPRING)

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
3	STA 101	Maths & Statistics	3	MAT 110 or higher	GENED
		Statistics			
	ANT/CIV/ECO/ HIS/ICP/PSY/ SOC	Social & Behaviour Sc.	3	None	GENED
		Select one			
	ENT 101	Entrepreneurship	3	None	GENED
		Introduction to Entrepreneurship			
	BIO 205	Animal Form & Function	4	BIO 121	CONCENTRATION CORE
	CHE 121	General Chemistry II	4	CHE 120	CORE
Total			17		

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
4	CHE 210	Organic Chemistry I	4	CHE 121	CORE
	BIO 210	Communicating in the Sciences	3	WRI 102	CORE
	BIO 230	Molecular Genetics	4	BIO 121, CHE 120	CONCENTRATION CORE
	GEN 102/ GEN 103	Arts & Humanities	3	None	GENED
		Select one			
	ANT/CIV/ECO /HIS/ICP/PSY/ SOC	Social Behavioral Sc.	3	None	GENED
select one					
Total			17		

THIRD YEAR – NES BIOMEDICAL SCIENCES CONCENTRATION (SPRING)

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
5	AUN 300	Critical Thinking & Problem Solving	3	min. 3 rd yr. standing	GENED
		Critical Thinking & Problem Solving			
	XXX xxx	Refer to elective list	4	Refer to course description	CONCENTRATION ELECTIVE
	ENT 325	Entrepreneurship	3	ENT 101	GENED
		Social Entrepreneurship			
	XXX xxx	Refer to elective list	3	Refer to course description	CONCENTRATION ELECTIVE
PHY 131	College Physics I	4	MAT 110 or higher	CORE	
Total			17		
6	PHI 300	Arts and Humanities	3	min. 3rd yr. standing	GENED
		Ethics & Leadership			
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	PHY 132	College Physics II	4	PHY 131	CORE
	BIO 320	Human Anatomy & Physiology	4	BIO 205, CHE 120	CORE
Total			14		

FOURTH YEAR – NES BIOMEDICAL SCIENCES CONCENTRATION (SPRING)

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
7	CHE 350	Biochemistry	3	BIO 121, CHE 121	CONCENTRATION CORE
	STA 305	Biostatistics	3	STA 101, MAT 210	CORE
	BIO/CHE/GEO/ NES/PSY	Natural & Physical Science select one	4	None	GENED
	XXX xxx	Refer to elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	BIO 490 or NES 490	Senior. Research Project I in Biomedical Sc.	3	BIO 121, BIO 210, STA 101, 3rd senior standing	CORE
Total			16		

8	BIO 491/ NES 491	Senior Research Project II	3	BIO 490, STA 305	CORE
	XXX xxx	visit program chair	3	Refer to course description	FREE ELECTIVE
	BIO/CHE/GEO/ NES/PHY	Natural & Physical Science Select one	3	None	GENED
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
Total			12		

Bachelor of Science in NES - Biostatistics Concentration Program Requirement

The Bachelor of Science in NES Biostatistics concentration requires a minimum 124 graduation credit hours

Biostatistics Concentration Core Requirement

The following 6 courses 18 credits are compulsory.

Requirement	Course Code	Course Title	Credit Hours
CONCENTRATION CORE (min. 18 credit)	CIE 105	Principles of Programming I	3
	MAT 211	Calculus II	3
	MAT 310	Calculus III	3
	MAT 312	Linear Algebra	3
	STA 301	Probability and Statistics	3
	STA 310	Operations Research	3

Biostatistics Concentration Electives Requirement

Students are advised to take a minimum of ten (10) credits from each group as listed.

Requirement	GROUP	Course Code	Course Title	Credit Hours
CONCENTRATION ELECTIVE (min. 10 credits)	1 (min. 3 crs.)	BIO 240	Microbiology and Immunology	4
		BIO 420	Human Genetics	3
	2 (min. 7 crs)	Visit program chair for course selection consultation.		Refer to course description

**SAMPLE 4 -YEAR STUDY PLAN – BACHELOR OF SCIENCE IN NATURAL AND ENVIRONMENTAL SCIENCES
BIOSTATISTICS CONCENTRATION
FALL & SPRING ADMISSION**

NOTE – STUDENTS ARE REQUIRED TO VISIT NES PROGRAM CHAIR FOR A COMPREHENSIVE STUDY PLAN.

This study plan is a guide only.

This study plan does not reflect remedial courses (MAT 100 & WRI 100). Due to faculty and scheduling changes some courses may not be offered during the semesters indicated. Check with your faculty and academic advisors along with your program chair each semester to be up to date with changes to the study plan.

FIRST YEAR

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
1	WRI 101	Writing	3	Placement test	GENED
		Composition I			
	MAT 210	Maths and Statistics	3	MAT 112/ Placement test	GENED
		Mathematics			
	AUN 101	First Year Experience	1	None	GENED
		First Year Experience			
	BIO 120	Introduction to Biology I	4	None	CORE
CIE 111	Information Technology	3	None	GENED	
	Intro. to Computers & Computing				
Total			14		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
2	WRI 102	Writing	3	WRI 101	GENED
		Composition II			
	GEN 102 or GEN 103	Arts and Humanities	3	None	GENED
		select one			
	BIO/CHE/GEO/ NES/PHY	Natural & Physical Sc.	4	None	GENED
		select one			
	CHE 120	General Chemistry I	4	CHE 101/ Placement test	CORE

Total	18
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Bachelor of Science in NES - Conservation Biology Concentration Program Requirement

The Bachelor of Science in NES (Conservation Biology) requires a total of 124 graduation credit hours to fulfill the program requirement.

Conservation Biology Concentration Core Requirement

The following two courses are required for a total of 7 credit hours:

Requirement	Course Code	Course Title	Credit Hours
CONCENTRATION CORE (7 credits)	BIO 230	Molecular Genetics	4
	NES 201	Introduction to Natural and Environmental Sciences	3

Conservation Biology Concentration Elective Requirement

Students must complete a minimum total of 21 credits of courses from either Group 1-4. Students are encouraged to visit the NES program chair for course selection consultation.

Requirement	Group	Course Code	Course Title	Credit Hours
CONCENTRATION ELECTIVE (21 credits)	1 (min. 7 crs.)	NES 202	Principals of Ecology	4
		NES 310	Behavioral Ecology	3
		NES 401	Community Ecology and Population Biology	3
		NES 406	Plant Community Ecology	3
		BIO 205	Animal Form and Function	4
		BIO 206	Applied Botany	4
		BIO 220	Animal Behavior	3
	2 (min. 6 crs.)	NES 300	Environmental Policy and Risk Management	3
		NES 320	Special Topics in Natural and Environmental Sciences	3
		NES 342	Environmental Toxicology	3
		NES 344	Environmental Risk Assessment	3
		NES 420	Environmental and Occupational Health	3
		NES 430	Environmental Chemistry (cross listed with CHE 322)	3
		NES 440	Environmental Impact Assessment	3
		GEO 312	Soil Science and Environmental Change	4
	3 (min. 3 crs.)	BIO 250	Global Health	3
		BIO 350	Introduction to Public Health	3
		ICP 434	Global Environmental Politics	3
		ECO 405	Environmental & Natural Resource Economics	3
		ECO 341	Environmental Economics	3
	4 (min. 5 crs.)	See program chair for course selection consultation	Refer to course description	

**SAMPLE 4 -YEAR STUDY PLAN – BSc IN NATURAL AND ENVIRONMENTAL SCIENCES CONCENTRATION
CONSERVATION BIOLOGY
FALL ADMISSION**

This study plan is a guide only.

This study plan does not reflect remedial courses (MAT 100/WRI 100). Due to faculty and scheduling changes some courses may not be offered during the semesters indicated. Please check with your faculty and academic advisors along with your program chair each semester to be up to date with changes to the study plan.

FIRST YEAR

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
1	WRI 101	Writing	3	Placement test	GENED
		Composition I			
	MAT 210	Maths and Statistics	3		GENED
		Mathematics			
	AUN 101	First Year Experience	1	None	GENED
		First Year Experience			
	BIO 120	Introduction to Biology I	4	None	CORE
	ANT/CIV/ECO/ HIS/ICP/PSY/SOC	Social & Behavioral Sc.	3	None	GENED
		Select one			
	CIE 111	Information Technology	3	None	GENED
Intro. to Computers & Computing					
Total			17		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
2	WRI 102	Writing	3	WRI 101	GENED
		Composition II			
	BIO 121	Intro. to Biology II	4	BIO 120	CORE
	BIO/CHE/GEO/ NES/PHY	Natural & Physical Sciences	4	None	GENED
		select one			
	CHE 120	General Chemistry I	4	CHE 101 or placement exam	CORE
Total			15		

SECOND YEAR – NES CONVERSATION BIOLOGY CONCENTRATION (FALL)

Semester	Course	Course Title	Credit Hours	Prerequisite	Requirement
3	CDV 2xx	Community Service I	3	None	GENED
		Community Development			
	NES 201	Intro. to Natural and Environmental Sc.	3	None	CONCENTRATION CORE
	BIO 210	Communicating in the Sciences	3	WRI 102	CORE
	GEN 102/GEN 103	Arts & Humanities	3	None	GENED
		Select one			
	CHE 121	General Chemistry II	4	CHE 120	CORE
Total			16		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
4	STA 101	Maths & Statistics	3	MAT 110 or higher)	GENED
		Intro. to Statistics			
	ENT 101	Business & Entrepreneurship	3	None	GENED
		Intro. to Entrepreneurship			
	XXX xxx	Refer to Concentration Elective list	4	Refer to course description	CONCENTRATION ELECTIVE
	XXX xxx	Refer to Concentration Elective list	4	None	CONCENTRATION ELECTIVE
Total			14		

THIRD YEAR – NES CONVERSATION BIOLOGY CONCENTRATION (FALL)

Semester	Course	Course Title	Credit Hours	Prerequisite	Requirement
5	XXX xxx	Refer to Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	AUN 300	Critical thinking & Problem Solving	3	min. 3 rd yr. standing	GENED
		Critical Thinking & Problem Solving			
	ENT 325	Entrepreneurship	3	ENT 101	GENED
		Social Entrepreneurship			
	PHY 131	College Physics I	4	MAT 110 or higher	CORE
	BIO 230	Molecular Genetics	4	BIO 121, CHE 120	CONCENTRATION CORE
Total			17		
6	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	PHY 132	College Physics II	4	PHY 131	CORE
	XXX xxx	Refer to Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	XXX xxx	Refer to Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	STA 305	Biostatistics	3	STA 101, MAT 210	CORE
Total			16		

FOURTH YEAR – NES CONVERSATION BIOLOGY CONCENTRATION (FALL)

Semester	Course	Course Title	Credit Hours	Prerequisite	Requirement
7	PHI 300	Arts & Humanities	3	None	GENED
		Ethics & Leadership			
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	XXX xxx	Refer to Concentration Elective list	4	Refer to course description	CONCENTRATION ELECTIVE
	NES 490 or BIO 490	Senior Research Project I	3	BIO 121, BIO 210, STA 101, min. 4th yr. standing	CORE
Total			13		
8	NES 491 or BIO 491	Senior Research Project II	3	NES 490 or BIO 490 and STA 305	CORE
	XXX xxx	Refer to Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	ANT/CIV/ECO/HIS/ICP/PSY/SOC	Social & Behavioral Sciences	3	None	GENED
		Select one			
	XXX xxx	Visit your program chair	3	Refer to course description	FREE ELECTIVE
	BIO/CHE/GEO/NES/PHY	Natural & Physical Sc.	3	None	GENED
Total			15		

**SAMPLE 4 -YEAR STUDY PLAN – BSc IN NATURAL AND ENVIRONMENTAL SCIENCES
CONSERVATION BIOLOGY - CONCENTRATION
SPRING ADMISSION**

This study plan is a guide only.

This study plan does not reflect remedial courses (MAT 100/WRI 100). Due to faculty and scheduling changes some courses may not be offered during the semesters indicated. Please check with your faculty and academic advisors along with your program chair each semester to be up to date with changes to the study plan.

FIRST YEAR

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
1	WRI 101	Writing	3	Placement test	GENED
		Composition I			
	MAT 210	Maths and Statistics	3	MAT 112/ Placement test	GENED
		Calculus I			
	AUN 101	First Year Experience	1	None	GENED
		First Year Experience			
	BIO 120	Introduction to Biology I	4	None	CORE
	ANT/CIV/ECO/ HIS/ICP/PSY/SOC	Social & Behavioral Sc.			
		Select one			
	CIE 111	Information Technology	3	None	GENED
Intro. to Computers & Computing					
Total			17		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
2	WRI 102	Writing	3	WRI 101	GENED
		Composition II			
	BIO 121	Intro. to Biology II	4	BIO 120	CORE
	BIO/CHE/GEO/ NES/PHY	Natural & Physical Sc.	4	None	GENED
		select one			
	CHE 120	General Chemistry I	4	CHE 101 or placement exam	CORE

Total				15	
SECOND YEAR – NES CONVERSATION BIOLOGY CONCENTRATION (SPRING)					
Semester	Course	Course Title	Credit Hours	Prerequisite	Requirement
3	CDV 2xx	Community Service I	3	min. 2 yr. standing	GENED
		Community Development			
	STA 101	Maths & Statistics	3	MAT 110 or higher	GENED
		Intro. to Statistics			
	GEN 102/ GEN 103	Arts & Humanities	3	None	GENED
		select one			
	XXX xxx	Refer to Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	CHE 121	General Chemistry II	4	CHE 120	CORE
Total			16		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
4	ENT 101	Business & Entrepreneurship	3	None	GENED
		Intro. to Entrepreneurship			
	BIO 210	Communicating in the Sciences	3	WRI 102	CORE
	XXX xxx	Refer to Concentration Elective list	4	Refer to course description	CONCENTRATION ELECTIVE
	NES 201	Intro. to Natural and Environmental Sc.	3	None	CONCENTRATION CORE
	BIO 230	Molecular Genetics	4	BIO 121, CHE 120	CONCENTRATION CORE
Total			17		

THIRD YEAR – NES CONVERSATION BIOLOGY CONCENTRATION (SPRING)

Semester	Course	Course Title	Credit Hours	Prerequisite	Requirement
5	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	AUN 300	Critical thinking & Problem Solving	3	min. 3rd yr. standing	GENED
		Critical Thinking & Problem Solving			
	STA 305	Biostatistics	3	STA 101 and MAT 210	CORE
	PHY 131	College Physics I	4	MAT 110 or higher	CORE
	GEN 102/ GEN 103	Arts & Humanities	3	None	GENED
		Select one			
Total			16		
6	BIO 490/ NES 490	Senior Research Project I	3	BIO 121, BIO 210, STA 101, 3rd yr. standing	CORE
	PHY 132	College Physics II	4	PHY 131	CORE
	GEN 102 or GEN 103	Arts and Humanities	3	None	GENED
		Select one.			
	XXX xxx	Refer to concentration elective list.	3	Refer to course description	CONCENTRATION ELECTIVE
	ENT 325	Business & Entrepreneurship	3	ENT 101	GENED
Social Entrepreneurship					
Total			16		

FOURTH YEAR – NES CONVERSATION BIOLOGY CONCENTRATION (SPRING)

Semester	Course	Course Title	Credit Hours	Prerequisite	Requirement
7	ANT/CIV/ECO/ HIS/ICP/PSY/SOC	Social & Behavioral Sciences	3	None	GENED
		Select one			
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	XXX xxx	Refer to Concentration Elective list	4	Refer to course description	CONCENTRATION ELECTIVE
	NES 491 or BIO 491	Senior Research Project II	3	NES 490, STA 305	CORE
Total			14		
8	XXX xxx	Refer to Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	PHI 300	Arts & Humanities	3	min. 3 rd . yr. standing	GENED
		Ethics & Leadership			
	XXX xxx	Visit your program chair	3	Refer to course description	FREE ELECTIVE
	BIO/CHE/GEO/ NES/PHY	Natural & Physical Sc.	3	None	GENED
Total			12		

Environment and Health Concentration Program Requirement

The Bachelor of Science in NES (Environment and Health) requires a total of 123 graduation credit hours to fulfill degree requirements.

Environment and Health Concentration Core Requirement

A student must complete the following 3 courses (9 credit) of concentration core courses.

Requirement	Course Code	Course Title	Credit Hours
CONCENTRATION CORE (9 credits)	NES 201	Introduction to Natural and Environmental Sci.	3
	NES 342	Environmental Toxicology	3
	BIO 450	Principles of Epidemiology	3

Environment and Health Concentration Elective Requirement

Students are required to complete the following 19 credits from each group: Group 1-minimum three (3) credits; Group 2 - minimum nine (9) credits; Group 3 – minimum eight (7) credits.

Requirement	Group	Course Code	Course Title	Credit Hours
CONCENTRATION ELECTIVE (19 credits required)	1 (min. 3 credits)	BIO 240	Microbiology and Immunology	4
		BIO 250	Global Health	3
		BIO 350	Introduction to Public Health	3
	2 (min. 9 credits)	NES 300	Environmental Policy and Risk Management	3
		NES 340	Pollution: Sources and Effects	3
		NES 344	Environmental Risk Assessment	3
		NES 420	Environmental and Occupational Health	3
		NES 430 or CHE 322	Environmental Chemistry cross listed – Environmental Chemistry	3
		NES 440	Environmental Impact Assessment	3
		GEO 312	Soil Science and Environmental Change	4
		CHE 210	Organic Chemistry I	4
		CHE 211	Organic Chemistry II	4
		CHE 350	Biochemistry	3
	3 (min. 7 credits)	See program chair for course selection consultation	Refer to catalog description	

**SAMPLE 4- YEAR STUDY PLAN – BSc IN NATURAL AND ENVIRONMENTAL SCIENCES
ENVIRONMENT AND HEALTH CONCENTRATION
FALL ADMISSION**

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FIRST YEAR

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
1	WRI 101	Writing	3	Placement test	GENED
		Composition I			
	MAT 210	Maths and Statistics	3	MAT 112/ Placement Test	GENED
		Mathematics			
	AUN 101	First Year Experience	1	None	GENED
		First Year Experience			
	BIO 120	Introduction to Biology I	4	None	CORE
	ANT/CIV/ECO/ HIS/ICP/PSY/SOC	Social & Behavioral Science	3	None	GENED
		select one			
	CIE 111	Information Technology	3	None	GENED
Introduction to Computers & Computing					
Total			17		
2	WRI 102	Writing	3	WRI 101	GENED
		Composition II			
	GEN 102 or GEN 103	Arts and Humanities	3	None	GENED
		select one			
	CHE 120	General Chemistry I	4	CHE 101 or placement test	CORE
	BIO 121	Introduction to Biology II	4	BIO 120	MAJOR
Total			14		

SECOND YEAR – NES ENVIRONMENT AND HEALTH CONCENTRATION (FALL)

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
3	BIO 210	Communicating in the Sciences	3	WRI 102	CORE
	CDV 2XX	Community Service	3	min. 2 nd yr. standing	GENED
		Community Development			
	STA 101	Maths & Statistics	3	MAT 110 or higher	GENED
		Intro. to Statistics			
	NES 201	Intro. to Natural and Environmental Sciences	3	None	CONCENTRATION CORE
CHE 121	General Chemistry II	4	CHE 120	CORE	
Total			16		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
4	GEN103/ GEN 102	Arts & Humanities	3	None	GENED
		Select one			
	ENT 101	Business & Entrepreneurship	3	None	GENED
		Intro. to Entrepreneurship			
	XXX xxx	Refer to elective list.	3	Refer to course description	CONCENTRATION ELECTIVE
	PHY 131	College Physics I	4	MAT 110 or higher (min. C grade)	CORE
	ANT/CIV/ ECO/HIS/ICP/P SY/SOC	Social & Behavioral Sc.	3	None	GENED
		Select one			
Total			16		

THIRD YEAR - NES ENVIRONMENT AND HEALTH CONCENTRATION (FALL)

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
5	XXX xxx	Refer to Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	ENT 325	Business Entrepreneurship	3	ENT 101	GENED
		Social Entrepreneurship			
	NES 342	Environmental Toxicology	3	BIO 121, CHE 121, NES 201	CONCENTRATION CORE
	AUN 300	Critical Thinking & Problem Solving	3	Refer to course description	GENED
		Critical Thinking & Problem Solving			
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
Total			15		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirements
6	PHI 300	Arts & Humanities	3	min. 3 rd yr. standing	GENED
		Ethics & Leadership			
	XXX xxx	Refer to Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	PHY 132	College Physics II	4	PHY 131	CORE
	XXX xxx	Refer to Concentration Elective list	4	Refer to course description	CONCENTRATION ELECTIVE
	STA 305	Biostatistics	3	STA 101, MAT 210	CORE
Total			17		

FOURTH YEAR - NES ENVIRONMENT AND HEALTH CONCENTRATION (FALL)

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirements
7	XXX xxx	Visit program chair	3	Refer to course description	CONCENTRATION ELECTIVE
	BIO 450	Principles of Epidemiology	3	BIO 250, STA 305	CONCENTRATION CORE
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	BIO/CHE/ GEO/ NES/PHY	Natural & Physical Science	4	Refer to course description	GENED
		Select one			
	NES 490 or BIO 490	Senior Research Project I in NES	3	BIO 121, BIO 210, STA 101, 3 rd yr. standing	CORE
Total			16		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirements
8	NES 491 or BIO 491	Senior Research Project II	3	NES 490 or BIO 490, STA 305	CORE
	BIO/CHE/ GEO/NES/ PHY	Natural & Physical Science	3	Refer to course description	GENED
		Select one			
	XXX xxx	Refer to Concentration Elective list	3		CONCENTRATION ELECTIVE
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
Total			12		

**SAMPLE 4- YEAR STUDY PLAN – BSc IN NATURAL AND ENVIRONMENTAL SCIENCES
ENVIRONMENT AND HEALTH CONCENTRATION
SPRING ADMISSION**

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FIRST YEAR

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
1	WRI 101	Writing	3	Placement test	GENED
		Composition I			
	MAT 110 or MAT 112 or MAT 210	Maths and Statistics	3		GENED
		Mathematics			
	AUN 101	First Year Experience	1	None	GENED
		First Year Experience			
	BIO 120	Introduction to Biology I	4	None	CORE
	ANT/CIV/ECO/ HIS/ICP/ PSY/SOC	Social & Behavioral Sc.	3	None	GENED
		Select one			
	CIE 111	Information Technology	3	None	GENED
Intro. to Computers & Computing					
Total			17		
2	WRI 102	Writing	3	WRI 101	GENED
		Composition II			
	GEN 102 or GEN 103	Arts and Humanities	3	None	GENED
		select one			
	CHE 120	General Chemistry I	4	CHE 101 or placement test	CORE
	BIO 121	Introduction to Biology II	4	BIO 120	MAJOR
Total			14		

SECOND YEAR – NES ENVIRONMENT AND HEALTH CONCENTRATION (SPRING)

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
3	ENT 101	Business & Entrepreneurship	3	None	GENED
		Intro. to Entrepreneurship			
	CDV 2XX	Community Service	3	min. 2 nd yr. standing	GENED
		Community Development			
	STA 101	Maths & Statistics	3	MAT 110 or higher	GENED
		Intro. to Statistics			
	GEN103/ GEN 102	Arts & Humanities	3	None	GENED
		Select one			
	CHE 121	General Chemistry II	4	CHE 120	CORE
Total			16		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
4	XXX xxx	Refer to Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	XXX xxx	Refer to Concentration Elective list	3	None	CONCENTRATION ELECTIVE
	XXX xxx	Refer to Concentration Elective list	4	None	CONCENTRATION ELECTIVE
	BIO 210	Communicating in the Sciences	3	WRI 102	CORE
	PHY 131	College Physics I	4	MAT 110 or higher	CORE
Total			17		

THIRD YEAR - NES ENVIRONMENT AND HEALTH CONCENTRATION (SPRING)

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
5	AUN 300	Critical Thinking & Problem Solving	3	min 3 rd . yr. standing	GENED
		Critical Thinking & Problem Solving			
	NES 201	Intro. to Natural & Environment Sc.	3	None	CONCENTRATION CORE
	XXX xxx	Refer to Concentration Elective list	4	Refer to course description	CONCENTRATION ELECTIVE
	ENT 325	Business Entrepreneurship	3	ENT 101	GENED
		Social Entrepreneurship			
	ANT/CIV/ECO /HIS/ICP/PSY/ SOC	Social & Behavioral Sc.	3	None	GENED
		Select one			
Total			16		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirements
6	PHI 300	Arts & Humanities	3	min. 3 rd yr. standing	GENED
		Ethics & Leadership			
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	PHY 132	College Physics II	4	PHY 131	CORE
	XXX xxx	Refer to Concentration Elective list	4	Refer to course description	CONCENTRATION ELECTIVE
	BIO/CHE/ GEO/NES/ PHY	Natural & Physical Science	3	None	GENED
		Select one			
Total			16		

FOURTH YEAR - NES ENVIRONMENT AND HEALTH CONCENTRATION (SPRING)

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirements
7	XXX xxx	Visit program chair	3	Refer to course description	CONCENTRATION ELECTIVE
	STA 305	Biostatistics	3	STA 101, MAT 210	CORE
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	BIO/CHE/ GEO/ NES/PHY	Natural & Physical Science Select one	3	Refer to course description	GENED
	NES 490 or BIO 490	Senior Research Project I in NES	3	BIO 121, BIO 210, STA 101, 3 rd yr. standing	CORE
Total			15		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirements
8	NES 491 or BIO 491	Senior Research Project II	3	NES 490 or BIO 490, STA 305	CORE
	NES 342	Environmental Toxicology	3	BIO 121, CHE 121, NES 201	CONCENTRATION CORE
	BIO 450	Principles of Epidemiology	3	BIO 250, STA 305	CONCENTRATION CORE
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
Total			12		

Bachelor of Science in NES – Public Health Concentration Program Requirement

The Bachelor of Science in NES (concentration: Public Health) requires a total of 123 graduation credit hours to fulfill degree requirements.

Public Health Concentration Requirement

Students are required to complete six (6) courses (19) credit hours from the list to fulfill graduation requirements.

Requirement	Course Code	Course Title	Credit Hours
CONCENTRATION CORE (19 credits)	BIO 240	Microbiology and Immunology	4
	BIO 250	Global Health	3
	BIO 350	Introduction to Public Health	3
	BIO 450	Introduction to Epidemiology	3
	LAW 313	Medical Law and Ethics I	3
	STA 301	Probability and Statistics	3

Students who intend to pursue careers in medicine, pharmacy, veterinary science, or related fields are strongly recommended to take the following courses as concentration electives. The new MCAT (from January 2015) pulls heavily from these subjects.

Visit the NES program chair for course selection consultation.

Course Code	Course Title	Credit Hours
CHE 210	Organic Chemistry 1	4
CHE 211	Organic Chemistry 2	4
SOC 101	Introduction to Sociology	3
PSY 101	Introduction to Psychology	3

Public Health Concentration Elective Requirement

Students are required to complete minimum of nine (9) credit hours from the list to fulfill graduation requirements.

Requirement	Course Title	Credit Hours
CONCENTRATION ELECTIVES (min. 9 credits)	Visit program chair for course selection consultation.	Refer to catalog description

**SAMPLE 4 -YEAR STUDY PLAN – BACHELOR OF SCIENCE IN NATURAL AND ENVIRONMENTAL SCIENCES
PUBLIC HEALTH CONCENTRATION
FALL & SPRING ADMISSION**

NOTE – STUDENTS ARE REQUIRED TO VISIT NES PROGRAM CHAIR FOR A COMPREHENSIVE STUDY

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FIRST YEAR

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
1	WRI 101	Writing	3	Placement test	GENED
		Composition I			
	MAT 110 or MAT 112 or MAT 210	Maths and Statistics	3		GENED
		Mathematics			
	AUN 101	First Year Experience	1	None	GENED
		First Year Experience			
	BIO 120	Natural & Physical Sciences	4	None	CORE
		Introduction to Biology I			
	ANT/CIV/ECO /HIS/ICP/ PSY/SOC	Social & Behavioral Science	3	None	GENED
		Select one			
CIE 111	Information Technology	3	None	GENED	
	Intro. to Computers & Computing				
Total			17		
2	WRI 102	Writing	3	WRI 101	GENED
		Composition II			
	GEN 102 or GEN 103	Arts and Humanities	3	None	GENED
		select one			
	CHE 120	General Chemistry I	4	CHE 101 or placement test	CORE

	BIO 121	Introduction to Biology II	4	BIO 120	CORE
Total			14		

BACHELOR OF ARTS (BA) IN POLITICS AND INTERNATIONAL STUDIES *(formerly known as International Comparative Politics)*

The Bachelor of Arts program in Politics and International Studies introduces students to the several sub-disciplines of political studies, International Relations, Comparative Politics, Political Theory, and Public Administration. The program trains graduates in the liberal arts tradition of thinking independently, critically, and analytically; communicating effectively and finding creative ways to contribute to the society in which they live.

Graduates with a BA in Politics and International Studies can follow several career tracks. Professional options open to POLIS graduates include careers in the following areas:

- Public service
- Diplomatic service
- Politics
- International/Regional organizations
- The third sector: non-governmental organizations

Bachelor of Arts in Politics and International Studies Degree Requirement

POLIS students are discouraged from taking ICP 101 as a general education requirement. Meet your faculty/academic advisor or program chair for further enquiries.

POLIS students must complete the University wide required General Education program. These courses are designed to give students a broad coverage of a Liberal Arts experience which complements their major requirements.

Students pursuing the BA in POLIS must complete the series of courses (credits) in consultation with the program chair to ensure all requirements have been fulfilled. As a POLIS major, students are required to successfully complete the following credit hour load upon graduation.

Politics & International Studies Degree Requirement								
Program		GENED	MAJOR					Overall Grad. Req.
		GENED	Major Core	Concentration Core	Free Electives	POLIS Electives	Concentration Electives	
		Total Credit Hours						
General		50	54	-	9	9	-	122
CONCENTRATION AREAS								
1	International Relations	50	-	33	9	9	21	122
2	Peace & Conflict	50	-	33	9	9	21	122
3	Public Administration	50	-	33	9	9	21	122

Students are required to satisfy all Core and Free Electives requirements listed below.

Requirement	Course Code	Course Code	Credit Hours
CORE (total 54credits required)	ICP 101	Introduction to Comparative Politics	3
	ICP 131	Introduction to International Relations	3
	ICP 161	Introduction to Political Theory	3
	ICP 186	Introduction to Public Administration	3
	ICP 201 or ICP 205	Contemporary Nigerian Politics or Contemporary African Politics	3
	ICP 395 (SOC 390 can fulfill requirement)	Social Sciences Research Methods	3
	ICP xxx	ICP course at any level	3
	ICP xxx	ICP course at any level	3
	ICP xxx	ICP course at any level	3
	ICP 3/4xx	ICP course at 300 or 400 level	3
	ICP 3/4xx	ICP course at 300 or 400 level	3
	ICP 3/4xx	ICP course at 300 or 400 level	3
	ICP 3/4xx	ICP course at 300 or 400 level	3
	ICP 4xx	ICP course at 400 level	3
	ICP 4xx	ICP course at 400 level	3
	ICP 4xx	ICP course at 400 level	3
	ICP xxx	ICP course at any level	3
	ICP 490 and ICP 491 or	Senior Research Project I or Senior Research Project II	3/3
	ICP 496 and ICP 497	Honors Seminar	3/3

Students who choose a concentration are required to successfully complete the concentration core (33 credits)

Requirement	Course Code	Course Code	Credit Hours
CONCENTRATION CORE (33 credits)	ICP 101	Introduction to Comparative Politics	3
	ICP 131	Introduction to International Relations	3
	ICP 161	Introduction to Political Theory	3
	ICP 186	Introduction to Public Administration	3
	ICP 201 or ICP 205	Contemporary Nigerian Politics or Contemporary African Politics	3
	ICP 395 (SOC 390 can fulfill requirement)	Social Sciences Research Methods	3
	ICP xxx	ICP course at any level	3
	ICP 3/4xx	ICP course at 300 or 400 level	3
	ICP 4xx	ICP course at 400 level	3
	ICP xxx	ICP course at any level	3
	ICP 490 and ICP 491 or	Senior Research Project I or Senior Research Project II	3/3
	ICP 496 and ICP 497	Honors Seminar	3/3

POLIS students are required to successfully complete a minimum 9 credits of free electives

Requirement	Course Code	Course Code	Credit Hours
FREE ELECTIVES (min. 9 credits)	XXX xxx	Visit program chair for course selection consultation	1-4
	XXX xxx		1-4
	XXX xxx		1-4

POLIS Electives (9 credits)

Students are required to take a minimum of 9 credits to complement and support the degree program in Politics and International Studies. Students are strongly encouraged to visit their program chair for course selection consultation.

Requirement	Course Code	Course Title	Credit Hours
POLIS ELECTIVE (9 credits)	XXX xxx	Visit program chair	3
	XXX xxx		3
	XXX xxx		3

Honor's Program

The POLIS program also offers a BA with Honors. This requires being part of a two semester Honors Seminar (6 credits; ICP 496 and 497) that culminates with an Honors Thesis of 12-15,000 words that must be presented in a public defense.

ICP 496 and 497 serve as alternatives to ICP 490 and 491 (Senior Research Project) respectively for students that meet the CGPA prerequisites for the courses.

Students may choose a Politics and International Studies (general) or select a specific concentration that awards a Bachelor of Arts in Politics and International Studies with a concentration. The concentrations are listed below.

Upon completion of all degree requirements, students will receive a Bachelor of Arts in Politics and International Studies, with **concentration** in any three of the following:

- 1) International Relations
- 2) Peace and Conflict Resolutions
- 3) Public Administration

Concentrations

The following is a description of the three areas of concentration in POLIS.

1. International Relations

International Relations is an interdisciplinary major that focuses on interaction of states and non-state actors on military, economic, political, social, and cultural issues in the global arena. The program explores the impact of global, regional and domestic factors on the principles of diplomacy and foreign policy. Prospective graduates seek employment in the areas of diplomatic service and other sectors of public bureaucracy, private sector, the media, international organizations, non-governmental organizations and political research. Many students pursue graduate degrees in international relations, law, or political science.

2. Peace and Conflict Resolution

The concentration in Peace and Conflict Resolution aims to provide students with knowledge and understanding of the issues and practices involved in peace and conflict resolution. In addition to theory, the concentration will consider case studies, including African peace and conflict studies, and post-conflict issues.

3. Public Administration

Public Administration is a field of academic study and professional training. It largely entails all processes, organizations, individuals associated with implementation of government laws and policies at the local, state, and federal levels. A concentration in public administration prepares students for careers in public service, including, private as well as non-profit sectors.

Students that wish to choose a concentration must do so by selecting the appropriate list of courses under the concentration considered.

International Relations (IR) Concentration

For those considering IR as a concentration, each student must choose a total of seven (7) courses (21 credits). The course breakdown is (2) 200 level; (3) 300 level; (2) 400 level from the list below.

Requirement	Course Code	Course Title	Credits
Concentration Elective (21 credits)	ICP 231	International Organizations	3
	ICP 240	American Foreign Policy	3
	ICP 432	The Politics of Globalization	3
For further course selection, students are expected to visit their program chair.			

Peace and Conflict Resolution (PCR) Concentration

For those considering PCR as a concentration, each student must choose a total of seven (7) courses (21 credits). The course breakdown is (2) 200 level; (3) 300 level; (2) 400 level from the list below.

Requirement	Course Code	Course Title	Credits
Concentration Elective (21 credits)	ICP 229	Introduction to Peace and Conflict Studies	3
	ICP 309	Strategies of Conflict Transformation – Approaches to Peace Building	3
	ICP 447	International Human Rights Protection	3
	ICP 448	Humanitarian Intervention	3
	ICP 477	Peace Studies/Political Violence	3
For further course selection, students are expected to visit their program chair.			

Public Administration (PA) Concentration

For those considering PA as a concentration, each student must choose a total of seven (7) courses (21 credits). The course breakdown is (1) 100 level; (1) 200 level; (3) 300 level; (2) 400 level from the list below.

Requirement	Course Code	Course Title	Credits
Concentration Electives (21 credits)	ICP 186	Introduction to Public Administration	3
	ICP 187	Introduction to Public Policy	3
	ICP 287	Public Policy Analysis	3
	ICP 387	Organizational Behavior & Administrative Comm.	3
	ICP 388	Public Management	3
	ICP 389	Public Personnel Administration	3
	ICP 390	Non-Profit Sector Management	3
	ICP 394	Environmental Policy, Mgt. and Regulation	3
	ICP 486	Management Policies in Public Administration	3
	ICP 487	Organizational Theory	3
	ICP 488	Comparative Public Policy	3
	ICP 489	Collective Bargaining - Public Sector	3

Students should consult with their program chair in designing their course of study, in selecting courses, and in considering a possible minor.

**SAMPLE 4 YEAR STUDY PLAN –BACHELOR OF ARTS (B.A.) IN
POLITICS & INTERNATIONAL STUDIES - GENERAL
FALL & SPRING ADMISSION**

This study plan is a guide only.

This study plan does not reflect remedial courses (MAT 100/WRI 100). Due to faculty and scheduling changes some courses may not be offered during the semesters indicated. Please check with your faculty and academic advisors along with your program chair each semester to be up to date with changes to the study plan.

FIRST YEAR

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
1	MAT 110 or MAT 112 or MAT 210	Maths and Statistics	3	Placement test	GENED
		Mathematics			
	WRI 101	Writing	3		GENED
		Composition I			
	GEN 102 or GEN 103	Arts & Humanities	3	None	GENED
		select one			
	AUN 101	First Year Experience	1	None	GENED
		First Year Experience			
	CIE 111	Info. Technology	3	None	GENED
		Intro. to Computers & Computing			
	ANT/CIV/ECO/ HIS/ICP/PSY/ SOC	Social & Behavioral Sciences	3	None	GENED
		select one			
Total			16		
2	GEN 102 or GEN 103	Arts & Humanities	3	None	GENED
		select one			
	STA 101	Maths & Statistics	3	MAT 110 or higher)	GENED
		Introduction to Statistics			
	ICP 101	Intro. to Politics and International Studies	3	None	CORE
	WRI 102	Writing	3	WRI 101	GENED
		Composition II			
	ENT 101	Entrepreneurship	3	None	GENED
Intro. to Entrepreneurship					

Total			15			
SECOND YEAR - POLITICS & INTERNATIONAL STUDIES - GENERAL						
Semester	Course Code		Course Title	Credit Hours	Prerequisite	Requirement
3	ENT 325	Entrepreneurship		3	ENT 101	GENED
		Social Entrepreneurship				
	BIO/CHE/GEO/NES/PHY	Natural & Physical Sciences		4	None	GENED
		select one				
	XXX xxx	visit your program chair		3	Refer to course description	FREE ELECTIVE
	CDV 2xx	Community Service		3	None	GENED
		Community Development				
	ICP 131	Introduction to International Relations		3	None	MAJOR CORE
Total				16		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement	
4	ICP 161	Introduction to Political Theory	3	None	MAJOR CORE	
	ICP 186	Introduction to Public Administration	3	None	MAJOR CORE	
	XXX xxx	Refer to ICP Elective list	3	Refer to course description	ICP ELECTIVE	
	BIO/CHE/GEO/NES/PHY	Natural & Physical Sciences	3	None	GENED	
		select one (no lab)				
	AUN 300	Critical Thinking & Problem Solving	3	min. 3 rd yr. standing	GENED	
		Critical Thinking & Problem Solving				
Total			15			

THIRD YEAR - POLITICS & INTERNATIONAL STUDIES - GENERAL

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
5	ICP xxx	ICP course any level	3	Refer to course description	CORE
	ICP xxx	ICP course any level	3	Refer to course description	CORE
	XXX xxx	Visit your program chair	3	Refer to course description	FREE ELECTIVE
	PHI 300	Arts & Humanities Ethics & Leadership	3	min. 3rd yr. standing	GENED
	ICP xxx	ICP course 300 level and above	3	Refer to course description	CORE
Total			15		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
6	ICP 201 or ICP 205	Contemporary Nigerian Politics or Contemporary African Politics	3	ICP 101 or 131	CORE
	XXX xxx	Refer to ICP Elective list.	3	Refer to course description	POLIS ELECTIVE
	ICP xxx	ICP course 300 level and above	3	Refer to course description	CORE
	ICP xxx	ICP course 300 level and above	3	Refer to course description	CORE
	ICP 395 or (SOC 390 can fulfill requirement)	Social Sciences Research Methods	3	STA 101	CORE
				STA 101 & SOC 101 or QBA 101	
Total			15		

FOURTH YEAR - POLITICS & INTERNATIONAL STUDIES - GENERAL

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
7	ICP xxx	ICP course 300 level and above	3	Refer to course description.	CORE
	ANT/CIV/ECO/ HIS/ICP/PSY/SOC	Social & Behavioral Sciences	3	Refer to course description	GENED
		select one			
	XXX xxx	Refer to Elective course list	3	Refer to course description	POLIS ELECTIVE
	ICP 4xx	ICP course 400 level	3	Refer to course description	CORE
	ICP 490	Senior Research Project – Part 1	3	4 th yr. standing	CORE
ICP 496 (Honors only)	ICP 101, ICP131, ICP 161, ICP 201 or ICP 205				
Total			15		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
8	XXX xxx	Visit your program chair	3	Refer to course description	FREE ELECTIVE
	ICP 4xx	ICP course 400-level and above	3	Refer to course description	CORE
	ICP xxx	ICP course any level	3	Refer to course description	CORE
	ICP 4xx	ICP course 400-level and above	3	Refer to course description	CORE
	ICP 491 or	Senior Research Project II	3	ICP 490	CORE
	ICP 497 (Honors only)	Honors Seminar II		ICP 496	
Total			15		

**SAMPLE 4 YEAR STUDY PLAN – BACHELOR OF ARTS (B.A.) IN POLITICS AND INTERNATIONAL STUDIES -
INTERNATIONAL RELATIONS CONCENTRATION
FALL & SPRING ADMISSION**

This study plan is a guide only.

This study plan does not reflect remedial courses (MAT 100/WRI 100). Due to faculty and scheduling changes some courses may not be offered during the semesters indicated. Please check with your faculty and academic advisors along with your program chair each semester to be up to date with changes to the study plan.

FIRST YEAR

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
1	MAT 110 or MAT 112 or MAT 210	Maths and Statistics	3	Placement test	GENED
		Mathematics			
	WRI 101	Writing	3		GENED
		Composition I			
	GEN 102 or GEN 103	Arts & Humanities	3	None	GENED
		select one			
	AUN 101	First Year Experience	1	None	GENED
		First Year Experience			
	CIE 111	Info. Technology	3	None	GENED
		Intro. to Computers & Computing			
ICP 101	Introduction to Comparative Politics	3	None	CORE	
Total			16		
2	GEN 102 or GEN 103	Arts & Humanities	3	None	GENED
		select one			
	STA 101	Maths & Statistics	3	MAT 110 or higher	GENED
		Introduction to Statistics			
	ENT 101	Info. Technology	3	None	GENED
		Entrepreneurship			
		Social Entrepreneurship			
	WRI 102	Writing	3	WRI 101	GENED
Composition II					
ICP 161	Intro. to Political Theory	3	None	CORE	

Total			15		
SECOND YEAR - INTERNATIONAL RELATIONS CONCENTRATION					
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
3	ENT 325	Entrepreneurship	3	ENT 101	GENED
		Social Entrepreneurship			
	BIO/CHE/GEO/ NES/PCE/PHY	Natural & Physical Sciences	4	None	GENED
		select one (Lab)			
	CDV 20x	Community Service	3	None	GENED
		select one			
	ANT/CIV/ECO/ HIS/ICP/PSY/ SOC	Social & Behavioral Sciences	3	None	GENED
		select one			
ICP 131	Introduction to International Relations	3	None	CORE	
Total			16		
4	ICP 186	Introduction to Public Administration	3	None	CORE
	XXX xxx	Visit your program chair	3	Refer to course description	FREE ELECTIVE
	XXX xxx	Refer to POLIS Elective list	3	Refer to course description	POLIS ELECTIVE
	BIO/CHE/GEO/ NES/PCE/PHY	Natural & Physical Sciences	3	None	GENED
		select one (no lab)			
	AUN 300	Critical Thinking & Problem Solving	3	min. 3 rd yr. standing	GENED
		Critical Thinking & Problem Solving			
Total			15		

THIRD YEAR - INTERNATIONAL RELATIONS CONCENTRATION

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
5	ANT, CIV, ECO, HIS, ICP, PSY, SOC	Social & Behavioral Sciences	3	Refer to course description	GENED
		select one			
	ICP 2xx	Refer to concentration list	3	Refer to course description	CONCENTRATION
	XXX xxx	visit program chair	3	Refer to course description	FREE ELECTIVE
	PHI 300	Arts & Humanities	3	min. 3rd yr. Standing	GENED
	Ethics & Leadership				
	ICP 2xx	200 level	3	Refer to course description	CONCENTRATION
Total			15		
6	XXX xxx	visit program chair	3	Refer to course description	FREE ELECTIVE
	XXX xxx	Refer to POLIS Elective list	3	Refer to course description	POLIS ELECTIVE
	ICP 3xx	Refer to concentration list	3	Refer to course description	CONCENTRATION
	ICP 3xx	Refer to concentration list	3	Refer to course description	CONCENTRATION
	ICP 395 or	Social Sciences Research Methods	3	STA 101	MAJOR CORE
	SOC 390			SOC 101 & STA 101 or QBA 101	
Total			15		

FOURTH YEAR - INTERNATIONAL RELATIONS CONCENTRATION

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
7	ICP 201 or ICP 205	Contemporary Nigerian Politics or Contemporary African Politics	3	ICP 101 or ICP 131	CORE
	XXX xxx	Refer to POLIS Elective course list	3	Refer to course description	POLIS ELECTIVE
	ICP 3xx	Refer to concentration list	3	Refer to course description	CONCENTRATION
	ICP xxx	Refer to major core course list	3	Refer to course description	CORE
	ICP 490 or	Senior Research Project – Part 1	3	4 th yr. standing	CORE
	ICP 496 (Honors only)			ICP 101,ICP 131, ICP 161 and ICP 201 or ICP 205	
Total			15		

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
8	ICP 491	Senior Research Project-Part II	3	ICP 490	CORE
	ICP 497 (Honors only)	Honors Seminar 1		ICP 496	
	ICP xxx	Refer to concentration list	3	Refer to course description	CORE
	ICP xxx	Refer to Major Core List	3	Refer to course description	CORE
	ICP 4xx	Refer to Concentration list	3	Refer to course description	CONCENTRATION
	ICP 4xx	Refer to Major Core List	3	Refer to course description	CONCENTRATION
Total			15		

**SAMPLE 4-YEAR STUDY PLAN – BACHELOR OF ARTS (B.A.) IN POLITICS AND INTERNATIONAL STUDIES -
PEACE & CONFLICT RESOLUTION CONCENTRATION
FALL & SPRING ADMISSION**

This study plan is a guide only.

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FIRST YEAR

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
1	MAT 110 or MAT 112 or MAT 210	Maths and Statistics	3	Placement test	GENED
		Mathematics			
	WRI 101	Writing	3		GENED
		Composition I			
	GEN 102 or GEN 103	Arts & Humanities	3	None	GENED
		select one			
	AUN 101	First Year Experience	1	None	GENED
		First Year Experience			
	ICP 101	Info. Technology	3	None	CORE
		Introduction to Comparative Politics			
ANT/CIV/ECO/ HIS/ICP/ PSY/SOC	Social & Behavioral Sc.	3	None	GENED	
	select one				
Total			16		
2	GEN 102 or GEN 103	Arts & Humanities	3	None	GENED
		Select one			
	STA 101	Maths & Statistics	3	MAT 110 or higher (min. 'C' grade)	GENED
		Introduction to Statistics			
	ENT 101	Entrepreneurship	3	None	GENED
		Intro. to Entrepreneurship			
WRI 102	Communication	3	WRI 101	GENED	

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
3	ENT 325	Entrepreneurship	3	ENT 101	GENED
		Social Entrepreneurship			
	BIO/CHE/GEO /NES/PCE/PHY	Natural & Physical Sciences	4	None	GENED
		select one			
	CIE 111	Info. Technology	3	None	GENED
		Intro. Computers & Computing			
	CDV 20x	Community Service	3	None	GENED
		Community Development			
ICP 131	Introduction to International Relations	3	None	MAJOR CORE	
Total			16		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
4	ICP 186	Introduction to Public Administration	3	None	MAJOR CORE
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	ICP 201 or ICP 205	Contemporary Nigerian Politics or Contemporary African Politics	3	ICP 101 or ICP 131	MAJOR CORE
	BIO/CHE/GEO /NES/PCE/PHY	Natural & Physical Sciences	3	None	GENED
		select one			
	AUN 300	Critical Thinking & Problem Solving	3	min. 3 rd yr. standing	GENED
		Critical Thinking & Problem Solving			
Total			15		
		Composition II			
	ICP 161	Intro. to Political Theory	3	None	CORE
Total			15		

SECOND YEAR

THIRD YEAR - PEACE & CONFLICT RESOLUTION CONCENTRATION

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
5	ANT/CIV/ECO /HIS/ICP/PSY/ SOC	Social & Behavioral Sciences select one	3	Refer to catalog	GENED
	ICP 2xx	Refer to Concentration list	3	Refer to catalog	CONCENTRATION
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	PHI 300	Arts & Humanities Ethics & Leadership	3	min. 3rd yr. Standing	GENED
	ICP 2xx	Refer to Concentration list (200 level)	3	Refer to course description	CONCENTRATION
Total			15		

Semester	Course Code	Course Title	Credits	Prerequisite	Requirement
6	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	ICP xxx	Refer to ICP Elective list	3	Refer to course description	TECHNICAL
	ICP xxx	Refer to Concentration list	3	Refer to course description	CONCENTRATION
	ICP xxx	See Concentration list	3	Refer to course description	CONCENTRATION
	ICP 395 or	Social Sciences Research Methods	3	STA 101	CORE
	(SOC 390 can fulfill requirement)			SOC 101 & STA 101 or QBA 101	
Total			15		

FOURTH YEAR - PEACE & CONFLICT RESOLUTION CONCENTRATION

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
7	ICP xxx	Refer to Major Core List.	3	Refer to course description	CORE
	XXX xxx	Refer to ICP Elective list	3	Refer to course description	POLIS ELECTIVE
	ICP 3xx	Refer to Concentration list	3	Refer to course description	CONCENTRATION
	XXX xxx	Refer to ICP Elective list	3	Refer to course description	POLIS ELECTIVE
	ICP 490	Senior Research Project - Part 1	3	4 th yr. standing	CORE
	ICP 496			ICP 101, ICP 491, ICP 461, 8	
	ICP 491	Senior Research Project-Part II	3	ICP 490	CORE
	ICP 497 (Honors only)	Honors Seminar I		ICP 496	
8	ICP 4xx	Refer to Concentration list	3	Refer to course description	CONCENTRATION
	ICP xxx	Refer to POLIS Elective list	3	Refer to course description	POLIS ELECTIVE
	ICP 4xx	Refer to Concentration list	3	Refer to course description	CONCENTRATION
	ICP 3xx or ICP 4xx	Any ICP course at 300 or 400 level	3	Refer to course description	CORE
Total			15		

**SAMPLE 4 YEAR STUDY PLAN – BACHELOR OF ARTS (B.A.) IN
INTERNATIONAL AND COMPARATIVE POLITICS
PUBLIC ADMINISTRATION CONCENTRATION
FALL & SPRING ADMISSION**

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FIRST YEAR

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
1	MAT 110 or MAT 112 or MAT 210	Maths and Statistics	3	Placement test	GENED
		Mathematics			
	WRI 101	Writing	3		GENED
		Composition I			
	GEN 102 or GEN 103	Arts & Humanities	3	None	GENED
		select one			
	AUN 101	First Year Experience	1	None	GENED
		First Year Experience			
	ICP 101	Info. Technology	3	None	CORE
		Intro to Comparative Politics			
	ANT/CIV/ECO/ HIS/ICP/PSY/SOC	Social & Behavioral Sciences	3	None	GENED
		select one			
Total			16		
2	GEN 102 or GEN 103	Arts & Humanities	3	None	GENED
		select one			
	STA 101	Maths & Statistics	3	MAT 110 or higher	GENED
		Introduction to Statistics			
	ENT 101	Entrepreneurship	3	None	GENED
		Intro. to Entrepreneurship			
	WRI 102	Writing	3	WRI 101	GENED

		Composition II			
	ICP 161	Intro. to Political Theory	3	None	CORE
Total			15		

SECOND YEAR - PUBLIC ADMINISTRATION CONCENTRATION

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
3	ENT 325	Entrepreneurship	3	ENT 101	GENED
		Social Entrepreneurship			
	BIO/CHE/GEO/NES/PHY	Natural & Physical Sciences	4	None	GENED
		select one			
	CIE 111	Info. Technology Intro. to Computers &	3	None	GENED
		Computing			
	CDV 20x	Community Service	3	None	GENED
		Community Development			
	ICP 131	Introduction to International Relations	3	None	CORE
Total			16		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
4	ICP 186	Introduction to Public Administration	3	None	CORE
	XXX 1xx	Refer to Concentration list (100 level)	3	Refer to course description	CONCENTRATION
	ICP 201 or 205	Contemporary Nigerian Politics or Contemporary African Politics	3	ICP 101 or ICP 131	CORE
	BIO/CHE/GEO/NES/PHY	Natural & Physical Sciences	3	None	GENED
		select one			
	AUN 300	Critical Thinking & Problem Solving	3	min. 3 rd yr. standing	GENED
		Critical Thinking & Problem Solving			
Total			15		

THIRD YEAR - PUBLIC ADMINISTRATION CONCENTRATION

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
5	ANT/CIV/ECO/ HIS/ICP/PSY/ SOC/	Social & Behavioral Sciences select one	3	Refer to catalog	GENED
	XXX xxx	visit program chair	3	Refer to catalog	FREE ELECTIVE
	XXX xxx	visit program chair	3	Refer to catalog	FREE ELECTIVE
	PHI 300	Arts & Humanities Ethics & Leadership	3	min. 3rd yr. standing	GENED
	ICP 2xx	Refer to Concentration list (200 level)	3	Refer to course description	CONCENTRATION
Total			15		
Semester	Course Code	Course Title	Credits	Prerequisite	Requirement
6	XXX xxx	visit program chair	3	Refer to course description	FREE ELECTIVE
	ICP XXX	Refer to POLIS Elective list	3	Refer to course description	POLIS ELECTIVE
	ICP 3xx	Refer to concentration list - 300 Level	3	Refer to course description	CONCENTRATION
	ICP 3xx	Refer to concentration list - 300 Level	3	Refer to course description	CONCENTRATION
	ICP 395	Social Sciences Research Methods	3	STA 101	CORE
	(SOC 390 can fulfill requirement)			SOC 101 & STA 101 or QBA 101	

Total	15
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Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
7	ICP xxx	ICP course at any level	3	Refer to course description	CORE
	XXX xxx	Refer to POLIS elective list	3	Refer to course description	POLIS ELECTIVE
	ICP 3xx	Refer to concentration list	3	Refer to course description	CONCENTRATION
	XXX xxx	Refer to POLIS Elective list	3	Refer to course description	POIS ELECTIVE
	ICP 490	Senior Research Project – Part 1		4 th . yr. standing ICP101, ICP 131,	
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
8	ICP 491	Senior Research Project-Part II	3	ICP 490	CORE
	ICP 497 (Honors only)	Honors Seminar 1		ICP 496	
	ICP 4xx	Refer to concentration list	3	Refer to course description	CONCENTRATION
	ICP xxx	Refer to Major Core List	3	Refer to course description	CORE
	ICP 4xx	Refer to concentration list	3	Refer to course description	CONCENTRATION
	ICP xxx	Refer to Major Core List	3	Refer to course description	CORE
Total			15		

PETROLEUM CHEMISTRY

Bachelor of Science (B.Sc.) in Petroleum Chemistry

The Petroleum Chemistry program offers a highly specialized, career-oriented major to students interested in pursuing opportunities in the petroleum and petrochemical industries. The structure provides an intense chemistry-focused program for the petroleum and related fields.

The Petroleum Chemistry program will prepare students to assume newly developed careers created by Nigeria's restructuring of the downstream petrochemical sector focusing on the innovation of new petrochemicals and their processing, refining and distribution of petroleum products, and in-depth laboratory analysis of various petroleum-related specimens. The program also prepares students to develop their career in upstream petroleum sector as field scientists, and in Natural Gas Technology as production and quality control experts.

Students will have a choice of career paths both in the oil industry and those related to petrochemicals and associated manufacturing. The petroleum industry needs petroleum chemists and engineers for:

- oil and gas refining
- oil and gas exploration
- oil and gas production
- oil cracking and reforming processes
- petrochemical processing
- polymer technology
- petroleum products manufacturing such as plastics, rubbers, solvents, and fuels.

In addition to BSc in Petroleum Chemistry, students have the option to have a concentration in Oil and Gas Chemistry. This choice will enable students to have more focus on the oil exploration and production, and in natural gas technology areas.

Also, students have the option to have a concentration in Petrochemicals & Polymer Science. This choice will enable students to have more focus on petrochemical processing and reactions catalysis, polymer technology, and as well as petroleum products manufacturing.

Philosophy, Aim and Objectives of the Program

Philosophy of the Program

The Petroleum Chemistry program is designed to produce graduates with sound theoretical and practical knowledge required for the development of the petroleum and petrochemical sector of the nation's economy. This means the program will produce graduates of very high academic standard with sufficient practical experience required for self-employment as well as being of immediate value to the petroleum and petrochemical industry.

Aim and Objectives of the Program

The aim of the program is to provide our undergraduates with the required practical knowledge and skills of the chemical processes in the oil and gas industry, to enable them contribute effectively to the overall industrial development of the nation.

The undergraduate curriculum in petroleum chemistry at AUN is designed to:

- Provide students with mastery of the principles, concepts and experiences needed in the petroleum and chemical/petrochemical industry.
- Prepare students for graduate study in petroleum, chemistry or related courses via high quality and innovative research at the undergraduate level.
- Produce Petroleum Chemists that can effectively use computers, computational approach/modeling and innovative software to reduce the time and cost of oil processing, refining and distribution, as well as research in the oil and related industry/academia.
- Develop and train students with excellent practical knowledge in the field of renewable energy and technology.
- Create awareness among our students on the reality of the energy crisis and sensitize them towards finding lasting solutions.
- Foster and build an environment that develops students who are energy problem solvers, and whose lives are transformed for service and leadership.
- Make the students aware and conscious of the environmental problems associated with oil & gas exploration, production and processing and ways to combat them.
- Equip our graduates with relevant skills and leadership abilities suitable for entrepreneurship, scholarship, community service and employment.

Bachelor of Science in Petroleum Chemistry Degree Program Requirements

All students must complete the University wide required General Education Program requirements. These courses are designed to give the students broad coverage in a wide arena of disciplines.

General Education supports a Liberal Arts experience that prepares students for success in their majors and personal & professional lives after graduation.

All Petroleum Chemistry students must complete a series of courses (credits) in consultation with the program chair to ensure all requirements have been fulfilled.

As a Petroleum Chemistry major, students are required to successfully complete the following credit load upon graduation. Each concentration carries its own credit load:

Petroleum Chemistry Requirement	General Education	Core	Free Electives	Technical Core	Concentration Core	Overall Graduation Credit
Min. Total Credit Hours						
General	51	43	min. 9	30/34	None	133/137
CONCENTRATION						
Oil & Gas	51	43	min. 9	30/34	min. 9	142/146
Petrochemical & Polymer Science	51	43	min. 9	30/34	min. 9	142/146

Note - Concentration Electives are not compulsory for students opting for Petroleum Chemistry degree.

General Education

The general education requirement below is specific to the **Petroleum Chemistry** program. Students majoring in Petroleum Chemistry must complete the following courses within the **General Education** distribution requirements:

GENERAL EDUCATION REQUIREMENT

Discipline	Course Code	Course Title	Credit Hours
First Year Experience (total 1 credit)	AUN 101	First Year Experience	1
Arts and Humanities (total 9 credits)	GEN 102	Nigerian Peoples and Culture	3
	GEN 103	History and Philosophy of Science	3
	PHI 300	Ethics and Leadership	3
Community Service (total 3 credits)	CDV 2xx	Community Development	3
Critical Thinking and Problem Solving (total 3 credits)	AUN 300	Critical Thinking and Problem Solving	3
Entrepreneurship (total 6 credits)	ENT 101	Introduction to Entrepreneurship	3
	ENT 325	Social Entrepreneurship	3
Information Technology (total 3 credits)	CIE 111	Introduction to Computers and Computing	3
Mathematics* <i>Based on placement test</i>	<i>MAT 100</i>	<i>Pre-Algebra</i> <i>This course is NOT counted towards graduation credits.</i>	<i>0</i>

And	MAT 110 or MAT 112 or MAT 210 - meets Gen Ed. Requirement STA 101	University Algebra Pre-Calculus Calculus I	3
Statistics (total 6 credits)		Introduction to Statistics	3
Natural and Physical Sciences (total 7 credits minimum)	CHE 101 <i>Based on placement test student may move to CHE 120</i>	Refer to course description	4
	CHE 121 - meets Gen Ed. Requirement		4
Social and Behavioral Sciences (total 6 credits)	ANT, CIV, ECO 210/220, HIS, ICP, PSY, SOC	Refer to course description	3
	ANT, CIV, ECO210/220, HIS, ICP, SOC, PSY		3
Writing* (total 6 credits)	WRI 100 or <i>Based on placement test</i>	<i>Introduction to Composition</i> <i>This course is NOT counted towards graduation credits.</i>	0
	WRI 101* <i>Based on placement test</i>	Composition I	3
	and WRI 102	Composition II	3
		Total	51

Mathematics and Writing Requirement*

Dependent on the results of the placement test, this will determine the number of courses required.

<i>If a student is placed in...</i>		Credit Hours
<i>WRI 100 Intro. to Composition</i>	<i>This is a non-university credit bearing course and does NOT count towards the overall total graduation credits required. This course does not satisfy GENED requirement. Upon successful completion, a student must enroll in WRI 101.</i>	<i>0</i>
<i>MAT 100 Pre Algebra</i>	<i>This is a non-university credit bearing course and does NOT count towards the overall total graduation credits required. This course does not satisfy GENED requirement. Upon successful completion, a student must enroll in MAT 110.</i>	<i>0</i>
MAT 110 University Algebra	This is a 3 credit bearing course and does not satisfy GENED requirement. Upon successful completion, a student must enroll in MAT 112. A minimum 'C' grade is required.	3
MAT 112 Pre-Calculus	This is a 3 credit bearing course and does not satisfy GENED requirement. Upon successful completion, a student must enroll in MAT 210. A minimum 'C' grade is required.	3
MAT 210: Calculus I	This is a 3 credit bearing course. This course satisfies GENED requirement.	3

Chemistry Requirement**

All students must enroll in CHE 101. A placement test will be conducted in class to determine a student's chemistry foundation.		
<i>If a student is placed in...</i>		Credit Hours
CHE 101 Introduction Chemistry or	This course is NOT counted towards graduation credits. This course does not satisfy GENED or major requirements.	4
CHE 120 General Chemistry I	This course satisfies GENED only.	4

Students may wish to pursue a Bachelor of Science in Petroleum Chemistry (General) without a concentration or students may select one of the concentrations below:

- 1) Oil and Gas
- 2) Petrochemicals and Polymer Sciences

All Petroleum Chemistry students must complete the 11 **core** courses below.

CORE REQUIREMENT

s/n	Course Code	Credit Hours	Course Title
1	CHE 210	4	Organic Chemistry I
2	CHE 220	4	Physical Chemistry I
3	CHE 221	3	Industrial Chemical Process
4	CHE 330	4	Analytical Chemistry
5	CHE 324	3	Industrial Chemical Technology
6	CHE 331	3	Instrumental Methods of Analysis & Applied Spectroscopy
7	CHE 340	4	Inorganic Chemistry
8	GEO 101	4	Introduction to Geology
9	MAT 211	3	Calculus II
10	MAT 310	3	Calculus III
11	PHY 205	4	University Physics I
12	PHY 206	4	University Physics II
Total		43	

In addition to the CORE courses, all Petroleum Chemistry students must complete 9 **technical** courses (30/34 credits) outlined below:

TECHNICAL CORE

s/n	Course Code	Credit Hours	Course Title
1	PCE 310	4	Petroleum Science
2	PCE 311	3	Natural Gas
3	PCE 320	3	Petrochemicals
4	PCE 321	4	Polymer Chemistry and Technology
5	PCE 410	3	Oil Spill & Gas Flaring: Effects & Control (3)
6	PCE 416	3	Coal & Oil Shale Chemistry
7	PCE 421	3	Electrochemistry & Corrosion Chemistry
8	PCE 493	3	Internship in Petroleum/Petrochemicals Industry
9	CHE 490 Or	4	Senior Research Project
	CHE 499	4,4	Thesis Project (over two semesters) <i>Students must have at least a B average (CGPA 3.0/4.0) with a minimum of 89 earned credits.</i>
Total		30/34	

In addition, three a minimum of 9 credits, referred to as FREE ELECTIVES are required. Students are advised to select their FREE ELECTIVE courses in consultation with the program chair.

For students pursuing a Petroleum Chemistry (general) degree, electives listed are not required, however, students are encouraged to take some of these courses in order to broaden their knowledge in the field.

RECOMMENDED ELECTIVES (not mandatory)

Course Code	Credit Hours	Credit Title	Recommended Electives
PCE 313	3	Introduction to Catalysis	General or Petrochemicals & Polymer Sc.
CHE 211	4	Organic Chemistry II	General
CHE 300	3	Oil & Gas Law	General or Oil & Gas Chemistry
CHE 322	3	Environmental Chemistry	General or Petrochemicals & Polymer Sc.
CHE 323	3	Chemical Kinetics & Thermodynamics	General
CHE 420	3	Physical Chemistry II	General
CHE 423	3	Quality Control & Industrial Safety	General or Petrochemicals & Polymer Science or Oil & Gas chemical
CHE 450	4	Computational Chemistry	General
GEO 301	3	Elements of Petroleum Geology	General or Oil & Gas Chemistry

The following three (3) Concentration Core courses (9 credits) are required – these courses are listed as follows.

OIL AND GAS CONCENTRATION CORE REQUIREMENT

Course Code	Course Title	Course Credits
CHE 300	Oil & Gas Law	3
CHE 423	Quality Control & Industrial Safety	3
GEO 301	Elements of Petroleum Geology	3

Petrochemicals & Polymer Science Concentration

The following three (3) Concentration Core courses (9 credits) are required – these courses are listed as follows:

PETROCHEMICALS & POLYMER SCIENCE CONCENTRATION REQUIREMENT

Course Code	Course Title	Course Credits
CHE 322	Environmental Chemistry	3
CHE 423	Quality Control & Industrial Safety	3

PCE 313	Introduction to Catalysis	3
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**SAMPLE 4-YEAR STUDY PLAN FOR A BACHELOR OF SCIENCE IN PETROLEUM CHEMISTRY (GENERAL)
FALL & SPRING ADMISSION**

Please note that this study plan is meant as a guide only.

This study plan does not reflect these courses - WRI 100, MAT 100, CHE 101. Due to staff and faculty changes some courses may not be offered during the semester indicated. Check with your faculty advisor and/or academic advisor along with your program chair each semester to be up to date with changes to the study plan.

FIRST YEAR

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
1	WRI 101	Writing	3	None	GENED
		Composition I			
	ENT 101	Entrepreneurship	3	None	GENED
		Introduction to Entrepreneurship			
	CHE 101/ CHE 120	Natural and Physical Sciences	4	None/ CHE 101 or placement test	CHE101 does not satisfy GENED requirement/ GENED
		Intro. to Chemistry/ General Chemistry I			
	MAT 210	MAT	3	MAT 112 or placement test	GENED
	ANT/CIV/ECO210 /ECO 220/ HIS/ICP/PSY/SOC	Social & Behavioral Sciences	3	None	GENED
		select one			
	AUN 101	First Year Experience	1	None	GENED
First Year Experience					
Total			17		
2	WRI 102	Writing	3	WRI 101	GENED
		Composition II			
	PHY 205	University Physics I	4	MAT 210	CORE
	STA 101	Mathematics & Stats	3	None	GENED
		Intro. to Statistics			
	CHE 121	Natural & Physical Sc.	4	CHE 120	GENED
General Chemistry II					

	GEN 102 or GEN 103	Arts & Humanities	3	None	GENED
		Nigerian Peoples and Culture			
Total			17		

SECOND YEAR – PETROLEUM CHEMISTRY (GENERAL)

Semester	Course Code	Course Title	Credit Hours	Prerequisites	Requirement
3	ANT/CIV/ ECO 210/ECO220 /HIS/ICP/PSY/SOC	Social and Behavioral Sciences	3	MAT 110	GENED
		select one		None	
	MAT 211	Calculus II	3	MAT 210 min. C grade	CORE
	GEO 101	Introduction to Geology	4	None	CORE
	CHE 210	Organic Chemistry I	4	CHE 121	CORE
	CDV 2xx	Community Development	3	2 nd yr. standing	GENED
		select one			
Total			17		

Semester	Course Code	Course Title	Credit Hours	Prerequisites	Requirement
4	ANT/CIV/ ECO 210/220/ HIS/ICP/PSY/SOC	Social and Behavioral Sciences	3	MAT 110	GENED
		select one		None	
	MAT 211	Calculus II	3	MAT 210 min. C grade	CORE
	GEO 101	Introduction to Geology	4	None	CORE
	CHE 210	Organic Chemistry I	4	CHE 121	CORE
	CDV 2xx	Community Development	3	2 nd yr. standing	GENED
		select one			
Total			17		

THIRD YEAR – PETROLEUM CHEMISTRY(GENERAL)

Semester	Course Code	Course Title	Credit Hours	Prerequisites	Requirement
5	MAT 310	Calculus III	3	MAT 211	CORE
	XXX xxx	See program chair.	min. 3	Refer to course description	FREE ELECTIVE
	CHE 220	Physical Chemistry I	4	CHE 121 & MAT 210	CORE
	CHE 330	Analytical Chemistry	4	CHE 121	CORE
	CHE 324	Industrial Chemical Technology	3	CHE 221	CORE
Total			17		

Semester	Course code	Course title	Credit hours	Prerequisite	Requirement
6	PCE 320	Petrochemicals	3	CHE 210 & CHE 220	TECHNICAL
	PCE 310	Petroleum Science	4	CHE 210 & CHE 220	TECHNICAL
	PCE 321	Polymer Chemistry and Technology	4	CHE 210 & CHE 220	TECHNICAL
	AUN 300	Critical Thinking & Problem Solving	3	min. 3rd yr. standing	GENED
		Critical Thinking & Problem Solving			
	PCE 493 (formerly CHE 493)	Internship in Petroleum/Petrochemicals Industry	3	min. 4th yr. standing	TECHNICAL
Total			17		

FOURTH YEAR – PETROLEUM CHEMISTRY (GENERAL)

Semester	Course Code	Course Title	Credit Hours	Prerequisites	Requirement
7	CHE 331	Instrumental Methods of Analysis & Applied Spectroscopy	3	CHE 330	CORE
	ENT 325	Entrepreneurship	3	ENT 101	GENED
		Social Entrepreneurships			
	CHE 490 or CHE 499	Senior Research Project or Thesis Project (4, 4: two semester course)	4	4 th yr. standing	TECHNICAL
	PCE 410	Oil Spill & Gas Flaring: Effects & Control	3	4 th yr. standing	TECHNICAL
	CHE 340	Inorganic Chemistry	4	CHE 121	CORE
Total			17		

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
8	PHI 300	Arts & Humanities	3	min. 3 rd yr. standing	GENED
		Ethics & Leadership			
	PCE 311	Natural Gas	3	CHE 210	TECHNICAL
	PCE 416	Coal & Oil Shale Chemistry	3	min. 3 rd yr. standing & PCE 321	TECHNICAL
	PCE 421	Electrochemistry & Corrosion Chemistry	3	CHE 220	TECHNICAL
	XXX xxx	See you program chair.	min.3	Refer to course description	FREE ELECTIVE
	CHE 499	Thesis Project	4	4 th yr. standing	TECHNICAL
Total			15/19		

**SAMPLE 4-YEAR STUDY PLAN FOR A BACHELOR OF SCIENCE IN PETROLEUM CHEMISTRY
OIL & GAS PETROCHEMICAL & POLYMER CONCENTRATION
FALL & SPRING ADMISSION**

Please note that this study plan is meant as a guide only.

This study plan does not reflect these courses - WRI 100, MAT 100, CHE 101. Due to staff and faculty changes some courses may not be offered during the semester indicated. Check with your faculty advisor and/or academic advisor along with your program chair each semester to be up to date with changes to the study plan.

FIRST YEAR

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
1	WRI 101	Writing	3	None	GENED
		Composition I			
	ENT 101	Entrepreneurship	3	None	GENED
		Intro. to Entrepreneurship			
	CHE 101 or	Natural and Physical Sciences	4	None	Does not satisfy GENED. requirement
				CHE 101 or placement test	GENED
	CHE 120	General Chemistry I	3	MAT 112 or placement test	GENED
	MAT 210	MAT			
	ANT/CIV/ECO 210 ECO 220/HIS/ICP/ PSY/SOC/	Social & Behavioral Sciences	3	None	GENED
		select one			
AUN 101	First Year Experience	1	None	GENED	
	First Year Experience				
Total			17		
2	WRI 102	Writing	3	WRI 101	GENED
		Composition II			
	PHY 205	University Physics I	4	MAT 210	CORE
	STA 101	Mathematics & Statistics	3	None	GENED
		Intro. to Statistics			
	CHE 121	Natural & Physical Sc.	4	CHE 120	GENED
General Chemistry II					

	GEN 102 or GEN 103	Arts & Humanities	3	None	GENED
		Nigerian Peoples and Culture			

Total 17

SECOND YEAR - OIL & GAS or PETROCHEMICAL & POLYMER CONCENTRATION

Semester	Course Code	Course Title	Credit Hours	Prerequisites	Requirement
3	ANT/CIV/ ECO 210/220 /HIS/ICP/PSY/SOC	Social and Behavioral Sc.	3	Refer to course description	GENED
		select one			
	MAT 211	Calculus II	3	MAT 210 min. C grade	CORE
	GEO 101	Introduction to Geology	4	None	CORE
	CHE 210	Organic Chemistry I	4	CHE 121	CORE
	CDV 2xx	Community Development	3	min. 2 nd yr. standing	GENED
select one					
Total			17		
Semester	Course code	Course title	Credit hours	Prerequisite	Requirement
4	CHE 221	Industrial Chemical Process	3	CHE 121	CORE
	CIE 111	Intro. to Computers and Computing	3	None	GENED
	GEN 102 or GEN 103	Arts and Humanities	3	None	GENED
		History & Philosophy of Sc.			
	XXX xxx	Refer to Catalog	3	Refer to course description	CONCENTRATION CORE
	PHY 206	University Physics II	4	PHY 205	CORE
XXX xxx	Refer to Catalog	3	Refer to course description	CONCENTRATION CORE	
Total			19		

THIRD YEAR - OIL & GAS or PETROCHEMICAL & POLYMER CONCENTRATION

Semester	Course Code	Course Title	Credit Hours	Prerequisites	Requirement
5	MAT 310	Calculus III	3	MAT 211	CORE
	XXX xxx	See program chair.	min. 3	Refer to course description	FREE ELECTIVE
	CHE 220	Physical Chemistry I	4	CHE 121 & MAT 210	CORE
	CHE 330	Analytical Chemistry	4	CHE 121	CORE
	CHE 324	Industrial Chemical Technology	3	CHE 221	CORE
Total			17		

Semester	Course code	Course title	Credit hours	Prerequisite	Requirement
6	XXX xxx	See program chair	3	Refer to course description.	FREE ELECTIVE
	PCE 320	Petrochemicals	3	CHE 210 & CHE 220	TECHNICAL
	PCE 310	Petroleum Science	4	CHE 210 & CHE 220	TECHNICAL
	PCE 321	Polymer Chemistry and Technology	4	CHE 210 & CHE 220	TECHNICAL
	AUN 300	Critical Thinking & Problem Solving	3	min. 3rd yr. standing	GENED
		Critical Thinking & Problem Solving			
	PCE 493 (formerly CHE 493)	Internship in Petroleum/Petrochemicals Industry (This can be done during summer months.)	3	min. 4th yr. standing	TECHNICAL
Total			20		

FOURTH YEAR - OIL & GAS OR PETROCHEMICAL & POLYMER CONCENTRATION

Semester	Course Code	Course Title	Credit Hours	Prerequisites	Requirement
7	CHE 331	Instrumental Methods of Analysis & Applied Spectroscopy	3	CHE 330	CORE
	ENT 325	Entrepreneurship	3	ENT 101	GENED
		Social Entrepreneurships			
	CHE 490 or CHE 499	Senior Research Project or Thesis Project (4, 4: two semester course)	4	4 th yr. standing	TECHNICAL
	PCE 410	Oil Spill & Gas Flaring: Effects & Control	3	4 th yr. standing	TECHNICAL
	CHE 340	Inorganic Chemistry	4	CHE 121	CORE
	XXX xxx	Refer to catalog.	3	Refer to course description.	CONCENTRATION
Total			20		

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
8	PHI 300	Arts & Humanities	3	min. 3 rd yr. standing	GENED
		Ethics & Leadership			
	PCE 311	Natural Gas	3	CHE 210	TECHNICAL
	PCE 416	Coal & Oil Shale Chemistry	3	min. 3 rd yr. standing & PCE 321	TECHNICAL
	PCE 421	Electrochemistry & Corrosion Chemistry	3	CHE 220	TECHNICAL
	XXX xxx	See you program chair.	3	Refer to course description	FREE ELECTIVE
	CHE 499	Thesis Project	4	4 th yr. standing	TECHNICAL
Total			15/19		

SCHOOL OF BUSINESS & ENTREPRENEURSHIP (SBE)



From the Dean

The School of Business & Entrepreneurship (SBE) is a cardinal school in the AUN system. SBE is the mainstay of AUN's core philosophy of entrepreneurship and development. I am pleased to welcome you to the SBE section in this undergraduate catalog.

We train and equip students to be future business leaders and owners following the American liberal arts education tradition. SBE offers three programs leading to the award of Bachelor of Science (BSc) degree. These programs are taught and managed by faculty members from different parts of the world who are experienced in both academia and the industry. In SBE, we use a variety of instructional methods including experiential learning where students are given grants to conceive, plan, establish, and run their own businesses.

Graduates of SBE are found all over the world working in renowned companies such as Google, KPMG, PWC, Shell, Nigerian Presidency, embassies in Nigeria, and NNPC. Some are pursuing graduate studies in reputable institutions like the Massachusetts Institute of Technology (MIT), Carnegie Mellon University, Cambridge University, Oxford University and more.

SBE offers the following programs: Accounting, Business Administration, and Entrepreneurship Management, along with concentrations in Finance and Marketing. The School also offers graduate programs leading to the award of Postgraduate Diploma in Management (PGDM), Master of Business Administration (MBA), Master of Science (MSc) in Business Administration, and Doctor of Philosophy (Ph.D.) in Business Administration.

I invite you to join us at the School of Business & Entrepreneurship for a great experience and a wonderful future. An experience that will change your life!

Attahir Yusuf, PhD

Professor and Dean, School of Business & Entrepreneurship

SCHOOL OF BUSINESS AND ENTERPRENUERSHIP

SBE IN A DEVELOPMENT UNIVERSITY

AUN is a Development University. This means that our knowledge is applied in solving the myriad of problems in our society. Therefore, SBE engages in teaching, research and community service activities that help students understand and solve the business problems confronting our communities. In SBE, we seek to create an environment that develops students who are problem solvers, to coach and mentor students to readily recognize opportunities and/or needs, and to galvanize stakeholders into action to improve peoples' lives. To SBE, "development" means a commitment to help communities achieve equitable and sustainable prosperity for all. The broad-based academic programs and research in SBE generates knowledge and innovation transferrable to local communities for growth and development in such areas as financial literacy and entrepreneurship culture.

GRADUATE PROGRAMS ADMISSION REQUIREMENT

Postgraduate Diploma in Management (PGDM):

Duration: Up to 18 months:

Candidates seeking admission into this program MUST possess any of the following qualifications from recognized universities or institutions of higher learning:

- i. First degrees in non-business related disciplines.
- ii. Higher National Diploma (HND) in any discipline.

Master of Business Administration (MBA):

Duration: Up to 24 months:

Candidates seeking admission into this program MUST possess any of the following qualifications from recognized universities:

- i. First degrees in business-related disciplines with not less than 2nd class honors.
- ii. PGDM certificates with CGPA of not less than 3.2 on a 4-point scale OR 4.0 on a 5-point scale.

Master of Science (MSc.) in Business Administration:

Duration: Minimum of 18 months; maximum of 36 months.

Candidates seeking admission into this program MUST possess first degrees in business-related disciplines (with not less than 2nd class honors) from recognized universities.

Doctor of Philosophy (PhD) in Business Administration:

Duration: Minimum of 36 months; maximum of 60 months:

Candidates seeking admission into this program MUST possess any of the following qualifications from recognized universities:

- i. MSc. in Business Administration or any business-related discipline with not less than CGPA of 3.5 on a 4-point scale or 4.0 on a 5-point scale.
- ii. MBA with CGPA of 3.5 on a 4-point scale OR 4.0 on a 5-point scale, in addition to having first degrees (not below second class honors) in business-related disciplines.

UNDERGRADUATE PROGRAMS

The School of Business and Entrepreneurship offers the following degree programs.

B.Sc. Accounting

B.Sc. Business Administration

General (without concentration)

Concentration:

Finance

Marketing

B.Sc. Entrepreneurship Management

The Bachelor of Science degree programs are designed to provide students with the requisite knowledge to pursue managerial careers in a competitive and challenging private business environment, public sectors, non-governmental sectors, as well as in new start-ups. Graduates of the School of Business and Entrepreneurship are prepared to pursue careers in accounting, marketing, consulting, commercial and investment banking, central banking, and treasury management, among many others and also to join startups or start their own businesses.

Bachelor of Science degree program requirement

All SBE students must complete a University wide required General Education (GENED) program (50 credits). These courses are designed to give students a broad coverage of a Liberal Art experience in addition to their major requirements.

The School of Business & Entrepreneurship undergraduate program consists of general education and major requirements. Listed are essential components that can be found in the School of Business & Entrepreneurship programs.

- **General Education** is a list of courses that expose students to a liberal arts experience.
- **Core** is a set of prescribed courses that are mandatory and fundamental to each program.
- **Electives** are a list of courses that each program requires to support the student

All SBE students must complete a series of courses (credit hours) in consultation with the program chair to ensure all requirements have been fulfilled.

As a SBE major, students are required to successfully complete the following credit load upon graduation. Each major carries its own credit load:

Bachelor of Science Degree Program Credit Hours Requirement					
REQUIREMENT	MAJOR				
	Accounting	Business Admin.	Business Administration		Entrepreneurship Management
			Finance	Marketing	
	Minimum Total Credit Hours				
General Education	50	50	50	50	50
Free Electives	9	9	9	9	9
SBE Core	51	51	51	51	51
Major Core	24	15	-	-	15
Major Electives	6	9	-	-	9
Concentration Core	-		15	15	-
Concentration Electives	-		9	9	-
	140	134	134	134	134

General Education Requirement

This general education requirement below is specific to **School of Business & Entrepreneurship** programs. Students are required to complete all General Education courses as listed below.

GENED (50 credits)

+	Course Code	Course Title	Credit Hours
First Year Experience (total 1 credit)	AUN 101	First Year Experience	1
Arts and Humanities (total 9 credits)	GEN 102	Nigerian Peoples and Culture	3
	GEN 103	History and Philosophy of Science	3
	PHI 300	Ethics and Leadership	3
Community Service (total 3 credits)	CDV 2xx	Community Development	3
Critical Thinking and Problem Solving (total 3 credits)	AUN 300	Critical Thinking and Problem Solving	3
Entrepreneurship (total 6 credits)	ENT 101	Intro. to Entrepreneurship	3
	ENT 325	Social Entrepreneurship	3
Information Technology (total 3 credits)	CIE 111	Introduction to Computers and Computing	3

Mathematics*	MAT 100/ MAT 110/MAT 112 MAT 210	Pre-Algebra University Algebra/Pre-Calculus Calculus I	0 3
and			
Statistics (total 6 credits)	STA 101	Introduction to Statistics	3
Natural and Physical Sciences (total 7 credits)	BIO, CHE, GEO, NES, PHY (Lab)	Refer to course description	4
	BIO, CHE, GEO, NES, PHY (no Lab)		3
Social and Behavioral Sciences (total 6 credits)	ANT, CIV, ECO, HIS, ICP, PSY, SOC ECO 210 - required	Refer to course description	3
	ANT, CIV, ECO, HIS, ICP, PSY, SOC ECO 220 - required		3
Writing*	WRI 100/WRI 101 and	Introduction to Compositions/ Composition I	0/3
(total 6 credits)	WRI 102	Composition II	3
TOTAL			50

Mathematics and Writing Requirement*

Dependent on the results of the placement test, this will determine the number of courses required.

<i>If a student is placed in...</i>		Credit Hours
WRI 100 <i>Intro to Compositions</i>	<i>This is a non-university credit bearing course and does NOT count towards the overall total graduation credits required. This course does not satisfy GENED requirement.</i>	0
MAT 100 Pre-Algebra	<i>This is a non-university credit bearing course and does NOT count towards the overall total graduation credits required. This course does not satisfy GENED requirement.</i>	0
MAT 110 University Algebra	Satisfies GENED requirement.	3
MAT 112 Pre-Calculus		3
MAT 210 Calculus I		3

SBE Core Requirement

In addition to the general education courses, students are required to complete the CORE courses listed – these are common for all SBE majors.

SBE CORE (51 credits)	Course Code	Course Title	Credit Hours
	ACC 201	Principles of Financial Accounting	3
	ACC 202	Principles of Managerial Accounting	3
	BLW 301	Business Law I	3
	BUS 101	Introduction to Business	3
	BUS 310	Business Statistics	3
	FIN 201	Business Finance	3
	MGT 201	Principles of Management	3
	MGT 301	Organizational/Administrative Behavior	3
	MGT 360	Business Ethics and Social Responsibility	3
	MGT 406	Business Policy & Strategy	3
	MKT 201	Principles of Marketing	3
	PSY 101	Introduction to Psychology	3
	QBA 201	Quantitative Business Analysis	3
	QBA 202	Operations Management	3
	QBA 411	Research Methodology	3
	QBA 412	Research Project	3
	QBA 465	Business Analytics and IT	3

Free Elective Requirement

Free Elective courses (min. 9 credits) are required for all SBE majors. Students are strongly encouraged to visit their program chair for course selection consultation.

FREE ELECTIVE (min. 9 credits)	Course Code	Course Title	Credit Hours
	XXX xxx	Visit program chair	1-4
	XXX xxx		1-4
	XXX xxx		1-4

In addition to **SBE Core** and **Free Elective** courses, students are required to complete additional credit hours as specified in the chosen program. Refer to the specific program to determine requirements.

Bachelor of Science in Accounting Degree Program Requirement

The Bachelor of Science in Accounting requires a minimum 140 graduation credit hours

In addition to the General Education requirements, Accounting majors are required to successfully complete the courses listed below:

As an accounting major, students are required to complete GENED, FREE ELECTIVES, SBE CORE and the following list of courses.

Accounting CORE Requirement

To major in accounting, students are required to successfully complete all five (5) **CORE** courses as listed below.

Requirement	Course Code	Course Title	Credit Hours
CORE (24 credits)	ACC 301	Intermediate Accounting I	3
	ACC 302	Intermediate Accounting II	3
	ACC 303	Cost Accounting	3
	ACC 306	Taxation I	3
	ACC 401	Advanced Financial Accounting	3
	ACC 406	Taxation II	3
	ACC 410	Auditing I	3
	ACC 411	Auditing II	3

Accounting Major Elective Requirement

Additionally, a minimum of two (2) **Major Elective** courses (6 credits) can be selected from the list below.

Requirement	Course Code	Course Title	Credit Hours
MAJOR ELECTIVES (6 credits)	ACC 402	Accounting Information System	3
	ACC 403	International Accounting	3
	ACC 404	Public Sector Accounting	3
	ACC 405	Consolidated Accounting	3
	BLW 302	Business Law II	3
	FIN 340	Corporate Finance	3
	FIN 310	Financial Statements Analysis	3

**SAMPLE 4-YEAR STUDY PLAN – BACHELOR OF SCIENCE IN ACCOUNTING
FALL & SPRING ADMISSION**

This study plan is meant as a guide only.

This study plan reflects no remedial courses (WRI 100, MAT 100). Due to faculty and scheduling changes some, courses may not be offered during the semesters indicated. Check with your faculty and academic advisors along with your program chair each semester to be up to date with changes to the study plan.

FIRST YEAR

Semester	Course Code	Course Title	Credit Hours	Pre-requisite	Requirement
1	WRI 101	Writing	3	Placement test	GENED
		Composition I			
	MAT 110 or MAT 112 or MAT 210	Maths and Statistics	3		GENED
		Mathematics			
	BIO/CHE/ GEO/NES/PHY	Natural & Physical Sc.	4	None	GENED
		select one (Lab)			
	AUN 101	First Year Experience	1	None	GENED
		First Year Experience			
	BUS 101	Introduction to Business	3	None	SBE CORE
Total			14		
2	CIE 111	Information Technology	3	None	GENED
		Introduction to Computers & Computing			
	ENT 101	Entrepreneurship	3	None	GENED
		Intro. to Entrepreneurship			
	STA 101	Maths & Statistics	3	MAT 110	GENED
		Intro. to Statistics			
	WRI 102	Writing	3	WRI 101	GENED
		Composition II			
	ANT/CIV/ECO /HIS/ICP/PSY/ SOC	Social & Behavioural Sc.	3	Refer to course description	GENED
		ECO 210 – required			
	ACC 201	Principles of Financial Accounting	3	BUS 101	SBE CORE

Total	18
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SECOND YEAR - ACCOUNTING

Semester	Course Code	Course Title	Credit Hours	Pre-Requisite	Requirement
3	CDV 2xx	Community Service	3	2nd yr. standing	GENED
		select one			
	GEN 102 or GEN 103	Arts and Humanities	3	None	GENED
		select one			
	MKT 201	Principles of Marketing	3	BUS 101	SBE CORE
	BLW 301	Business Law I	3	2nd yr. standing	SBE CORE
	ACC 202	Principles of Managerial Accounting	3	ACC 201	SBE CORE
	MGT 201	Principles of Mgt.	3	BUS 101	SBE CORE
Total			18		
Semester	Course Code	Course Title	Credit Hours	Pre-Requisite	Requirement
4	AUN 300	Critical Thinking & Problem Solving	3	min. 3rd yr. standing	GENED
		Critical Thinking & Problem Solving			
	ANT/CIV/ ECO/HIS/ICP /PSY/SOC	Social & Behavioral Sc.	3	None	GENED
		ECO 220 – required			
	QBA 201	Quantitative Business Analysis	3	BUS 101	SBE CORE
	FIN 201	Business Finance	3	BUS 101	SBE CORE
	BUS 310	Business Statistics	3	STA 101	SBE CORE
	MGT 301	Organizational/ Administrative Behavior	3	MGT 201	SBE CORE
Total			18		

THIRD YEAR - ACCOUNTING

Semester	Course Code	Course Title	Credit Hours	Pre-requisite	Requirement
5	GEN 102 or GEN 103	Arts and Humanities select one	3	None	GENED
	ACC 306	Taxation I	3	ACC 201	MAJOR CORE
	ACC 303	Cost Accounting	3	ACC 202 & FIN 201	MAJOR CORE
	MGT 360	Business Ethics & Social Responsibility	3	MGT 201	SBE CORE
	QBA 202	Operations Management	3	QBA 201	SBE CORE
	ACC 301	Intermediate Accounting I	3	ACC 202	MAJOR CORE
Total			18		
Semester	Course Code	Course Title	Credit Hours	Pre-Requisite	Requirement
6	PHI 300	Arts and Humanities Ethics and Leadership	3	min. 3rd yr. standing	GENED
	XXX xxx	Visit program chair	3	None	FREE ELECTIVE
	ACC 302	Intermediate Financial Accounting II	3	ACC 301	MAJOR CORE
	ACC 410	Auditing I	3	ACC 301 & ACC 303	MAJORCORE
	XXX xxx	Visit program chair	3	None	FREE ELECTIVE
	XXX xxx	Refer to Concentration Elective list	3	Refer to course description	MAJOR ELECTIVE
Total			18		

FOURTH YEAR - ACCOUNTING

Semester	Course Code	Course Title	Credit Hours	Pre-Requisite	Requirement
7	QBA 411	Research Methodology	3	4th yr. standing	SBE CORE
	QBA 465	Business Analytics & IT	3	min. 3rd yr. standing & CIE111	SBE CORE
	XXX xxx	Visit program chair	3	Refer to catalog description	FREE ELECTIVE
	ACC 401	Advanced Financial Accounting	3	ACC 302	MAJOR CORE
	ACC 406	Taxation II	3	ACC 306	MAJOR CORE
	ENT 325	Entrepreneurship Social Entrepreneurship	3	min. 3rd yr. standing	GENED
Total			18		
Semester	Course Code	Course Title	Credit Hours	Pre-Requisite	Requirement
8	BIO/CHE/ GEO/NES/ PHY	Natural & Physical Sciences select one	3	Refer to course description	GENED
	MGT 406	Business Policy and Strategy	3	4 th yr. standing	SBE CORE
	PSY 101	Intro. to Psychology	3	WRI 101	SBE CORE
	ACC 411	Auditing II	3	ACC 410	MAJOR CORE
	QBA 412	Research Project	3	QBA 411	SBE CORE
	XXX xxx	Refer to advised elective list	3	Refer to course description	MAJOR ELECTIVE
Total			18		

BACHELOR OF SCIENCE BUSINESS ADMINISTRATION DEGREE PROGRAM REQUIREMENT

Students may achieve a BSc. in Business Administration (general) degree or opt to select an area of concentration.

Program	Credit Hours Total
Business Administration (general)	134
CONCENTRATION AREA	
Finance	134
Marketing	134

Business Administration Requirement

Students must complete the following CORE courses.

Business Administration Degree Requirement

Students must complete the following concentration core and concentration elective courses to graduate with a *Business Administration* degree.

Core

Students are required to successfully complete the five (5) courses as listed.

Requirement	Course Code	Course Title	Credit Hours
CONCENTRATION CORE (15 credit hours)	MGT 331	International Economics	3
	FIN 340	Corporate Finance	3
	MGT 300	International Business	3
	MGT 302	Managing Human Resources	3
	MKT 402	International Marketing	3

Major Electives

Additionally, a minimum of three (3) major elective courses (9 credits) can be selected from the list below.

Requirement	Course Code	Course Title	Credit Hours
MAJOR ELECTIVES (9 credit hours)	BLW 302	Business Law II	3
	ECO 310	Intermediate Microeconomics	3
	ENT 320	Technology Entrepreneurship	3
	FIN 310	Financial Statements Analysis	3
	FIN 320	Financial Institutions & Markets	3
	MGT 380	Project Management	3
	MKT 301	Consumer Behavior	3

	MKT 401	Marketing Strategy	3
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**SAMPLE 4-YEAR STUDY PLAN - BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION
FALL & SPRING ADMISSION**

This study plan is meant as a guide only.

This study plan reflects no remedial courses (WRI 100, MAT 100). Due to faculty and scheduling changes, some courses may not be offered during the semesters indicated. Check with your faculty and academic advisors along with your program chair each semester to be up to date with changes to the study plan.

FIRST YEAR

Semester	Course Code	Course Title	Credit Hours	Pre-requisite	Requirement
1	WRI 101	Writing	3	Placement test	GENED
		Composition I			
	MAT 110 or MAT 112 or MAT 210	Maths and Statistics	3		GENED
		Mathematics			
	BIO/CHE/ GEO/NES/ PHY	Natural & Physical Sciences	4	None	GENED
		Select one (Lab)			
	AUN 101	First Year Experience	1	None	GENED
First Year Experience					
BUS 101	Introduction to Business	3	None	SBE CORE	
Total			14		
Semester	Course Code	Course Title	Credit Hours	Pre-requisite	Requirement
2	ACC 201	Principles of Financial Accounting	3	BUS 101	SBE CORE
	CIE 111	Information Technology	3	None	GENED
		Introduction to Computers & Computing			
	ENT 101	Entrepreneurship	3	None	GENED
		Intro. to Entrepreneurship			
	STA 101	Maths & Statistics	3	MAT 110)	GENED
Introduction to Statistics					
WRI 102	Writing	3	WRI 101	GENED	

		Composition II			
Total			15		

SECOND YEAR – BUSINESS ADMINISTRATION

Semester	Course Code	Course Title	Credit Hours	Pre-Requisite	Requirement
3	CDV 2xx	Community Service	3	2nd yr. standing	GENED
		Select one			
	MKT 201	Principles of Marketing	3	BUS 101	SBE CORE
	BLW 301	Business Law I	3	2nd yr. standing	SBE CORE
	MGT 201	Principles of Management	3	BUS 101	SBE CORE
	GEN 102/ GEN 103	Arts and Humanities	3	None	GENED
		Select one			
	XXX xxx	Visit program chair	3	None	FREE ELECTIVE
Total			18		
Semester	Course Code	Course Title	Credit Hours	Pre-Requisite	Requirement
4	AUN 300	Critical Thinking & Problem Solving	3	min. 3rd yr. standing	GENED
		Critical Thinking & Problem Solving			
	XXX xxx	Visit program chair	3	None	FREE ELECTIVE
	QBA 201	Quantitative Business Analysis	3	BUS 101	SBE CORE
	ACC 202	Principles of Managerial Accounting	3	ACC 201	SBE CORE
	BUS 310	Business Statistics	3	STA 101	SBE CORE
	MGT 301	Organizational Behavior	3	MGT 201	SBE CORE
Total			18		

THIRD YEAR – BUSINESS ADMINISTRATION

Semester	Course Code	Course Title	Credit Hours	Pre-requisite	Requirement
5	ANT/CIV/ECO/ HIS/ICP/PSY/ SOC	Social & Behavioral Sc.	3	Refer to course description	GENED
		ECO 210 – required			
	FIN 201	Business Finance	3	BUS 101	SBE CORE
	MGT 360	Business Ethics & Social Responsibility	3	MGT 201	SBE CORE
	QBA 202	Operations Mgt.	3	QBA 201	SBE CORE
	PSY 101	Intro. to Psychology	3	WRI 101	SBE CORE
	GEN 102/ GEN 103	Arts and Humanities	3	None	GENED
Select one					
Total			18		
Semester	Course Code	Course Title	Credit Hours	Pre- Requisite	Requirement
6	PHI 300	Arts and Humanities	3	min. 3rd yr. standing	GENED
		Ethics and Leadership			
	ANT/CIV/ECO/ HIS/ICP/PSY/ SOC	Social Behavioral Sc.	3	ECO 210	GENED
		ECO 220 – required			
	MGT 302	Managing Human Resources	3	MGT 201	CONCENTRATION CORE
	MGT 300	International Business	3	MGT 201	COCENTRATION CORE
	XXX xxx	Refer to Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
XXX xxx	Visit program chair	3	None	FREE ELECTIVE	
Total			18		

FOURTH YEAR – BUSINESS ADMINISTRATION

SOUTH TERRY - BUSINESS ADMINISTRATION					
Semester	Course Code	Course Title	Credit Hours	Pre-Requisite	Requirement
7	QBA 411	Research Methodology	3	4th yr. standing	SBE CORE
	MGT 331	International Economics	3	min. 3 rd year standing	CONCENTRATION CORE
	QBA 465	Business Analytics & IT	3	min. 3rd yr. standing & CIE111	SBE CORE
	FIN 340	Corporate Finance	3	FIN 201 & 3 rd yr. standing	CONCENTRATION CORE
	XXX xxx	Refer to Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	ENT 325	Entrepreneurship	3	min. 3rd yr. standing	GENED
Social Entrepreneurship					
Total			18		
Semester	Course Code	Course Title	Credit Hours	Pre-Requisite	Requirement
8	QBA 412	Research Project	3	QBA 411	SBE CORE
	XXX xxx	Refer to Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	BIO/CHE/ GEO/NES/ PHY	Natural & Physical Sc.	3	Refer to course description	GENED
		Select one			
	MGT 406	Business Policy & Strategy	3	min. 4 th yr. standing	SBE CORE
	MKT 402	International Marketing	3	MKT 201	CONCENTRATION CORE
Total			15		

Finance Concentration Requirement

Students must complete the following concentration core and concentration elective courses to graduate with a *Finance* concentration.

Concentration Core

Students are required to successfully complete the five (5) courses as listed.

Requirement	Course Code	Course Title	Credit Hours
CONCENTRATION CORE (15 credit hours)	FIN 310	Financial Statements Analysis	3
	FIN 320	Financial Institutions and Markets	3
	FIN 330	Security Analysis	3
	FIN 340	Corporate Finance	3
	FIN 420	Portfolio Management	3

Concentration Electives

Additionally, a minimum of three (3) concentration elective courses (9 credits) can be selected from the list.

Requirement	Course Code	Course Title	Credit Hours
CONCENTRATION ELECTIVES (9 credits)	ECO 320	Intermediate Macroeconomics	3
	ECO 331	Econometrics I	3
	FIN 402	Derivative Securities	3
	FIN 430	Financial Modeling	3
	FIN 444	Bank Management	3
	FIN 450	Cases in Corporate Finance	3

**SAMPLE 4-YEAR STUDY PLAN - BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION
FINANCE CONCENTRATION
FALL & SPRING ADMISSION**

This study plan is meant as a guide only.

This study plan reflects no remedial courses (WRI 100, MAT 100). Due to faculty and scheduling changes, some courses may not be offered during the semesters indicated. Check with your faculty and academic advisors along with your program chair each semester to be up to date with changes to the study plan.

FIRST YEAR

Semester	Course Code	Course Title	Credit Hours	Pre-requisite	Requirement
1	WRI 101	Writing	3	Placement test	GENED
		Composition I			
	MAT 110 or MAT 112 or MAT 210	Maths and Statistics	3		GENED
		Mathematics			
	BIO/CHE/ GEO/NES/PHY	Natural & Physical Sciences	4	None	GENED
		Select one (Lab)			
	AUN 101	First Year Experience	1	None	GENED
		First Year Experience			
BUS 101	Introduction to Business	3	None	SBE CORE	
Total			14		
Semester	Course Code	Course Title	Credit Hours	Pre-requisite	Requirement
2	ACC 201	Principles of Financial Accounting	3	BUS 101	SBE CORE
	CIE 111	Information Technology	3	None	GENED
		Introduction to Computers & Computing			
	ENT 101	Entrepreneurship	3	None	GENED
		Intro. to Entrepreneurship			
	STA 101	Maths & Statistics	3	MAT 110	GENED
		Introduction to Statistics			
	WRI 102	Writing	3	WRI 101	GENED
Composition II					
Total			15		

SECOND YEAR – BUSINESS ADMINISTRATION (FINANCE CONCENTRATION)

Semester	Course Code	Course Title	Credit Hours	Pre-Requisite	Requirement
3	CDV 2xx	Community Service	3	2nd yr. standing	GENED
		Select one			
	MKT 201	Principles of Marketing	3	BUS 101	SBE CORE
	BLW 301	Business Law I	3	2nd yr. standing	SBE CORE
	MGT 201	Principles of Management	3	BUS 101	SBE CORE
	GEN 102/ GEN 103	Arts and Humanities	3	None	GENED
		Select one			
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
Total			18		
Semester	Course Code	Course Title	Credit Hours	Pre-Requisite	Requirement
4	AUN 300	Critical Thinking & Problem Solving	3	min. 3rd yr. standing	GENED
		Critical Thinking & Problem Solving			
	XXX xxx	Visit program chair	3	None	FREE ELECTIVE
	QBA 201	Quantitative Business Analysis	3	BUS 101	SBE CORE
	ACC 202	Principles of Managerial Accounting	3	ACC 201	SBE CORE
	BUS 310	Business Statistics	3	STA 101	SBE CORE
	MGT 301	Organizational Behavior	3	MGT 201	SBE CORE
Total			18		

THIRD YEAR – BUSINESS ADMINISTRATION (FINANCE CONCENTRATION)

THIRD YEAR BUSINESS ADMINISTRATION (FINANCE CONCENTRATION)					
Semester	Course Code	Course Title	Credit Hours	Pre-requisite	Requirement
5	ANT/CIV/ECO/ HIS/ICP/PSY/SOC	Social & Behavioral Sc.	3	Refer to course description	GENED
		ECO 210 – required			
	FIN 201	Business Finance	3	BUS 101	SBE CORE
	MGT 360	Business Ethics & Social Responsibility	3	MGT 201	SBE CORE
	QBA 202	Operations Management	3	QBA 201	SBE CORE
	PSY 101	Intro. to Psychology	3	None	SBE CORE
	GEN 102/ GEN 103	Arts and Humanities	3	None	GENED
		Select one			
Total			18		
Semester	Course Code	Course Title	Credit Hours	Pre-Requisite	Requirement
6	PHI 300	Arts and Humanities	3	min. 3rd yr. standing	GENED
		Ethics and Leadership			
	ANT/CIV/ECO/ HIS/ICP/PSY/ SOC	Social Behavioral Science	3	ECO 210	GENED
		ECO 220 - required			
	FIN 310	Financial Statements Analysis	3	FIN 201 & ACC 201	CONCENTRATION CORE
	FIN 320	Financial Institutions and Markets	3	FIN 201 & WRI 101	CONCENTRATION CORE
	FIN 330	Security Analysis	3	FIN 201	CONCENTRATION CORE
	XXX xxx	Refer to Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
Total			18		

FOURTH YEAR – BUSINESS ADMINISTRATION (FINANCE CONCENTRATION)

Fourth Year - Business Administration (Finance Concentration)					
Semester	Course Code	Course Title	Credit Hours	Pre-Requisite	Requirement
7	QBA 465	Business Analytics & IT	3	min. 3rd yr. standing & CIE111	SBE CORE
	XXX xxx	Visit program chair	3	None	FREE ELECTIVE
	QBA 411	Research Methodology	3	4 th yr. standing	SBE CORE
	FIN 340	Corporate Finance	3	FIN 201 & 3 rd yr. standing	CONCENTRATION CORE
	XXX xxx	Visit program chair	3	None	FREE ELECTIVE
	XXX xxx	Refer to Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	ENT 325	Entrepreneurship	3	min. 3rd yr. standing	GENED
Social Entrepreneurship					
Total			18		
Semester	Course Code	Course Title	Credit Hours	Pre-Requisite	Requirement
8	QBA 412	Research Project	3	QBA 411	SBE CORE
	XXX xxx	Refer to Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	BIO/CHE/ GEO/NES/ PHY	Natural & Physical Sc.	3	Refer to course description	GENED
		Select one			
	FIN 420	Portfolio Management	3	FIN 330 and FIN 340	CONCENTRATION CORE
	MGT 406	Business Policy & Strategy	3	4 th yr. standing	SBE CORE
Total			15		

Marketing Concentration Requirement

Students must complete the following concentration core and concentration elective courses to graduate with a *Marketing* concentration.

Concentration Core

Students must complete the following courses (credit hours) to obtain a concentration in Marketing.

Requirement	Course Code	Course Title	Credit Hours
CONCENTRATION CORE (15 credit hours)	MKT 301	Consumer Behavior	3
	MKT 302	Marketing Research	3
	MKT 303	Integrated Marketing Communication	3

	MKT 401	Strategic Marketing Management	3
	MKT 402	International Marketing	3

Concentration Electives

Additionally, a minimum of three (3) concentration elective courses (9 credits) can be selected from the list below.

Requirement	Course Code	Course Title	Credit Hours
CONCENTRATION ELECTIVES (9 credits)	BLW 302	Business Law II	3
	ECO 310	Intermediate Microeconomics	3
	ENT 304	Sales Management	3
	ENT 305	Logistics & Supply Chain Management	3
	ENT 309	Service Marketing	3
	ENT 320	Technology Entrepreneurship	3
	ENT 326	Microfinance & Economic Development	3
	ENT 328	Innovation for a Sustainable Society	3
	MGT 300	International Business	3
	MGT 380	Project Management	3

**SAMPLE 4-YEAR STUDY PLAN - BACHELOR OF SCIENCE IN BUSINESS
MARKETING CONCENTRATION
FALL & SPRING ADMISSION**

This study plan is meant as a guide only.

This study plan reflects no remedial courses (WRI 100, MAT 100). Due to faculty and scheduling changes, some courses may not be offered during the semesters indicated. Check with your faculty and academic advisors along with your program chair each semester to be up to date with changes to the study plan.

FIRST YEAR

Semester	Course Code	Course Title	Credit Hours	Pre-requisite	Requirement
1	WRI 101	Writing	3	Placement test	GENED
		Composition I			
	MAT 110 or MAT 112 or MAT 210	Maths and Statistics	3		GENED
		Mathematics			
	BIO/CHE/ GEO/NES/PHY	Natural & Physical Sciences	4	None	GENED
		Select one (Lab)			
	AUN 101	First Year Experience	1	None	GENED
		First Year Experience			
BUS 101	Introduction to Business	3	None	SBE CORE	
Total			14		
2	PSY 101	Into. To Psychology	3	None	SBE CORE
	ACC 201	Principles of Financial Accounting	3	BUS 101	SBE CORE
	CIE 111	Information Technology	3	None	GENED
		Introduction to Computers & Computing			
	ENT 101	Entrepreneurship	3	None	GENED
		Intro. to Entrepreneurship			
	STA 101	Maths & Statistics	3	MAT 110	GENED
		Introduction to Statistics			
WRI 102	Writing	3	WRI 101	GENED	
	Composition II				
Total			18		

SECOND YEAR – BUSINESS ADMINISTRATION (MARKETING CONCENTRATION)

Semester	Course Code	Course Title	Credit Hours	Pre-Requisite	Requirement
3	CDV 2xx	Community Service	3	2nd yr. standing	GENED
		Select one			
	MKT 201	Principles of Marketing	3	BUS 101	SBE CORE
	BLW 301	Business Law I	3	2nd yr. standing	SBE CORE
	MGT 201	Principles of Management	3	BUS 101	SBE CORE
	GEN 102/ GEN 103	Arts and Humanities	3	None	GENED
		Select one			
	XXX xxx	Visit program chair	3	None	FREE ELECTIVE
Total			18		
Semester	Course Code	Course Title	Credit Hours	Pre-Requisite	Requirement
4	AUN 300	Critical Thinking & Problem Solving	3	min. 3rd yr. standing	GENED
		Critical Thinking & Problem Solving			
	QBA 201	Quantitative Business Analysis	3	BUS 101	SBE CORE
	MKT 301	Consumer Behavior	3	MKT 201	CONCENTRATION CORE
	ACC 202	Principles of Managerial Accounting	3	ACC 201	SBE CORE
	BUS 310	Business Statistics	3	STA 101	SBE CORE
	MGT 301	Organizational Behavior	3	MGT 201	SBE CORE
Total			18		

THIRD YEAR – BUSINESS ADMINISTRATION (MARKETING CONCENTRATION)

THIRD YEAR BUSINESS ADMINISTRATION (MARKETING CONCENTRATION)					
Semester	Course Code	Course Title	Credit Hours	Pre-requisite	Requirement
5	ANT/CIV/ECO/ HIS/ICP/PSY/ SOC	Social & Behavioral Sc.	3	Refer to course description	GENED
		ECO 210 – required			
	FIN 201	Business Finance	3	BUS 101	SBE CORE
	MGT 360	Business Ethics & Social Responsibility	3	MGT 201	SBE CORE
	QBA 202	Operations Management	3	QBA 201	SBE CORE
	QBA 465	Business Analytics	3	CIE 111 & 3 rd yr. standing	SBE CORE
	GEN 102/ GEN 103	Arts and Humanities	3	None	GENED
Select one					
Total			18		
Semester	Course Code	Course Title	Credit Hours	Pre-Requisite	Requirement
6	PHI 300	Arts and Humanities	3	min. 3rd yr. standing	GENED
		Ethics and Leadership			
	ANT/CIV/ECO/ HIS/ICP/PSY/SOC	Social Behavioral Sc.	3	ECO 210	GENED
		ECO 220 - required			
	XXX xxx	Visit program chair	3	None	FREE ELECTIVE
	MKT 302	Marketing Research	3	MKT 301	CONCENTRATION CORE
	XXX xxx	Refer to Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
XXX xxx	Visit program chair	3	None	FREE ELECTIVE	
Total			18		

FOURTH YEAR – BUSINESS ADMINISTRATION (MARKETING CONCENTRATION)

FOURTH YEAR – BUSINESS ADMINISTRATION (MARKETING CONCENTRATION)					
Semester	Course Code	Course Title	Credit Hours	Pre-Requisite	Requirement
7	QBA 411	Research Methodology	3	4th yr. standing	SBE CORE
	MKT 303	Integrated Marketing Communication	3	MKT 301	CONCENTRATION CORE
	XXX xxx	Refer to Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	XXX xxx	Refer to Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	ENT 325	Entrepreneurship	3	min. 3rd yr. standing	GENED
Social Entrepreneurship					
Total			15		
Semester	Course Code	Course Title	Credit Hours	Pre-Requisite	Requirement
8	QBA 412	Research Project	3	QBA 411	SBE CORE
	BIO/CHE/ GEO/NES/ PHY	Natural & Physical Sc.	3	Refer to course description	GENED
		Select one			
	MGT 406	Business Policy & Strategy	3	min. 4th yr. standing	SBE CORE
	MKT 401	Strategic Marketing Management	3	MKT 301	CONCENTRATION CORE
	MKT 402	International Marketing	3	MKT 301	CONCENTRATION CORE
Total			15		

Bachelor of Science in Entrepreneurship Degree Program Requirement

The Bachelor of Science in Entrepreneurship requires a minimum 134 graduation credit hours
As an Entrepreneurship major, students are required to complete the following list of courses.

Entrepreneurship CORE Requirement

To major in Entrepreneurship, students are required to successfully complete all five (5) **CORE** courses as listed below.

Requirement	Course Code	Course Title	Credit Hours
CORE (15 credits)	ENT 203	Nigerian Entrepreneurial Environment	3
	ENT 301	Family Business & Succession	3
	ENT 340	Entrepreneurial Sales & Marketing	3
	ENT 430	Business Condition Analysis	3
	ENT 440	Managing a Growing Business	3

Entrepreneurship Major Elective Requirement

Additionally, a minimum of three (3) **Major Elective** courses (9 credits) can be selected from the list described.

Requirement	Course Code	Course Title	Credit Hours
MAJOR ELECTIVES (9 credits)	BLW 302	Business Law II	3
	ENT 320	Technology Entrepreneurship	3
	ENT 326	Microfinance and Economic Development	3
	ENT 426	Social Entrepreneurship Research	3
	FIN 310	Financial Statements Analysis	3
	MGT 300	International Business	3
	MGT 380	Project Management	3

**SAMPLE 4-YEAR STUDY PLAN FOR BACHELOR OF SCIENCE IN ENTREPRENEURSHIP MANAGEMENT
FALL & SPRING ADMISSION**

This study plan is meant as a guide only.

This study plan reflects no remedial courses (WRI 100, MAT 100). Due to faculty and scheduling changes some, courses may not be offered during the semesters indicated. Check with your faculty and academic advisors along with your program chair each semester to be up to date with changes to the study plan.

FIRST YEAR

Semester	Course Code	Course Title	Credit Hours	Pre-requisite	Requirement
1	WRI 101	Writing	3	Placement test	GENED
		Composition I			
	MAT 110 or MAT 112 or MAT 210	Maths and Statistics	3		GENED
		Mathematics			
	BIO/CHE/ GEO/NES/ PHY	Natural & Physical Sciences	4	None	GENED
		select one (Lab)			
	AUN 101	First Year Experience	1	None	GENED
		First Year Experience			
BUS 101	Intro. to Business	3	None	SBE CORE	
Total			14		
Semester	Course Code	Course Title	Credit Hours	Pre-requisite	Requirement
2	ACC 201	Principles of Financial Accounting	3	BUS 101	SBE CORE
	CIE 111	Info.Technology	3	None	GENED
		Intro. to Computers & Computing			
	ENT 101	Entrepreneurship	3	None	GENED
		Intro. to Entrepreneurship			
	STA 101	Maths & Statistics	3	MAT 110)	GENED
		Intro. to Statistics			
	WRI 102	Writing	3	WRI 101	GENED
		Composition II			
	ANT/CIV/ECO/ HIS/ICP/PSY/SOC	Social & Behavioral Sc.	3	None	GENED
ECO 210 – required					
Total			18		

SECOND YEAR – ENTREPRENEURSHIP MANAGEMENT

Semester	Course Code	Course Title	Credit Hours	Pre-Requisite	Requirement
3	CDV 2xx	Community Service select one	3	2nd yr. standing	GENED
	MKT 201	Principles of Marketing	3	BUS 101	SBE CORE
	BLW 301	Business Law I	3	2nd yr. standing	SBE CORE
	MGT 201	Principles of Management	3	BUS 101	SBE CORE
	GEN 102 or GEN 103	Arts and Humanities Select one	3	None	GENED
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
Total			18		
Semester	Course Code	Course Title	Credit Hours	Pre-Requisite	Requirement
4	XXX xxx	Visit program chair	3	None	FREE ELECTIVE
	AUN 300	Critical Thinking & Problem Solving	3	min. 3rd yr. standing	GENED
		Critical Thinking & Problem Solving			
	QBA 201	Quantitative Business Analysis	3	BUS 101	SBE CORE
	ACC 202	Principles of Managerial Accounting	3	ACC 201	SBE CORE
	BUS 310	Business Statistics	3	STA 101	SBE CORE
	MGT 301	Organizational/Administrative Behavior	3	MGT 201	SBE CORE
Total			18		

THIRD YEAR – ENTREPRENEURSHIP MANAGEMENT

THIRD YEAR ENTREPRENEURSHIP MANAGEMENT					
Semester	Course Code	Course Title	Credit Hours	Pre-requisite	Requirement
5	ANT/CIV/ ECO/HIS/ICP /PSY/SOC	Social & Behavioral Sc.	3	Refer to course description	GENED
		ECO 220 - required			
	PSY 101	Intro. to Psychology		WRI 101	SBE CORE
	FIN 201	Business Finance	3	BUS 101	SBE CORE
	MGT 360	Business Ethics & Social Responsibility	3	MGT 201	SBE CORE
	QBA 202	Operations Management	3	QBA 201	SBE CORE
	GEN 102 or GEN 103	Arts and Humanities	3	None	GENED
		select one			
Total			18		
Semester	Course Code	Course Title	Credit Hours	Pre-Requisite	Requirement
6	PHI 300	Arts and Humanities	3	min. 3rd yr. standing	GENED
		Ethics and Leadership			
	ENT 203	Nigerian Entrepreneurial Environment	3	ENT 101	MAJOR CORE
	ENT 340	Entrepreneurial Sales & Marketing	3	min. 3 rd year standing	MAJOR CORE
	XXX xxx	Refer to Major Elective list	3	Refer to course description	MAJOR ELECTIVE
	XXX xxx	Visit program chair	3	None	FREE ELECTIVE
Total			15		

FOURTH YEAR – ENTREPRENEURSHIP MANAGEMENT

FOURTH YEAR ENTREPRENEURSHIP MANAGEMENT					
Semester	Course Code	Course Title	Credit Hours	Pre-Requisite	Requirement
7	QBA 411	Research Methodology	3	4th yr. standing	SBE CORE
	ENT 430	Business Condition Analysis	3	min. 3 rd year standing	MAJOR CORE
	QBA 465	Business Analytics & IT	3	min. 3rd yr. standing & CIE111	SBE CORE
	ENT 301	Family Business & Succession	3	min. 3 rd year standing	MAJOR CORE
	XXX xxx	Refer to Major Elective list	3	Refer to course description	MAJOR ELECTIVE
	ENT 325	Entrepreneurship	3	min. 3rd yr. standing	GENED
Social Entrepreneurship					
Total			18		
Semester	Course Code	Course Title	Credit Hours	Pre-Requisite	Requirement
8	QBA 412	Research Project	3	QBA 411	SBE CORE
	XXX xxx	Refer to Major Elective list	3	Refer to course description	MAJOR ELECTIVE
	BIO/CHE/ GEO/NES/ PHY	Natural & Physical Sciences	3	Refer to course description	GENED
		select one			
	MGT 406	Business Policy and Strategy	3	4 th yr. standing	SBE CORE
	ENT 440	Managing a Growing Business	3	4 th year standing	MAJOR CORE
Total			15		

SCHOOL OF IT & COMPUTING (SITC)



From the Dean

You are welcome to the School of IT & Computing (SITC). As a technology-driven university with an agenda to support socio-economic development, SITC is positioned as AUN's flagship. The School is dedicated to nurturing a new crop of leaders in the ICT sector who will take the center-stage in problem-solving, relevant research, and proffer solutions to businesses, corporate organizations, government ministries, and agencies.

Our faculty members are professionals with both teaching and industry experience in places such as the United States, the United Kingdom, Europe, India, Russia, and of course, home here in Nigeria.

We are proud of our graduates, many of whom are already founders and CEOs of their own businesses here in Nigeria, and many others are employed by international organizations like Google, other Silicon Valley companies, Deloitte and PWC. In addition, our graduates have received full scholarships to enroll for Masters and Ph.Ds. at reputable institutions such as Georgetown University, Columbia University, Carnegie Mellon University, all in the United States, as well as Oxford University and Manchester University in the United Kingdom and other universities in Japan and South Korea.

SITC is committed to being a one-stop shop for IT & Computing degrees at all levels, offering Bachelor of Science in the core computing degree programs recognized by the Association of Computing Machinery (ACM) and Institute of Electrical and Electronics Engineers (IEEE): Computer Science, Information Systems, Software Engineering, and Telecommunications & Wireless Technology. The School also offers programs leading to the award of the Master of Science (MSc) and Ph.D. in Computer Science and Information Systems and two Professional Masters degree programs in IT and Telecommunications.

All SITC programs have full accreditation by the National Universities Commission. Our facilities and laboratories are state-of-the-art, equipped with modern technology and software applications.

Please feel free to visit the Dean's Office or any faculty offices if you have a question on any of our programs.

You are Welcome!

Mathias Fonkam, PhD

Dean, School of IT & Computing

The School of IT & Computing (SITC) is a flagship school and an important pillar in AUN's mission as a Development University. Currently we offer the following undergraduate degree programs along with their concentrations:

School of IT & Computing

B.Sc. Computer Science

Concentrations:

- AI & Machine Learning
- Algorithms & Complexity
- Networks & Distributed Computing
- Software Engineering
- Systems

B. Sc. Information Systems

Concentrations:

- Generic (general studies)
- Applied Networking
- Database Administration & Web Databases
- Information Security & Assurance
- Management Information Systems
- Software Applications Development

B.Sc. Software Engineering

B.Sc. in Telecommunications & Wireless Technologies

We also offer a minor in Information Management & Technology – an important concentration of our Information Systems Major. This is tailored to support students of other majors such as in the Schools of Business and Arts and Sciences where IT skills can make all the difference in the student's career path.

Minor in Information Management & Technology

With the all-important role that computers and IT play in today's work place, this minor provides students with a distinctive edge and opportunity to differentiate themselves from their peers in the marketplace from day one. It offers a balanced combination of traditional IT and analytics.

A student must complete a total of 18 credit hours including the major program credit hours requirements to be eligible to receive a **Minor in Information Management & Technology**.

12 credits of the Minor Core is required.

Course Code	Course Title	Credit Hours
CIE 105	Principles of Programming I	3
CIE 106	Principles of Programming II	3
CIE 231	Introduction to Databases, Web Technologies, and Applications	3
INF 201	Principles of Information Systems	3

Two (6 credits) other information management and technology minor electives from the list below are required.

Course Code	Course Title	Credit Hours
INF 260	Information Technology: Hardware and Software	3
CIE 321	IT Project Management	3
CIE 333	Data and Computer Communications	3
INF 351	Information Security Assurance	3
INF 465	Information Technology and Business Analytics	3

The School offers the following postgraduate programs:

- M.Sc. in Computer Science
- M.Sc. in Information Systems
- Masters of Information & Communication Science (MICS)
- Masters of Telecommunication & Wireless Technology (MTWT)
- Ph.D. in Computer Science
- Ph.D. in Information Systems

The general philosophy of our computing degree programs is to produce computer science graduates who are not just ready for the growing pool of careers in the field but who can leverage and adapt computing technology to the needs of Nigeria and the Sub-Sahara Africa region, and continue to expand the frontiers of the field through relevant research and practice.

Since AUN was launched, the School has earned its place already as a leader in ICTs in Nigeria and the Sub-Sahara Africa region. Many of our graduates have gone on to complete Masters and PhD programs from such world-class universities as Carnegie Mellon, Columbia, Georgetown in DC, Alberta University in

Canada, Osaka University in Japan and South-bridge in South Korea. A good number of graduates from SITC are entrepreneurs in the IT industry in Nigeria running their own IT companies as CEOs. The School boasts a world-class expatriate faculty and an IT and Internet infra-structure not found in any other university in Nigeria. We are poised to become that one-stop shop and center of excellence for computing degree programs including the all-important area of Telecoms and Wireless.

As computers continue to penetrate every aspect of modern life, the computing sector, especially software engineering, is already the largest area of employment in the USA and emerging economies like India and China. The United States' Bureau of Labor Statistics projects even more growth in the area to 2016. Quoting from "Job prospect for Computer Engineers", from the BLS (Occupational Outlook Handbook, 2008-09 Edition.

- Computer software engineering is one of the occupations projected to grow the fastest and add the most new jobs over the 2006-16 decade.
- Excellent job prospects are expected for applicants with at least bachelor's degree in computer engineering or computer science and with practical work experience.
- Computer software engineers must continually strive to acquire new skills in conjunction with the rapid changes that occur in computer technology".

Graduates of the AUN computing programs will be prepared for careers in Computer Science, Software Engineering, Information Systems and the general IT and Telecoms area. Some of the possible job titles our graduates can expect to hold include:

- Programmer
- Systems Analyst
- Security Analyst
- Software Developer
- Web Developer
- Software Consultant
- Systems Administrator (DBA, network administrator, deployer)
- Software Consultant
- Software Engineer
- Systems Architect
- Information Technology Specialist
- IT Project Manager
- Systems Engineer
- IT & Telecoms Trainer
- IT Director
- Computer Scientist
- Mobile/Telecommunication Operator, e.g. MTN, NITEL, NTA, NOKIA, AUN

They can also expect to contribute in:

- Consulting Engineering Firms
- Engineering Sales
- The Ministry of Communications
- Research & Development

All SITC students are required to successfully complete the following credit hour breakdown to meet the minimum four-year program. Students should meet with their faculty advisor/ chair for further consultation.

Bachelor of Science in IT & COMPUTING REQUIREMENT						
Major Programs	Major					Overall Graduation Requirement
	GENED	CORE	Free Electives	Major Electives	Concentration Electives	
	Minimum Total Credit Hours					
Computer Science	50+1*	64	9	-	6	130
Information System	50	55	9	-	12	126
Software Engineering	50+1*	64	9	6	-	130
Telecommunication & Wireless Technologies	50+1*	60	9	6	-	126

*All SITC student except for IS majors are strongly encouraged to enroll in two 4-credit hour courses to satisfy Natural & Physical Sciences which is a total of 8 credit hours and not 7 credit hours as listed in General Education requirements.

BACHELOR OF SCIENCE DEGREE PROGRAM REQUIREMENT

All SITC students must complete the University wide required General Education program (50 credits). This program supports a Liberal Arts experience that prepares students for success in their majors and personal & professional lives after graduation.

General Education Requirement (50 credits)

This general education requirement below is specific to **School of IT & Computing** programs.

Students are required to complete all General Education courses as listed below.

Discipline	Course Code	Course Title	Credit Hours
First Year Experience (total 1 credit)	AUN 101	First Year Experience	1
Arts and Humanities (total 9 credits)	GEN 102 GEN 103 PHI 300	Nigerian Peoples and Culture History and Philosophy of Sc. Ethics and Leadership	3 3 3
Community Service (total 3 credits)	CDV 2xx	Community Development	3
Critical Thinking and Problem Solving (total 3 credits)	AUN 300	Critical Thinking and Problem Solving	3
Entrepreneurship (total 6 credits)	ENT 101 ENT 325	Intro. to Entrepreneurship Social Entrepreneurship	3 3
Information Technology (total 3 credits)	CIE 111	Introduction to Computers and Computing	3
Mathematics* and Statistics (total 6 credits)	MAT 110/MAT112/MAT 210 (MAT 210 for all SITC programs except IS majors) STA 101	Pre-Algebra/PreCalculus/ Calculus I Introduction to Statistics I	3 3
Natural and Physical Sciences** (total 7 credits)	PHY 131/PHY 205 required for all SITC programs - except IS PHY 132/206 (4 crs.) required for all SITC programs - except IS	Refer to Course Description	4 3+1
Social Behavioral Sc. (total 6 credits)	ECO 101 – required ANT/CIV/ECO/HIS/ICP/SOC/PSY	Refer to Course Description	3 3
Writing* (total 6 credits)	WRI 101 and WRI 102	Composition I Composition II	3 3
TOTAL			50+1
**SITC students are strongly encouraged to complete two four (4) credit hours of Natural & Physical Sciences as a General Education requirement to reach the minimum total overall graduating credit hours required hence a total of 51 total credits of GENED is earned.			

Writing and Mathematics Requirement*

Dependent on the results of the placement test, this will determine the number of courses required.

<i>If a student is placed in...</i>		Credit Hours
WRI 100 Intro. to Compositions	<i>This is a non-university credit bearing course and does NOT count towards the overall total graduation credits required. This course does not satisfy GENED requirement. Upon successful completion, a student must enroll in WRI 101.</i>	0
MAT 100 Pre Algebra	<i>This is a non-university credit bearing course and does NOT contribute towards the overall total graduation credits required. This course does not satisfy GENED requirement. Upon successful completion, a student will enroll in MAT 110.</i>	0
MAT 110 University Algebra	This course does not satisfy GENED requirement for all SITC programs except for IS major. NOTE – this course may satisfy FREE ELECTIVE (min. C grade required). Consult with program chair.	3
MAT 112 Pre-Calculus	This course does not satisfy GENED requirement except for IS major. NOTE – this course may satisfy FREE ELECTIVE (min. C grade required). Consult with program chair.	3
MAT 210 Calculus I	This course satisfies GENED requirement.	3

Free Electives are required by all SITC students, a minimum of 9 credits is required as part of the degree program.

Requirement	Course Code	Course Title	Credit Hours
FREE ELECTIVES (min. 9 credits)	XXX xxx	Visit program chair	1-4
	XXX xxx		1-4
	XXX xxx		1-4

BACHELOR OF SCIENCE (BSC) IN COMPUTER SCIENCE

Broad Aim of the Computer Science Program

The program is designed to produce graduates who demonstrate understanding of the fundamentals of computing theory, are sufficiently equipped with practical computing skills and can optimally marry both the theory and practice to provide computational solutions to problems in industries, business, commerce, education, medicine, government, agriculture and the society in general; and can contribute to development and research in these areas.

OBJECTIVES

The detailed objectives are to:

- ✓ produce graduates ready for graduate and other advance courses in computer science and or related areas, thus supporting development and research in these areas;
- ✓ produce graduates capable of applying computer science, computer technology and information technology in solving problems arising in industries, business, commerce, education, medicine, government, and the society in general;
- ✓ provide suitable service courses for specialists in other disciplines to enable these specialists to increase their competences, skills and level of proficiency in their different fields;
- ✓ engender new developments in computer science with a view to nurturing interest in entrepreneurship and growing the abilities of potential graduates to create wealth and become employers of labor using information technology; and
- ✓ serve as a foundation program for our other computing and IT related programs that serve as key pillars to the university's mission as a development university.

Bachelor of Science in Computer Science Program Requirement

The Bachelor of Science in Computer Science requires a minimum of 130 graduation credit hours.

Computer Science majors are required to successfully complete the major core courses including Free Electives as outlined:

Requirement	Course Code	Course Title	Credit Hours
MAJOR CORE (64 credits)	CIE 105	Principles of Programming I	3
	CIE 106	Principles of Programming II	3
	CIE 231	Intro. to Databases, Web Technologies & Applications	3
	CIE 302	Principles of Operating Systems	3
	CIE 406	Technical Report Writing	3
	CSC 202	Data Structures & Algorithms	3
	CSC 213	Discrete Structures	3
	CSC 214	Logic in Computer Science	3
	CSC 232	Computer Organization & Architecture	3
	CSC 301	Systems Programming	3
	CSC 364	Design & Analysis of Algorithms	3
	CSC 384	Principles of Database Systems	3
	CSC 407	Programming Languages	3
	CSC 434	Theory of Computation	3
	CSC 456	Design of Web-based Systems	3
	CSC 490	Senior Design Project	3
	CSC 493	Internship	1
	MAT 211	Calculus II (formerly MAT 210)	3
	MAT 312	Linear Algebra (formerly MAT 212)	3
	SEN 301	Introduction to Software Engineering	3
	SEN 306	Object-Oriented Software Construction	3
	CIE 321	IT Project Management	3

Computer Science Concentration

Computer Science students will be required to complete a required number of concentration credits (6 credits or two concentrations) to be awarded a Bachelor of Science in Computer Science with concentration.

There are five concentration areas.

1. Artificial Intelligence

Concentration Courses

- CSC 401 – Machine Learning Algorithms
- CSC 402 – Data Science

2. Cryptography & Blockchain

Concentration Courses

- CSC 403 – Blockchain Technologies
- CSC 404 – Cyber Security

3. Networks & Distributed Computing

Concentration Courses

- CSC 405 – Cloud Computing
- CSC 406 – Internet of Things

4. Software Engineering

Concentration Courses

- CSC 408 – Mobile Application Development
- CSC 409 – Game Development

5. Systems

Concentration Courses

- CSC 410 – Functional programming
- CSC 411 – Open Source Packaged Solutions

*For more information about the concentrations and course listings, visit your program chair.

**SAMPLE 4-YEAR STUDY PLAN –
BACHELOR OF SCIENCE (BSc) IN COMPUTER SCIENCE
FALL & SPRING ADMISSION**

This study plan is meant as a guide only.

This study plan assumes no remedial courses (WRI 100, MAT 100). Due to staff and scheduling changes, some courses may not be offered during the semesters indicated. Please check with your faculty and academic advisors along with your program chair each semester to be up to date with changes to the study plan.

FIRST YEAR

Semester	Course Code	Course Tittle	Credit Hours	Prerequisites	Requirement
1	WRI 101	Writing	3	MAT 112 or Placement Test	GENED
		Composition I			
	MAT 210	Maths & Statistics	3		GENED
		Mathematics			
	CIE 111	Info.Technology	3	None	GENED
		Intro to Computers & Computing			
	AUN 101	First Year Experience	1	None	GENED
		First year experience			
	ENT 101	Entrepreneurship	3	None	GENED
		Intro. to Entrepreneurship			
	GEN 102 or GEN 103	Arts & Humanities	3	None	GENED
		Select one			
Total			16		
2	CIE 105	Principles of Programming I	3	CIE 111	CORE
	STA 101	Maths & Statistics	3	MAT 110	GENED
		Intro. to Statistics			
	WRI 102	Writing	3	WRI 101	GENED
		Composition II			
	ANT/CIV/ECO/HIS/ICP/PSY/SOC	Social & Behavioral Sciences	3	Refer to course description	GENED
		ECO 101 – required			
	GEN 102 or GEN 103	Arts and Humanities	3	None	GENED
		Select one			
Total			15		

SECOND YEAR – COMPUTER SCIENCE

Semester	Course Code	Course Tittle	Credit Hours	Prerequisites	Requirement
3	CIE 106	Principles of Programming II	3	CIE 105	CORE
	CSC 213	Discrete Structures	3	CIE 105	CORE
	BIO/CHE/GEO /NES/PHY	Natural & Physical Sc.	4	Refer to course description	GENED
		<i>PHY 205 or PHY131 required (Lab)</i>			
	CDV 2	Community Service	3	None	GENED
		select one			
	MAT 211	Calculus II	3	MAT 210	CORE
Total			16		

Semester	Course Code	Course Tittle	Credit Hours	Prerequisites	Requirement
4	CSC 202	Data Structures and Algorithms	3	CIE 106	CORE
	BIO, CHE. GEO, NES, PHY	Natural and Physical Science	4	Refer to course description	GENED
		<i>PHY 206 or PHY132 Required</i>			
	CSC 232	Computer Organization and Architecture	3	CIE 105	CORE
	CSC 214	Logic in Computer Sc.	3	CSC 213	CORE
	CIE 231	Intro. to Databases, Web Tech. & Applications	3	CIE 106	CORE
Total			16		

THIRD YEAR – COMPUTER SCIENCE

THIRD YEAR - COMPOVER SCIENCE					
Semester	Course code	Course Title	Credit Hours	Prerequisites	Requirement
5	PHI 300	Arts and Humanities	3	min. 3 rd yr. standing	GENED
		Ethics & Leadership			
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	CSC 364	Design & Analysis of Algorithms	3	CSC 202	MAJOR CORE
	CIE 302	Principles of Operating Systems	3	CIE 106	MAJOR CORE
	CSC 384	Database Systems	3	CSC 202 & CIE 231	MAJOR CORE
Total			15		
Semester	Course Code	Course Tittle	Credit Hours	Prerequisites	Requirement
6	CIE 406	Technical Report Writing	3	WRI 102	MAJOR CORE
	CSC 301	Systems Programming	3	MAT 210 & CIE 105	MAJOR CORE
	AUN 300	Critical Thinking & Problem Solving	3	min. 3 rd yr. standing	GENED
		Critical Thinking & Problem Solving			
	SEN 301	Intro. to Software Eng.	3	CIE 231	MAJOR CORE
	MAT 312	Linear Algebra	3	MAT 211	MAJOR CORE
	ENT 325	Entrepreneurship	3	ENT 101	GENED
Social Entrepreneurship					
Total			18		

Course Code	Course Title - Prerequisite	Credit Hours	Requirement
CSC 493	Industrial Training; Pre-req: 3rd yr. standing	1	INTERNSHIP

FOURTH YEAR –COMPUTER SCIENCE

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
7	CSC 407	Programming Languages	3	CIE 106 & CSC 202	MAJOR CORE
	SEN 306	Object-Oriented Software Construction	3	SEN 301	MAORE CORE
	CSC 490	Senior Design Project	3	4th yr. standing & CIE 406	MAJOR CORE
	XXX xxx	See Concentration Elective list	3	4th yr. standing	CONCENTRATION ELECTIVE
	CIE 321	IT Project Management	3	CIE 106	MAJOR CORE
Total			15		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
8	CSC 434	Theory of Computation	3	CSC 407	MAJOR CORE
	CSC 456	Design of Web Based Systems	3	CIE 106 & CSC 384	MAJOR CORE
	XXX xxx	Visit program chair	3	None	FREE ELECTIVE
	XXX xxx	See concentration list	3	4 th year standing	CONCENTRATION ELECTIVE
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	ANT/CIV/ECO/ HIS/ICP/ PSY/SOC	Social & Behavioral Sc.	3	None	GENED
	ECO 101 - required				
Total			18		

BACHELOR OF SCIENCE (BSC) IN INFORMATION SYSTEMS AIM AND OBJECTIVES

Aim

The Information Systems programme aims to produce graduates who can integrate information technology solutions and business to processes to meet the information needs of businesses and other enterprises, enabling them to achieve their objectives effectively and efficiently. This discipline's perspective on information technology emphasizes information, and views technology as an instrument for generating, processing and distributing information.

Objectives

The objectives of the programme are to:

- Provide students with a broad and balanced foundation of Information Systems knowledge and practical skills;
- Develop in students a range of transferable and applicable skills of information technology to business organizations and other aspects of human endeavour;
- Develop students for the purpose of self-employment and job placements in the government and industry;
- Generate in students an appreciation of the importance of information systems in an industrial, economic, technological and sociological context;
- Develop students through a sound foundation in information technology as a basis for further studies in information systems or multi-disciplinary studies involving information systems;
- Prepare students for professional careers in Information Systems;
- Develop student with strong analytical and critical thinking skills to thrive within the complex competitive global environment;
- Develop students with strong ethical principles and interpersonal communication skills;
- Develop students with strong skills and project management.

The Information Systems program provides students with a solid foundation in information technology principles and information management practice. The emphasis is leveraging on IT to derive information for management decision making at all levels, rather than the computer and/or computing mechanisms per se. The core courses for the information systems major include principles of information systems, programming, operating systems, data base design, data analytics, data applications, systems analysis and design information security and project management. Students also take courses in statistics, operations management, IT organizations and financial systems. The Information Systems program also provides the opportunity for students to combine their technical IT courses with general business course requirements from the School of Business and Entrepreneurship.

Each graduate of the program should be able to analyze, design and implement high quality software solutions to “real life” problems; orally present developed software projects; develop software solutions completely observing professional and engineering/cultural ethical obligations; function effectively in team-oriented cooperative work; pursue independent continuous learning; and have a solid background in basic IS Knowledge.

Students may also decide to pursue a general B.Sc. degree in Information Systems with no concentration by selecting appropriate courses of interest from the concentration areas. The major is designed to prepare students for professional careers in the discipline of Information Systems/Technology. Through required and elective courses and a concentration, students will be prepared for career positions such as:

- Application Programmers
- Systems Analysts
- Software Analysts
- Network Analysts
- Security Analysts
- Information Security Professionals
- Database Analysts
- Database Administrator
- Network Administrator
- IT Project Manager
- IT Consultant
- Application Support Specialist
- Network Integration Specialist
- Client/Server Analysts
- Project Technologist

The curriculum prepares students for top notch graduate study in IT, business and other related fields. The ubiquitous nature of computing in everyday life and other professions means that graduates of our IS program can also pursue careers in other application areas needing computing skills.

Bachelor of Science in Information System Program Requirement

The Bachelor of Science in Information System requires a minimum of 126 graduation credit hours.

In addition to the General Education requirements, Information Systems students are required to successfully complete the CORE courses listed.

Requirement	Course Code	Course Title	Credit Hours
CORE (55 credits)	CIE 105	Principles of Programming I	3
	CIE 106	Principles of Programming II	3
	CIE 231	Intro. to Databases, Web Tech. & Applications	3
	CIE 302	Principles of Operating Systems	3
	CIE 321	Information Technology Project Management	3
	CIE 333	Data and Computer Communications	3
	CIE 406	Technical Report Writing	3
	INF 201	Principles of Information Systems	3
	INF 206	Info. Technology System Hardware and Software	3
	INF 260	System Analysis and Design	3
	INF 351	Information Security and Auditing	3
	INF 341	Enterprise Integration	3
	INF 361	Process Modeling and Solution: Blueprinting	3
	INF 402	Information Technology for Development	3
	INF 490	Introduction to Business Dynamics: Systems Thinking and Modeling for Complex World	3
	INF 491	Senior Design Project	3
	INF 493	Internship	1
	MGT 201	Principles of Management	3
	QBA 202	Operations Management	3
	ECO 101	<i>This course is mandatory for all SITC students. This course satisfies GENED requirement. Refer to GENED list of courses and study plan.</i>	3

Information Systems Concentration Areas

Information Systems students are required to complete (12) credit hours in one of the five (5) concentration areas of the majors listed below. Students can also elect to declare their concentration

area as 'Generic' and complete twelve (12) credits from any of the concentration areas listed below. A student's concentration area will be indicated in his or her diploma.

There are five (5) main concentration areas in the Information Systems major. Students can choose from any of the following:

The concentration areas are as follows:

Generic (general studies)

Requirement	
CONCENTRATION ELECTIVES (12 credits)	Student may choose from any courses listed in the concentrations. Visit program chair for course consultation.

Applied Networking

Requirement	Course Code	Course Title	Credit Hours
CONCENTRATION ELECTIVES (12 credits)	TEL 405	Optical Communication System	3
	TEL 300	Fundamentals of Wireless Communication	3
	TEL 302	Digital Communication System	3
	INF 461	Information Systems Planning	3
	TEL 401	Digital Signal Processing	3

Database Administration and Web Database

Requirement	Course Code	Course Title	Credit Hours
CONCENTRATION ELECTIVES (12 credits)	INF 331	Database Analysis and Design	3
	INF 353	Database Security and Auditing	3
	INF 431	Database Systems	3
	INF 461	Information Systems Planning	3
	INF 488	Data Administration	3
	INF 489	Web Database Driven Application Develop.	3

Information Security and Assurance

Requirement	Course Code	Course Title	Credit Hours
CONCENTRATION ELECTIVES (12 credits)	INF 310	Principles of Information Security Assurance	3
	INF 320	Applications in Info. Security and Assurance	3
	INF 330	Policy & Admin. in Info. Security & Assurance	3
	INF 335	Computer Forensics	3
	INF 353	Database Security and Auditing	3
	INF 403	Information Resource Management	3
	INF 421	Client Operating Systems Security	3

Management Information Systems (MIS)

Requirement	Course Code	Course Title	Credit Hours
CONCENTRATION ELECTIVES (12 credits)	INF 461	Information Systems Planning	3
	INF 302	Program Development and Implementation	3
	INF 310	Principles of Information Security Assurance	3
	INF 465	Info. Technology and Business Analytics	3
	INF 403	Information Resource Management	3

Software Applications Development

Requirement	Course Code	Course Title	Credit Hours
CONCENTRATION ELECTIVES (12 credits)	INF 302	Program Development and Implementation	3
	INF 451	Java Support for E-Business	3
	INF 461	Information Systems Planning	3
	INF 465	Info. Technology and Business Analytics	3
	INF 478	Advanced Application Development	3
	XXX xxx	Any programming course – visit program chair	3

For more information about concentration electives, visit your program chair for further consultation.

**SAMPLE 4-YEAR STUDY PLAN-
BACHELOR OF SCIENCE (BSc) IN INFORMATION SYSTEMS
FALL & SPRING ADMISSION**

This study plan is a guide only.

This study plan does not reflect remedial courses (MAT 100/WRI 100). Due to faculty and scheduling changes, some courses may not be offered during the semesters indicated. Please check with your faculty and academic advisors along with your program chair each semester to be up to date with changes to the study plan.

FIRST YEAR

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement	
1	WRI 101	Writing	3	Placement Test	GENED	
		Composition 1				
	MAT110/ MAT 112/ MAT 210	Maths & Statistics	3		None	GENED
		Mathematics				
	CIE 111	Information Technology	3	None	GENED	
		Introduction to Computers and Computing				
	AUN 101	First Year experience	1	None	GENED	
		First Year Experience				
	ENT 101	Entrepreneurship	3	None	GENED	
		Intro. to Entrepreneurship				
	BIO/CHE/ GEO/NES/ PHY	Natural and Physical Science	3	None	GENED	
		Select one				
Total			16			
2	WRI 102	Writing	3	WRI 101	GENED	
		Composition II				
	ANT/CIV/ ECO/HIS/ICP/ PSY/SOC	Social & Behavioral Sciences	3	None	GENED	
		ECO 101 - required				
	GEN 102/ GEN 103	Arts and Humanities	3	None	GENED	
		Select one				
	BIO/CHE/ GEO/NES/ PHY	Natural and Physical Sciences (Lab)	4	None	GENED	
		Select one				
CIE 105	Programming Principles I	3	CIE 111	CORE		

Total	16	
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SECOND YEAR – INFORMATION SYSTEMS

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
3	CIE 106	Programming Principles II	3	CIE 105	CORE
	GEN 103/ GEN 102	Arts and Humanities	3	None	GENED
		Select one			
	STA 101	Maths and Statistics	3	MAT 110 or higher	GENED
		Introduction to Statistics			
	INF 201	Principles of Info. Systems	3	CIE 111	CORE
	ANT/CIV/EC O/HIS/ICP/PS Y/ SOC	Social & Behavioral Sc.	3	None	GENED
ECO 101 - required					
Total			15		
Semester	Course Code	Course Title	Credit Hours	Prerequisites	Requirement
4	PHI 300	Arts and Humanities	3	None	GENED
		Ethics and Leadership			
	CDV 20X	Community Service	3	2 nd yr standing	GENED
		Select one			
	INF 260	Systems Analysis and Design	3	INF 201	CORE
	INF 206	IT Systems: Hardware and Software	3	INF 201	CORE
	CIE 231	Introduction to Databases, web Tech. and Applications	3	CIE 106	CORE
Total			15		

THIRD YEAR – INFORMATION SYSTEMS

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
5	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	MGT 201	Principles of Mgt.	3	WRI 102	CORE
	INF 351	Information Security and Assurance	3	INF 201	CORE
	AUN 300	Critical Thinking and Problem Solving	3	None	GENED
		Critical Thinking and Problem Solving			
	CIE 302	Principles of Operating Systems	3	CIE 106	CORE
Total			15		
Semester	Course Code	Course Tittle	Credit Hours	Prerequisites	Requirement
6	XXX xxx	Refer to Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	CIE 333	Data and Computer Communications	3	CIE 302	CORE
	CIE 321	IT Project Management	3	INF 260	CORE
	CIE 406	Technical Report Writing	3	WRI 102 and CIE 260	CORE
	INF 341	Enterprise Integration	3	INF 260	CORE
	ENT 325	Entrepreneurship	3	ENT 101	GENED
Social Entrepreneurship					
Total			18		

Course Code	Course Title - Prerequisite	Credit Hours	Requirement
INF 493	Industrial Training; Pre-req: 3rd yr. standing	1	INTERNSHIP

FOURTH YEAR

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
7	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	QBA 202	Operations Mgt	3		CORE
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	XXX xxx	Refer to Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	INF 361	Process Modelling & Solution Blueprinting	3	INF 260	CORE
Total			15		
Semester	Course Code	Course Title	Credit Hours	Prerequisites	Requirement
8	XXX xxx	Refer to Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
	INF 402	Info. Technology For Development	3	min. 4th yr. standing	CORE
	INF 490	Intro to Bus Dynamics: Systems Thinking and Modeling for a Complex World	3	min. 4th yr. standing	CORE
	INF 491	Senior Design Project	3	INF 490 & min. 4 th yr. standing	CORE
	XXX xxx	Refer to Concentration Elective list	3	Refer to course description	CONCENTRATION ELECTIVE
Total			15		

BACHELOR OF SCIENCE (B.SC.) IN SOFTWARE ENGINEERING

The software engineering major builds on the computer science major with advanced course work in software architecture and design, software metrics, verification and validation, requirements analysis and specification and the software engineering process.

Broad Aim

The goal of our software engineering program is to develop technical professionals who can develop and deliver software systems that are reliable, cost effective and adaptable to developing country environments. Graduates of our software engineering program will be prepared for careers requiring skills in the design, implementation and testing of a variety of software systems. They will also be equipped with requirements analysis and product and process measurement and will be able to contribute hugely in any software development project with flexible roles.

OBJECTIVES

The detailed objectives are:

- ✓ To produce graduates ready for the software industry or who can champion the emergence and growth of that industry within the Sub Sahara Africa region;
- ✓ to support and lead the growth of the software industry;
- ✓ to nurture interest in entrepreneurship and grow the abilities of our graduate to become employers of labor and wealth creators;
- ✓ to provide suitable service courses for specialists in other disciplines to enable these specialists to increase their competences, skills and level of proficiency in their different fields;
- ✓ to lead developments in open source software within the region;
- ✓ to serve as the engineering basis program in developing IT solutions to development and entrepreneurial efforts championed by the university in its mission as a development university.

Graduates of the AUN Software Engineering program are expected to be ready for the growing software & IT industry. Some of the possible job titles our graduates can expect to hold include:

- Programmer
- Systems Analyst
- Software Developer
- Web Developer
- Software Consultant
- Systems Administrator (DBA, network administrator, deployer)
- Software Consultant

- Software Engineer
- Systems Architect
- Information Technology Specialist
- IT Project Manager
- Systems Engineer
- IT Director

Bachelor of Science in Software Engineering Degree Program Requirement

The Bachelor of Science in Software Engineering requires a minimum of 130 graduation credit hours. In addition to the General Education requirements, Software Engineering majors are required to successfully complete the courses listed below:

Requirement	Course Code	Course Title	Credit Hours
CORE (67 credits)	CIE 105	Principles of Programming I	3
	CIE 106	Principles of Programming II	3
	CIE 231	Intro. to Databases, Web Tech. & Applications	3
	CIE 302	Principles of Operating Systems	3
	CIE 321	IT Project Management	3
	CIE 406	Technical Report Writing	3
	CSC 202	Data Structures & Algorithms	3
	CSC 213	Discrete Structures	3
	CSC 214	Logic in Computer Science	3
	CSC 232	Computer Organization & Architecture	3
	CSC 364	Design and Analysis of Algorithms	3
	CSC 384	Principles of Database Systems	3
	MAT 211	Calculus II (formerly MAT 210)	3
	MAT 312	Linear Algebra (formerly MAT 212)	3
	SEN 301	Introduction to Software Engineering	3
	SEN 306	Object-Oriented Software Construction	3
	SEN 312	User Interface Design	3
	SEN 400	Software Engineering Professional Ethics	3
	SEN 405	Software Requirements Analysis & Specification	3
	SEN 415	Software Testing & Quality Assurance	3
	SEN 416	Software Design & Architecture	3
	SEN 490	Software Engineering Capstone Project	3
	SEN 493	Internship	1

	ECO 101	<i>These courses satisfy GENED requirement. Refer to GENED list of courses.</i>	3
	PHY 131/PHY 205		4
	PHY 132/PHY206		4

Software Engineering Major Electives

Software Engineering students should consult with their Chairs in selecting elective courses that will augment their program of study and their preparation for careers. Students may choose any two (2) from the list below as major electives (6 credit hours). Additionally, Software Engineering students are encouraged to use most of their free elective credits to specialize further in a specific area of software engineering.

Requirement	Course Code	Course Title	Credit Hours
MAJOR ELECTIVES (6 credits)	CSC 456	Design of Web-based Systems	3
	CSC 453	Advanced Database Systems	3
	CSC 465	Artificial Intelligence	3
	CSC 470	Numerical Analysis	3
	CSC 485	Advanced Object-Oriented Analysis	3
	INF 302	Program Development and Implementation	3
	INF 490	Introduction to Business Dynamics: Systems Thinking and Modeling for a Complex World	3
	MAT 310	Calculus III (formerly MAT 211)	3
	SEN 321	Formal Method of Specification in Software Engineering	3
	SEN 408	Software Engineering Processes	3
	SEN 469	Software Testing: Verification & Validation	3
	SEN 470	Engineering Economics	3
	SEN 474	Principles of Information Systems Design	3
	SEN 478	Engineering of Software Sub-Systems	3

Upon completion of all degree requirements, students will receive a Bachelor of Science degree in Software Engineering.

SAMPLE 4-YEAR STUDY PLAN - BACHELOR OF SCIENCE IN SOFTWARE ENGINEERING

FALL & SPRING ADMISSION

This study plan is meant as a guide only.

This study plan does not reflect remedial courses (WRI 100, MAT 100). Due to staff and scheduling changes, some courses may not be offered during the semesters indicated. Please check with your faculty and academic advisors along with your program chair each semester to be up to date with changes to the study plan.

FIRST YEAR

Semester	Course Code	Course Tittle	Credit Hours	Prerequisites	Requirement
1	WRI 101	Writing	3	Placement Test	GENED
		Composition I			
	Mat 110 or Mat 112 or Mat 210	Maths and Statistics	3	Placement Test	GENED
		Mathematics			
	CIE 111	Info. Technology	3	None	GENED
		Intro. to Computer and Computing			
	AUN 101	First year Experience	1	None	GENED
		First Year Experience			
	GEN 102 or GEN 103	Arts and Humanities	3	None	GENED
		Select one			
	ENT 101	Entrepreneurship	3	None	GENED
		Introduction to Entrepreneurship			
Total			16		
2	CIE 105	Principles of Programming I	3	CIE 111	CORE
	STA 101	Maths & Statistics	3	MAT 110 or higher	GENED
		Introduction to Statistics			
	WRI 102	Writing	3	WRI 101	GENED
		Composition II			
	ANT/CIV/ECO/ HIS/ICP/PSY/ SOC	Social & Behavioural Sc.	3	None	GENED
		ECO 101-required			
	GEN 102 or GEN 103	Arts and Humanities	3	None	GENED
select one					

Totals	15	
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SECOND YEAR-SOFTWARE ENGINEERING

Semester	Course Code	Course Tittl	Credit Hours	Prerequisites	Requirement
3	CIE 106	Principles of Programming II	3	CIE 105	CORE
	CSC 213	Discrete Structures	3	CIE 105	CORE
	BIO/GEO/ CHE/NES/ PCE/PHY	Natural and Physical Science	4	Refer to course description	GENED
		PHY 205/PHY 131 required (Lab)			
	CDV 20xx	Community Service	3	min. 2 nd yr. standing	GENED
		Community Development			
	MAT 211	Calculus II	3	MAT 210	CORE
Total			16		

Semester	Course Code	Course Tittle	Credit Hours	Prerequisites	Requirement
4	CSC 202	Data Structures and Algorithms	3	CIE 106	CORE
	BIO/GEO/ CHE/NES/ PCE/PHY	Natural & Physical Science	4	Refer to course description	GENED
		PHY206/PHY132 required (Lab)			
	CSC 232	Computer Organization and Architecture	3	CIE 105	CORE
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	CIE 231	Intro. to Databases, Web Tech. & Applications	3	CIE 106	CORE
Total			16		

THIRD YEAR - SOFTWARE ENGINEERING

Semester	Course Code	Course Title	Credit Hours	Prerequisites	Requirement
5	AUN 300	Critical Thinking & Problem Solving	3	min. 3rd yr. standing	GENED
		Critical Thinking & Problem Solving			
	CSC 364	Design and Analysis of Algorithms	3	CSC 202	CORE
	CIE 302	Principles of Operating Systems	3	CIE 106	CORE
	CSC 384	Database Systems	3	CSC 202 & CIE 231	CORE
	CSC 214	Logic in Computer Science	3	CSC 213	CORE
	ENT 325	Entrepreneurship	3	None	GENED
		Social Entrepreneurship			
Total			18		
Semester	Course Code	Course Tittle	Credit Hours	Prerequisites	Requirement
6	CIE 406	Technical Report Writing	3	WRI 102	CORE
	PHI 300	Arts & Humanities	3	min. 3 rd yr. standing	GENED
		Ethics & Leadership			
	SEN 301	Introduction to Software Engineering	3	CIE 231	CORE
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	MAT 312	Linear Algebra	3	MAT 211	CORE
XXX xxx	Visit program chair	3	None	MAJOR ELECTIVE	
Total			18		

Course Code	Course Title - Prerequisite	Credit Hours	Requirement
SEN 493	Industrial Training; Pre-req: 3rd yr. standing	1	INTERNSHIP

FOURTH YEAR – SOFTWARE ENGINEERING

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
7	SEN 415	Software Quality Assurance & Testing	3	SEN 301	CORE
	SEN 306	Object-Oriented Software Construction	3	SEN 301	CORE
	CIE 321	IT Project Mgt.	3	CIE 106	CORE
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	SEN 490	Senior Design Project	3	4 th yr. standing & CIE 406	CORE
	SEN 405	Software Requirements Analysis & Specification	3	SEN 301	CORE
Totals			18		
Semester	Course Code	Course Tittle	Credit Hours	Prerequisites	Requirement
8	XXX xxx	Refer to Elective list	3	Refer to course description	MAJOR ELECTIVE
	SEN 416	Software Design and Architecture	3	SEN 306	CORE
	SEN 400	Software Engineering Professional Ethics	3	min. 3rd yr. standing	CORE
	SEN 312	User Interface Design & HCI	3	SEN 301	CORE
	ANT/CIV/ECO/ HIS/ICP/PSY/ SOC	Social & Behavioral Sciences	3	None	GENED
		Select one			
Totals			15		

BACHELOR OF SCIENCE (B.SC.) IN TELECOMMUNICATIONS & WIRELESS TECHNOLOGIES

The SITC B.Sc. Program in Telecommunications & Wireless Technologies is designed with core courses that provide breadth and depth in the field, along with a strong theoretical component as a foundation for a good engineering career. The program includes courses in the sciences and mathematics and an in-depth sequence of specialized engineering courses.

The program provides a balance of both theory and practice on core courses covering both software and hardware through integrated lectures, laboratory sequences and individual and group projects often with direct application in the community or region. The distribution of courses includes the fundamentals needed by every telecommunication and wireless engineer. As the telecom and wireless industry evolves in Sub-Saharan Africa, practitioners are increasingly expected to build and maintain reliable systems for mission and life-critical applications that are affordable and applicable within the context of developing economies. Such professionals distinguish themselves with a solid mathematical, computing and engineering foundation, mastery of emerging software tools and methods, knowledge of the cultural context and experience in collaborative work on large projects. The SITC curriculum is designed to prepare our students in all these areas.

Graduates of AUN Telecoms and wireless program will be prepared for careers in Telecommunication Engineering. Some of the possible job titles our graduates can expect to hold include:

- Mobile/Telecommunication Operators
- Consulting Engineering Firms
- Information Technology firms
- Engineering Sales
- Research & Development
- IT Project Manager
- Systems engineer
- IT Director

Telecoms graduates may also opt to further their studies, in which case they can pursue graduate studies (Masters & PhDs) in Telecommunications & Wireless Technologies, and related disciplines such as IT, Information Systems, the discrete engineering fields such as electrical and electronic engineering and the more general engineering field such as Systems Engineering.

Bachelor of Science in Telecommunication & Wireless Technologies Degree Program Requirement

Telecommunication & Wireless Technologies program requires a minimum of 126 graduation credit hours. In addition to the General Education requirements, Telecommunication & Wireless Technologies students are required to successfully complete the CORE courses listed.

Requirement	Course Code	Course Title	Credit Hours
CORE (60 credits required)	CIE 105	Principles of Programming I	3
	CIE 321	IT Project Management	3
	CIE 333	Data and Computer Communications	3
	CIE 406	Technical Report Writing	3
	CSC 232	Computer Organization & Architecture	3
	CSC 301	Systems Programming	3
	MAT 312	Linear Algebra (formerly MAT 212)	3
	MAT 211	Calculus II (formerly MAT 210)	3
	TEL 200	Analogue Electronic Circuit	3
	TEL 202	Intro. to Telecommunication Engineering	3
	TEL 203	Digital Electronic Circuit	3
	TEL 300	Fundamentals of Wireless Communications	3
	TEL 302	Digital Communication System	3
	TEL 303	RF/Microwave Systems Design	3
	TEL 401	Digital Signal Processing	3
	TEL 404	Measurements and Instrumentation	3
	TEL 405	Optical Communication System	3
	TEL 406	Electrical Power Systems	3
	TEL 407	LAN Administration and Network Security	3
	TEL 490	Senior Design Project/Capstone	3
	ECO 101	These courses are mandatory.	3
	PHY 131/PHY 205	They satisfy GENED requirement.	4
	PHY 132/PHY206	Refer to GENED list of courses.	4

Telecommunication & Wireless Technologies Major Electives

In addition to the requirements listed above, Telecommunication and Wireless Technologies students must successfully complete six (6) credits of major electives. Those students who are interested in specific areas in the discipline have the following set of major electives from which to choose depending on their career needs and personal interests. Options for specialization include but are not limited to financial computing, scientific computing, computational chemistry and biology. Please note these specializations are merely suggested foci, as concentrations in the Telecom and Wireless major do not appear on degree certificates.

The major electives are listed below.

Requirement	Course Code	Course Title	Credit Hours
MAJOR ELECTIVES (6 credits required)	CIE 106	Principles of Programming II	3
	CSC 470	Numerical Analysis	3
	TEL 304	Feedback and Control Systems	3
	TEL 305	Circuit Theory	3
	TEL 306	Electrical Machines	3
	TEL 307	Power Electronics and Devices	3
	TEL 493	Internship	3

**SAMPLE 4 YR. STUDY PLAN –BACHELOR OF SCIENCE IN TELECOMMUNICATIONS & WIRELESS
TECHNOLOGIES
FALL & SPRING ADMISSION**

This study plan is a guide only.

This study plan does not reflect remedial courses (WRI 100, MAT 100). Due to faculty and scheduling changes some courses may not be offered during the semesters indicated. Please check with your faculty and academic advisors along with your program chair each semester to be up to date with changes to the study plan.

FIRST YEAR

Semester	Course Code	Course Tittle	Credit Hours	Prerequisites	Requirement
1	WRI 101	Writing	3	Placement test	GENED
		Composition I			
	MAT 210	Maths & Statistics	3	MAT112 or Placement test	GENED
		Calculus I			
	CIE 111	Info. Technology	3	None	GENED
		Introduction to Computer and Computing			
	AUN 101	First year Experience	1	None	GENED
		First Year Experience			
	GEN 102/ GEN 103	Arts and Humanities	3	None	GENED
		select one			
ENT 101	Entrepreneurship	3	None	GENED	
	Intro. to Entrepreneurship				
Total			16		
2	WRI 102	Writing	3	WRI 101	GENED
		Composition II			
	STA 101	Maths & Statistics	3	MAT 110 or higher)	GENED
		Introduction to Statistics			
	ANT/CIV/ ECO/HIS/ ICP/PHY/ SOC	Social & Behavioral Sc.	3	None	GENED
		ECO 101 - required			
	TEL 200	Analogue Electronic Circuit	3	None	CORE
CIE 105	Principles of Programming	3	CIE 111	CORE	

Total			15		
SECOND YEAR - TELECOMMUNICATIONS & WIRELESS TECHNOLOGIES					
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
3	TEL 202	Intro. to Telecom Engineering	3	MAT 210	CORE
	BIO/PHY/GE O NES/CHE	Natural and Physical Sciences	4	MAT 210	GENED
		PHY 131/PHY 205 required (4crs)			
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	TEL 203	Digital Electronic Circuit	3	CIE 105 & TEL 200	CORE
	MAT 211	Calculus II	3	MAT 210	CORE
Total			16		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
4	BIO/CHE/ GEO/ NES PHY	Natural and Physical Sciences	4	None	GENED
		PHY 132/PHY 206 required (4crs)			
	GEN102 or GEN 103	Arts & Humanities	3	None	GENED
		Select one			
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	CSC 232	Computer Organization & Architecture	3	CIE 105	CORE
CIE 333	Data & Computer Communications	3	MAT 210	CORE	
Total			16		

THIRD YEAR – TELECOMMUNICATION & WIRELESS TECHNOLOGIES

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
	CSC 301	System Programming	3	MAT 210 & CIE 105	CORE
	TEL 300	Fundamentals of Wireless Communications	3	TEL 202 or CIE 333	CORE
	AUN 300	Critical Thinking and Problem Solving	3	None	GENED
		Critical Thinking and Problem Solving			
	XXX xxx	Visit program chair	3	Refer to course description	MAJOR ELECTIVE
	TEL 302	Digital Communication System	3	None	CORE
Total			15		
Term	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
6	CIE 406	Technical Report Writing	3	WRI 102	CORE
	CIE 321	IT Project Management	3	3rd yr. standing	CORE
	TEL 303	RF/Microwave System Design	3	TEL 300	CORE
	MAT 312	Linear Algebra	3	MAT 211	CORE
	CDV 2XX	Community Development	3	None	GENED
		select one			
	PHI 300	Arts & Humanities	3	3 rd yr. standing	GENED
Ethics and Leadership					
Total			18		

FOURTH YEAR – TELECOMMUNICATINs & WIRELESS TECHNOLOGIES

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
7	TEL 490	Senior Design Project /Capstone	3	min. 4 th yr. standing	CORE
	ENT 325	Entrepreneurship	3	None	GENED
		Social Entrepreneurship			
	TEL 401	Digital Signal Processing	3	None	CORE
	XXX xxx	See Elective list.	3	Refer to course description	MAJOR ELECTIVE
	ANT/CIV/ECO/HIS ICP/PSY/SOC	Social and Behavioral Sciences	3	None	GENED
select one					
Total			15		
Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
8	TEL 407	LAN Administration and Network Security	3	TEL 202 & CIE 333	CORE
	XXX xxx	Visit program chair	3	Refer to course description	FREE ELECTIVE
	TEL 404	Measurements and Instrumentation	3	None	CORE
	TEL 406	Electrical Power Systems	3	MAT 210 & PHY 205/131	CORE
	TEL 405	Optical Communication System	3	None	CORE
Total			15		

SCHOOL OF ENGINEERING WELCOME



From the Dean

Welcome to the School of Engineering (SOE) at American University of Nigeria (AUN).

AUN's School of Engineering offers the following undergraduate programs leading to the award of a Bachelor of Engineering (B.Eng (Hons)): Computer Engineering, Telecommunication Engineering, Electrical & Electronics Engineering, Chemical Engineering and Systems Engineering. This award will be recognized globally and will be accepted for graduate studies all over the world. All our engineering programs are accredited by the Nigerian University Commission (NUC). In addition, AUN's engineering programs aspire to pursue international accreditations such as Accreditation Board for Engineering and

Technology (ABET). The SOE faculty and students are encouraged to be members of the international associations such as the Institute of Electrical and Electronics Engineers (IEEE) and local professional body such as the Nigerian Society of Engineers.

We are dedicated to training and transforming our students to identify contemporary global issues and realize their professional and ethical onus to proffer solutions for the socio-economic and environmental challenges faced by humanity. AUN School of Engineering strives to bring a world-class engineering curriculum for the future, technical education integrated with high-quality American-style system of education. The faculty members come from diverse backgrounds and have the required knowledge, terminal degree, and expertise in their fields of specialization to deliver quality education. Most faculty have prior industry and teaching experience in the US, Canada, South Africa, Europe, Asia, Nigeria, Russia or elsewhere. Our laboratory instructors are highly qualified.

The serene classroom environment and state-of-the-art engineering laboratories provide the platform for developing problem-solving strategies that build students' competencies and capacities in emerging technologies such as Artificial Intelligence (AI), Machine Learning, Embedded System, Robotics, Big Data, and Internet of Things (IoT), nanotechnology, clean and renewable energy, membrane technology etc. Students are exposed to the fundamentals of design, implementation, testing and industrial application in the modern field of Engineering, as well as operating at the cutting-edge of technologies. SOE students will be exposed to senior design projects, industrial training through practical industry internships, projects and exchanges. Applied industry experiences are key and unique feature of AUN's engineering education. Our engineering program is structured to be completed either in four or five academic years depending on the qualification evidenced during admissions consideration for prospective students. Four year programs are designed for holders of GCE A-Level certificate or equivalent (Direct Entry), while the five year programs are designed for students who applied and satisfied the UTME requirements.

Thank you for your interest in AUN's SOE.

SCHOOL OF ENGINEERING

Engineering Programs

- Bachelor of Engineering in Chemical Engineering**
- Bachelor of Engineering in Computer Engineering**
- Bachelor of Engineering in Electrical & Electronics Engineering**
- Bachelor of Engineering in Systems Engineering**
- Bachelor of Engineering in Telecommunications Engineering**

The general philosophy of the engineering degree programs is to produce graduates who can meet the growing demand for engineers in Nigeria and also demonstrate ample knowledge and experience in their disciplines to lead innovations in those areas, expanding the frontiers of their fields through relevant research and practice adapted to the needs of Nigeria and the sub Saharan Africa region.

All SOE students are required to successfully complete the following credit hour breakdown to meet the minimum five-year program. Students should meet with their faculty advisor/ chair for further consultation.

Bachelor of Engineering

Bachelor of Engineering Credit Hours Requirement						
Program	MAJOR					Overall Graduation Requirement
	GenEd	Core	Internship	Free Electives	Major Electives	
	Minimum Total Credit Hours					
Chemical	50 + 1*	115	6	9	12	193
Computer	50 + 1*	121	6	9	6	193
Electrical & Electronics	50 + 1*	108	6	9	19	193
Systems	50 + 1*	121	6	9	6	193
Telecommunications	50 + 1*	121	6	9	6	193

*All Engineering student enroll in two 4-credit hour courses to satisfy Natural & Physical Sciences which is a total of 8 credit hours and not 7 credit hours as listed in General Education requirements.

Bachelor Of Engineering Degree Program Requirement

Engineering students must complete the University wide required General Education program (50 credits). This program supports a liberal arts experience that prepares students for success in their majors and personal & professional lives after graduation.

General Education Requirement (50 + 1 credits)

This general education requirement below is specific to Engineering programs.

Students are required to complete all General Education courses as listed.

Discipline	Course Code	Course Title	Credit Hours
First Year Experience (total 1 credit)	AUN 101	First Year Experience	1
Arts and Humanities (total 9 credits)	GEN 102 GEN 103 PHI 300	Nigerian Peoples and Culture History and Philosophy of Sc. Ethics and Leadership	3 3 3
Community Service (total 3 credits)	CDV 2xx	Community Development	3
Critical Thinking and Problem Solving (total 3 credits)	AUN 300	Critical Thinking and Problem Solving	3
Entrepreneurship (total 6 credits)	ENT 101 ENT 325	Intro. to Entrepreneurship Social Entrepreneurship	3 3
Information Technology (total 3 credits)	CIE 111	Introduction to Computers and Computing	3
Mathematics* and	MAT 112	<i>Pre-calculus</i>	0
Statistics (total 6 credits)	MAT 210	Calculus 1	3
	STA 101	Introduction to Statistics I	3
Natural and Physical Sciences (total 8 credits)	PHY 205 (Lab)	University Physics I	4
	CHE 120 (4 credits) (Lab)	General Chemistry I	3+1*
Social Behavioral Sc. (total 6 credits)	ANT/CIV/ECO/HIS/ICP/PSY/SOC ANT/CIV/ECO/HIS/ICP/PSY/SOC	Refer to Course Description	3 3

Writing* (total 6 credits)	WRI 101 and WRI 102	Composition I Composition II	3 3
TOTAL			50+1
NOTE: SOE students are strongly encouraged to complete two four (4) credit hours of Natural & Physical Sciences as a General Education requirement to reach the minimum total overall graduating credit hours required, hence a total of 51 total credits of GENED is earned.			

Writing and Mathematics Requirement*

Dependent on the results of the placement test, this will determine the number of courses required.

<i>If a student is placed in...</i>		Credit Hours
WRI 100 Intro. to Compositions	<i>This is a non-university credit bearing course and does NOT count towards the overall total graduation credits required. This course does not satisfy GENED requirement. Upon successful completion, a student must enroll in WRI 101.</i>	0
MAT 100 (Pre-algebra)	<i>This is a non-university credit bearing course and does NOT contribute towards the overall total graduation credits required. This course does not satisfy GENED requirement. Upon successful completion, a student will enroll in MAT 110.</i>	0
MAT 110 University Algebra	This course does not satisfy GENED requirement for all SOE programs. NOTE – this course may satisfy FREE ELECTIVE (min. C grade required). Consult with program chair.	3
MAT 112 Pre-Calculus	This course does not satisfy GENED requirement for all SOE programs. NOTE – this course may satisfy FREE ELECTIVE (min. C grade required). Consult with program chair.	3
MAT 210 Calculus I	This course satisfies GENED requirement.	3

Free Electives are required by all AUN students, a minimum of 9 credits is required as part of any degree program.

Requirement	Course Code	Course Title	Credit Hours
FREE ELECTIVES (min. 9 credits)	XXX xxx	Visit program chair	1-4
	XXX xxx		1-4
	XXX xxx		1-4

In addition to the general education and free elective courses, SOE students are also required to complete specific SOE major requirements (core, internship, major electives) to complete 193 graduating credit hours.

Bachelor of Engineering - Chemical Engineering (Honors)

The Chemical Engineering program is designed to train engineers who can cater to the needs of the bio/Petro-chemical industry of Nigeria and beyond. It prepares students for productive careers in both public and private sectors. It also serves as a sound foundation for graduate studies. The broad goal is to train budding engineers to design, develop, and operate chemical processes by which chemicals, petroleum products, food, pharmaceuticals, and consumer goods can be produced economically and safely with minimal environmental impact. The program emphasizes chemical engineering fundamentals while offering opportunities for focused studies in bioengineering, energy, and environmental engineering. With crude oil accounting for well over 90 percent of Nigeria's foreign reserve, much of which is sold as raw crude to refineries abroad, the country could derive more revenue from this natural resource if by-products of national refineries could be turned into other useful products such as plastics and pharmaceuticals.

In addition, Chemical Engineering students acquire the necessary background and skills to design and develop functional products that benefit society in many ways. Chemical processes involve reactions, heat transfer, separations and biological phenomena to produce useful and valuable products. Accordingly, they study changes in the composition, energy content and/or state of aggregation of materials, taking into consideration the nature of matter and its properties (chemistry), the forces that act on matter (physics), similar aspects of biological materials (biology), and the relationships between them (mathematics).

Upon successful graduation, graduates of this program will be able to:

- recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in a global, economic, environmental, and societal context
- design and simulate various processes
- identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
- apply engineering design to produce solutions that meet specified needs with consideration for public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- communicate effectively with a range of audiences

- function effectively in a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- develop and conduct appropriate experimentation, analyze and interpret data, and use the engineering judgment to draw conclusions
- acquire and apply new knowledge as needed, using appropriate learning strategies.

Graduates of the Chemical Engineering program are expected to be equipped for the industry, consultancy and for entrepreneurs. Some of the possible job titles our graduates can expect include the following:

- Architectural and Engineering Manager.
- Biomedical Engineer.
- Chemical Technician.
- Chemist and Materials Scientist.
- Nuclear Engineers.
- Occupational Health, Safety and Environmental Specialist and Technician.
- Biochemical Engineer
- Quality Assurance/Quality Control Manager
- Production Manager
- Process Engineer
- Materials Engineer

AUN 5-YEAR Chemical Engineering Degree Award Requirement

To be eligible for the award of a Chemical Engineering degree, a candidate must satisfactorily complete the minimum number of units prescribed for the degree. This would involve successfully completing the approved compulsory and elective courses of the School and other departments of the University.

Bachelor of Engineering Chemical Engineering Credit Hours Requirement						
Program	MAJOR					Overall Graduation Requirement
	Minimum Total Credit Hours					
	GenEd	Core	Internship	Free Electives	Major Electives	193
Chemical	50 + 1*	115	6	9	12	

*All Engineering students must enroll in a two 4-credit hour course that satisfies Natural & Physical Sciences which is a total of 8 credit hours and not 7 credit hours as listed in General Education requirement.

Credit Hours Load Breakdown

Year 1	37
Year 2	45
Year 3	42
Year 4	27
Year 5	42

Chemical Engineering majors are required to successfully complete the following courses along with the *Students Industrial Work Experience Scheme (SIWES)*.

Requirement	Course Code	Course Title – Prerequisites	Credit Hours
CORE (total 115 credits required)	CHE 121	General Chemistry II; Pre-req: CHE 120	4
	CHM 201	Chemical Engineering Fundamentals; Pre-req: CHE 121	3
	CHM 301	Fluid Mechanics & Transport Phenomena I; Pre-req: CHM 201	3
	CHM 330	Chemical Engineering Thermodynamics; Pre-req: CHM 201	3
	CHM 345	Chemical Engineering Laboratory I; Pre-req: CHM 201	3
	CHM 351	Transport Phenomena II; Pre-req: CHM 301	3
	CHM 355	Science of Material; Pre-req: GEC 224	3
	CHM 360	Separation Processes I; Pre-req: CHM 201	3
	CHM 395	Chemical Engineering Laboratory II; Pre-req: CHM 345	3
	CHM 401	Chemical Kinetics; Pre-req: 4 th yr. standing	3
	CHM 405	Biochemical Engineering; Pre-req: 4 th yr. standing	3
	CHM 410	Separation Processes II; Pre-req: CHM 360	3
	CHM 445	Chemical Engineering Laboratory III; Pre-req: CHM 395	3
	CHM 501	Chemical Reaction Engineering; Pre-req: 4 th yr. standing	4
	CHM 505	Process Optimization; Pre-req: CHM 410	3
	CHM 510	Separation Processes III; Pre-req: CHM 410	3
	CHM 520	Plant Design & Economics; Pre-req: 5 th yr. standing	3
	CHM 551	Process Control & Simulation; Pre-req: CHM 410	4
	CHM 545	Chemical Engineering Laboratory IV; Pre-req: CHM 445	3
	CHM 555	Loss Prevention in Process Industries; Pre-req: CHM 410	3
	CHM 590	Senior Design Project; Pre-req: 5 th yr. standing	3
	CHM 599	Senior Research Project; Pre-req: 5 th yr. standing	4
	CIE 105	Programming Principles I; Pre-req: None	3
	GEC 201	Basic Engineering Drawing; Pre-req: None	2

	GEC 211	Introduction to Electrical Engineering; Pre-req: MAT 211, PHY 206	3
	GEC 213	Engineering Law; Pre-req: None	3

Continued...

	GEC 214	Applied Mechanics; Pre-req: PHY 205	3
	GEC 217	Engineer in Society; Pre-req: None	1
	GEC 218	Manufacturing Technology/Workshop Practice; Pre-req: None	2
	GEC 221	Thermodynamics and Fluid Mechanics; Pre-req: MAT 210, PHY 205	3
	GEC 224	Strength of Materials and Materials Science; Pre-req: GEC 214	3
	GEC 228	Laboratory Course I; Pre-req: None	3
	GEC 448	Eng. Project Mgt. & Law; Pre-req: 4 th yr. standing	3
	MAT 211	Calculus II; Pre-req: MAT 210	3
	MAT 311	Vector Calculus; Pre-req: MAT 310	3
	MAT 312	Linear Algebra; Pre-req: MAT 211	3
	MAT 310	Calculus III; Pre-req: MAT 211	3
	PHY 206	University Physics II; ; Pre-req: PHY 205	4

Student Industrial Work Experience

All Engineering students are required to complete *Students Industrial Work Experience Scheme (SIWES)* which prepares students for the industrial work situation. SIWES is to be completed over one semester in the fourth year. Students are strongly encouraged to visit their program chair for further details.

Course Code	Course Title - Prerequisite	Credit Hours	Requirement
CHM 493	Industrial Training; Pre-req: 4 th yr. standing	6	INTERNSHIP

Students are required to complete 12 credits of major electives.

Requirement	Group	Course Code	Course Title	Credit Hours
MAJOR ELECTIVE (total min. 12crs. required)	1 (min.3crs. required)	CHE 221	Industrial Chemical Processes; Pre-req: CHM 201	3
		CHM 320	Petrochemicals and Polymers; Pre-req: CHM 201	3
	2 (3crs. required)	CHM 370	Polymer Process Engineering; Pre-req: CHM 320 or CHE 221	3
		CHM 380	Polymer Science and Technology; Pre-req: CHM 320 or CHE 221	3
	3 (3crs. required)	CHM 420	Reservoir Engineering; Pre-req: 4 th yr. standing	3
		CHM 425	Coal Processing Technology; Pre-req: 4 th yr. standing	3
		CHM 430	Technology of Fossil Fuel Processing; Pre-req: 4 th yr. standing	3
	4 (3crs. required)	CHM 570	Sugar Technology; Pre-req: 5 th yr. standing	3
		CHM 575	Detergent Technology; Pre-req: 5 th yr. standing	3
		CHM 580	Fermentation Technology; Pre-req: 5 th yr. standing	3
		CHM 585	Pulp and Paper Technology; Pre-req: 5 th yr. standing	3
		CHM 565	Membrane Technology; Pre-req: 5 th yr. standing	3

5 YEAR STUDY PLAN SAMPLE - BACHELOR OF ENGINEERING CHEMICAL ENGINEERING FALL & SPRING ADMISSION

Please note that this study plan is meant as a guide only.

This study plan does not represent any remedial course (WRI 100, MAT 100). Due to faculty and scheduling changes, some courses may not be offered during the semesters indicated. Check with your faculty and academic advisors along with your program chair each semester to be up to date with changes to the study plan.

YEAR 1 FIRST SEMESTER (17 CREDITS)

<u>Course Code</u>	<u>Course Title - Prerequisite</u>	<u>Credit Hours</u>	<u>Chemical Engineering Requirement</u>
WRI 101	- Composition I; Pre-req: placement exam/WRI 100	3	GENED
AUN 101	- AUN First Year Experience; Pre-req: None	1	GENED
ENT 101	- Introduction to Entrepreneurship; Pre-req: None	3	GENED
CIE 111	- Introduction to Computers and Computing; Pre-req: None	3	GENED
CHE 120	- General Chemistry I; Pre-req: University placement test	4	GENED
MAT 210	- Calculus I; Pre-req: MAT 112	3	GENED

YEAR 1 SECOND SEMESTER (20 CREDITS)

<u>Course Code</u>	<u>Course Title - Prerequisite</u>	<u>Credit Hours</u>	<u>Chemical Engineering Requirement</u>
PHY 205	- University Physics I; Pre-req: MAT 210	4	GENED
GEN 102	- Nigerian Peoples and Cultures; Pre-req: None	3	GENED
AUN 300(PHI 102) -	Logic and Philosophy; Pre-req: None	3	GENED
CHE 121	- General Chemistry II; Pre-req: CHE 120	4	CORE
WRI 102	- Composition II; Pre-req: WRI 101	3	GENED
XXX xxx	- ANT/CIV/ECO/HIS/ICP/PSY/SOC; Pre-req: None	3	GENED
TOTAL NO OF CREDITS:		37	

YEAR 2 THIRD SEMESTER (23 CREDITS)

Course Code		Course Title - Prerequisite	Credit Hours	Chemical Engineering Requirement
PHY 206	-	University Physics II; Pre-req: PHY 205	4	CORE
MAT 211	-	Calculus II; Pre-req: MAT 210	3	CORE
GEN 103	-	History and Philosophy of Science; Pre-req: None	3	GENED
GEC 201	-	Basic Engineering Drawing; Pre-req: None	2	CORE
GEC 213	-	Engineering Law; Pre-req: None	3	CORE
GEC 214	-	Applied Mechanics; Pre-req: PHY 205	3	CORE
CHM 201	-	Chemical Engineering Fundamentals; Pre-req: CHE 121	3	CORE
GEC 218	-	Manufacturing Technology/Workshop Practice; Pre-req: None	2	CORE

YEAR 2 FOURTH (22 CREDITS)

Course Code		Course Title - Prerequisite	Credit Hours	Chemical Engineering Requirement
CDV 2xx	-	Community Service; Pre-req: 2 nd yr. standing	3	GENED
GEC 224	-	Strength of Materials and Materials Science; Pre-req: GEC 214	3	CORE
GEC 211	-	Introduction to Electrical Engineering; Pre-req: MAT 211, PHY 206	3	CORE
GEC 221	-	Thermodynamics and Fluid Mechanics; Pre-req: MAT 210, PHY 205	3	CORE
GEC 217	-	Engineer in Society; Pre-req: None	1	CORE
GEC 228	-	Laboratory Course I; Pre-req: None	3	CORE
CIE 105	-	Programming Principles I; Pre-req: None	3	CORE
STA 101	-	Introduction to Statistics; Pre-req: MAT110 or higher	3	GENED

TOTAL NO OF CREDITS:**45**

YEAR 3 FIFTH SEMESTER (21 CREDITS)

Course Code		Course Title - Prerequisite	Credit Hours	Chemical Engineering Requirement
XXX xxx	-	ANT/CIV/ECO/HIS/ICP/PSY/SOC; Pre-req: None	3	GENED
MAT 310	-	Calculus III; Pre-req: MAT 211	3	CORE
CHM 301	-	Fluid Mechanics & Transport Phenomena I; Pre-req: CHM 201	3	CORE
CHM 330	-	Chemical Engineering Thermodynamics; Pre-req: CHM 201	3	CORE
CHM 345	-	Chemical Engineering Laboratory I; Pre-req: CHM 201	3	CORE
PHI 300	-	Ethics and Leadership; Pre-req: 3rd yr. standing	3	GENED
CHE xxx	-	Group 1 Elective	3	MAJOR ELECTIVE

Group 1 Electives - Select one major elective course.

Course Code		Course Title - Prerequisite	Credit Hours
CHE 221	-	Industrial Chemical Processes; Pre-req: CHM 201	3
CHM 320	-	Petrochemicals and Polymers; Pre-req: CHM 201	3

YEAR 3 SIXTH SEMESTER (21 CREDITS)

Course Code		Course Title - Prerequisite	Credit Hours	Chemical Requirement
ENT 325	-	Social Entrepreneurship; Pre-req: ENT 101	3	GENED
MAT 311	-	Vector Calculus; Pre-req: MAT 310	3	CORE
CHM 355	-	Science of Material; Pre-req: GEC 224	3	CORE
CHM 360	-	Separation Processes I; Pre-req: CHM 201	3	CORE
CHM 395	-	Chemical Engineering Laboratory II; Pre-req: CHM 345	3	CORE
CHM 351	-	Transport Phenomena II; Pre-req: CHM 301	3	CORE
CHE xxx	-	Group 2 - Elective	3	MAJOR ELECTIVE

TOTAL NO OF CREDITS:**42****Group 2 Electives - Select one major elective course.**

Course Code	Course Title – Prerequisite	Credit Hours
CHM 370	Polymer Process Engineering; Pre-req: CHM 320 or CHE 221	3
CHM 380	Polymer Science and Technology; Pre-req: CHM 320 or CHE 221	3

YEAR 4 SEVENTH SEMESTER (21 CREDITS)

			Chemical Engineering	
Course Code		Course Title - Prerequisite	Credit Hours	Requirement
MAT 312	-	Linear Algebra; Pre-req: MAT 211	3	CORE
CHM 401	-	Chemical Kinetics; Pre-req: 4 th yr. standing	3	CORE
CHM 410	-	Separation Processes II; Pre-req: CHM 360	3	CORE
CHM 445	-	Chemical Eng. Laboratory III; Pre-req: CHM 395	3	CORE
CHM 405	-	Biochemical Eng.; Pre-req: 4 th yr. standing	3	CORE
GEC 448	-	Engineering Project Management & Law; Pre-req: 4 th yr. standing	3	CORE
XXX xxx	-	Visit program chair; Pre-req: refer to course description	3	FREE ELECTIVE

YEAR 4 EIGHTH SEMESTER (6 CREDITS)

			Chemical Engineering	
Course Code		Course Title - Prerequisite	Credit Hours	Requirement
CHM 493		Industrial Training; Pre-req: 4 th yr. standing	6	INTERNSHIP

TOTAL NO OF CREDITS:**27****YEAR 5 NINTH SEMESTER (22 CREDITS)**

			Chemical Engineering	
Course Code		Course Title - Prerequisite	Credit Hours	Requirement
CHM 501	-	Chemical Reaction Eng.; Pre-req: 4 th yr. standing	4	CORE
CHM 510	-	Separation Processes III; Pre-req: CHM 410	3	CORE
CHM 520	-	Plant Design & Eco.; Pre-req: 5 th yr. standing	3	CORE
CHM 545	-	Chemical Eng. Laboratory IV; Pre-req: CHM 445	3	CORE
CHM xxx	-	Group 3 Elective Pre-req: refer to course description	3	MAJOR ELECTIVE
CHM 590	-	Senior Design Project; Pre-req: 5 th yr. standing	3	CORE
XXX xxx	-	Visit program chair; Pre-req: refer to course description	3	FREE ELECTIVE

Group 3 Electives - Select one major elective course.

Course Code	Course Title – Prerequisite	Credit Hours
CHM 420	Reservoir Engineering; Pre-req: 4 th yr. standing	3
CHM 425	Coal Processing Technology; Pre-req: 4 th yr. standing	3

CHM 430	Technology of Fossil Fuel Processing; Pre-req: 4 th yr. standing	3
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YEAR 5 TENTH SEMESTER (20 CREDITS)

Course Code	Course Title - Prerequisite	Credit Hours	Chemical Engineering Requirement
CHM 505	- Process Optimization; Pre-req: CHM 410	3	CORE
CHM 551	- Process Control & Simulation; Pre-req: CHM 410	4	CORE
CHM 555	- Loss Prevention in Process Industries; Pre-req: CHM 410	3	CORE
CHM 599	- Snr. Research Project; Pre-req: 5 th yr. standing	4	CORE
CHM xxx	- Group 4 Electives	3	MAJOR ELECTIVE
XXX xxx	- Visit program chair; Pre-req: refer to course description	3	FREE ELECTIVE

Group 4 Elective – Select any major elective courses

Course Code	Course Title – Prerequisite	Credit Hours
CHM 570	- Sugar Technology; Pre-req: 5 th yr. standing	3
CHM 575	- Detergent Technology; Pre-req: 5 th yr. standing	3
CHM 580	- Fermentation Technology; Pre-req: 5 th yr. standing	3
CHM 585	- Pulp and Paper Technology; Pre-req: 5 th yr. standing	3
CHM 565	- Membrane Technology; Pre-req 5 th yr. standing	3

TOTAL NO OF CREDITS:

42

COMPUTER ENGINEERING

Bachelor of Engineering - Computer Engineering (Honors)

The Computer Engineering program is designed to equip graduates who demonstrate an understanding of the fundamentals of digital and embedded systems with practical electronic and computing skills, and to optimally blend both the theory and practice to engineer solutions for problems in the industry, business, commerce, education, medicine, government, agriculture, and the society in general. It can also contribute to development and research in these areas.

The program emphasizes design, development, and applications of electronic and telecommunications engineering. Graduates will have a sound background in modern electronic circuits and systems with a major focus in computer engineering. Computer Engineering majors receive a strong foundation in engineering science and design that will enable them to pursue productive careers in not only the electronics engineering field, but also as a foundation for careers in other areas such as business, management, and medicine. Typical settings where the computer engineer can be employed include Communication Systems, Telecommunications Networks, Analog Systems, Hardware/Software Integration, and Digital & Microprocessor Systems.

Upon successful completion, graduates of this program should be able to:

- apply the knowledge of mathematics, science, and digital electronics to design embedded systems and programs that run them;
- design a system, component, or a process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability;
- function in multidisciplinary teams;
- identify, formulate, and solve engineering problems;
- demonstrate an understanding of professional and ethical responsibilities;
- apply documented solutions to troubleshoot technical problems involving computing devices;
- demonstrate an understanding of the impact of engineering solutions in a global, economic, environmental, and societal context;
- use the techniques, skills, and modern engineering tools necessary for engineering practice;

- demonstrate a recognition of the need for and an ability to engage in life-long learning.

AUN 5-Year Computer Engineering Degree Award Requirement

To be eligible for the award of a COMPUTER ENGINEERING degree, a candidate must satisfactorily complete the minimum number of units prescribed for the degree. This would involve successfully completing the approved compulsory and elective courses of the School and other departments of the University.

Bachelor of Engineering Computer Engineering Credit Hours Requirement						
Program	MAJOR					Overall Graduation Requirement
	Minimum Total Credit Hours					
	GenEd	Core	Internship	Free Electives	Major Electives	193
Computer	50 + 1*	121	6	9	6	

*All Engineering students must enroll in a two 4-credit hour course that satisfies Natural & Physical Sciences which is a total of 8 credit hours and not 7 credit hours as listed in General Education requirements.

Credit Hours Load Breakdown

Year 1 37
 Year 2 45
 Year 3 42
 Year 4 27
 Year 5 42

Computer Engineering majors are required to successfully complete the following courses along with the *Students Industrial Work Experience Scheme (SIWES)* experience.

Requirement	Course Code	Course Title – Prerequisites	Credit Hours
CORE (Min. total 121 credits required)	CEN 316	Software Development Techniques; Pre-req: CIE 105	3
	CEN 318	Laboratory Course II (MATLAB); Pre-req: 3 rd yr. standing	3
	CEN 417	Prototyping Techniques; Pre-req: 3 rd yr. standing	3
	CEN 424	Microprocessor System & Interfacing; Pre-req: CSC 232	3
	CEN 510	Embedded System Design; Pre-req: CSC 301	3
	CEN 512	Digital System Design With VHDL; Pre-req: EEE 327	3
	CEN 514	Cyberpreneurship & Cyberlaw; Pre-req: 3 rd yr. standing	3
	CEN 515	Computer Graphics & Animation; Pre-req: MAT 311	3
	CEN 516	Computer Security Techniques; Pre-req: 3 rd yr. standing	3
	CEN 525	Fuzzy Logic and Programming; Pre-req: CIE 105, EEE 327	3
	CEN 526	Digital Signal Processing; Pre-req: CIE 105, EEE 401	3
	CEN 590	Senior Design Project; Pre-req: 5 th yr. standing	3
	CHE 121	General Chemistry II; Pre-req: CHE 120	4
	CIE 105	Programming Principles I; Pre-req: None	3
	CIE 333	Data Communication & Network; Pre-req: MAT 211	3
	CSC 232	Computer Organization & Architecture; Pre-req: CIE 105	3
	CSC 301	System Programming; Pre-req: CIE 105, MAT 310	3
	CSC 427	Intro. to Artificial Neural Network; Pre-req: CIE 105	3
	EEE 311	Electromagnetic Field and Wave; Pre-req: GEC 211	3
	EEE 314	Circuit Theory I; Pre-req: GEC 211	3
	EEE 327	Digital Electronic Circuit; Pre-req: GEC 211, MAT 211	3
	EEE 401	Control Theory; Pre-req: MAT 311	3
	EEE 407	Measurements and Instrumentation; Pre-req: EEE 314	3
	GEC 201	Basic Engineering Drawing; Pre-req: None	2
	GEC 211	Intro. to Electrical Eng.; Pre-req: MAT 211, PHY 206	3
	GEC 213	Engineering Law; Pre-req: None	3
	GEC 214	Applied Mechanics; Pre-req: PHY 205	3
	GEC 217	Engineer in Society; Pre-req: None	1
	GEC 218	Manufacturing Tech./Workshop Practice; Pre-req: None	2
	GEC 221	Thermo. & Fluid Mechanics; Pre-req: MAT 210, PHY 205	3

CORE (Min. total 121 credits required)	GEC 224	Strength of Materials & Materials Sc.; Pre-req: GCE 214	3
	GEC 228	Laboratory Course I; Pre-req: None	3
	MAT 211	Calculus II; Pre-req: MAT 210	3
	MAT 310	Linear Algebra; Pre-req: MAT 211	3
	MAT 410	Differential Equations; Pre-req: MAT 310	3
	PHY 206	University Physics II; PHY 205	4
	SEN 301	Software Engineering; Pre-req: CIE 105	3
	SEN 306	Object Oriented Design & Programming; Pre-req: SEN 301	3
	TEL 521	Digital Communication System; Pre-req: 4 th yr. standing	3

Continued...

All Engineering students are required to complete *Students Industrial Work Experience Scheme* (SIWES) which prepares students for the industrial work situation. SIWES is to be completed over one semester in the fourth year. Students are strongly encouraged to visit their program chair for further details.

Course Code	Course Title - Prerequisite	Credit Hours	Requirement
CEN 493	Industrial Training; Pre-req: 4 th yr. standing	6	INTERNSHIP

Requirement	Course Code	Course Title	Credit Hours
MAJOR ELECTIVES (total 6 credits required)	CEN 528	Cryptography Principles & Applications; Pre-req: 3 rd yr. standing	3
	CEN 530	Robotic & Automation; Pre-req: 3 rd yr. standing	3
	CEN 531	Micro-Computer Hardware & Software Techniques; Pre-req: CSC 301	3
	CEN 532	Analogue and Digital Computer; Pre-req: EEE 323, EEE 327	3
	CEN 535	Data Science and Big Data; Pre-req 5 th yr. standing	3
	EEE 535	Power Systems Communication & Control; Pre-req: EEE 324	3
	EEE 536	Switchgear and High Voltage Engineering; Pre-req: EEE 408	3
	EEE 537	Industrial Electronic Design; Pre-req: EEE 324	3

	TEL 530	RF/Microwave System Design; Pre-req: TEL 521	3
	TEL 524	Image & Data Transmission System; Pre-req: TEL 521	3
	CIE 406	Technical Report Wri.; Pre-req; 3 rd yr. standing	3

5 YEAR STUDY PLAN SAMPLE - BACHELOR OF ENGINEERING COMPUTER ENGINEERING

Please note that this study plan is meant as a guide only.

This study plan does not represent any remedial course (WRI 100, MAT 100). Due to faculty and scheduling changes, some courses may not be offered during the semesters indicated. Check with your faculty and academic advisors along with your program chair each semester to be up to date with changes to the study plan.

YEAR 1 FIRST SEMESTER (17 CREDITS)

Course Code		Course Title - Prerequisite	Credit Hours	Computer Engineering Requirement
MAT 210	-	Calculus 1; Pre-req: MAT 112/Placement Test	3	GENED
WRI 101	-	Composition I; Pre-req: placement exam/WRI 100	3	GENED
AUN 101	-	AUN First Year Experience; Pre-req: None	1	GENED
ENT 101	-	Introduction to Entrepreneurship; Pre-req: None	3	GENED
CIE 111	-	Introduction to Computers and Computing; Pre-req: None	3	GENED
CHE 120	-	General Chemistry I; Pre-req: University placement test	4	GENED

YEAR 1 SECOND SEMESTER (20 CREDITS)

Course Code		Course Title - Prerequisite	Credit Hours	Computer Engineering Requirement
XXX xxx	-	ANT/CIV/ECO/HIS/ICP/PSY/SOC; Pre-req: None	3	GENED
PHY 205	-	University Physics I; Pre-req: MAT 210	4	GENED
GEN 102	-	Nigerian Peoples and Cultures; Pre-req: None	3	GENED
AUN 300(PHI 102) -		Logic and Philosophy; Pre-req: None	3	GENED
CHE 121	-	General Chemistry II; Pre-req: CHE 120	4	CORE
WRI 102	-	Composition II; Pre-req: WRI 101	3	GENED

TOTAL NO OF CREDITS:

37

YEAR 2 THIRD SEMESTER (23 CREDITS)

Course Code		Course Title - Prerequisite	Credit Hours	Computer Engineering Requirement
MAT 211	-	Calculus II; Pre-req: MAT 210	3	CORE
PHY 206	-	University Physics II; Pre-req: PHY 205	4	CORE
GEN 103	-	History and Philosophy of Science; Pre-req: None	3	GENED
GEC 201	-	Basic Engineering Drawing; Pre-req: None	2	CORE
GEC 213	-	Engineering Law; Pre-req: None	3	CORE
GEC 214	-	Applied Mechanics; Pre-req: PHY 205	3	CORE
GEC 218	-	Manufacturing Technology/Workshop Practice; Pre-req: None	2	CORE
CDV 2xx	-	Community Service; Pre-req: 2 nd yr. standing	3	GENED

YEAR 2 FOURTH SEMESTER (22 CREDITS)

Course Code		Course Title - Prerequisite	Credit Hours	Computer Engineering Requirement
STA 101	-	Introduction to Statistics Pre-req: MAT110 or higher	3	GENED
MAT 310	-	Calculus III; Pre-req: MAT 211	3	CORE
GEC 211	-	Introduction to Electrical Engineering; Pre-req: MAT 211, PHY 206	3	CORE
GEC 221	-	Thermodynamics and Fluid Mechanics; Pre-req: MAT 210, PHY 205	3	CORE
GEC 217	-	Engineer in Society; Pre-req: None	1	CORE
GEC 224	-	Strength of Materials and Materials Science; Pre-req: GEC214	3	CORE
CIE 105	-	Programming Principles I; Pre-req: CIE 111	3	CORE
GEC 228	-	Laboratory Course I; Pre-req: None	3	CORE
TOTAL NO OF CREDITS:			45	

YEAR 3 FIFTH SEMESTER (21 CREDITS)

Course Code		Course Title - Prerequisite	Credit Hours	Computer Engineering Requirement
EEE 311	-	Electromagnetic Field and Wave; Pre-req: GEC 211	3	CORE
EEE 314	-	Circuit Theory I; Pre-req: GEC 211	3	CORE
CSC 232	-	Computer Organization & Architecture; Pre-req: CIE 105	3	CORE
CEN 318	-	Laboratory Course II (MATLAB); Pre-req: 3 rd yr. standing	3	CORE
PHI 300	-	Ethics and Leadership; Pre-req: 3rd yr. standing	3	GENED
SEN 301	-	Software Engineering; Pre-req: CIE 105	3	CORE
XXX xxx -	-	ANT/CIV/ECO/HIS/ICP/PSY/SOC; Pre-req: None	3	GENED

YEAR 3 SIXTH SEMESTER (21 CREDITS)

Course Code		Course Title - Prerequisite	Credit Hours	Computer Engineering Requirement
MAT 311	-	Vector Calculus; Pre-req: MAT 310	3	CORE
ENT 325	-	Social Entrepreneurship; Pre-req: ENT 101	3	GENED
CEN 316	-	Software Development Techniques; Pre-req: CIE 105	3	CORE
CSC 301-		System Programming; Pre-req: CIE 105, MAT 310	3	CORE
CIE 333	-	Data Communication & Network; Pre-req: MAT 211	3	CORE
SEN 306	-	Object Oriented Design & Programming; Pre-req: SEN 301	3	CORE
XXX xxx	-	Visit program chair; Pre-req: refer to course description	3	FREE ELECTIVE
TOTAL NO OF CREDITS:			42	

YEAR 4 SEVENTH SEMESTER (21 CREDITS)

Course Code		Course Title - Prerequisite	Credit Hours	Computer Engineering Requirement
EEE 327	-	Digital Electronic Circuit; Pre-req: GEC 211, MAT 211	3	CORE
EEE 407	-	Measurements and Instrumentation; Pre-req: EEE 314	3	CORE
MAT 312	-	Linear Algebra; Pre-req: MAT 211	3	CORE
CEN 424	-	Microprocessor System & Interfacing; Pre-req: CSC 232	3	CORE
EEE 401	-	Control Theory; Pre-req: MAT 311	3	CORE
CEN 417	-	Prototyping Techniques; Pre-req: 3 rd yr. standing	3	CORE
XXX xxx	-	Visit program chair; Pre-req: refer to course description	3	FREE ELECTIVE

YEAR 4 EIGHTH SEMESTER (6 CREDITS)

Course Code		Course Title - Prerequisite	Credit Hours	Computer Engineering Requirement
CEN 493	-	Industrial Training; 4 th yr. standing	6	INTERNSHIP

TOTAL NO OF CREDITS:**27****YEAR 5 NINTH SEMESTER (21 CREDITS)**

Course Code		Course Title - Prerequisite	Credit Hours	Computer Engineering Requirement
MAT 410	-	Differential Equations; Pre-req: MAT 310	3	CORE
CEN 510	-	Embedded System Design; Pre-req: CSC 301	3	CORE
CEN 512	-	Digital System Design With VHDL; Pre-req: EEE 327	3	CORE
CSC 427	-	Introduction to Artificial Neural Network; Pre-req: CIE 105	3	CORE
CEN 514	-	Cyberpreneurship & Cyberlaw; Pre-req: 3 rd yr. standing	3	CORE
TEL 521	-	Digital Communication System; Pre-req: 4 th yr. standing	3	CORE
CEN 590	-	Senior Design Project Pre-req: 5 th yr. standing	3	CORE

YEAR 5 TENTH SEMESTER (21 CREDITS)

			Computer Engineering	
Course Code		Course Title - Prerequisite	Credit Hours	Requirement
CEN 526	-	Digital Signal Processing; Pre-req: CIE 105, EEE 401	3	CORE
CEN 525	-	Fuzzy Logic and Programming;	3	CORE
CEN 515	-	Computer Graphics & Animation; Pre-req: MAT 311	3	CORE
CEN 516	-	Computer Security Techniques; Pre-req: 3 rd yr. standing	3	CORE
XXX xxx	-	Visit program chair; Pre-req: refer to course description	3	FREE ELECTIVE
XXX xxx	-	2 Electives	6	MAJOR ELECTIVE

TOTAL NO OF CREDITS:**42****Electives - Select any 2 major elective courses**

Course Code		Course Title - Prerequisite	Credit Hours
CEN 530	-	Robotic & Automation; Pre-req: 3 rd yr. standing	3
CEN 528	-	Cryptography Principles & Applications; Pre-req: 3 rd . yr standing	3
CEN 531	-	Micro-Computer Hardware & Software Techniques; Pre-req: CSC 301	3
CEN 535	-	Data Science and Big Data; Pre-req: EEE 323, EEE 327	3
CEN 532	-	Analogue and Digital Computer; Pre-req: EEE 323, EEE 327	3
EEE 535	-	Power Systems Communication & Control; Pre-req: EEE 324	3
EEE 536	-	SwitCHMear and High Voltage Engineering; Pre-req: EEE 408	3
EEE 537	-	Industrial Electronic Design; Pre-req: EEE 324	3
TEL 530	-	RF/Microwave System Design; Pre-req: TEL 521	3
TEL 524	-	Image & Data Transmission System; Pre-req: TEL 521	3
CIE 406 -		Technical Report Writing; Pre-req; 3 rd yr. standing	3

Bachelor of Engineering – Electrical & Electronics Engineering (Honors)

The Electrical & Electronics Engineering program is designed to train students in the production and distribution of large-scale electrical power and systems. It is an important foundation for our Computer Engineering and Telecommunications Engineering degrees. It equips students with a sound knowledge of and practice in digital electronic systems in the industry as well as the engineering skills needed to design, assess, and develop electrical and electronic systems. The primary objective of the program is to train technical professionals equipped with the technological knowledge and skills to engineer systems such as power generation and supply, and communications and media.

Electrical & Electronics Engineering is also the driving force behind the advancement in the renewable and alternative energy sector as well as many infrastructural technologies. It also takes the center stage in the design of complex computer and entertainment systems, design of high hybrid electric vehicles and systems, transfer of information using radio waves and fiber optics.

Graduates of Electrical & Electronics Engineering will be equipped for careers requiring skills in the design, implementation, and testing of a variety of electrical systems.

Upon successful completion, graduates of this program will be able to:

- develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions;
- apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice and solution to complex engineering problems;
- function effectively in a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives;
- identify, formulate, and solve complex engineering problems by applying the principles of engineering, science, and mathematics;
- create, select and apply appropriate techniques, resources and modern engineering and IT tools, including prediction and modeling to complex engineering activities, with an understanding of the limitations;

Requirement	Course Code	Course Title – Prerequisite	Credit Hours
CORE (total 108 crs. required)	CHE 121	General Chemistry II; Pre-req: CHE 120	4
	CIE 105	Programming Principles I; Pre-req: None	3
	CIE 321	IT Project Management; Pre-req: 3 rd yr. standing	3
	EEE 311	Electromagnetic Field and Wave; Pre-req: GEC 211	3
	EEE 313	Physical Electronics; Pre-req: GEC 211	3
	EEE 314	Circuit Theory I; Pre-req: GEC 211	3
	EEE 316	Electrical Machines; Pre-req: GEC 211	3
	EEE 318	Laboratory Course II (MATLAB); Pre-req: 3 rd year standing	3
	EEE 323	Analogue Electronic Circuit; Pre-req: GEC 211, MAT 211	3
	EEE 324	Circuit Theory II; Pre-req: EEE 314	3
	EEE 327	Digital Electronic Circuit; Pre-req: GEC 211, MAT 211	3
	EEE 328	Laboratory Course III(HDL); Pre-req: CIE 105, EEE 314	3
	EEE 401	Control Theory; Pre-req: MAT 311	3
	EEE 407	Measurements and Instrumentation; Pre-req: EEE 314	3
	EEE 408	Electric Power Principles; Pre-req: EEE 316	3
	EEE 418	Laboratory Course IV; Pre-req: EEE 328	3
	EEE 512	Reliability & Maintainability of Elect. & Electronic Systems; Pre req: 3 rd yr. standing	3
	EEE 531	Electromechanical Devices Design; Pre-req: EEE 316	2
	EEE 537	Industrial Electronic Design; Pre-req: EEE 324	3
	EEE 590	Senior Design Project; Pre-req: 5 th yr. standing	3
	GEC 201	Basic Engineering Drawing; Pre-req: None	2
	GEC 211	Intro. to Electrical Eng.; Pre-req: MAT 211, PHY 206	3
	GEC 213	Engineering Law; Pre-req: None	3
	GEC 214	Applied Mechanics; Pre-req: PHY 205	3
	GEC 217	Engineer in Society; Pre-req: None	1
	GEC 218	Manufacturing Tech/Workshop Practice; Pre-req: None	2
	GEC 221	Thermodynamics and Fluid Mechanics; Pre-req: MAT 210, PHY 205	3
	GEC 224	Strength of Materials and Materials Sc.; Pre-req: GEC 214	3
	GEC 228	Laboratory Course I; Pre-req: None	3

	MAT 211	Calculus II; Pre-req: MAT 210	3
	MAT 310	Calculus III; Pre-req: MAT 211	3
	MAT 311	Vector Calculus; Pre-req: MAT 310	3
	MAT 312	Linear Algebra; Pre-req: MAT 211	3
	MAT 316	Numerical Analysis; Pre-req: MAT 211	3
	MAT 410	Differential Equations; Pre-req: MAT 310	3
	PHY 206	University Physics II; Pre-req: PHY 205	4
	STA 301	Probability & Statistics; Pre-req: STA 101	3

- apply engineering design to produce solutions that meet specified needs with consideration for public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors;
- recognize importance of, and pursue lifelong learning in the broader context of innovation and technological developments.

AUN 5-Year Electrical & Electronics Engineering Curriculum

Electrical & Electronics Engineering Degree Award Requirement

To be eligible for the award of an Electrical & Electronic Engineering degree, a candidate must satisfactorily complete the minimum number of units prescribed for the degree. This would involve successfully completing the approved compulsory and elective courses of the School and other departments of the University.

Bachelor of Engineering Electrical & Electronics Engineering Credit Hours Requirement						
Program	MAJOR					Overall Graduation Requirement
	Minimum Total Credit Hours					
	GenEd	Core	Internship	Free Electives	Major Electives	193
Electrical & Electronic	50 + 1*	108	6	9	19	

*All Engineering students are enrolled in two 4-credit hour courses that satisfies Natural & Physical Sciences which is a total of 8 credit hours and not 7 credit hours as listed in General Education requirements.

Credit Hour Load Breakdown

Year 1 37

Year 2 45

Year 3 42

Year 4 27

344

Electrical and Electronics Engineering majors are required to successfully complete the following courses along with the *Students Industrial Work Experience Scheme* (SIWES).

All Engineering students are required to complete *Students Industrial Work Experience Scheme* (SIWES) which prepares students for the industrial work situation. SIWES is to be completed over one semester in the fourth year. Students are strongly encouraged to visit their program chair for further details.

Course Code	Course Title - Prerequisite	Credit Hours	Required
EEE 493	Industrial Training; Pre-req: 4 th yr. standing	6	INTERNSHIP

Students are required to complete 19 credits of major electives.

Requirement	Group	Course Code	Course Title	Credit Hours
MAJOR ELECTIVES (Min. total 19 credits required)	1 (6 crs. required)	CSC 427	Introduction to Artificial Neural Network; Pre-req: CIE 105	3
		CEN 525	Fuzzy Logic and Programming; Pre-req: CIE 105, EEE 327	3
		CEN 526	Digital Signal Processing; Pre-req: CIE 105, EEE 401	3
		CEN 527	Non-Linear Control Systems; Pre-req: EEE 401	3
		EEE 510	Advanced Circuit Design; Pre-req: EEE 324	3
		EEE 511	Power Systems Engineering; Pre-req: EEE 408	3
		EEE 525	Use of Engineering Packages; Pre-req: EEE 407	3
		EEE 527	Electrical Machines Design; Pre-req: EEE 316	3
		EEE 530	Introduction to Mechatronics; Pre-req: EEE 316, CIE 105	3
	2 (min. 13 crs. required)	TEL 521	Digital communications system; Pre-req: 4 th yr. standing	3
		EEE 514	Electrical Power Generation and Utilization; Pre-req; EEE 408	3
		EEE 516	Renewable Energy; Pre-req; EEE 408	3
		EEE 531	Electromechanical Devices Design; Pre-req: EEE 316	2
		EEE 532	Electrical Services Design; Pre-req: EEE 408	2
		EEE 533	Power Electronics; Pre-req: EEE 327	3
		EEE 534	Power Systems Engineering (Systems Analysis, Planning and Protection); Pre-req: EEE 408	3
		EEE 535	Power Systems Communication & Control; Pre-req: EEE 324	2
		EEE 536	Switchgear and High Voltage Engineering; Pre-req: EEE 408	2

Continued...

Requirement	Group	Course Code	Course Title	Credit Hours
		EEE 540	Solid State Electronics; Pre-req: EEE 324, PHY 206	3
		CEN 531	Micro-Computer Hardware & Software Techniques; Pre-req: CSC 301	3
		CEN 532	Analogue and Digital Computer; Pre-req: EEE 323, EEE 327	3
		TEL 524	Image & Data Transmission System Pre-req: TEL 521	3
		TEL 530	RF/Microwave System Design; Pre-req: TEL 521	3
		TEL 534	Telecommunication Services Design; Pre-req: 5 th yr. standing	2
		CIE 406	Technical Report Writing; Pre-req: 3 rd yr. standing	3

5 YEAR STUDY PLAN SAMPLE - BACHELOR OF ENGINEERING IN ELECTRICAL & ELECTRONICS ENGINEERING

FALL & SPRING ADMISSION

Please note that this study plan is meant as a guide only.

This study plan does not represent any remedial course (WRI 100, MAT 100). Due to faculty and scheduling changes, some courses may not be offered during the semesters indicated. Check with your faculty and academic advisors along with your program chair each semester to be up to date with changes to the study plan.

YEAR 1 FIRST SEMESTER (17 CREDITS)

			Electrical & Electronics	
Course Code	Course Title - Prerequisite	Credit Hours	Requirement	
WRI 101	- Composition I; Pre-req: placement exam/WRI 100	3	GENED	
AUN 101	- AUN First Year Experience; Pre-req: None	1	GENED	
ENT 101	- Introduction to Entrepreneurship; Pre-req: None	3	GENED	
CIE 111	- Introduction to Computers and Computing; Pre-req: None	3	GENED	
CHE 120	- General Chemistry I; Pre-req: University placement test	4	GENED	
MAT 210	- Calculus 1; Pre-req: MAT 112/Placement Test	3	GENED	

YEAR 1 SECOND SEMESTER (20 CREDITS)

			Electrical & Electronics	
Course Code	Course Title - Prerequisite	Credit Hours	Requirement	
XXX xxx	- ANT/CIV/ECO/HIS/ICP/PSY/SOC; Pre-req: None	3	GENED	
PHY 205	- University Physics I; Pre-req: MAT 210	4	GENED	
GEN 102	- Nigerian Peoples and Cultures; Pre-req: None	3	GENED	
WRI 102	- Composition II; Pre-req: WRI 101	3	GENED	
AUN 300(PHI 102) -	Logic and Philosophy; Pre-req: None	3	GENED	
CHE 121	- General Chemistry II; Pre-req: CHE 120	4	CORE	

TOTAL NO OF CREDITS:

37

YEAR 2 THIRD SEMESTER (23 CREDITS)**Electrical & Electronics**

Course Code		Course Title - Prerequisite	Credit Hours	Requirement
PHY 206	-	University Physics II; Pre-req: PHY 205	4	CORE
GEN 103	-	History and Philosophy of Science; Pre-req: None	3	GENED
GEC 201	-	Basic Engineering Drawing; Pre-req: None	2	CORE
GEC 214	-	Applied Mechanics; Pre-req: PHY 205	3	CORE
GEC 218	-	Manufacturing Technology/Workshop Practice; Pre-req: None	2	CORE
GEC 213	-	Engineering Law; Pre-req: None	3	CORE
MAT 211	-	Calculus II; Pre-req: MAT 210	3	CORE
CDV 2xx	-	Community Service; Pre-req: 2 nd yr. standing	3	GENED

YEAR 2 FOURTH SEMESTER (22 CREDITS)**Electrical & Electronics**

Course Code		Course Title - Prerequisite	Credit Hours	Requirement
GEC 211	-	Introduction to Electrical Engineering; Pre-req: MAT 211, PHY 206	3	CORE
STA 101	-	Introduction to Statistics Pre-req: MAT110 or higher	3	GENED
MAT 310	-	Calculus III; Pre-req: MAT 211	3	CORE
GEC 221	-	Thermodynamics and Fluid Mechanics; Pre-req: MAT 210, PHY 205	3	CORE
GEC 217	-	Engineer in Society; Pre-req: None	1	CORE
GEC 224	-	Strength of Materials and Materials Science; Pre-req: GEC 214	3	CORE
CIE 105	-	Programming Principles I; Pre-req: CIE 111	3	CORE
GEC 228	-	Laboratory Course I; Pre-req: None	3	CORE

TOTAL NO OF CREDITS:**45**

YEAR 3 FIFTH SEMESTER (24 CREDITS)**Electrical & Electronics**

Course Code		Course Title - Prerequisite	Credit Hours	Requirement
EEE 311	-	Electromagnetic Field and Wave; Pre-req: GEC 211	3	CORE
EEE 313	-	Physical Electronics; Pre-req: GEC 211	3	CORE
EEE 314	-	Circuit Theory I; Pre-req: GEC 211	3	CORE
ENT 325	-	Social Entrepreneurship; Pre-req: ENT 101	3	GENED
PHI 300	-	Ethics and Leadership; Pre-req: 3rd yr. standing	3	GENED
EEE 318	-	Laboratory Course II (MATLAB) ; Pre-req: 3rd year standing	3	CORE
XXX xxx	-	ANT/CIV/ECO/HIS/ICP/PSY/SOC; Pre-req: None	3	GENED

YEAR 3 SIXTH SEMESTER (21 CREDITS)**Electrical & Electronics**

Course Code		Course Title - Prerequisite	Credit Hours	Requirement
MAT 311	-	Vector Calculus; Pre-req: MAT 310	3	CORE
MAT 316	-	Numerical Analysis; Pre-req: MAT 211	3	CORE
STA 301	-	Probability & Statistics; Pre-req: STA 101	3	CORE
EEE 323	-	Analogue Electronic Circuit; Pre-req: GEC 211, MAT 211	3	CORE
EEE 327	-	Digital Electronic Circuit; Pre-req: GEC 211, MAT 211	3	CORE
EEE 324	-	Circuit Theory II; Pre-req: EEE 314	3	CORE
EEE 328	-	Laboratory Course III(HDL); Pre-req: CIE 105, EEE 314	3	CORE
TOTAL NO OF CREDITS:			42	

YEAR 4 SEVENTH SEMESTER (21 CREDITS)**Electrical & Electronics**

Course Code		Course Title - Prerequisite	Credit Hours	Requirement
MAT 312	-	Linear Algebra; Pre-req: MAT 211	3	CORE
CIE 321	-	IT Project Management; Pre-req: 3 rd yr. standing	3	CORE
EEE 316	-	Electrical Machines; Pre-req: GEC 211	3	CORE
EEE 418	-	Laboratory Course IV; Pre-req: EEE 328	3	CORE
EEE 401	-	Control Theory; Pre-req: MAT 311	3	CORE
XXX xxx	-	Visit program chair; Pre-req: refer to course description	3	FREE ELECTIVE
XXX xxx		Group 1 - Electives	3	MAJOR ELECTIVE

YEAR 4 EIGHTH SEMESTER (6 CREDITS)**Electrical & Electronics**

Course Code		Course Title - Prerequisite	Credit Hours	Requirement
EEE 493		Industrial Training; Pre-req: 4 TH year standing	6	INTERNSHIP

TOTAL NO OF CREDITS:**27**

YEAR 5 NINTH SEMESTER (21 CREDITS)**Electrical & Electronics**

Course Code		Course Title - Prerequisite	Credit Hours	Requirement
EEE 408	-	Electric Power Principles; Pre-req: EEE 316	3	CORE
MAT 410	-	Differential Equations; Pre-req: MAT 310	3	CORE
EEE 512	-	Reliability & Maintainability of Electrical & Electronic Systems; Pre-req: 3 rd yr. standing	3	CORE
EEE 537	-	Industrial Electronic Design; Pre-req: EEE 324	3	CORE
EEE 590	-	Senior Design Project; Pre-req: 5 th year standing	3	CORE
XXX xxx	-	Visit program chair Pre-req: refer to course description	3	FREE ELECTIVE
XXX xxx	-	Group 1 - Electives	3	MAJOR ELECTIVE

Group 1 – Electives. Select any 2 major elective courses from the following...

Course Code		Course Title - Prerequisite	Credit Hours
CSC 427-	-	Introduction to Artificial Neural Network; Pre-req: CIE 105	3
CEN 525	-	Fuzzy Logic and Programming; Pre-req: CIE 105, EEE 327	3
CEN 526	-	Digital Signal Processing; Pre-req: CIE 105, EEE 401	3
CEN 527	-	Non-Linear Control Systems; Pre-req: EEE 401	3
EEE 510	-	Advanced Circuit Design; Pre-req: EEE 324	3
EEE 525	-	Use of Engineering Packages; Pre-req: EEE 407	3
EEE 511	-	Power Systems Engineering; Pre-req: EEE 408	3
EEE 527	-	Electrical Machines Design; Pre-req: EEE 316	3
EEE 530	-	Introduction to Mechatronics; Pre-req: EEE 316, CIE 105	3
TEL 521	-	Digital communications system; Pre-req: 4 th yr. standing	3

YEAR 5 TENTH SEMESTER (19 CREDITS)**Electrical & Electronics**

Course Code		Course Title - Prerequisite	Credit Hours	Requirement
EEE 407	-	Measurements and Instrumentation; Pre-req: EEE 314	3	CORE
EEE 531	-	Electromechanical Devices Design; Pre-req: EEE 316	2	CORE
XXX xxx	-	Visit program chair Pre-req: refer to course description	3	FREE ELECTIVE
XXX xxx	-	Group 2 - Electives	13	MAJOR ELECTIVE

Group 2 - Electives

Choose any of the major elective courses from the following...

Course Code		Course Title - Prerequisite	Credit Hours
EEE 514	-	Electrical Power Generation and Utilization; Pre-req; EEE 408	3
EEE 516	-	Renewable Energy; Pre-req; EEE 408	3
EEE 540	-	Solid State Electronics; Pre-req: EEE 324, PHY 206	3
EEE 531	-	Electromechanical Devices Design; Pre-req: EEE 316	2
EEE 532	-	Electrical Services Design; Pre-req: EEE 408	2
EEE 533	-	Power Electronics; Pre-req: EEE 327	3
EEE 534	-	Power Systems Eng. (Systems Analysis, Planning and Protection); Pre-req: EEE 408	3
CEN 532	-	Analogue and Digital Computer; Pre-req: EEE 323, EEE 327	3
EEE 535	-	Power Systems Communication & Control; Pre-req: EEE 324	2
EEE 536	-	Switchgear and High Voltage Engineering; Pre-req: EEE 408	2
CEN 531	-	Micro-Computer Hardware & Software Techniques; Pre-req: CSC 301	3
TEL 524	-	Image & Data Transmission System; Pre-req: TEL 521	3
TEL 530	-	RF/Microwave System Design; Pre-req: TEL 521	3
TEL 534	-	Telecommunication Services Design; Pre-req: 5 th yr. standing	2
CIE 406	-	Technical Report Writing; Pre-req; 3 rd yr. standing	3

TOTAL NO OF CREDITS:**42**

Bachelor of Engineering - Systems Engineering (Honors)

The Systems Engineering program aims to cultivate broad-minded engineers that can address the growing complexity associated with conceiving, building and managing complex socio-technical systems in organizations, both private and public. It is a systems-centric program designed to meet the needs of engineers and scientists who are engaged in all facets of analysis, design, integration, production, and operation of modern systems.

Systems Engineering is a discipline that cuts across the traditional engineering--designed primarily to study systems such as electrical, mechanical, and chemical, including business processes and logistics. This study is engineered through information, control and decision sciences. The overarching educational objective of the Systems Engineering program is to enable students to interpret and incorporate the complexities of human society beyond the boundaries of their profession and to be able to make meaningful contributions as professionals and responsible citizens to the local community as well as national and global societies. A Systems Engineer is trained to provide leadership in the planning, development, and engineering of technical systems and these include hardware and software components. Their expertise is in diverse applications such as robotics and control, automation, communications and networking, production, and energy systems.

Upon successful completion, graduates of this program will be able to:

- analyze and decompose system requirements into functions and design requirements;
- critically evaluate engineering case studies and apply the findings to guide and inform the engineering design process;
- Identify, analyze, and objectively resolve design trade-offs;
- recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in a global, economic, environmental, and societal context;
- identify and analyze the various phases in a system's life-cycle, and demonstrate an understanding of the importance of considering a system's life-cycle early in the design effort;
- develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgments to draw conclusions;
- apply systems engineering fundamentals to a real-world project as part of a design team strategies.

Graduates of the AUN Systems Engineering program will be equipped for the growing software & IT industry. Some of the possible career opportunities include:

- Systems Engineer
- Systems Programmer
- Network Systems Analyst
- Industrial engineer
- Systems Consultant
- Software Consultant
- Software Engineer
- Systems Architect
- Information Technology Specialist
- IT Project Manager
- IT Director

AUN 5-YEAR Systems Engineering Curriculum

Systems Engineering Degree Award Requirement

To be eligible for the award of a Systems Engineering degree, a candidate must satisfactorily complete the minimum number of units prescribed for the degree. This would involve successfully completing the approved compulsory and elective courses of the School and other departments of the University.

Bachelor of Engineering Systems Engineering Credit Hours Requirement						
Program	GENERAL EDUCATION	MAJOR				Overall Graduation Requirement
	Minimum Total Credit Hours					
	GenEd	Core	Internship	Free Electives	Major Electives	193
Systems	50 + 1*	121	6	9	6	

*All Engineering students must enroll in a two 4-credit hour course that satisfies Natural & Physical Sciences which is a total of 8 credit hours and not 7 credit hours as listed in General Education requirement.

Credit Hours Load Breakdown

Year 1 37
Year 2 45
Year 3 43
Year 4 27
Year 5 41

Systems Engineering majors are required to successfully complete the following courses along with the *Students Industrial Work Experience Scheme (SIWES)*.

Requirement	Course Code	Course Title - Prerequisite	Credit Hours
CORE (Min. total 121 credits required)	CEN 526	Digital Signal Processing; Pre-req: CIE 105, EEE 401	3
	CEN 515	Computer Graphics and Animation; Pre-req: MAT 311	3
	CHE 121	General Chemistry II; Pre-req: CHE 120	4
	CIE 105	Programming Principles I; Pre-req: None	3
	CSC 202	Algorithms and Data Structure; Pre-req: CIE 105	3
	CSC 232	Computer Systems and Architecture; Pre-req: CIE 105	3
	CSC 427	Introduction to Artificial Neural Network; Pre-req: CIE 105	3
	EEE 401	Control Theory; Pre-req: MAT 311	3
	EEE 506	Feedback and Control Systems; Pre-req: EEE 401	3
	GEC 201	Basic Engineering Drawing; Pre-req: None	2
	GEC 211	Introduction to Electrical Engineering; Pre-req: MAT 211, PHY 206	3
	GEC 213	Engineering Law; Pre-req: None	3
	GEC 214	Applied Mechanics; Pre-req: PHY 205	3
	GEC 217	Engineer in Society; Pre-req: None	1
	GEC 218	Manufacturing Technology/Workshop Practice; Pre-req: None	2
	GEC 221	Thermodynamics and Fluid Mechanics; Pre-req: MAT 210, PHY 205	3
	GEC 224	Strength of Materials and Materials Science; Pre-req: GEC 214	3
	GEC 228	Laboratory Course I; Pre-req: None	3
	MAT 211	Calculus II; Pre-req: MAT 210	3
	MAT 310	Calculus III; Pre-req: MAT 211	3
	MAT 311	Vector Calculus; Pre-req: MAT 310	3
	MAT 312	Linear Algebra; Pre-req: MAT 211	3
	MAT 316	Numerical Analysis; Pre-req: MAT 211	3
	MAT 410	Differential Equations; Pre-req: MAT 310	3
	PHY 206	University Physics II; Pre-req: PHY 205	4
	STA 301	Statistical Distributions; Pre-req: STA 101	3
	SYE 301	Operations Research I; Pre-req: 3rd year standing	2

	SYE 302	Operations Research II; Pre-req: SYE 301	3
	SYE 303	Elements of Game Theory; Pre-req: 3 rd yr standing	2
	SYE 304	Operational Methods I; Pre-req: 3 rd yr. standing	2
	SYE 305	Mathematical Modelling for AI systems; Pre-req: MAT 312	3
	SYE 406	Mathematical Models of Chemical Eng. System; Pre-req: SYE 305	3
	SYE 311	Engineering Material & the Environment; Pre-req: GEC 224	1
	SYE 312	Rigid Body Dynamics; Pre-req: 3 rd yr. standing	3
	SYE 322	Special Analytical Techniques; Pre-req: 3rd yr. standing	3
	SYE 403	Systems Simulation; Pre-req: SYE 305	3
	SYE 404	Operational Methods II; Pre-req: SYE 304	3
	SYE 513	Engineering System Analysis; Pre-req: SYE 403	2
	SYE 514	Automated Reasoning; Pre-req: 5 th yr. standing	2
	SYE 515	Systems Reliability & Maintainability; Pre-req: 3 rd yr. standing	2
	SYE 516	Facility Planning; Pre-req: 5th yr. standing	2
	SYE 521	Mechanics of Robotics System; Pre-req: SYE 312	3
	SYE 590	Senior Design Project; Pre-req: 5 th yr. standing	3
	TEL 521	Digital Communication System; Pre-req: 4 th yr. standing	3

All Engineering students are required to complete *Students Industrial Work Experience Scheme* (SIWES) which prepares students for the industrial work situation. SIWES is to be completed over one semester in the fourth year. Students are strongly encouraged to visit their program chair for further details.

Course Code	Course Title - Prerequisite	Credit Hours	Requirement
SYE 493	Industrial Training; Pre-req: 4 th yr. standing	6	INTERNSHIP

Students are required to complete 6 credits of major electives.

Requirement	Course Code	Course Title	Credit Hours
MAJOR ELECTIVES (6 credits required)	CEN 525	Fuzzy Logic and Programming; Pre-req: CIE 105	3
	CEN 527	Non-Linear Control Systems; Pre-req: EEE 401	3
	CIE 321	IT Project Management; Pre-req: 3 rd yr. standing	3
	EEE 525	Use of Engineering Packages; Pre-req EEE 407	3
	EEE 527	Electrical Machines Design; Pre-req: EEE 316	3
	EEE 529	Power System Operations and Controls; Pre-req: EEE 322	3
	EEE 530	Introduction to Mechatronics; Pre-req: EEE 316, CIE 105	3
	CIE 406	Technical Report Writing; Pre-req; 3 rd yr. standing	3
	SYE 525	Electrical Power Systems Planning and Design; Pre-req: EEE 322	3

5 YEAR STUDY PLAN SAMPLE - BACHELOR OF SYSTEMS ENGINEERING FALL & SPRING ADMISSION

Please note that this study plan is meant as a guide only.

This study plan does not represent any remedial course (WRI 100, MAT 100). Due to faculty and scheduling changes some courses may not be offered during the semesters indicated. Please check with your faculty and academic advisors along with your program chair each semester to be up to date with changes to the study plan.

YEAR 1 FIRST SEMESTER (17 CREDITS)

			Systems Engineering	
Course Code	Course Title - Prerequisite	Credit Hours	Requirement	
WRI 101	- Composition I; Pre-req: placement exam/WRI 100	3	GENED	
AUN 101	- AUN First Year Experience; Pre-req: None	1	GENED	
ENT 101	- Introduction to Entrepreneurship; Pre-req: None	3	GENED	
CIE 111	- Introduction to Computers and Computing; Pre-req: None	3	GENED	
CHE 120	- General Chemistry I; Pre-req: University placement test	4	GENED	
MAT 210	- Calculus 1; Pre-req: MAT 112/Placement Test	3	GENED	

YEAR 1 SECOND SEMESTER (20 CREDITS)

			Systems Engineering	
Course Code	Course Title - Prerequisite	Credit Hours	Requirement	
XXX xxx	- ANT/CIV/ECO/HIS/ICP/PSY/SOC; Pre-req: None	3	GENED	
PHY 205	- University Physics I; Pre-req: MAT 210	4	GENED	
GEN 102	- Nigerian Peoples and Cultures; Pre-req: None	3	GENED	
AUN 300(PHI 102) -	Logic and Philosophy; Pre-req: None	3	GENED	
CHE 121	- General Chemistry II; Pre-req: CHE 120	4	CORE	
WRI 102	- Composition II; Pre-req: WRI 101	3	GENED	

TOTAL NO OF CREDITS:

37

YEAR 2 THIRD SEMESTER (23 CREDITS)

Course Code		Course Title - Prerequisite	Credit Hours	Systems Engineering Requirement
MAT 211	-	Calculus II; Pre-req: MAT 210	3	CORE
PHY 206	-	University Physics II; Pre-req: PHY 205	4	CORE
GEN 103		History and Philosophy of Science; Pre-req: None	3	GENED
GEC 201	-	Basic Engineering Drawing; Pre-req: None	2	CORE
GEC 213	-	Engineering Law; Pre-req: None	3	CORE
GEC 214	-	Applied Mechanics; Pre-req: PHY 205	3	CORE
GEC 218	-	Manufacturing Technology/Workshop Practice; Pre-req: None	2	CORE
CDV 2xx	-	Community Service; Pre-req: 2 nd yr. standing	3	GENED

YEAR 2 FOURTH SEMESTER (22 CREDITS)

Course Code		Course Title - Prerequisite	Credit Hours	Systems Engineering Requirement
MAT 310	-	Calculus III; Pre-req: MAT 211	3	CORE
STA 101	-	Introduction to Statistics; Pre-req: MAT 110 or higher	3	GENED
GEC 224	-	Strength of Materials and Materials Science; Pre-req: GEC 214	3	CORE
GEC 221	-	Thermodynamics and Fluid Mechanics; Pre-req: MAT 210, PHY 205	3	CORE
GEC 211	-	Introduction to Electrical Engineering; Pre-req: MAT 211, PHY 206	3	CORE
GEC 217	-	Engineer in Society; Pre-req: None	1	CORE
CIE 105	-	Programming Principles I; Pre-req: CIE 111	3	CORE
GEC 228	-	Laboratory Course I; Pre-req: None	3	CORE

TOTAL NO OF CREDITS: 45

YEAR 3 FIFTH SEMESTER (20 CREDITS)

				Systems Engineering
Course Code		Course Title - Prerequisite	Credit Hours	Requirement
MAT 311	-	Vector Calculus; Pre-req: MAT 310	3	CORE
SYE 301	-	Operations Research I; Pre-req: 3 rd yr. standing	2	CORE
CSC 232	-	Computer Systems and Architecture; Pre-req: CIE 105	3	CORE
CSC 202	-	Algorithms and Data Structure; Pre-req: CIE 105	3	CORE
MAT 316	-	Numerical Methods; Pre-req: MAT 211	3	CORE
SYE 303	-	Elements of Game Theory; Pre-req: 3 rd yr. standing	2	CORE
SYE 311	-	Engineering Material & the Environment; Pre-req: GEC 224	1	CORE
XXX xxx -	-	ANT/CIV/ECO/HIS/ICP/PSY/SOC; Pre-req: None	3	GENED

YEAR 3 SIXTH SEMESTER (23 CREDITS)

				Systems Engineering
Course Code		Course Title - Prerequisite	Credit Hours	Requirement
MAT 312	-	Linear Algebra; Pre-req: MAT 211	3	CORE
ENT 325	-	Social Entrepreneurship; Pre-req: ENT 101	3	GENED
PHI 300	-	Ethics and Leadership; 3 rd yr. standing	3	GENED
SYE 304	-	Operational Methods I; Pre-req: 3 rd yr. standing	2	CORE
SYE 302	-	Operations Research II; Pre-req: SYE 301	3	CORE
STA 301	-	Statistical Distributions; Pre-req: STA 101	3	CORE
SYE 322	-	Special Analytical Techniques; Pre-req: 3 rd yr. standing	3	CORE
XXX xxx	-	Visit program chair; Pre-req: refer to course description	3	FREE ELECTIVE

TOTAL NO OF CREDITS:**43**

YEAR 4 SEVENTH SEMESTER (21 CREDITS)**Systems Engineering**

Course Code		Course Title - Prerequisite	Credit Hours	Requirement
SYE 312	-	Rigid Body Dynamics; Pre-req: 3 rd yr. standing	3	CORE
SYE 305	-	Mathematical Modelling for AI Systems; Pre-req: MAT 312	3	CORE
EEE 401	-	Control Theory; Pre-req: MAT 311	3	CORE
SYE 404	-	Operational Methods II; Pre-req: SYE 304	3	CORE
MAT 410	-	Differential Equations; Pre-req: MAT 310	3	CORE
CSC 427	-	Introduction to Artificial Neural Network; Pre-req: CIE 105	3	CORE
XXX xxx	-	Visit program chair; Pre-req: refer to course description	3	FREE ELECTIVE

YEAR 4 EIGHTH SEMESTER (6 CREDITS)**Systems Engineering**

Course Code		Course Title - Prerequisite	Credit Hours	Requirement
SYE 493		Industrial Training; Pre-req: 4 th yr. standing	6	INTERNSHIP

TOTAL NO OF CREDITS:**27****YEAR 5 NINTH SEMESTER (21 CREDITS)****Systems Engineering**

Course Code		Course Title - Prerequisite	Credit Hours	Requirement
SYE 406	-	Mathematical Models of Chemical Eng. System Pre-req: SYE 305	3	CORE
SYE 403	-	Systems Simulation; Pre-req: SYE 305	3	CORE
SYE 590	-	Senior Design Project; Pre-req: 5 th yr. standing	3	CORE
SYE 514	-	Automated Reasoning; Pre-req: 5 th year standing	2	CORE
SYE 515	-	Systems Reliability & Maintainability; Pre-req: 3 rd yr. standing	2	CORE
SYE 516	-	Facility Planning; Pre-req: 5 th yr. standing	2	CORE
SYE 521	-	Mechanics of Robotics System; Pre-req: SYE 312	3	CORE
TEL 521	-	Digital Communication System;	3	CORE

Pre-req: 4th yr. standing

YEAR 5 TENTH SEMESTER (20 CREDITS)

				Systems Engineering Requirement
Course Code		Course Title - Prerequisite	Credit Hours	
SYE 513	-	Engineering System Analysis; Pre-req: SYE 403	2	CORE
CEN 515	-	Computer Graphics & Animation; Pre-req: MAT 311	3	CORE
CEN 526	-	Digital Signal Processing; Pre-req: CIE 105, EEE 401	3	CORE
EEE 506	-	Feedback and Control Systems; Pre-req: EEE 401	3	CORE
XXX xxx	-	Visit program chair; Pre-req: refer to course description	3	FREE ELECTIVE
XXX xxx	-	Elective	6	MAJOR ELECTIVE

TOTAL NO OF CREDITS: 41

Select any 2 major elective courses from the following...

Course Code		Course Title - Prerequisite	Credit
Hours			
CEN 525	-	Fuzzy Logic and Programming; Pre-req: CIE 105	3
CEN 527	-	Non-Linear Control Systems; Pre-req: EEE 401	3
CIE 321	-	IT Project Management; Pre-req: 4 th yr. standing	3
EEE 525	-	Use of Engineering Packages; Pre-req: EEE 407	3
EEE 527	-	Electrical Machines Design; Pre-req: EEE 316	3
EEE 529	-	Power System Operations and Controls; Pre-req: EEE 322	3
EEE 530	-	Introduction to Mechatronics; Pre-req: EEE 316, CIE 105	3
CIE 406	-	Technical Report Writing; Pre-req: 3rd yr. standing	3
SYE 525	-	Physics and Technology of Semiconductor Devices; Pre-req: PHY 206	3
SYE 527	-	Control of Robots and Human Arms; Pre-req: 5 th yr. standing	3

Bachelor of Engineering - Telecommunications Engineering (Honors)

This program emphasizes design, development, and applications of Electronics Engineering and Telecommunications Engineering. The students receive a sound background in modern electronic circuits and systems with a major focus in Telecommunications Engineering. They also receive a strong foundation in engineering science and design that will enable them to pursue productive careers in Telecommunications Engineering field. It can also be used as the foundation for careers in other areas such as business, management, and medicine. Typical settings where in which the Telecoms Engineering graduate may be employed include those in Communication Systems, Telecommunication Networks, Analog Systems, Hardware/Software Integration, and Digital & Microprocessor Systems.

Upon successful completion, students of this program should be able to:

- have understanding of random signals and stochastic processes for analyzing telecommunications systems;
- demonstrate knowledge of programming for network communications;
- design a system, component or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability;
- use the techniques, skills, and modern engineering tools necessary for engineering practice;
- identify, formulate, and solve complex telecommunications engineering problems by applying the principles of engineering, science, and mathematics;
- demonstrate an understanding of professional and ethical responsibilities;
- demonstrate an understanding of the impact of engineering solutions in a global, economic, environmental, and societal context;
- demonstrate a recognition of the need to engage in life-long learning.

Some of the possible career opportunities include:

- Mobile/Telecommunications Operators
- RF & Microwave Industries
- Optical Fiber Industries
- Consulting Engineering Firms

- Information Technology firms
- Engineering Sales
- Research & Development
- IT Project Manager
- Systems engineer
- IT Expert

Graduates of Telecommunications Engineering may also choose to further their studies, in which case they can pursue graduate studies (Masters and PhD) in related disciplines such as IT, Electrical/Electronics Engineering, Optical Communication, Satellite Communication, Control Engineering, Power Engineering, RF & Microwave Engineering.

Systems Engineering majors are required to successfully complete the following courses along with the *Students Industrial Work Experience Scheme* (SIWES).

Requirement	Course Code	Course Title – Prerequisite	Credit Hours
CORE (total 121 credits required)	CEN 402	Digital Computer Technology; Pre-req: CSC 232	3
	CEN 526	Digital Signal Processing; Pre-req: CIE 105, EEE 401	3
	CHE 121	General Chemistry II; Pre-req: CHE 120	4
	CIE 105	Programming Principles I; Pre-req: None	3
	CSC 232	Computer Org. & Architecture; Pre-req: CIE 105	3
	CSC 301	System Programming; Pre-req: CIE 105, MAT 310	3
	EEE 313	Physical Electronics; Pre-req: GEC 211	3
	EEE 314	Circuit Theory I; Pre-req: GEC 211	3
	EEE 316	Electrical Machines; Pre-req: GEC 211	3
	EEE 322	Electrical Power Systems; Pre-req: EEE 316	3
	EEE 323	Analogue Electronic Circuits; Pre-req: GEC 211, MAT 211	3
	EEE 327	Digital Electronic Circuits; Pre-req: GEC 211, MAT 211	3
	EEE 401	Control Theory; Pre-req: MAT 311	3
	EEE 405	Digital Devices and Logic Circuits; Pre-req: EEE 327	3
	EEE 407	Measurements and Instrumentation; Pre-req: EEE 314	3
	EEE 501	Industrial Electronics Design; Pre-req: EEE 324	3
	EEE 506	Feedback and Control Systems; Pre-req: EEE 401	3
	GEC 201	Basic Engineering Drawing; Pre-req: None	2
	GEC 211	Introduction to Electrical Engineering; Pre-req: MAT 211, PHY 206	3
	GEC 213	Engineering Law; Pre-req: None	3
	GEC 214	Applied Mechanics; Pre-req: PHY 205	3
	GEC 217	Engineer in Society; Pre-req: None	1
	GEC 218	Manufacturing Tech./Workshop Practice; Pre-req: None	2
	GEC 221	Thermodynamics & Fluid Mechanics; Pre-req: MAT 210,PHY 205	3
	GEC 224	Strength of Materials & Materials Sc.; Pre-req: GEC 214	3
	GEC 228	Laboratory Course I; Pre-req: None	3
	MAT211	Calculus II; Pre-req: MAT 210	3
	MAT310	Calculus III; Pre-req: MAT 211	3
	MAT311	Vector Calculus; Pre-req: MAT 310	3
	MAT312	Linear Algebra; Pre-req: MAT 211	3
	MAT410	Differential Equations; Pre-req: MAT 310	3
	PHY206	University Physics II; Pre-req: PHY 205	4
	TEL 401	Telecommunication Principles; Pre-req: EEE 327	3

	TEL 318	Lab. Course II (MATLAB); Pre-req: 3rd yr. standing	3
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Continued...

CORE (total 121 credits required)	TEL 521	Digital Com. System; Pre-req: 4th yr. standing	3
	TEL 522	Optical Communication System; Pre-req: TEL 401	3
	TEL 523	Telecom. Systems Planning; Pre-req: TEL 401	3
	TEL 524	Image & Data Transmission System; Pre-req: TEL 521	3
	TEL 527	Fundamentals of Wireless Com.; Pre-req: TEL 401	3
	TEL 530	RF/Microwave System Design; Pre-req: TEL 521	3
	TEL 590	Senior Design Project; Pre-req: 5th yr. standing	3

AUN 5-Year Telecommunications Engineering Curriculum

Telecommunications Engineering Degree Award Requirement

To be eligible for the award of a Telecommunications Engineering degree, a candidate must satisfactorily complete the minimum number of units prescribed for the degree. This would involve successfully completing the approved compulsory and elective courses of the School and other departments of the University.

Bachelor of Engineering Telecommunications Engineering Credit Hours Requirement						
Program	MAJOR					Overall Graduation Requirement
	Minimum Total Credit Hours					
	GenEd	Core	Internship	Free Electives	Major Electives	193
Telecommunications	50 + 1*	121	6	9	6	

*All Engineering students must enroll in a two 4-credit hour course that satisfies Natural & Physical Sciences which is a total of 8 credit hours and not 7 credit hours as listed in General Education requirements.

Credit Hours Load Breakdown

Year 1 37
 Year 2 45
 Year 3 42
 Year 4 27
 Year 5 42

Telecommunications Engineering majors are required to successfully complete the following courses along with the *Students Industrial Work Experience Scheme (SIWES)*.

All Engineering students are required to complete *Students Industrial Work Experience Scheme (SIWES)* which prepares students for the industrial work situation. SIWES is to be completed over one semester in the fourth year. Students are strongly encouraged to visit their program chair for further details.

Course Code	Course Title - Prerequisite	Credit Hours	Requirement
TEL 493	Industrial Training; Pre-req: 4 th yr. standing	6	INTERNSHIP

Students are required to complete 6 credits of major electives.

Requirement	Course Code	Course Title	Credit Hours
MAJOR ELECTIVES (total 6 crs required)	CIE 321	IT Project Management; Pre-req: 3 rd yr. standing	3
	CSC 427	Introduction to Artificial Neural Network; Pre-req: CIE 105	3
	CEN 525	Fuzzy Logic and Programming; Pre-req: CIE 105, EEE 327	3
	CEN 527	Non-Linear Control Systems; Pre-req: EEE 401	3
	EEE 510	Advance Circuit Design; Pre-req: EEE 324	3
	EEE 525	Physics and Technology of Semiconductor Devices; Pre-req: PHY 206	3
	EEE 526	Electrical Power Systems Planning and Design; Pre-req: EEE 322	3
	EEE 527	Electrical Machines Design; Pre-req: EEE 316	3
	TEL 531	Telecommunications Engineering; Pre-req: TEL 401	3
	EEE 529	Power System Operations and Controls; Pre-req: EEE 322	3
	EEE 530	Introduction to Mechatronics; Pre-req: EEE 316, CIE 105	3
	CIE 406	Technical Report Writing; Pre-req; 3 rd yr. standing	3

5 YEAR STUDY PLAN SAMPLE - BACHELOR OF ENGINEERING TELECOMMUNICATION ENGINEERING FALL & SPRING ADMISSION

Please note that this study plan is meant as a guide only.

This study plan does not represent any remedial course (WRI 100, MAT 100). Due to faculty and scheduling changes, some courses may not be offered during the semesters indicated. Check with your faculty and academic advisors along with your program chair each semester to be up to date with changes to the study plan.

YEAR 1 FIRST SEMESTER (17 CREDITS)

			Telecommunications Eng.	
Course Code	Course Title - Prerequisite	Credit Hours	Requirement	
WRI 101	- Composition I; Pre-req: placement exam/WRI 100	3	GENED	
AUN 101	- AUN First Year Experience; Pre-req: None	1	GENED	
ENT 101	- Introduction to Entrepreneurship; Pre-req: None	3	GENED	
CIE 111	- Introduction to Computers and Computing; Pre-req: None	3	GENED	
CHE 120	- General Chemistry I; Pre-req: University placement test	4	GENED	
MAT 210	- Calculus I; Pre-req: MAT 112/Placement Test	3	GENED	

YEAR 1 SECOND SEMESTER (20 CREDITS)

			Telecommunications Eng.	
Course Code	Course Title - Prerequisite	Credit Hours	Requirement	
XXX xxx	- ANT/CIV/ECO/HIS/ICP/PSY/SOC; Pre-req: None	3	GENED	
PHY 205	- University Physics I; Pre-req: MAT 210	4	GENED	
GEN 102	- Nigerian Peoples and Cultures; Pre-req: None	3	GENED	
AUN 300(PHI 102) -	Logic and Philosophy; Pre-req: None	3	GENED	
CHE 121	- General Chemistry II; Pre-req: CHE 120	4	CORE	
WRI 102	- Composition II; Pre-req: WRI 101	3	GENED	

TOTAL NO OF CREDITS:

37

YEAR 2 THIRD SEMESTER (23 CREDITS)**Telecommunications Eng.**

Course Code		Course Title - Prerequisite	Credit Hours	Requirement
PHY 206	-	University Physics II; Pre-req: PHY 205	4	CORE
GEN 103	-	History and Philosophy of Science; Pre-req: None	3	GENED
GEC 201	-	Basic Engineering Drawing; Pre-req: None	2	CORE
GEC 214	-	Applied Mechanics; Pre-req: PHY 205	3	CORE
GEC 213	-	Engineering Law; Pre-req: None	3	CORE
GEC 218	-	Manufacturing Technology/Workshop Practice; Pre-req: None	2	CORE
MAT 211	-	Calculus II; Pre-req: MAT 210	3	CORE
CDV 2xx	-	Community Service; Pre-req: 2 nd yr. standing	3	GENED

YEAR 2 FOURTH SEMESTER (22 CREDITS)**Telecommunications Eng.**

Course Code		Course Title - Prerequisite	Credit Hours	Requirement
STA 101	-	Introduction to Statistics Pre-req; MAT 110 or higher	3	GENED
GEC 211	-	Introduction to Electrical Engineering; Pre-req: MAT 211, PHY 206	3	CORE
MAT 310	-	Calculus III; Pre-req: MAT 211	3	CORE
GEC 221	-	Thermodynamics and Fluid Mechanics; Pre-req: MAT 210, PHY 205	3	CORE
GEC 217	-	Engineer in Society; Pre-req: None	1	CORE
GEC 224	-	Strength of Materials and Materials Science; Pre-req: GEC 214	3	CORE
CIE 105	-	Programming Principles I; Pre-req: CIE 111	3	CORE
GEC 228	-	Laboratory Course I; Pre-req: None	3	CORE

TOTAL NO OF CREDITS:**45****YEAR 3 FIFTH SEMESTER (21 CREDITS)****Telecommunications Eng.**

Course Code		Course Title - Prerequisite	Credit Hours	Requirement
EEE 313	-	Physical Electronics; Pre-req: GEC 211	3	CORE
EEE 314	-	Circuit Theory I; Pre-req: GEC 211	3	CORE
CSC 232	-	Computer Organization & Architecture; Pre-req: CIE 105	3	CORE
EEE 316	-	Electrical machines; Pre-req: GEC 211	3	CORE
ENT 325	-	Social Entrepreneurship; Pre-req: ENT 101	3	GENED
PHI 300	-	Ethics and Leadership; 3 rd yr standing	3	GENED
XXX xxx -	-	ANT/CIV/ECO/HIS/ICP/PSY/SOC; Pre-req: None	3	GENED

YEAR 3 SIXTH (21 CREDITS)**Telecommunications Eng.**

Course Code		Course Title - Prerequisite	Credit Hours	Requirement
MAT 311	-	Vector Calculus; Pre-req: MAT 310	3	CORE
EEE 323	-	Analogue Electronic Circuit; Pre-req: GEC 211, MAT 211	3	CORE
EEE 327	-	Digital Electronic Circuit; Pre-req: GEC 211, MAT 211	3	CORE
EEE 322	-	Electrical Power Systems; Pre-req: EEE 316 Pre-req: refer to course description	3	CORE
CSC 301	-	System Programming; Pre-req: CIE 105, MAT 310	3	CORE
TEL 318	-	Laboratory Course II (MATLAB); Pre-req: 3 rd yr. standing	3	CORE
XXX xxx	-	Visit program chair; Pre-req: refer to course description	3	FREE ELECTIVE

TOTAL NO OF CREDITS:**42****YEAR 4 SEVENTH SEMESTER (21 CREDITS)****Telecommunications Eng.**

Course Code		Course Title - Prerequisite	Credit Hours	Requirement
MAT 312	-	Linear Algebra; Pre-req: MAT 211	3	CORE
EEE 405	-	Digital Devices and Logic Circuits; Pre-req: EEE 327	3	CORE
EEE 401	-	Control Theory; Pre-req: MAT 311	3	CORE
EEE 407	-	Measurements and Instrumentation; Pre-req: EEE 314	3	CORE
TEL 401	-	Telecommunication Principles; Pre-req: EEE 327	3	CORE
CEN 402	-	Digital Computer Technology; Pre-req: CSC 232	3	CORE
XXX xxx	-	Visit program chair; Pre-req: refer to course description	3	FREE ELECTIVE

YEAR 4 EIGHTH SEMESTER (6 CREDITS)

Course Code	Course Title - Prerequisite	Credit Hours	Requirement
TEL 493	Industrial Training; Pre-req: 4 th yr. standing	6	INTERNSHIP

TOTAL NO OF CREDITS:**27**

YEAR 5 NINTH SEMESTER (21 CREDITS)**Telecommunications Eng.**

Course Code		Course Title - Prerequisite	Credit Hours	Requirement
MAT 410	-	Differential Equations; Pre-req MAT 310	3	CORE
CEN 526	-	Digital Signal Processing; Pre-req: CIE 105, EEE 401	3	CORE
TEL 527	-	Fundamentals of Wireless Communications; Pre-req: TEL 401	3	CORE
TEL 521	-	Digital Communication System; Pre-req: 4 th yr. standing	3	CORE
TEL 522	-	Optical Communication System; Pre-req: TEL 401	3	CORE
EEE 501	-	Industrial Electronics Design; Pre-req: EEE 324	3	CORE
TEL 590	-	Senior Design Project; Pre-req: 5 th yr. standing	3	CORE
TEL 523	-	Telecommunication Systems Planning; Pre-req: 5 th yr. standing	3	CORE

YEAR 5 TENTH SEMESTER (21 CREDITS)**Telecommunication Eng.**

Course Code		Course Title - Prerequisite	Credit Hours	Requirement
TEL 523	-	Telecommunication Systems Planning	3	CORE
TEL 524	-	Image & Data Transmission System; Pre-req: TEL 521	3	CORE
TEL 530	-	RF/Microwave System Design; Pre-req: TEL 521	3	CORE
EEE 506	-	Feedback and Control Systems; Pre-req: EEE 401	3	CORE
XXX xxx	-	Visit program chair; Pre-req: refer to course description	3	FREE ELECTIVE
XXX xxx	-	Electives	6	MAJOR ELECTIVE

TOTAL NO OF CREDITS:**42****Electives – Select any 2 major elective courses**

Course Code		Course Title – Prerequisite	Credit Hours
CSC 427	-	Intro. to Artificial Neural Network; Pre-req: CIE 105	3
CEN 525	-	Fuzzy Logic and Programming; Pre-req: CIE 105, EEE 327	3
CEN 527	-	Non-Linear Control Systems; Pre-req: EEE 401	3
EEE 525	-	Physics and Technology of Semiconductor Devices; Pre-req: PHY 206	3
EEE 510	-	Advance Circuit Design; Pre-req: EEE 324	3
EEE 526	-	Electrical Power Systems Planning and Design; Pre-req: EEE 322	3
EEE 527	-	Electrical Machines Design; Pre-req: EEE 316	3
EEE 529	-	Power System Operations and Controls; Pre-req: EEE 322	3
TEL 531	-	Telecommunication Engineering; Pre-req: TEL 401	3
EEE 530	-	Introduction to Mechatronics; Pre-req: EEE 316, CIE 105	3
CIE 321	-	IT Project Management; Pre-req: 4 th yr. standing	3
CIE 406	-	Technical Report Writing; Pre-req: 4 th yr. standing	3

SCHOOL OF LAW

From the (interim) Dean, School of Law



A very warm welcome to the School of Law at AUN.

The importance of internationalizing domestic legal education is driven by contemporary realities. In very specific terms, the more actively Nigeria interfaces with the rest of the world, the more diplomatic and business like relations the country has with other countries.

Furthermore, the dynamic and global-oriented nature of the labor market and the legal environment requires well-educated and professionally trained lawyers; with relevant practical experience in specific areas of law. This knowledge is what defines our law program.

The School of Law at AUN is committed to its philosophy of being a citadel of legal education that is development-oriented. AUN law has leveraged on the template provided by the National Universities Commission (NUC) Bench Mark of Minimum Academic Standards for Undergraduates Programs in Nigerian Universities to introduce innovation and cutting-edge courses into its LLB curriculum. Some of these courses include Law, Society and Development; Gender Law & Development; Energy Law (beyond the conventional scope of “Oil & Gas”); Conflict & Alternative Dispute Resolution; Cyber Law; HIV/AIDS & the law, and Bioethics & Biotechnology.

Apart from our competitive curriculum content, AUN Law has also introduced innovative teaching delivery methods, including action-based research and problem solving approaches. These are only a part of our deliberate strategies for creating, building, and equipping an all-around lawyer of the 21st century. Also the AUN law program has top-flight scholars and practicing lawyers and attorneys supported with advance digital facilities and up-to-date resources comparable to any other leading law school.

The School of Law offers a Bachelor of Laws (LLB Honors) degree program with full recognition by Nigeria’s Council for Legal Education.

I invite you to join our law community and enjoy our serene environment and ambience that foster innovative legal minds.

Professor Ahmadu Lawal
Interim Dean, School of Law

Philosophy of the Program

The AUN School of Law provides a collaborative environment in which to learn, think, and communicate about law, policy, and justice. Our program is engaged in preparing students for academic pursuits, professional development, enhanced personal lives, and responsible global citizenship; extending the frontiers of knowledge through research, creative efforts, and liberal scholarship; fostering an intellectual culture that merges theory with practice; contributing to social, economic, and cultural development; and, through intellectual productivity, enhancing the quality of life of the people of Nigeria, Africa and all humanity.

The program aligns closely with AUN's mission as a development university. As an institution focused on creating students who are critical thinkers and problem solvers, the courses in the AUN law program are also focused on some of the most critical problems facing Nigeria and the rest of the world.

Aim and Objectives of the LLB Degree Program

The aim and objectives of the degree programme in Law are:

- i. To ensure that Law is taught as it exists at any given time, and that every Law student adopts a comparative approach to legal studies bearing in mind that there are many systems of Law currently in operation.
- ii. To ensure that students are imbued with a general knowledge and understanding of Law.
- iii. To develop in students the intellectual ability to apply research, knowledge and analytical skills to solving theoretical and practical legal problems.
- iv. To acquaint students with principles of the judicial process and legal systems, as well as their interaction with socio-economic frameworks.
- v. To provide, through training and orientation, an appreciation of the growing relevance of inter-, trans-, cross-, and multi-disciplinary approaches to the solution of complex life problems and the role of law therein.

The program is therefore not designed to make him/her an expert in any specific field of law, but to enable him/her to appreciate what openings and opportunities are available to the law student. Students can then be positioned to make a more sensible choice as to where to move in and pitch their tents in the legal field, where they will specialize by acquiring the necessary and relevant books, skills, insights and experiences, which will guide them successfully through life's journey in, through, and with the law.

Delivery of the Program

The Bachelor of Laws degree program within the School require the successful completion of course work in the major field of study – Law – in addition to satisfying general education requirements. Students are encouraged to work closely with their advisors in designing their programs of study and to consider electives in the other disciplines available at the AUN that will complement their career objectives.

There are no majors and minors in the School of Law. While there are two departments (namely, Public & International Law, and Private & Business Law), each with a Head of Department, only a single degree

of Bachelor of Laws (LLB) is awarded under the School of Law. The departments of the School only exist for administrative purposes.

To accomplish the objectives of the AUN law program, the Bachelor of Laws (LLB) program employs a flexible approach that allows students to be taught through a balanced mixture of lectures, tutorials and clinical methods. Clinical courses (e.g. Moot Court, Trial Advocacy, and Law Clinic) sharpen students' practical skills, while lectures and tutorials enable students to view the profession from a variety of perspectives.

Classes are taught in state-of-the-art classrooms and the Law Clinic as well as through simulated modules in the well-furnished Moot Court.

Upon completion of all degree requirements, students will receive the Bachelor of Laws (LLB) Honors degree, without any particular concentration, in accordance with the National Universities Commission (NUC)'s Benchmark Minimum Academic Standards for Undergraduate Programs in Nigerian Universities (BMAS) and the Council of Legal Education (CLE)'s Guidelines.

Direct Entry

Direct Entry (DE) is an alternative mode of entry into the university directly into Second Year (third semester) apart from the JAMB or UME way of admission.

Direct Entry admission is for applicants who already have approved supplementary qualification(s) beyond the WASC/GCE/NEC Ordinary Level or equivalents.

The general minimum requirements for Direct Entry admission into the Bachelor of Laws degree at American University of Nigeria are:

Prescribed credit passes in the WASC/GCE Advanced Level, Ordinary National Diploma (OND), Higher National Diploma (HND), or university degree from recognized and accredited institutions.

Internal Transfer to School of Law (LLB)

Students who seek to transfer to School of Law for LLB program must meet the following mandatory requirements:

- You must have achieved a minimum of 3.0 CGPA and above to be eligible to apply for internal transfer
- The student must have passed at Credit ('C') level English Literature and Language in English in O' level result.
- The student must be of good character and behavior.

SOL admits students once a year - Fall (August) admission - so students intending to apply should submit their applications one month before resumption of the Fall semester. Students may speak to their academic advisor for further clarification.

All the applications for change of major into Laws will be reviewed by the SOL Dean. Outcome of the application will be communicated via email.

Your application (change of major) does not guarantee automatic acceptance or approval into School of Law.

Career Direction

In embracing the study of law, you will be challenged by one of the oldest and most rewarding professions that has ever been practiced. Legal training develops knowledge of law and lawyering skills, including the capacity to undertake articulate and critical expression. Because of the many factors and indices that distinguish the AUN law program from any other law program in Nigeria, your legal education here opens the door to the practice of law in the public or private sector as well as to a wide range of diverse career opportunities. The list below is not exhaustive:

- Attorney: Advocate (litigation)
- Attorney: Solicitor (non-litigation)
- Magistrate/Judge or Judicial Administrator
- Corporate Lawyer
- Legal Administration Officer
- Legal Risk Manager
- Legal Adviser/Consultant
- Prosecutor/State Counsel
- Alternative Dispute Resolution expert:
Arbitrator/Conciliator/Mediator/Negotiator
- Insurance Claims Assessor/Manager
- Legal Academic/Trainer/Educator
- Credit Control Manager
- Human Resources/Industrial Relations Specialist/Manager
- Regulatory Affairs Manager
- Senior Law Enforcement Official (national)
- Senior Law Enforcement Official (international policing)
- Forensic Investigator/Coroner
- Cyberspace Law Regulator/Monitor/Enforcer
- Diplomat/Foreign Affairs Professional
- Maritime, Admiralty and Shipping Advisor
- Air, Aviation and Space Advisor
- Intelligence/Security Advisor
- Legal Officer/Adviser for International Organizations
- Government/Parliamentary Draftsperson
- Estates and Wills Administrator (private or public)

- Ombudsman/Public Complaints Commissioner
- Notary Public/Commissioner for Oaths
- Law Librarian/Legal Information Officer

SCHOOL OF LAW

Bachelor of Laws (LLB Honors) degree program requirement

All students pursuing the Bachelor of Laws must earn the minimum number of credit hours prescribed for the degree -208 credit hours for UME and 177 credit hours for DE. Students are encouraged to consult their faculty and academic advisor to ensure all requirements are fulfilled.

All Laws students are required to successfully complete the following credit hours course load upon graduation.

Bachelor of Laws Requirement					
Program	Major				
	GENED	FREE ELECTIVES	CORE	MAJOR ELECTIVES	Overall Graduation Requirement
	Minimum Total Credit Hours				
Laws	50	9	109	40	208

General Education (GENED) Requirement

The GENED requirement below is specific to the **School of Law** program. Students are required to complete all General Education courses as listed below.

Discipline	Course Code	Course Title	Credit Hours
First Year Experience (total 1 credit)	AUN 101	First Year Experience	1
Arts and Humanities (total 9 credits)	GEN 102	Nigerian Peoples and Culture	3
	GEN 103	History and Philosophy of Science	3
	PHI 300	Ethics and Leadership	3
Community Service (total 3 credits)	CDV 2xx	Community Development	3
Critical Thinking and Problem Solving (total 3 credits)	PHI 103*	Logic	3
Entrepreneurship (total 6 credits)	ENT 101	Introduction to Entrepreneurship	3
	ENT 325	Social Entrepreneurship	3
Information Technology (total 3 credits)	CIE 111	Introduction to Computers and Computing	3
Mathematics**	MAT 100/ MAT 110/MAT 112/ MAT 210	Pre-Algebra/ University Algebra/Pre-Calculus/ Calculus I	0 3
and Statistics (total 6 credits)	STA 101	Intro. To Statistics	3
Natural and Physical Sciences (total 7 credits)	BIO, CHE, GEO, NES, PHY (Lab)	Refer to course description	4
	BIO, CHE, GEO, NES, PHY (no Lab)		3
Social and Behavioral Sciences (total 6 credits)	ANT, ECO, CIV, HIS, ICP, PSY, SOC	Refer to course description	3
	ANT, ECO, CIV, HIS, ICP, PSY, SOC		3
Writing** (total 6 credits)	WRI 100/WRI 101 and	Introduction to Compositions/ Composition I	0/3
	WRI 102	Composition II	3
TOTAL			50

*This course is required by Laws students only.

Mathematics and Writing Requirements**

All students majoring in Law must complete one MAT course (MAT 110 or MAT 112 or MAT 210).

<i>If a student is placed in...</i>		Credit Hours
<i>WRI 100 Intro. to Compositions</i>	<i>This is a non-university credit bearing course and does NOT count towards the overall total graduation credits required. This course does not satisfy GENED requirement.</i>	<i>0</i>
<i>MAT 100 Pre-Algebra</i>	<i>This is a non-university credit bearing course and does NOT count towards the overall total graduation credits required. This course does not satisfy GENED requirement.</i>	<i>0</i>
MAT 110 University Algebra	Satisfies GENED requirement.	3
MAT 112 Pre-Calculus		3
MAT 210 Calculus I		3

LLB (Laws) Requirement

Students must complete all of the *CORE* courses as listed.

Requirement	Course Code	Course Title	Credit Hours
CORE (109 credits)	ENG 101	Introduction to the Study of Literature	3
	LAW 101	Legal Methods I	2
	LAW 102	Legal Methods II	2
	LAW 201	Law of Contract I	4
	LAW 202	Law of Contract II	4
	LAW 203	Constitutional Law I	4
	LAW 204	Constitutional Law II	4
	LAW 205	Nigerian Legal System I	4
	LAW 206	Nigerian Legal System II	4
	LAW 300	Application of Computers to Legal Studies	3
	LAW 301	Commercial Law I	4
	LAW 302	Commercial Law II	4
	LAW 303	Law of Torts I	4
	LAW 304	Law of Torts II	4
	LAW 305	Criminal Law I	4
	LAW 306	Criminal Law II	4
	LAW 401	Land Law I	4
	LAW 402	Land Law II	4
	LAW 403	Equity and Trusts I	4
	LAW 404	Equity and Trusts II	4
	LAW 405	Law of Evidence I	4
	LAW 406	Law of Evidence II	4
	LAW 501	Law of Business Associations I	4
	LAW 502	Law of Business Associations II	4
	LAW 503	Jurisprudence and Legal Theory I	4
	LAW 504	Jurisprudence and Legal Theory II	4
	LAW 577	Trial Advocacy and Law Clinic I	1
	LAW 578	Trial Advocacy and Law Clinic II	1
	LAW 598	Research Methodology and Long Essay I	2
	LAW 599	Research Methodology and Long Essay II	4
	PHI 102	Philosophy and Human Existence I	3

Free Elective Requirement

Free Elective courses (min. 9 credits) are required. Students are strongly encouraged to visit their program chair for course selection consultation.

FREE ELECTIVE (min. 9 credits)	Course Code	Course Title	Credit Hours
	XXX xxx	Visit program chair	1-4
	XXX xxx		1-4
	XXX xxx		1-4

MAJOR LAW ELECTIVES

Students must select one course from each group (1-10) as listed.

Group	Course Code	Course Title	Credit Hours
1	LAW 207	Family Law I	4
	LAW 209	Labour Law And Employment Relations I	4
	LAW 211	Administrative Law I	4
	LAW 213	Law, Society and Development I	4
2	LAW 208	Family Law II	4
	LAW 210	Labour Law And Employment Relations II	4
	LAW 212	Administrative Law II	4
	LAW 214	Law, Society and Development II	4
	LAW 208	Family Law II	4
3	LAW 307	Public International Law I	4
	LAW 309	Human Rights Law I	4
	LAW 311	Law of Banking	4
	LAW 313	Medical Law and Ethics I	4
4	LAW 308	Public International Law II	4
	LAW 310	Human Rights Law II	4
	LAW 312	Law of Insurance	4
	LAW 314	Medical Law and Ethics II	4
5	LAW 407	Gender, Law, and Development I	4
	LAW 409	Energy, Oil and Gas Law I	4
	LAW 411	Intellectual and Industrial Property Law I	4
	LAW 413	Legal Drafting and Conveyancing Law I	4

Continued...

Group	Course Code	Course Title	Credit Hours
6	LAW 408	Gender, Law, and Development II	4
	LAW 410	Energy, Oil and Gas Law II	4
	LAW 412	Intellectual and Industrial Property Law II	4
	LAW 414	Legal Drafting and Conveyancing Law II	4
7	LAW 505	Environmental Law and Policy I	4
	LAW 507	International Humanitarian Law I	4
	LAW 509	Conflict and Alternative Dispute Resolution I	4
	LAW 511	New Technologies and the Law I	4
	LAW 513	Journal of Law, Ethics and Development I	4
8	LAW 505	Environmental Law and Policy I	4
	LAW 507	International Humanitarian Law I	4
	LAW 509	Conflict and Alternative Dispute Resolution I	4
	LAW 511	New Technologies and the Law I	4
	LAW 513	Journal of Law, Ethics and Development I	4
9	LAW 506	Environmental Law and Policy I	4
	LAW 508	International Humanitarian Law I	4
	LAW 510	Conflict and Alternative Dispute Resolution I	4
	LAW 512	New Technologies and the Law I	4
	LAW 514	Journal of Law, Ethics and Development II	4
10	LAW 506	Environmental Law and Policy I	4
	LAW 508	International Humanitarian Law I	4
	LAW 510	Conflict and Alternative Dispute Resolution I	4
	LAW 512	New Technologies and the Law I	4
	LAW 514	Journal of Law, Ethics and Development II	4

SAMPLE 5-YEAR STUDY PLAN FOR A BACHELOR OF LAWS (LLB Honors)
FALL ADMISSION

Please note that this study plan is a guide only.

This study plan does not reflect remedial courses (WRI 100, MAT 100). Due to faculty and scheduling changes some courses may not be offered during the semesters indicated. Please check with your faculty and academic advisors along with your program chair each semester to be up to date with changes to the study plan.

FIRST YEAR

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
1	MAT 110 or MAT 112 or MATY 210	Mathematics	3	Placement Exam	GENED
		Mathematics			
	WRI 101	Writing	3		GENED
		Composition I			
	ANT/CIV/ ECO/HIS/ICP /PSY/SOC	Social & Behavioral Sc.	3	None	GENED
		select one			
	AUN 101	First Yr. Experience	1	None	GENED
		First Year Experience			
	CIE 111	Info. Technology	3	None	GENED
		Intro. to Computer and Computing			
	LAW 101	Legal Methods I	2	None	CORE
	PHI 102	Phil. and Human Existence I	3	None	CORE
Total			18		
2	LAW 102	Legal Method II	2	LAW 101	CORE
	WRI 102	Writing	3	WRI 101	GENED
		Composition I			
	PHI 300	Arts and Humanities	3	min. 2 nd sem. standing	GENED
		Ethics & Leadership			
	GEN 102/ GEN 103	Arts and Humanities	3	None	GENED
		select one			

	PHI 103	Critical Thinking & Problem Solving	3	PHI 102	GENED
		Logic			
	ENG 101	Intro. to the Study of Lit.	3	WRI 101	CORE
	XXX xxx	Visit faculty advisor	3	Refer to course description	FREE ELECTIVE
Total			20		

SECOND YEAR – LAWS

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
3	LAW 101	Legal Method I (DE students only)	2	None	CORE
	LAW 201	Law of Contract I	4	None	CORE
	LAW 203	Constitutional Law I	4	None	CORE
	LAW 205	Nigerian Legal System I	4	None	CORE
	ENT 101	Entrepreneurship	3	None	GENED
		Intro. to Entrepreneurship			
	LAW xxx	Refer to Group 1-Major Elective list	4	None	MAJOR ELECTIVE
	CDV 2xx	Community Service	3	None	GENED
select one					
Total			22/24 (DE)		
4	LAW 102	Legal Method II (DE students only)	2	LAW 101	CORE
	LAW 202	Law of Contract II	4	LAW 201	CORE
	LAW 204	Constitutional Law II	4	LAW 203	CORE
	LAW 206	Nigerian Legal System II	4	LAW 205	CORE
	LAW xxx	Refer to Group 2 Major Elective list	4	Refer to course description	MAJOR ELECTIVE
	BIO/CHE/ GEO/ NES/PHY	Natural & Physical Sc.	4	None	GENED
		select one (Lab)			
Total			20/22 (DE)		

THIRD YEAR – LAWS

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
5	LAW 301	Commercial Law I	4	None	CORE
	XXX xxx	Visit faculty advisor	3	Refer to course description	FREE ELECTIVE
	LAW 303	Law of Torts I	4	None	CORE
	LAW 305	Criminal Law I	4	None	CORE
	LAW xxx	Refer to Group 3 - Major Elective list	4	None	MAJOR ELECTIVE
	ANT/CIV/ ECO/HIS/ICP /PSY/SOC	Social & Behavioral Sciences	3	None	GENED
		Select one			
	GEN 102/ GEN 103	Arts and Humanities	3	None	GENED
		Select one			
Total			25		
6	LAW 304	Law of Torts II	4	LAW 303	CORE
	LAW 306	Criminal Law II	4	LAW 305	CORE
	LAW xxx	Refer to Group 4 - Major Elective list	4	Refer to course description	MAJOR ELECTIVE
	LAW 300	Application of Computers to Legal Studies	3	None	CORE
	LAW 302	Commercial Law II	4	LAW 301	CORE
	STA 101	Maths & Statistics	3	MAT 110 or higher	GENED
		Statistics			
Total			22		

FOURTH YEAR – LAWS

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
7	LAW 401	Land Law I	4	None	CORE
	LAW 403	Equity and Trusts I	4	LAW 206	CORE
	XXX xxx	Visit faculty advisor	3	Refer to course description	FREE ELECTIVE
	LAW 405	Law of Evidence I	4	LAW 305, LAW 306	CORE
	LAW xxx	Refer to Group 5 -Major Elective list	4	None	MAJOR ELECTIVE
	ENT 325	Entrepreneurship Social Entrepreneurship	3	ENT 101	GENED
Total			22		
8	LAW 402	Land Law II	4	LAW 401	CORE
	LAW 404	Equity and Trusts II	4	LAW 403	CORE
	LAW 406	Law of Evidence II	4	LAW 405	CORE
	LAW xxx	Refer to Group 6 -Major Elective list	4	Refer to course description	MAJOR ELECTIVE
	BIO/CHE/ GEO/NES/ PHY	Natural & Physical Sc. select one (no lab)	3	None	GENED
Total			19		

FIFTH YEAR – LAWS

Semester	Course Code	Course Title	Credit Hours	Prerequisite	Requirement
9	LAW 501	Law of Business Associations I	4	LAW 201, LAW 202, LAW 301, LAW 302	CORE
	LAW 503	Jurisprudence and Legal Theory I	4	None	CORE
	LAW 577	Trial Advocacy and Law Clinic I	1	500-level	CORE
	LAW 598	Research Methodology and Long Essay I	3	500-level students only	CORE
	LAW xxx	Refer to Group 7 - Major Elective list	4	Refer to course description	MAJOR ELECTIVE
	LAW xxx	Refer to Group 8 - Major Elective list	4	Refer to course description	MAJOR ELECTIVE
Total			20		
10	LAW 502	Law of Business Associations II	4	LAW 501	CORE
	LAW 504	Jurisprudence and Legal Theory II	4	LAW 503	CORE
	LAW 578	Trial Advocacy and Law Clinic II	1	500-level	CORE
	LAW 599	Research Methodology and Long Essay II	3	LAW 598	CORE
	LAW xxx	Refer to Group 9 - Major Elective list	4	Refer to course description	MAJOR ELECTIVE
	LAW xxx	Refer to Group 10 - Major Elective list	4	Refer to course description	MAJOR ELECTIVE
Total			20		

COURSE DESCRIPTION

ACCOUNTING

ACC 201 Principles of Financial Accounting (3) introduces the principles and concepts underlying financial statements. It also includes an introduction to the accounting profession, control concepts, business entities, and all elements of basic financial statements. Additional sessions consist of discussion and application of the principles and concepts of the course. **Prerequisite: MAT 110 or higher.**

ACC 202 Principles of Managerial Accounting (3) introduces the principles and concepts underlying managerial accounting. It includes an introduction to management accounting information and cost accounting. **Prerequisite: ACC 201.**

ACC 301 Intermediate Financial Accounting I (3) introduces a two-course sequence that provides an in-depth study of principles and elements associated with financial statements. This includes financial statement analysis, income measurement, valuation of assets and equities, and generally accepted accounting principles. **Prerequisites: ACC201 and FIN 201.**

ACC 302 Intermediate Financial Accounting II (3) focuses on accounting for long-term liabilities, stockholder's equity, cash flow analysis, and international financial statements. **Prerequisite: ACC 301.**

ACC 303 Cost Accounting (3) covers the uses of accounting data for planning control and decision-making. Topics include budgets and cost concepts, techniques and behavior. **Prerequisites: ACC 202 and FIN 201.**

ACC 306 Taxation I (2) introduces a two-course

sequence covering law practices and basic principles of income tax relating to individual and partnership business. It also covers general administration of income tax, various types of incomes and bases of assessment and computation of tax liability of business profits and losses, capital allowances and general treatment, organs, and enabling statutes for tax administrations. **Prerequisite: ACC 201.**

ACC 401 Advanced Financial Accounting (3) covers accounting for royalties, investments, business combinations; consolidated financial statements; segment reporting; foreign operations; partnership accounting; and Securities and Exchange Commission (SEC) procedures. **Prerequisite: ACC 302.**

ACC 402 Accounting Information Systems (3) integrates technology into accounting. Contemporary accounting has moved from manual to computerized systems. It introduces computerized accounting skills. Other areas covered include: accounting and IT; inputs, processing and output devices; accounting and enterprise software; data bases; and controls, security, privacy and ethics for accounting information systems. **Prerequisites: ACC 301 and CIE 111.**

ACC 403 International Accounting (3) examines International Accounting Standards; reporting foreign currency transactions and exchange risk, worldwide accounting diversity; international harmonization of financial reporting; techniques to analyze foreign financial statements; strategic accounting issues in multinational corporations; international taxation and auditing issues. **Prerequisite: fourth year standing.**

ACC 404 Public Sector Accounting (3) covers in-depth study of the structure and concepts of government accounting, the treasury, audit department, consolidated revenue fund, Capital and Development fund, financial accounting and analysis- use of self-accounting system, fund accounting system and standardized uniforms for transaction. It also deals with decision making and planning and control of public funds, application of costing methods, budgeting processes, accounting for local government, educational and health institutions, budgeting systems, the effect of restructuring sectors and the implication of membership in regional bodies and international organizations. **Prerequisites: ACC 301 and ACC 302.**

ACC405 Consolidated Accounting (3) aims at affording students with interest in financial accounting further opportunities to gain advanced accounting knowledge in Group and consolidated accounts. The course covers in-depth consolidation of Financial Statements, Acquisitions & Mergers, Consolidation of Associates, Consolidation of Divestments from Subsidiaries, International Groups & Consortiums, Group Cash Flow Statements & Group Value Added Statement. **Prerequisites: ACC 201 and FIN 201.**

ACC 406 Taxation II (2) covers advanced aspects of Taxation I and includes general system of tax administration, appeals, penalties and repayment, further treatment of computation of tax liability of individuals and partnerships and companies, back duty, petroleum company's tax, capital gains tax, double taxation relieves, and VAT. **Prerequisite: ACC 306.**

ACC 410 Auditing (3) studies auditing theory, generally accepted auditing standards, audit

procedures, audit reports and the responsibilities and ethics of the auditing profession. Topics include risk, evidence, internal controls, sampling, audit testing, subsequent events, professional liability, reporting statutory provisions, compilation and review services, and reporting under government auditing standards. **Prerequisites: ACC 301, ACC 303 and fourth year standing.**

ACC 492 Accounting Independent Study (3)
Prerequisites: 2.0 CGPA or higher and third year standing.

SBE 493 SBE Internship (3) Prerequisites:
2.0 CGPA or higher and Fourth year standing.

ANTHROPOLOGY

ANT 101: Introduction to General Anthropology (3) is the study of human life in all its aspects. It is generally divided in four sub-disciplines, all related in their aim to provide a better understanding of the human condition: 1) Physical/Biological Anthropology; 2) Archaeology; 3) Cultural Anthropology, and 4) Linguistics. This course provides an introduction to those major areas of anthropology and the methods and concepts anthropologists use to study human beings. **Prerequisite: none.**

ANT 201: Introduction to Cultural Anthropology (3) focuses on the cultural sub-discipline of Anthropology. Its objective is to introduce students to human cultural diversity and to the methods and concepts anthropologists use to study human societies and cultures. It also examines the temporal, geographic, adaptive, and social diversity of humanity as well as the interaction between culture and human biology. **Prerequisite: none.**

ARABIC

Arabic 101: Basic Arabic (3)

introduces participants to the four basic skills of listening (understanding), speaking, reading and writing in Arabic. The course offers learners the opportunity to learn and practice the 4 basic skills in real life situations and domains of language use such as in the home, at school, in the office, in the market place, etc. **Prerequisite: none.**

AMERICAN UNIVERSITY OF NIGERIA

AUN 101 First Year Experience (1) is made up in-class interactions and workshops. The course is based on specific topics each week. This course is an introduction to an American style of education and philosophy with a specific focus on academic success, campus involvement and community engagement. Students will discuss issues of value and behaviour in the university setting, discover what resources are available to them, and learn what it means to integrate themselves into the campus and surrounding communities. **Prerequisite: none.**

AUN 300 Critical Thinking and Problem Solving explores critical thinking and problem solving. It addresses issues such as: what is critical thinking and why is it important? how to analyze reasoning; how to evaluate reasoning; fallacies (mistakes in reasoning); analogies; hypotheses; deduction; induction and probability; reading with a critical eye. How to analyze problems; problem solving tools and techniques; how to think 'outside the box' (creative thinking). The course will make extensive use of examples taken from real life.

Prerequisite: third year standing.

BIOLOGY

BIO 101 Exploring Life. (4: 3 lecture, 1 lab)

Biology for the non-science major. Learn about cells, the basic unit of life, and how those cells perpetuate your genes into the next generation. Learn about your body, how it works and what happens to you when your body doesn't work well. Learn about the plants and animals around you and how they impact your life. Hands-on learning in weekly labs reinforces classroom topics. NES majors may not use this course for their majors credits. **Prerequisite: none.**

BIO 102 Human Biology (4: 3 lecture, 1 lab)

This is primarily for students who are not science majors but who would like to learn more about the normal anatomy and physiology of the human body and the mechanisms and effects of disease. **Prerequisite: none.**

BIO 103 Essentials of Nutrition (3)

introduces students to the biological composition and functions of nutritional substances, including how they are attained and processed by biological systems. Students also learn how to analyze and properly plan for changing nutritional requirements during different stages of human development and levels of physical activity, how environmental and hereditary factors can lead to nutritional problems, and how these problems can be treated and/or alleviated. **Prerequisites: None.**

BIO 104 Health and Disease in Africa (3)

introduces students to major medical issues in Africa involving those caused by micro-organisms, inheritance, and poor nutrition and that affect public policy and the economy. **Prerequisite: none.**

BIO 120 Introduction to Biology I (4: 3 lecture, 1 lab).

explores the structure and function of biological molecules, the composition, diversity, and development of cell types, plus an introduction to classical and molecular genetics. Through lectures, group exercises, labs and writing exercises, students gain an understanding of how molecules and cells dictate the fundamental unity and diversity of life. This course is intended for science majors who are interested in pursuing a biology-related career. This course is a prerequisite for most high-level biology courses; it is recommended that you take this course within your first two semesters. **Prerequisite: none.**

BIO 121 Introduction to Biology II

(4: 3 lecture, 1 lab) explores how biological populations emerge and interact with each other and the environment. Topics include basic organism physiology and classification, population dynamics, micro and macroevolution, and properties of ecosystems. Through lectures, group exercises, labs, and writing exercises, students gain an understanding of the variables that shape biological populations. This course is a prerequisite for most high-level biology courses; it is recommended that you take this course within your first three semesters. **Prerequisite: BIO 120.**

BIO 205 Animal Form & Function (4: 3 lecture, 1 lab)

An introductory zoology course. This course explores the structure and function of animals. Students will learn how tissues are organized in animals and how various organs systems function. Students will also learn about animal reproduction and development. This course is a good introduction to higher level biology courses especially BIO 320 Anatomy and Physiology (4) and will take the place of BIO 105 Introduction to

Zoology (4) on your course audit sheets. **Prerequisite: BIO 121.**

BIO 206 Applied Botany (4: 3 lecture, 1 lab)

Learn plant anatomy, from cells to tissues to organs; plant physiology from photosynthesis to transport; plant genetics from Mendel to genomics; plant ecology and agriculture. Learn how important plants are to human society and to all other life on earth. Laboratory sessions are designed to complement what is learned in the class. **Prerequisite: BIO 121.**

BIO 210 Communicating in the Sciences (3) is an introductory course that covers the fundamentals of science-based research and communication. Research, and written and oral communication skills are critical elements in the professional development of scientists in the biomedical and environmental fields. This course provides students direction for critically thinking about and assessing the scientific literature, as well as enhancing their science-writing skills. Topics covered include literature types, literature searches and reviews, format and content of scientific papers, citations, science writing, and presenting data graphically. **Prerequisite: WRI 102.**

BIO 220 Animal Behavior (3) provides a general overview of the history, philosophy and methods of ethology; causation, ontogeny, function, and evolution of behavior; orientation and navigation; and sociobiology. Students will conduct a field study on a selected topic of animal behavior such as foraging, parental care, or communication.

Prerequisites: BIO 121 and NES 202.

BIO 230 Molecular Genetics (4: 3 lecture, 1 lab) explores the details and functions of DNA and RNA. Topics include the various ways in which genes are organized, the in-depth mechanisms and regulation of DNA replication, RNA transcription, and protein translation, the effects of mutations on these systems, and recent discoveries / technological advances in the field. **Prerequisite: BIO 121.**

BIO 240 Microbiology and Immunology (4: 3 lecture, 1 lab)

Introduction to the world of microbes: bacteria, archaea, fungi, algae and protists. Learn their structures, their physiology, and their roles in health and disease. Special attention is placed on diseases common to Africa. Explore the human immune system that protects us from harmful pathogens: what it is, how it works, and what happens to us when it doesn't work. Laboratories allow hands-on exposure to microbes and practice with aseptic techniques. **Prerequisites: BIO 121 and CHE 121.**

BIO 250 Global Health (3) is an introduction to the language of global health: the burden of disease, epidemiology, cost effectiveness, and health systems. It will then analyze the rationale for and modes of intervention to improve global health by exploring a number of high-profile topics. These include: HIV/AIDS pandemics, Ebola pandemics, SARS pandemics, cholera epidemics, malaria; case management of epidemics and pandemics;; non-communicable diseases, cancer, heart disease, diabetes; access to pharmaceuticals, development of vaccines, vaccine trials and bioethics of medical therapies, human resources for health, corruption, health reform, and maternal and child health. **Prerequisite: BIO 121.**

BIO 320 Human Anatomy and Physiology (4: 3 lecture, 1 lab) is an indepth knowledge of gross anatomy and the physiology of major organ systems. Common diseases related to each body system will also be studied in brief. **Prerequisites: BIO 205 and CHE 120.**

BIO 350 Introduction to Public Health (3) highlights the major disciplines of public health in Africa and the world at large: Epidemiology, health services, occupational health, medical ethics and bioethics, health economics, public health policies and social research. The three main focal points of this course will be Environment and Health, Health Promotion, and Health Services Management. This course will prepare public health and medical professionals to take up effective leadership positions in the government, the community and in both governmental and non-governmental health and medical institutions locally, nationally and internationally. **Prerequisite: BIO 121.**

BIO 360 Cell and Developmental Biology (4: 3 lecture, 1 lab) provides an in-depth exploration of cell types and their behaviors. Topics will include sub cellular architectures and functions, how cells respond to their environments, the mechanisms by which cells organize into specialized biological systems, and the effects of mutations on these systems. This course is intended for science majors who are interested in pursuing a biology-related career. **Prerequisite BIO 121.**

BIO 380 Introduction to Biotechnology (3)

surveys current applications of molecular biology in business and industry. Topics will include formation and testing of genetically modified crops, drug design, high-throughput synthesis and testing of drug candidates and other contemporary industrial methods using the biological sciences. **Prerequisite: BIO 360.**

BIO 390 Introduction to Bioinformatics (3)

teaches students to use computational methods to analyze genomic sequences. The public DNA sequence databanks and associated analysis methods available on the Internet will be used. Among the methods studies will be sequences comparisons, gene identification, RNA secondary structure prediction, and phylogenetic analysis. An introduction of Linux operating system will be included. **Prerequisites: BIO 230**

BIO 410 Structural Biology and Modeling (3)

presents contemporary methods in determining the structure of biological molecules, including X-ray diffraction, crystallography, NMR, mass spectroscopy and computational modeling. The application of these methods to the determination of protein structure and function will be emphasized. **Prerequisite: CHE 350.**

BIO 420 Human Genetics (3) designs for students who are interested in genetic counseling, medical genetics, and health science. Topics range from the molecular basis of heritance and molecular biology to genetic testing. The human genetics course focuses on the basic science as well as clinical applications of human genetics. The latest techniques used in genetic testing and screening will also be covered. Students who take this course should be able to explain the molecular and biochemical basis for a wide range of human genetic diseases. **Prerequisite: BIO 121.**

BIO 425 Molecular Genetics and Biotechnology Seminar (1) offers a current perspective on a special topic within Molecular Genetics and Biotechnology. Topics will vary, and the course may be repeated with permission of the Instructor. **Prerequisites: BIO 230 and BIO 240 and third year standing.**

BIO 430 Special Topics in Biomedical Sciences. (3) or (4: 3 lecture, 1 lab) offers a current perspective on a special topic within biomedical sciences. Topics will vary, and the course may be repeated with permission of the instructor. **Prerequisites: Permission of the Instructor and third year standing**

BIO 450 Introduction to Epidemiology (3) is an introduction to principles and methods for investigating infectious and noninfectious disease within human populations, contributing to an understanding of etiologic factors, modes of transmission, and pathogenesis. **Prerequisites: BIO 250, STA 305 .**

BIO 460 Model Organisms in Biomedical Research (3) explores how evolutionary conservation in genetic information impacts human health. Topics include the unique histories, fundamental biological properties, and specific research applications of organisms commonly studied to biological research. This course involves critical analysis of primary research articles. **Prerequisites: BIO 240 and BIO 360.**

BIO 490/NES 490: Senior Research I is the first part of a two-semester Senior Research Project. This course emphasizes the skills required to design and successfully perform research projects, including topic selection, research design, method development, sampling, managing ethical issues, data processing and analysis, and the reporting of findings. Students will learn about and apply techniques and equipment used in both laboratory and social research in the fields of environmental and biomedical sciences. By the course end, students will have developed a research proposal (i.e., complete the Introduction and Methods sections of their theses), in which they present a final project in preparation for conducting their own field/laboratory work in Part II of the Senior Research Project. **Prerequisites:** **BIO 121, BIO 210, STA 101 and third year standing.**

BIO 491/NES 491: Senior Research Project II is the second part of a two-semester Senior Research Project. This course builds upon the research proposal written in NES 490 or BIO 490. In this course students will conduct the field/laboratory work which they proposed in the previous course, analyze their data, and write up the results (i.e., complete the Results, Discussion, and Conclusion sections of their theses). This is an exciting opportunity for students to conduct original research under the supervision of faculty members. By the course end, students will have completed their research project, which they will present in written and oral form to the department. **Prerequisites:** **BIO 490 or NES 490 and STA 305**

BIO 492 Independent Study in Biomedical Sciences (1-6) provides an opportunity for a contracted independent study. Independent study includes library and/or laboratory research.

Note a maximum of 3 credits may be applied to major's credits. An additional 3 credits (if taken) may be applied to General Education Free Electives. **Prerequisites:** **Permission of the Instructor, third year standing and CGPA \geq 2.0.**

BIO 493 Internship in Biomedical Sciences (1-6) is supervised internship and experience in any aspect of biomedical sciences. This may take place in a laboratory, health facility, or other institution outside the University under the supervision of experts in relevant fields. A report and presentation is required. Note a maximum of 3 credits may be applied to major's credits. An additional 3 credits (if taken) may be applied to General Education Free Electives. **Prerequisites:** **Approved internship application, third year standing and CGPA \geq 2.0.**

BUSINESS LAW

BLW 301 Business Law I (3) (formerly SBE 220) examines business legal issues such as legal concepts, philosophy, and functions of court systems. It surveys contracts, sales, agents, negotiable instruments, legal forms of business, and the regulation of businesses. BLW 301 focuses on UCC, US law but considers international and global legal perspectives. **Prerequisites:** **third year standing.**

BLW 302 Business Law II (3) is designed to provide students with an understanding of the legal and ethical environment in which business decisions are made. You will learn of the complexity of legal rules, regulations, and court decisions affecting agency law, employment law, property law, negotiable instruments, and business organizations. You will continue to develop the analytical reasoning and writing skills you learned in Business Law I. You will read court decisions, prepare written briefs of the decisions, orally defend your interpretations of the cases, and answer hypothetical questions in open class discussion. **Prerequisites: BLW 301.**

BUS 101 - Introduction to Business (3)

introduces the business student to the field of Business Management, the course focuses on the terminology of Management; the scope of business; the character of business from social, legal, and economic perspectives. In addition, it focuses on forms of ownership, organization and management, marketing, production, finance, and accounting functions, government and business, etc. The course also stretches to consider special issues such as social responsibility of business, international business; nature of business environment, and the problem of Nigerian business enterprises. **Prerequisite: none.**

BUS 310 – Business Statistics (3) is designed to impart in the students the knowledge of statistics for business decisions. Topics covered include Statistical Inquiries, Forms and Design. The Role of Statistics, Basic Concepts in Statistics, Discrete and Continuous Variable, Functional Relationships, Sources of Data, Methods of Collecting Primary Data, Presentation of Statistical Data, Measures of Central Tendency, Measures of Dispersion, Moments, Skewness and Kurtosis, Probability Distribution, Normal Binomial, Poission and

Hypergeometric. Sampling Theory, Estimation Theory, Student's Distribution, Statistical Decision Theory, Tests of Hypotheses for Small and Large Samples, Chi-square Distribution and Test of Goodness of Fit, Linear Regression. Correlation Theory, Index, Numbers, Time Series, Analysis of Time Series, etc. **Prerequisite: MAT 210**

COMMUNITY DEVELOPMENT

CDV 201 Literacy & Numeracy (3) combines academic learning with community service at an introductory level. We will collaborate in one of AUN's community development projects, Students Empowered through Language, Literacy, and Arithmetic (STELLAR). In this course we will confront some of the major challenges facing the Nigerian primary education system today and spend most of our time working on-site in a primary school to set up and deliver an afterschool tutoring program. We will also develop educational resources, and collect and track data. **Prerequisite: min. second year standing.**

CDV 202 IT Literacy (3). There is a great need for poor communities to participate and become involved in the information society as a way to move out of abject poverty. Students taking this class are expected to think like developmental experts and help the community improve their IT literacy by visiting local communities, collecting baseline data about ICT literacy, skills, and usage among the various stakeholder groups. The students will deliver ICT training to the stakeholder groups and undertake other suitable ICT intervention in the community relating to positively affecting the beneficiary groups. **Prerequisite: second year standing.**

CDV 206 Peace Through Arts (3) introduces students to the concepts of community service,

citizenship, and critical reflection through applied arts as an interdisciplinary service project to the community. Students will serve AUN's immediate community by using art as the medium for supporting and promoting peaceful dialogue and co-existence. The target community members will be the youth. This course integrates classroom knowledge, applied art and community outreach.

Prerequisite: min. second year standing

CDV 207 Environmental Sustainability (3) explores and implements promising and pertinent strategies for redeveloping and resettling communities in Northern Nigeria that were destroyed by the Boko Haram insurgency. Through in-class lessons, reading and on-line materials, research, and hands-on field experience, students will understand the challenges and opportunities presented by post-disaster circumstances. Students will learn how to engage with stakeholders, survey and map land attributes, and develop large-scale plans for housing, water, sanitation, and agriculture. **Prerequisite: min. second year standing.**

CDV 208 Financial Literacy (3). Financial literacy results in more stable communities while improved financial literacy, particularly early in life, results in a higher standard of living over the long term, including retirement. This course will help students to understand the strong interconnection between financial illiteracy and poverty. This course includes researching sustainable financial options and creating community learning network opportunities that will assist the abject poor in the community to make sound financial decisions. This course requires students to use knowledge gained in the classroom combined with indigenous knowledge systems to affect meaningful change in the community through training, capacity building,

skills transfer, advocacy, and other interventions.

Prerequisite: second year standing.

CDV 211 Law and Justice in Development (3) essentially seeks to promote the knowledge and the understanding of the Nigerian legal system vis-a-vis vulnerable groups and the socio-economic challenges for law in a developmental state. The course will adopt a proactive initiative by sensitizing students to the plight of the marginalized and vulnerable groups in society as well as how the law could become a tool for the protection and promotion of the rights of such groups of persons. The SOL will organize intensive, short and regular trainings for all students registered in the course to equip them with the basic understanding sufficient to deliver on the objective of the course. **Prerequisite: second year standing.**

COMPUTER ENGINEERING

CEN 316 Software Development Techniques (3).

Software development life cycle. Top-Down design. Program, design using pseudo-code, flowchart. Flowchart ANSI symbols and usage. Extensive examples, and exercises using pseudo-code/flowchart to solve practical problems in engineering. Debugging and documentation techniques. Programming using a structural language such as C: Symbols, keywords, identifiers, data types, operators, various statements, operator precedence, type conversion, conditional and control structures, function, recursive functions. Arrays: 1-D, and multi-dimensional arrays, passing elements or whole array to a function. Simple sorting and searching on arrays, pointers, strings, dynamic memory allocation. Structures and Unions: Structure declaration and definition, accessing structures, array of structures, pointers and structures, union declaration, enumerated variables. File Handling: Concept of a file, files and streams, standard file handling functions, binary files, random access files. Advanced Topics: Command line parameters, pointers to functions, creation of header files, stacks, linked lists, bitwise manipulation. Software development in C in MS Windows, UNIX/LINUX environments, header file, preprocessor directives, make, make file. Static and dynamic linking libraries. Extensive examples, and exercises programming in C to solve practical problems in engineering. Exercises are to be done in the Computer Laboratory.

CEN 318 Laboratory Course I (3)

REFER TO PROGRAM CHAIR FOR
COURSEDESCRIPTION DETAILS

CEN 402 Digital Computer Technology (3)

REFER TO PROGRAM CHAIR FOR
COURSEDESCRIPTION DETAILS

CEN 417 Prototyping Techniques (3)

Introduction: Grounding, ground plane, digital ground, analogue ground, power decoupling, inductance and capacitive effects, feedthrough capacitors. Soldering techniques for pass-through and surface mount components, desoldering. Breadboarding, veroboarding. Wire wrapping techniques. Radio Frequency design and implementation techniques. Printed Circuit Board techniques, and production of PCB. Use of PCB CAD packages. Construction exercises using different prototyping techniques.

CEN 424 Microprocessor System and Interfacing (3)

A basic microprocessor system: the CPU, memory, I/O, and buses subsystems, basic operation of a microprocessor system: fetch and execute cycle, the architecture of some typical 8-bit, 16-bit microprocessors (INTEL, MOTOROLA) and their features. Programming model in real mode: registers, memory, addressing modes. Organization of the interrupt system, interrupt vectors, and external interrupts, implementation of single and multiple interrupts in real mode. Programming model in protected mode: registers, memory management and address translation, descriptor and page tables, system control instructions, multitasking and memory protection, addressing modes, and interrupt system. Memory interfacing and address decoding. I/O interfacing: memory mapped i/o, isolated i/o, bus timing, i/o instructions. Peripheral devices interfacing: 8255 PPI/6821 PIA, 8251 USART/6821 UART, DMA, Timer/Counter chips, etc. Instruction set.

Assembly language Programming of INTEL and MOTOROLA microprocessors. Discussion of a typical system e.g. IBM PC, Apple Macintosh.

CEN 510 Embedded System Design (3) introduces embedded system, components, characteristics, applications. Intel 8051/8031 Micro-controller: Features of the 8051/8031 family, block diagram and definitions of the pin of the 8051, I/O port structure, memory organization: general purpose RAM, bit addressable RAM, register bank, special function registers, external memory, memory space mapping and decoding, bus control signals timing, a typical 8051 micro-controller based system. Instruction Set and Assembly Language Programming: Addressing modes, the 8051 instruction set and typical examples, assembler operation, assembly language format, assembler directives, operation of assemblers and linkers, programming examples. On-chip Peripheral Devices: I/O ports, operations and uses of port 0, port 1, port 2, port 3, timers: their operations, programming, and applications, serial port: operations and programming, typical applications, serial port interrupt. Interfacing to external memory, keypad, seven-segment LED display, ADC and DAC chips, and input / output port expansion, description and uses of hardware development tools. MOTOROLA M6811 Micro-controller: Features of the M6811 family, block diagram and definitions of the pin of the M6811, I/O port structure, memory organization: general purpose RAM, bit addressable RAM, register bank, special function registers, external memory, memory space mapping and decoding, bus control signals timing. Instruction Set and Assembly Language Programming. On-chip peripheral devices and I/O interfacing. Introduction to PIC microcontroller: general architecture, applications and selection of microcontroller, advantages, low-end, and high

performance PIC. Specific PIC microcontrollers: Features, architecture, block diagram, pin configuration, on-chip memory, and peripheral. Instruction set and Assembly language programming. Serial I/O interfacing: I2C, and SPI interfacing and programming. Memory interfacing: external memory interfacing, EEPROM and Flash memory interfacing. Design exercises using development system.

CEN 512 Digital System Design with VHDL (3)

Finite State Machine: definition, mealy and moore models, state diagram, state table, transition table. Sequential circuits design using flip-flops, asynchronous, and synchronous circuit design. Algorithm State Machine. Design examples and exercises. Structured Design: Design constructs, Design Levels, Geometry-based interchange formats, Computer aided electronic system design tools, Schematic circuit capture, Hardware description languages, Design process (simulation, synthesis), Structural design decomposition. Introduction to VHDL: VHDL language abstractions, Design hierarchies, VHDL component, Lexical description, VHDL source file, Data types, Data objects, Language statements, Concurrent VHDL, Sequential VHDL, Advanced features of VHDL (library, package and subprograms). Structural level modeling, Register-Transfer level modeling, FSM with data path level modeling, Algorithmic level modeling. Introduction of ASIC, Types of ASIC, ASIC design process, Standard cell ASIC synthesis, FPGA Design Paradigm, FPGA synthesis, FPGA/CPLD Architectures. VHDL Design: Top-down design flow, Verification, simulation alternatives, simulation speed, Formal verification, Recommendations for verification, Writing RTL VHDL code for synthesis, top down design with FPGA. VHDL synthesis, optimization and mapping, constraints, technology library, delay calculation,

synthesis tool, synthesis directives. Computer-aided design of logic circuits.

CEN 514 Cyberpreneurship & Media Law (3)

Introduction: Definition of creativity, innovation, examples of creativity leading to innovation, commercialization of creative and innovative ideas. Trends in technology development. Entrepreneurship management and ownership. Characteristics of entrepreneur, starting a new business, business planning, strategic planning & management, site selection and layout. Establishing new venture, risk management. Business Plan Development: definition, need, preparation of business plan. Forecasting developments and charting an action plan. Identifying the product/service, market research and feasibility study. Financing business. Sources of debt financing. Creating the marketing plan, pricing, creative advertising and promotion. Entrepreneurship case studies: Overview and analysis of successful entrepreneurs such as Bill Gates, Michael Dell, David Filo and Jerry Yang of Yahoo, etc. Nigerian Entrepreneurship: Discussion of Nigerian business environment, and illustrated with successful Nigerian entrepreneurs. Overview of the Nigerian Legal System: Civil and criminal. Basic concepts of law. Contract Law. Current issues: digital signatures, Intellectual property and copyright. Speech Law: Defamation, Sedition, Printing Press Act. Speech on the Internet. Advertising Code: Made in Nigeria rules and guidelines, Advertising Standards. Media and Licensing law in Nigeria: Developing an in-depth understanding of the nature and function of Nigerian media law. Public and Private licensing. Intellectual and moral rights. Music royalties, synchronization rights, performance rights. Role of music publishers. Broadcast rights, merchandising. Detailed

analysis of Communications and Multimedia Act. Ethic and Etiquette: New codes of social behavior: the right to privacy.

CEN 515 Computer Graphics & Animations (3)

Overview of 3D animation and its application and types. Coordinate system, vertex, faces and object. Concept of wireframe, surface and solid modeling. Construction planes and differences between object space and world space. Principles of making characters alive. Polygonal Modeling techniques: The Box, using Edit Mesh, Smoothing Techniques, Subdivision Surfaces. Nurbs Modelling techniques: Utilizing NURBS toolbox, surface points and CVs. Importing and attaching NURBS surfaces, rebuilding surfaces, curve and surface approximation. Graphic animation process: Camera & Animation Camera, Set & Background (Image Plane), Light Linking. Animation Techniques: Walk Cycle and Facial Expression using Blend Shape. Dynamics animation: Rigid Bodies, Soft Bodies, constraint, Particles. Tips and tricks on rendering. Concept of Rendering in 3D modeling. Render options and file output. Same as CSP 421.

CEN 516 Computer Security Techniques (3)

History of cryptographic System, Public Key Systems, Digital Signature. Information Theory: Entropy, Perfect Secrecy, Unicity Distance, Complexity Theory, NP Completeness, Number Theory. Data Encryption Method Ciphers, Knapsack Ciphers, Breakable NP-Complete Knapsack, Encryption Standards DES, RSA, Elliptic Curves. Cryptographic Techniques: Block and Stream Ciphers, Autokey, Endpoints of Encryption, One-Way Ciphers, Password and Authentication, Secret Keys and Public Keys, Threshold Scheme. Video Scrambling techniques. Digital video encryption techniques: principle, IRDETO, Viaaccess, Videoguard, etc. Security and

Legality Issues: Copyrights, Patents, Trade Secret, Ownership of Products, Computer Crimes, Ethnical Issue in Computer Security.

CEN 525 Fuzzy Logic & Programming (3)

Introduction: fuzzy set theory, knowledge base problem, objective and subjective knowledge, crisp sets, fuzzy sets, linguistic variables, membership functions. Set theoretic operations, comparison between crisp sets and fuzzy sets. Law of Contradiction and Law of Excluded Middle, fuzzy intersection, union and complement, and other fuzzy operators. Fuzzy relations and compositions on the same and different product spaces. Max-Min composition, Max-Product composition, fuzzy relational matrix, sup-star composition. Hedges or modifiers of linguistic variables, fuzzy logic vs. probability. Fuzzy reasoning and implication, the fuzzy truth tables, traditional propositional logic and the rule of inference, the Modus Ponens and Modus Tollens, fuzzy modeling with causal IF-THEN statements. Fuzzy Models, fuzzy logic systems, combination of fuzzy basis functions, universal approximator, fuzzy neural network, fuzzy associate memory matrix, self-learning fuzzy systems. Fuzzy logic system applications. Fuzzy programming.

CEN 526 Digital Signal Processing (3)

Discrete signals and Z-transform, digital Fourier Transform, Fast Fourier Transform. The approximation problem in network theory. Synthesis of low pass filters. Spectral transforms and their application in synthesis of high-pass and band-pass filters. Digital filtering, digital transfer function aliasing, one-dimensional recursive and non-recursive filters; Computer techniques in filter synthesis, Realization of filters in hardware and software. Basic image processing concepts.

CEN 527 Non-Linear Control Systems; Pre Req: EEE 401

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COURSEDESCRIPTION DETAILS

CEN 528 Cryptography Principles & Applications (2)

History of cryptographic System, Public Key Systems, Digital Signatures. Information Theory: Entropy, Perfect Secrecy, Unicity Distance, Complexity Theory, NP Completeness, Number Theory. Data Encryption Methods: Transposition Ciphers, Substitution Ciphers, Product Ciphers, Exponentiation Ciphers, Knapsack Ciphers, Breakable NP-Complete Knapsack, Encryption Standards DES, RSA, Elliptic Curves. Cryptographic Techniques: Block and Stream Ciphers, Autokey, Endpoints of Encryption, One-way Ciphers, Password and Authentication, Secret Keys and Public Keys, Threshold Scheme. Video scrambling techniques. Digital video encryption techniques: principle, IRDETO, Viaaccess, Videoguard, etc. Security and Legality Issues: Copyrights, Patents, Trade Secret, Ownership of Products, Computer Crimes, Ethical Issue in Computer Security.

CEN 530 Robotic & Automation (2)

Robot classification and manipulation. Technology and history of development of robots. Applications. Direct and inverse kinematics: arm equation. Workspace analysis and trajectory planning. Differential motion and statics. Manipulator dynamics. End-of arm tooling. Automation sensors. Robot vision. Work-cell support systems. Robot and system integration. Safety. Human interface. Robot control system. Circuit and system configuration. Task oriented control. Robot control programming. Fuzzy logic and AI based robot control. Fundamentals of automation. Strategies and economic consideration. Integration of systems. Impact to the production factory. Evaluation of conventional processes. Analysis of automated flow lines. Assembly systems and line balancing. Automated assembly systems. Numerical control and adaptive control. Robot applications. Automated materials handling and storage systems. Automation in inspection and testing. Linear feedback control system. Optimal control. Computer process control. Computer integrated manufacturing systems. Future automated factory.

CEN 531 Micro-Computer Hardware and Software Techniques (3)

Elements of digital computer design; control unit, micro-programming, bus organization and addressing schemes. Micro-processors, system architecture, bus control, instruction execution and addressing modes. Machine codes, assembly language and high-level language programming, Micro-processors as state machines. Microprocessor interfacing: Input/output. Technique, interrupt systems and direct memory access; interfacing to analogue systems and applications to D/A and A/D converters. System development tools: simulators, EPROM

programming, assemblers and loaders, overview of an available microprocessor application.

CEN 532 Analogue and Digital Computer (3)

Analogue computation, electrical analogue of mechanical, electromechanical systems and servomechanisms. Analogue computer elements: potentiometers, operational amplifiers, function generators, simulation of system transfer functions. Digital computer structure and elements, CPU, storage, peripherals Arithmetic processes, Hybrid computer systems.

CHEMISTRY

CHE 101 Introduction to Chemistry (4:3 lecture, 1 lab) introduces students to several of today's real-world issues that have a significant chemical context such as air quality and pollution; protecting the ozone layer; global warming; energy, chemistry and society; neutralizing the threat of acid rain; petroleum to petrochemicals to plastics. This course is intended to fulfill General Education requirements to help students to become well-informed citizens no matter what career path they may choose, and to prepare students for CHE 120 and other sciences courses.

Prerequisite: none

CHE 120 General Chemistry I (4: 3 lecture, 1 lab) introduces matter and measurements; atoms, molecules and ions; stoichiometry; electronic structure of atoms; periodic properties of the elements; basic concepts of chemical bonding; molecular geometry and bonding theories; gases; intermolecular forces; aqueous reactions and solution; thermo chemistry. **Prerequisite: CHE 101 or University Placement Test.**

CHE 121 General Chemistry II (4: 3 lecture, 1 lab) introduces modern materials; properties of solutions; chemical kinetics and equilibrium; acid-base equilibria; thermodynamics; chemistry of the non-metals; metals and metallurgy; electrochemistry; chemistry of coordination compounds; the chemistry of life: organic and biological chemistry. **Prerequisite: CHE 120.**

CHE 210 Organic Chemistry I (4: 3 lecture, 1 lab) provides an introduction to organic chemistry; nomenclature, isomerism, methods of preparation, physical properties; reactions and mechanisms; alkanes, alkenes, alkyenes, nucleophilic substitution and elimination reactions of alkylhalides, alcohols, and ethers, epoxides and radical reactions. **Prerequisite: CHE 121.**

CHE 211 Organic Chemistry II (4: 3 lecture, 1 lab) provides multi-step syntheses of organic compounds; aldehydes, ketones, carboxylic acids, esters, amine, reaction mechanisms, and rearrangements reactions of organic substances, petroleum-based aromatic compounds; carbon-carbon bond formation reactions and synthesis of polymer; qualitative organic analysis; spectroscopic identification techniques: IR, UV, NMR and MS. **Prerequisite: CHE 210.**

CHE 220 Physical Chemistry I (4: 3 lecture, 1 lab) covers real and ideal gases; the first law of thermodynamics; thermo-chemistry; second law of thermodynamics; entropy and free energy; third law of thermodynamics; chemical potential; phase equilibrium; solutions; chemical equilibrium; complex reactions; kinetics; rates of chemical reactions. **Prerequisites: CHE 121 and MAT 210**

CHE 221 Industrial Chemical Processes (3) is an

introduction to industrial chemical processes, and the structure of the chemical industry. It includes the production of primary intermediates and industrial processes for the production of organic chemicals such as polymers, adhesives, dyes, insecticides, pesticides, herbicides, flavoring agents and pharmaceuticals; introduction to industrial fermentation processes; chemical processing of minerals; metallurgy and metallurgical processes; the production of non-ferrous metals and alloys; aluminum smelting; production of some heavy inorganic chemicals (sulphuric acid, sodium carbonate, sodium bicarbonate, sodium hydroxide etc.) and a survey of inorganic chemical industries and their products in Nigeria. **Prerequisite: CHE 121**

CHE 300 Oil & Gas Law (3) provides an introduction to the basic laws that regulates the petroleum industry in Nigeria. Topics include: history of petroleum in Nigeria, legal perspective of petroleum, laws regulating petroleum in Nigeria, ownership of petroleum, concessionary rights and obligations under the petroleum act, NNPC and the major joint venture agreements in the petroleum industry, taxation in the industry and the regulator bodies in the petroleum industry. **Prerequisite: CHE 210.**

CHE 320 Petrochemicals and Polymers (2)

REFER TO PROGRAM CHAIR FOR COURSE DESCRIPTION DETAILS

CHE 322 Environmental Chemistry (3) (cross listed with NES 430). Concept of elementary cycles. Characteristics of the atmosphere. Sources, types, effect and control of environmental pollution. Waste water treatment. Composition of domestic waste (handling solid waste); waste recycling. Water chemistry and analysis. Chemical and physical instrumentation in environmental sciences. Global warming: its sources, effects and remedies. Green Chemistry: principles and concept of green chemistry, atom economic and non-economic reactions, reducing toxicity, a few examples of environmental friendly reactions, and reaction media. **Prerequisites:** CHE 121

CHE 323 Chemical Kinetics and Thermodynamics (3) explores elements of physical chemistry from a macroscopic point of view, thermodynamics, and its applications to chemical equilibrium, phase equilibrium, chemical kinetics, and reaction rate theory. **Prerequisite:** CHE 220.

CHE 324 Industrial Chemical Technology (3). Processes and processes variables. Material balances: the flowsheet, general balance equation; material techniques; material unit balances; chemical reactions. Energy balances: energy balance equations; energy balance techniques. Fluid flow: types of fluid, flow regimes, balance equations, flow in pipes. Heat transfer: mechanism, heat exchangers. Separation processes: characteristics; phase equilibria; fundamental concept and practical techniques for solving problems relating to equilibria stage processes; mixing and agitation; crystallization, filtration and drying; grinding and sieving; binary distillation, solvent extraction, solid-liquid extraction; leaching and liquid-liquid extraction. Process development for large scale production; technical and economic principles of processes

and product routes. Cost calculations. Methods of storing materials; transport of liquids and gases; equipment for mass transfer. An introduction to the scope of different types of equipment used in chemical industry: distillation columns, extractors, pumps, mills, mixers and agitators, dryers, and crystallisers. Reactors: types; characteristics & choice; advantages and disadvantages; selection for catalysts. Dialysis; reverse osmosis; electrodialysis. Process control: objectives; the control loop; measuring devices; the controller; computer control. Case studies: the cases chosen should emphasize process and product development in the Nigerian chemical industry. **Prerequisite:** CHE 221

CHE 330, Analytical Chemistry (4: 3 lecture, 1 lab) provides a statistical treatment of analytical data, and the use of excel and other software packages in data treatment (e.g. spss and minitab). Acid-base titration in aqueous and non-aqueous media; complexometric, precipitation and redox titrations; gravimetric analysis: nucleation and crystal growth, methodology, colloids. Introduction to separations in analytical chemistry. Radiochemical methods, Chromatography. **Prerequisites:** CHE 121.

CHE 331 Instrumental Methods of Analysis & Applied Spectroscopy (3). Provides electrochemical methods of analysis--voltametric, conductometric, electrogravimetric and potentiometric measurements; optical methods of analysis --study of electromagnetic spectrum; The principle and application of UV, IR, NMR and Mass spectroscopy technique in the determination and elucidation of structure of organic compounds and in particular petroleum product analysis; Beer's-Lambert law; luminescence, atomic spectroscopy and IR analysis, and chromatographic methods analysis [HPLC, GC, LC, etc]. Characterization frequencies. NMR; Chemical Shift (^1H and ^{13}C), integrals, coupling patterns and coupling constant and their use, interpretation and prediction of spectra. Mass Spectrometry; uses of EI and CI spectra, important fragmentation processes. **Prerequisite: CHE 330**

CHE 340, Inorganic Chemistry (4: 3 lecture, 1 lab) explores the chemistry of main group elements; review of physicochemical principles that govern the reactivity of main group elements, electronic structure and general properties and the comparative study of group IA and IIA elements, detailed treatment of the electronic structure of transition elements (d-block) and the relationship to their peculiar physicochemical properties, introduction to the lanthanides and the actinides, coordination compounds: structure, geometry, nomenclature and isomerism, simple treatment of crystal field theory, ligand field theory. **Prerequisite: CHE 121.**

CHE 350, Biochemistry (3): provides a survey of the chemical structures and activities of the biological macromolecules. Bioenergetics, enzyme kinetics and the major metabolic pathways are emphasized. **Prerequisites: CHE 210, BIO 105, BIO**

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CHE 420 Physical Chemistry II (3). Introduction to biophysical chemistry; processes at solid surfaces, ionic equilibria, and molecules in motion. Introduction to photochemical reactions. Electrochemical cells: reactions in reversible cells, free energy and emf of reversible cells. Single electrode potential (Nernst equation), its measurement and sign convention. Standard electrode potential. Emf of reversible cells from electrode potential. Types of reversible electrodes. Application of emf measurements determination of ionic activities, pH and equilibrium constant. Potentiometric titration. Concentration cells with and without transference. Liquid junction potential and its elimination. **Prerequisite: CHE 220.**

CHE 423 Quality Control & Industrial Safety (3). Sampling and sample treatment, preparation of standard solution, calibration and standardization. Raw material analysis, production line inspection, sampling and analysis, final product sampling and analysis. Fire chemistry: fire triangle, tetrahedron and pentagon; classification of fire based on fuel type, firefighting and mitigation. Toxic substances and poisonous gases, acute and chronic exposition, maximum working place concentration. Inflammable chemicals. Handling high pressure equipment. Protective clothing and sanitary amenities for employees. **Prerequisite: CHE 330**

CHE 450 Computational Chemistry (4: 3 lecture, 1 lab) provides an overview of computational chemistry techniques including molecular mechanics and Force Fields, molecular dynamics and simulations, density-functional theory, Hartree-Fock molecular orbital theory, semi-empirical and ab initio electronic structure theory. Sufficient theoretical background is provided for students to understand the uses and limitations of each technique. An integral part of the course is hands on experience with state-of-the-art computational chemistry tools running on graphics workstations. **Prerequisite: CHE 220.**

CHE 490 Senior Research Project in Petroleum Science (4) provides the opportunity for students to conduct an individual research project pertinent to petroleum science under faculty supervision. A report is required. **Prerequisites: Permission of the program chair and fourth year standing.**

CHE 492 Independent Study (1-6)

Prerequisites: 2.0 CGPA or higher and third year standing.

CHE 499 Thesis Project in Petroleum Science (8 total credits: two (2) four (4) credit courses over two semesters) requires the completion of a research project in petroleum science and the preparation of a written thesis and oral presentation. **Prerequisites: Permission of Department Chair, CGPA minimum 2.0 or higher and fourth year standing.**

CHEMICAL ENGINEERING

CHM 201 Chemical Engineering Fundamentals (3)
The basic principles and techniques used for calculations of material balances in chemical

engineering processes are introduced. The material covered involves fundamental engineering concepts, formulation and solution of increasingly complex chemical engineering process problems and familiarization with physical properties and behavior of ideal and real gases. Problem solving sessions. **Prerequisite: CHE 121**

CHM 301 Fluid Mechanics & Transport Phenomena I (3) Compressible flow: Normal shock waves. Non-Newtonian fluids. Radiation: Mechanism of radiative heat transfer. Heat exchange between radiating surfaces. Unsteady state conduction. Free and forced convective heat transfer. Determination of heat transfer coefficients. Application to design of heat exchanges. Diffusion of vapors. Diffusion in liquids and solids. **Prerequisite: CHM 201**

CHM 320 Petrochemicals and Polymers (3) introduces polymer science and technology: synthesis of petrochemicals; olefins, and di-olefins, and intermediate compounds, thermodynamics and kinetics of polymerization; physical properties and structure; technological applications; polymers; natural and synthetic fibers, rubbers. **Prerequisites: CHE 210 and CHE 220. Prerequisite: CHM 201**

CHM 330 Chemical Engineering Thermodynamics (3) The second law. Thermodynamics properties of pure fluids and mixtures. Isothermal isentropic and polytropic expansion. Carnot cycle. Thermodynamic cycles. Refrigeration. Steam and gas turbines. **Prerequisite: CHM 201**

CHM 345 Chemical Engineering Laboratory I (3)
Laboratory experiments in transport phenomena. Kinetics and separation process. **Prerequisite: CHM 201**

CHM 351 Transport Phenomena II (3) Boundary layer theory and turbulence. Navier-Stokes equations. Universal velocity profile. Condensation and boiling. Eddy diffusion. Theories of mass transfer. Mass transfer with chemical reaction. Inter- phase mass transfer. **Prerequisite: CHM 301**

CHM 355 Science of Material (3) Atomic Structure. Physical model of the atom, Radioactivity, Crystal Structure, Crystal imperfections. Atomic movements, Phase diagrams, Solid State Transformations, Ceramic and composite materials. Fibre-reinforced Materials. Cements, polymers. **Prerequisite: GEC 224**

CHM 360 Separation Processes I (3) Stage-wise and continuous contact equipment. Isothermal gas absorption. Binary distillation. Leading. Hydrodynamics of packed and plate columns. **Prerequisite: CHM 201**

CHM 370 Polymer Process Engineering (3) A study of the fundamental principles involved in the conversion of polymeric materials into useful articles. Correlation between process variables, material characteristics and product design. Heat transfer and fluid flow in the melt processing. Heat transfer and polymeric dissipation in viscous fluids. Interactions between processing and properties. **Prerequisite: CHM 320 or CHE 221**

CHM 380 Polymer Science and Technology (3) Introduction to polymer and their characteristics. Source of monomers. Structure and physical properties of polymers: rheology, solubility and molecular weights. Plasticity and elasticity. The William Landel Ferry Equation, Polymerization reactions and manufacturing methods; Ziegler

Natta catalysis. Processing and Technology of Polymers. **Prerequisite: CHM 320 or CHE 221**

CHM 395 Chemical Engineering Laboratory II (3) Further laboratory experiments in transport phenomena, kinetics and separation processes. **Prerequisite: CHM 345**

CHM 401 Chemical Kinetics (3) Measurement and analysis of wreathing reaction. Homogeneous reactions. Catalysis. Chain reactions. Kinetics of heterogeneous and catalytic reactions. Photochemistry. Absorption of gases on solids. Application to gas chromatography. **Prerequisite: 4th yr. standing**

CHM 405 Biochemical Eng. (3) Introduction microbiology and biochemistry. Classification and growth characteristics of micro-organisms. Enzymes in engineering. Microbial culture processes in manufacturing industries. **Prerequisite: 4th yr. standing**

CHM 410 Separation Processes II (3) Drying of solids. Multiple-effects evaporators. Crystallisation. Ion- exchange. Reverse osmosis, humidification and water cooling. **Prerequisite: CHM 360**

CHM 420 Reservoir Engineering (3) Principles and techniques relating to hydrocarbon reservoir from an engineering viewpoint. Properties of reservoir rocks and reservoirs fluids are examined in association with developing an understanding of the dynamics of fluid flow in porous rock. Calculations of properties relating to crude oil, gas and reservoir condensates, calculations of hydrocarbon in place with material balance and volumetric methods. **Prerequisite: 4th yr. standing**

CHM 425 Coal Processing Technology (3) Introduction to coal formation. Physical and chemical properties of coal. Carbonisation of coal. Combustion of coal. Gasification of coal. Liquefaction of coal. Environmental aspects of coal utilisation. **Prerequisite:** 4th yr. standing

CHM 430 Technology of Fossil Fuel Processing (3) Source, availability and characterisation of fossil fuel (Petroleum, Natural gas, tar sands, coal). Modern processing technology: Choice of product lines and products: Alternative product lines and products and product specification to be emphasized. **Prerequisite:** 4th yr. standing

CHM 445 Chemical Eng. Laboratory III (3) Further laboratory experiments in transport phenomena, kinetics and separation processes. **Prerequisite:** CHM 395

CHM 493 Students Industrial Work Experience (SIWES) (6) is an internship field experience that abides by SIWES requirement. Internship prepares students for industrial work situations. Students are expected to complete a daily log-book during their internship experience and upon completion of internship, a written report must be submitted. Internship supervisors are expected to conduct site visitation. It is recommended that internship is completed over one semester in the fourth year. **Prerequisite:** minimum 3rd year standing.

CHM 501 Chemical Reaction Eng. (4) Measurement and analysis of wreathing reaction. Homogeneous reactions. Catalysis. Chain reactions. Kinetics of heterogeneous and catalytic reactions. Photochemistry. Absorption of gases on solids. Application to gas chromatography. **Prerequisite:** 4th yr. standing

CHM 505 Process Optimization (3) Maxima of functions through the use of calculus. Unconstrained peak seeking methods. Single and multi-variable search techniques. Constrained optimisation techniques. Linear programming. Numerical optimisation techniques. Discrete events. **Prerequisite:** CHM 410

CHM 510 Separation Processes III (3) Solvent extraction. Extractive and azeotropic distillation. Multicomponent gas absorption. Distillation of multi-component mixtures. Novel separation process. **Prerequisite:** CHM 410

CHM 520 Plant Design & Eco. (3) Sources of design data. Process charts and flowsheets. Equipment selection, specification and design. Mechanical design of process vessels and piping. Environmental considerations. Site considerations. Process services. Plant lay-out in the food industry. Economics of process design and optimisation techniques. Optimum design of food processing plants. **Prerequisite:** 5th yr. standing

CHM 545 Chemical Eng. Laboratory IV (3) Process Instrumentation: Measuring instruments for level, pressure, flow, temperature and physical properties. Chemical composition analysers. Measurement. Gas chromatograph. Mass Spectrometer. Sampling systems. **Prerequisite:** CHM 445

CHM 551 Process Control & Simulation (4) Process dynamics. Transfer functions. Frequency response analysis. Discrete events. Control system design. Cascade control. Feed forward and feedback control. Introduction to multi-variable control. The control valve. **Prerequisite:** CHM 410

CHM 555 Loss Prevention in Process Industries (3)

Hazards in chemical process industries. Safety in plants. Causes of accidents in process plants. Prevention of accidents. Hazop technique. Maintenance of plant to minimise losses. Waste disposal and efficient treatment. Pollution control. Legal implications of various losses. **Prerequisite:**

CHM 410

CHM 565 Membrane Technology (3) Types of membranes, membrane preparation, properties of membranes, application of membranes, membrane processes, membrane fouling and remediation. **Prerequisite: 5th yr. standing**

CHM 570 Sugar Technology (3) Description of the equipment and considerations of the process and operations involve in the manufacture of refined sugar from cane. Utilisation of the by-products of the refining operation. Safety, economic and environmental considerations. Energy recovery. **Prerequisite: 5th yr. standing**

CHM 575 Detergent Technology (3) Historical outline. Types of detergents. Mechanism of detergency. Oil and fats, manufacture of soap base by direct saponification of oils and fats. Manufacture of fatty acids. Production of solid soap, soap powders. Manufacture of non-soap detergents. **Prerequisite: 5th yr. standing**

CHM 580 Fermentation Technology (3) Introductory microbiology and biochemistry. Substrates. The fermentation process. Batch and continuous fermentation. Malting and brewing. Wine making Enzymes in fermentation. **Prerequisite: 5th yr. standing**

CHM 585 Pulp and Paper Technology (3) Properties of the raw materials. Preparation of pulpwood. Pulping processes. Energy recovery. Bleaching of pulps and stock preparation. Utilisation of by-products. Economics and ecological aspects of paper manufacture. **Prerequisite: 5th yr. standing**

CHM 590 Snr. Design Project (4) A design problem involving the study of a process. Preparation of flowsheet, preparation of heat and mass balances and detailed design of some plant items.

Economics and safety considerations must be stressed. **Prerequisite: 5th yr. standing**

CHM 599 Senior Research Project (3) provides the opportunity for students to conduct an individual research project pertinent to any area of Chemical Engineering under faculty supervision. A report is required. **Prerequisite: 5th yr. standing**

COMPUTING AND INFORMATION ENGINEERING

CIE 105 Principles of Programming I (3) introduces the basic principles of programming and the fundamentals of object oriented programming including objects, classes, inheritance, polymorphism, aggregation/composition, state, methods, loops, selection, exceptions, events, and container types using an OO language such Ruby to teach and practice with cross cutting, language agnostic mechanisms. **Prerequisite: CIE 111**

CIE 106 Principles of Programming II (3) expands on CIE 105 course with intermediate to advanced programming principles and mechanisms emphasizing object oriented and functional techniques such as inheritance, polymorphism, and interfaces; exception handling, design patterns, simple GUI programming, multi-threaded programming, abstract and dynamic containers such as linked lists, stacks, queues, and trees and their associated algorithms including those based on recursion. **Prerequisite: CIE 105**

CIE 111 Introduction to Computers & Computing

(3) aims to introduce all AUN students to: 1. *The computer as a tool/platform for content creation, storage, processing*, and access to applications and services online, and 2. *Computing methods to problem solving*. Emphasis is placed on gaining literacy and some practice on concepts and the broad areas of computing. *Topics*: concepts, principles and mechanisms in hardware, software, networking, computer security, algorithms, computer programming, database, Artificial Intelligence, e-commerce, decision support systems, and other emerging technologies such as blogs, wiki, RSS, podcasting, Cloud Computing, Mobile Computing and Google applications. Additional lectures examine social, legal, ethical issues including privacy, intellectual property, health concerns, green computing, and accessibility. **Prerequisite: none**

CIE 231 Introduction to Databases, Web Technologies and Applications (3) broadly examines the role of databases and web technologies in the current computing landscape and the emergence of database driven web applications supporting new computing platforms such as Cloud Computing. Introduces concepts and principles of database management systems (DBMS); basic data analysis, data modeling, database design and database implementation using an Open source relational DBMS, transaction management, concurrency control, distributed, multi-tier client/server architectures and the specific role of databases in web development. **Prerequisite: CIE 106**

CIE 302 Principles of Operating Systems (3) surveys methods and algorithms used in operating systems. Concurrent distributed operation is emphasized. The main topics covered are an introduction to operating

systems, process management, process scheduling, inter process communications, memory management techniques, virtual memory, I/O management, deadlock avoidance, file system design, socket programming, distributed operation; distributed data; performance evaluation, protection and security.

Prerequisite: CIE 106 .

CIE 321 Information Technology (IT) Project Management (3) topics include: Project management tools such as MS Project; analysis of options and risks; project planning; cost estimation and productivity metrics; scheduling; factors influencing productivity and success; release and configuration management; management of expectations; planning for change; software process standards; process implementation; software contracts and intellectual property; approaches to maintenance and quality assurance; project reporting and case studies of real industrial projects. **Prerequisite: third year standing.**

CIE 333 Data and Computer Communication (3) describes the architecture, components, and operations of routers and switches in a larger and more complex network. Students learn how to configure routers and switches for advanced functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with OSPF, EIGRP, STP, and VTP in both IPv4 and IPv6 networks. Students will also develop the knowledge and skills needed to implement DHCP and DNS operations in a network. WAN technologies and network services required by converged applications in a complex network. The course enables students to understand the selection criteria of network devices and WAN technologies to meet network requirements. Topics include: communications media; signal representations; Analog and digital data representation; multiplexing; compression; congestion/flow/error control; introduction to LAN, MAN and WAN; LAN access methods; channel capacity, and networking/ programming interfaces. **Prerequisite: TEL 200.**

CIE 406 Technical Report Writing (3) (Formally SEN 406) covers the essentials of oral, written, and graphical communication essential to evolving business and computational system. It includes principles of technical writing; types of documents and strategies for gathering information and writing documents, including presentations; the appropriate use of tables, graphics, and references; how to be convincing and how to express the rationale for one's decisions or conclusions; the basics of how to work effectively with others; notions of what motivates people, and concepts of group dynamics. It also focuses on the principles of effective oral communication, both at the interpersonal level and when making presentations to groups; and strategies for

listening, persuasion, and negotiation.

Prerequisite: WRI 102

CIVILIZATION

CIV 101: African Civilization (3) traces the history of Africa from the birth of the human species to the present, taking into account the way various academic disciplines contribute to the body of knowledge about African history and development; highlighting key moments in African history that have shaped its present socio-political and economic context, and focusing on North and West Africa. **Prerequisite: none.**

CIV 102 Western Civilization (3) Emphasis on conceptual approach to intellectual, cultural, political, economic, social, and technological issues that have formed the spirit of the various ages from ancient Greece to the present. Team taught by instructors from a variety of disciplines. **Prerequisite: none**

CIV 111 African Civilization: Special Topics (3) focuses on special topics related to African civilization and the development of its societies, cultures, and institutions and the forces that have shaped that development. Topics vary. **Prerequisite: none.**

CIV 112 Western Civilization: Special Topics (3) focuses on special topics related to western civilization and the development of its societies, cultures, and institutions and the forces that have shaped that development. Topics vary. **Prerequisite: none.**

CIV 201 Middle Eastern and Asian Civilization (3) traces the development of societies in the Middle East and in Asia and focuses on key events and movements in the history of these areas. **Prerequisite:** fourth year standing.

CIV 211 Middle Eastern and Asian Civilization: Special Topics (3) focuses on special topics related to Middle Eastern and Asian civilization and the development of its societies, cultures, and institutions and the forces that shaped that development. Topics vary. **Prerequisite:** visit program chair for more details.

COMMUNICATIONS AND MULTIMEDIA DESIGN

CMD 110 Introduction to Communication Studies (3) is about the consideration of mass communication as a sub-type of human communication. It is also an overview of the progress, models, and elements of communication; a survey of the mass media, including their adjuncts, and examines the characteristics, functions, contents, operations and impact of the mass media as well as national mass media systems and mass communication between/across nations.

Prerequisite: none.

CMD 115 Basic Photography & Videography (3) explores the basics of photographic and videographic skills and some of the issues associated with the history and practice of moving and still images. The course covers various elements of camera operations. Selecting suitable subjects for photographic projects is also explored. **Prerequisite:** none.

CMD 120 Writing for the Mass Media (3)

Instruction and practice in writing for the mass communication media with the major emphasis on development of the journalistic style and proficiency in grammar and the use of language. **Prerequisite:** WRI 101.

CMD 122 Principles of Multimedia Designs (3) introduces the principles, conceptual and critical skills, and techniques of multimedia designs. Students learn to observe the world critically and to analyze both broad structures and small details of visual phenomena. Students are challenged to master the skills needed to communicate their observation through traditional means (drawing, painting) as well as through digital media. **Prerequisite:** none.

CMD 125 Introduction to Visual Culture (3) explores the visual concepts designed to celebrate, sell or re-present reality. Students study the various forms and history of visual communications (including art & culture) to understand the broad spectrum of visual creativity that permeates contemporary life. The course explores visual cultures ranging from history and theory of painting and sculpture to print, photography, film, advertising and fashion. **Prerequisite:** none.

CMD 207 Peace Journalism (3) This course introduces the student to the concept and practice of peace journalism defined generally as when editors and reporters make choices - of what to report, and how to report it - that create opportunities for society at large to consider and value non-violent responses to conflict. The course also explores ethical issues in peace journalism. **Prerequisite:** CMD 110.

CMD 211 Globalization, Development & the Media (3) examines the theories and concepts of globalization and development as they relate to communication and society. At the core of the course are strategies for planning and diffusion of development interventions. The course undertakes a comprehensive and critical account of the theoretical changes in communications studies from the early theories of development communication through to the contemporary critiques of globalization. **Prerequisite: none.**

CMD 212 Principles of Public Relations & Advertising (3) introduces students to Public Relations while the second introduces Advertising. The first part explores concepts, theories, and practices of Public Relations and Public Affairs; the importance of Public Relations in either profit or non-profit organizations; Principles of effective writing in public relations; Practice of the styles of writing news releases, brochures, position papers, speeches, etc. It also includes the analysis of ways and means of establishing and maintaining rapport and credibility with media gatekeepers. The second part of the course examines the structure of advertising messages, how they are adapted to specific audiences, and the social settings in which they occur. Issues of Internet advertising and e-commerce will be explored. The preparation of advertising media plan: analysis of the various media in terms of target audience reach and the frequency of reach will be considered. **Prerequisite: CMD 110.**

CMD 213 Principles of Journalism (3) introduces students to the basic principles of journalism as it occurs in a variety of media forms. The history of journalism is discussed, from the penny press, yellow journalism and muckraking to modern responsible journalism and tabloid journalism. The class also discusses a variety of legal and ethical

journalistic concerns. Writing techniques for newspapers, radio and television broadcast news are practiced. **Prerequisite: CMD 110.**

CMD 215 Descriptive and Illustrative Drawing (3) introduces students to the fundamental principles of observational and analytical drawing. Various approaches are explored through assignments to develop skills needed to effectively represent and communicate visual phenomena. A range of illustration media and techniques are explored to facilitate student's projects focusing on drawing from life, photo reference techniques and visualizing concepts and ideas for commercial illustrations. **Prerequisite: none.**

CMD 216 Broadcast Media Aesthetics (3) is an in-depth analysis and evaluation of the artistic, aesthetic elements and synergy in broadcast media production and distribution. The course will focus on helping students develop the analytical and critical skills required to appreciate and interpret visual media texts, by foregrounding the formal elements of film, video, television, and radio. Students will develop a vocabulary that will be used to explore the interplay of technical design, social influence, and cultural conventions that shape human broadcast production and consumption experiences. Experiments in the manipulation of the aesthetic elements in documentaries, commercials, news, discussion programs, music videos, dramatic feature films, etc., are emphasized in this course. **Prerequisite: none.**

CMD 220 Intercultural Communications (3)

explores the nature and patterns of relationships between communications, culture and the society both from historical and contemporary perspectives. The course sees communications primarily as contact between cultures. It studies the barriers to intercultural communications and the ways and means of transcending such barriers. The course draws on relevant theories and practical sessions to inspire students to communicate across cultural, ethnic, racial, religious and social barriers. **Prerequisite: none.**

CMD 223 Foundations of Broadcasting (3) is an overview of the physical, technical and societal bases of radio and television broadcasting. It relates the laws of nature that make broadcasting possible, as well as the scientists who exploited them; describes the individual items or equipment used in radio and television and surveys the diverse environment of broadcasting stations and networks. **Prerequisite: CMD 110.**

CMD 224 Online/Digital Reporting (3) is course focuses on students' knowledge and application of the basic skills of generating, gathering and reporting news events on such platforms as blogs, social media, real time reporting platforms, audio/video storytelling and other web application services. **Prerequisite: CMD 120.**

CMD 225 Business Communications (3) is a course that explores the fundamentals of communications in business settings. It explores business communication forms including memos, reports, proposals, business plans, case studies, and various other forms of communications in business and organizational settings. It draws on the core principles and models of communication and applies them to business settings. **Prerequisite: WRI 101.**

CMD 226 Design Studio (3) introduces the broad field of graphic design. This design-based course involves the application of design principles to graphic forms. **Prerequisite: none.**

CMD 228 Newswriting and Reporting (3) is a practical course designed to enable students to become proficient in preparing a publishable copy under deadline. Students are assigned beats, primarily on campus, to develop stories for publication and encouraged to submit outstanding articles to the local news media. The course examines various definitions of news as well as the structure of the news story and other journalistic forms. **Prerequisite: WRI 101.**

CMD 302 Research in Communication Studies (3) introduces students to social science research methods within a mass communication context. It emphasizes the scientific method and surveys basic concepts of theoretical and empirical research. It also covers a variety of methodologies, elementary statistics and criteria for adequate research. **Prerequisite: second year standing.**

CMD 303 Photojournalism (3) is a practical introduction to news photography featuring solid grounding in basic camera techniques but placing emphasis on the development of the emerging photojournalist's sensitivity to visual narratives. The course explores situations where the photojournalist will be expected to capture images that tell compelling stories. The course also explores historical cases showcasing iconic images and the elements that made them so. Students will be expected to develop and maintain their own portfolios. **Prerequisite: CMD 213.**

CMD 311 User Experience and User Interface Design (3) This project-based course is for students who have a strong interest in design. It draws on relevant theories in user experience to teach students how to design a highly engaging user interface. It takes students through user experience research and design, how to outline the visual concept and how to create a style guide. Students will be expected to work towards developing their own mock-ups. **Prerequisite: none.**

CMD 313 Media Law and Ethics (3) studies the national and international legal and ethical frameworks that guide media operations – both traditional (mainstream) media and new (online) media. It explores debates on the rights, privileges, restraints, and regulations (including self-regulation) affecting the mass media. It also explores often contentious debates on privacy and the rights of the media to offend. Freedom of Information, laws of libel, sedition, privacy, contempt obscenity, copyright, and government regulation are also explored. Attention is given to ethics of the journalism profession. **Prerequisite: None.**

CMD 316 Public Speaking and Event Management (3) introduces students to the art of public speaking, speech writing, oral debate and argument. Students gain confidence as public speakers by learning the techniques of making effective presentations and by gaining extensive practice in public speaking and in speech writing. The course also explores fundamentals of organizing and managing high profile events. **Prerequisite: none.**

CMD 319 Announcing and Performance (3) covers the major aspects of radio, television, and new media delivery processes through the

effective use of relevant media and technology. Essential techniques to be acquired by students include the understanding and usage of broadcast terminology, writing for radio and television, broadcast delivery through voicing and announcing, and the application of performance techniques to the practice of media delivery. It explores the fundamentals of on camera and microphone techniques and performance types such as reality shows, acting, straight announcing, disc jockeying, news reporting, interviewing, and narrating commercials and documentaries. **Prerequisite: none.**

CMD 322 Website and Mobile Applications Design (3) is a practical course teaches students how to design interactive websites and mobile apps for smart mobile technologies. It explores the core principles in design and user experience. **Prerequisite: none.**

CMD 323 Advertising Creative Strategies (3) This course focuses on the theory and practice of writing effective advertising messages, for print and broadcast media. It explores the creative application of consumer and market surveys, copy testing methods, etc. **Prerequisite: CMD 212.**

CMD 324 Editorial and Critical Writing (3) This course teaches students how to write editorials and opinion columns with particular emphasis on analysis and interpretation of events, policies and/or issues. It teaches the basics of writing editorials, op-eds and columns, including analyzing arguments, generating ideas, researching supporting data, assessing and engaging the audience, structuring the article, writing concisely, controlling style voice and tone appropriate to subject matter and audience, and writing to meet deadlines. Students will be

expected to maintain their own column or blog throughout the course. **Prerequisite: CMD 120.**

CMD 325 News Editing and Production (3) is a practical course explores the editing and production of news. It focuses on editing texts, visuals and graphics for the print, digital and broadcast media. **Prerequisite: CMD 110.**

CMD 326 Radio, Film and TV Production (3) This course teaches students how to produce modern content for Radio and TV. The course is designed to be a survey and evaluation of the pioneers of the documentary form. It also includes analysis of the creative, political, anthropological and journalistic environment of the documentary; design, pre-production planning, intensive fieldwork, production and subsequent evaluation of individual documentary projects. **Prerequisite: CMD 220.**

CMD 327 Digital Animation (3) This course explores computer modeling and animation. It surveys the theory, history, and practice involved with creating quality modeling for print media, and also modeling and animation for time-based audio-visual media. **Prerequisite: CMD 110 and CMD 122.**

CMD 328 Multimedia Graphics Design (3) This course focuses on the use of state-of-the-art software in generating aesthetically and communicative lettering techniques for media production and reproduction. It also exposes students to the functions of visual communication in news, advertising, publishing and electronic media. **Prerequisite: CMD 122 and CMD 226.**

CMD 331 Film and Video Editing (3) This course explores the history, theory and practice of film and video editing. Using a theoretical and hands-on approach, this advanced course is designed to

expose students to dramatic narrative, documentary, and short form editing techniques, and to understand the role of the editor in shaping the final form of film or video. Students will be introduced to a variety of established theoretical concepts of film editing while encouraging them to explore and discover innovative approaches to the use of film language. To achieve this, the course will delve into the methods, objectives, aesthetic and technical aspects of post-production. It will thoroughly explore four major non-linear editing programs (Final Cut Pro, Soundtrack Pro, Avid Media Composer, and Pro Tools) among other new tools, used in the contemporary digital postproduction environment, and acquaint the student with every stage of the editing workflow from capture to final output. **Prerequisite: CMD 223.**

CMD 333 Theories of Communication (3) This course studies the major theories in the field of communications and media studies. Starting from the seven traditions in communications studies, the course explores the functions of theories, application of theories and the core paradigmatic approaches to media studies. A key element in this course is a thorough discussion of the relationship between communication theories and communication research. **Prerequisite: CMD 110.**

CMD 400 Special Topics in Communications & Multimedia Design (3) offers a current perspective on a special topic within CMD. Topics will vary, and the course may be repeated with permission of the instructor. **Prerequisite: third year standing.**

CMD 412 Public Diplomacy (3) This course provides a comprehensive overview of public diplomacy, national image, and perception management from historical and contemporary perspectives. It covers efforts to foster pro-West sentiments during the Cold War, Post-9/11 campaigns to 'win the hearts and minds' of the Muslim world as well as more direct efforts of governments and international institutions to 'sell' their policies and programs abroad. It also explores elements and tools of cultural diplomacy. Drawing on relevant case studies, it explores how state and non-state actors assert their dominance and influence through persuasive and creative use of the cultural industries, the media, icons, etc. **Prerequisite: none.**

CMD 413 Social Media Dynamics (3) This course emphasizes the identification and appropriate deployment of the varied social media platforms in generating, processing and disseminating messages to the public. Students learn how to use social media for political and social change campaigns, strategic storytelling, and promotion of products, persons and ideas. **Prerequisite: none.**

CMD 414 Management of Media Advertising Agencies/PR Consultancies (3) This senior level course seeks to equip students with the needed skill set to successfully manage an advertising agency and a PR consulting business. Drawing on practical cases, it examines why some agencies are successful while others aren't. It examines the social, political and economic environment of Public Relations and Advertising practice in Nigeria and practical ways of securing and maintaining profitable retainerships. It explores systems of client relationship management. Essentially, the course seeks to

develop the student's capability for analyzing complex social and business situations, taking strategic decisions, and making strong sales presentations. **Prerequisites: CMD 212 and CMD 223.**

CMD 416 Advertising and Public Relations Campaigns (3) This course focuses on the planning and execution of an advertising campaign: market and consumer research, development and allocation of advertising budget, selection of media, choice of advertising appeals, preparation and production of advertisements. It focuses on various types of PR and advertising campaigns ranging from political advertising campaigns to issues and awareness campaigns. It also covers public service advertising campaigns. **Prerequisites: CMD 212 and CMD 213.**

CMD 417 Foreign Correspondence (3) The course explores the politics and economics of foreign correspondence and teaches skills that will enable the reporter to function effectively as a foreign correspondent within the context of a more interconnected world. It explores the technological tools, techniques and systems of foreign correspondence. Case studies include an exploration of the workings and functions of some of the most successful international news agencies and international news organizations. Students in this course will work as part of an elite press corps to survey the international scene for an online agency. **Prerequisite: CMD 213.**

CMD 418 Specialized Reporting (3) This course is designed (i) to provide instruction in the techniques of reporting specialized subjects such as agriculture, medicine, aviation, religion, sports, labor, the courts, the arts and the like; (ii) to expose students to the basic literature as well as outstanding examples of reporting of these issues.

Prerequisite: CMD 213.

CMD 419 Web Broadcast Operations (3) This course explores the techniques and technologies of online broadcast and/or streaming of media contents. In this practical course, students use relevant low-budget (or free) applications to broadcast live events on the web. **Prerequisite:** CMD 223.

CMD 421 Media Relations (3) This course explores the ways and means of establishing and maintaining rapport and credibility with media gatekeepers for the interest of an organization. Drawing on relevant case studies it analyses the role of the media in the rise, fall, credibility or otherwise of organizations, public officials, and celebrities. **Prerequisites:** CMD 212.

CMD 424 Multimedia Authoring (3) This course explores the processing of textual, photographic, visual and audio elements into multimedia products for strategic storytelling. It also explores theories and cultural effects of visual communication and new media. Students are encouraged to engage with and solve social problems via multimedia platforms ranging from interactive websites, short videos that combine still images, videos, graphics, texts, animations, etc. **Prerequisites:** CMD 122 and CMD 226.

CMD 425 Feature Writing (3) Feature Writing teaches students how to plan, write and edit news

features, personality profiles, issue-oriented articles and human impact stories for the media. Emphasis is placed on narrative, descriptive, analytic and storytelling skills. One-on-one instructor-student conferences stress story building and revision techniques. **Prerequisite:** CMD 120.

CMD 432 Community Relations (3) This course examines contemporary community relations practices and how effective community relations can be an essential element in an overall public relations program. This course focuses on both 'traditional' and 'non-traditional' approaches and on case histories to demonstrate how to cope with or manage crisis with an organizations' host communities and other local communities. **Prerequisites:** CMD 212.

CMD 435 TV/Film Directing (3) This course is an advanced effort by students to understand and practice the craft of film and television directing. Combining the theoretical and practical approaches, the course will engage students by adopting a step-by-step examination of the director's process and responsibilities. Emphasis will be placed on script, character and scene analysis; performance, casting and rehearsal; design and visual style, camera placement and movement, narrative clarity, and editing. Students will be exposed to methods of developing meaningful dialogue with cinematographers, production designers, costume designers, technical directors, lighting directors, broadcast engineers, actors and talents, editors, sound designers, and producers in the creative process. The directorial styles of prominent film and television directors will be examined. Through lectures, screenings, practical projects and discussions, the course will offer students a comprehensive foundation for the director on

which to build a rich creative experience.

Prerequisites: CMD 220 and CMD 326.

CMD 443 Economic and Social Issues in Advertising and PR (3) This course explores the economic and social elements that influence historical and contemporary directions of PR and AD practices. It studies advertising and public relations as institutions, the laws and ethics governing the profession in Nigeria as compared with developed countries like USA and Britain; self-regulation by practitioners and professional association; consideration of social responsibility, truth and deception, consumerism etc. **Prerequisite:** CMD 212.

CMD 444 Cinematography (3) This course is a practical and theoretical introduction to the art and craft of motion picture photography. It is designed to explore the aesthetics, techniques, and technology of cinematography and how it is currently practiced in the television and motion picture industry. It will also examine the unique role of cinematographers and lighting directors and how they influence the final result in the production process. Topics to be covered include the lighting approach and camera operation present in past and contemporary films and television; the style, aesthetics, and techniques of major genres and their distinguishing characteristics; the composition, movement, and framing; etc. **Prerequisite:** CMD 220.

CMD 447 Screen Writing (3) This course focuses on the screenplay and writer's thought process, including the basic nuts and bolts of screenplay construction and structure as it relates to the story and plot development. **Prerequisite:** CMD 223.

CMD 448 Integrated Marketing Communications (3) This course exposes students to the understanding of how several communications

approaches can be integrated and used for specific marketing communications purposes. It equips the students with an understanding of the strength and weaknesses of each of the marketing communications approaches of public relations, advertising, customer relations, events and sponsorship, direct marketing, packaging and sales promotion. **Prerequisites:** CMD 212 and CMD 223.

CMD 490 Senior Research Project (3) This is purely an applied research course which is expected to apply the knowledge acquired in research methods classes. The Student is expected to work under a supervisor on an approved topic considered adequately relevant to his present or future vocational/professional interest and value to the society. **Prerequisite:** Fourth year standing.

CMD 492 Independent Study (1-6) **Prerequisite:** CGPA 2.0 or higher, and fourth year standing.

CMD 493 Communication/Multimedia Internship (3) This provides CMD students with a minimum of six weeks of on-the-job training. All required documentation must be submitted to the Office of the Registrar. **Prerequisite:** third year standing.

CMD 499 Senior Career Project (3) This is a practical capstone project. The student is expected to work under a supervisor to develop a full project relevant to the student's area of production. **Prerequisite:** fourth year standing.

COMPUTER ENGINEERING

CEN 316 Software Development Techniques (3)

Software development life cycle. Top-Down design. Program, design using pseudo-code, flowchart. Flowchart ANSI symbols and usage. Extensive examples, and exercises using pseudo-code/flowchart to solve practical problems in engineering. Debugging and documentation techniques. Programming using a structural language such as C: Symbols, keywords, identifiers, data types, operators, various statements, operator precedence, type conversion, conditional and control structures, function, recursive functions. Arrays: 1-D, and multi-dimensional arrays, passing elements or whole array to a function. Simple sorting and searching on arrays, pointers, strings, dynamic memory allocation. Structures and Unions: Structure declaration and definition, accessing structures, array of structures, pointers and structures, union declaration, enumerated variables. File Handling: Concept of a file, files and streams, standard file handling functions, binary files, random access files. Advanced Topics: Command line parameters, pointers to functions, creation of header files, stacks, linked lists, bitwise manipulation. Software development in C in MS Windows, UNIX/LINUX environments, header file, pre-processor directives, make file. Static and dynamic linking libraries. Extensive examples, and exercises programming in C to solve practical problems in engineering. Exercises are to be done in the Computer Laboratory. **Prerequisite: CIE 105**

CEN 318 Laboratory Course II (MATLAB) (3)

This course investigates and reports submission on selected experiments and projects drawn from courses taught in this semesters. This course will explore the features and use of MATLAB to model

different projects. **Prerequisite(s): 3rd year standing**

CEN 417 Prototyping Techniques (3)

Introduction: Grounding, ground plane, digital ground, analogue ground, power decoupling, inductance and capacitive effects, feedthrough capacitors. Soldering techniques for pass-through and surface mount components, desoldering. Breadboarding, veroboarding. Wire wrapping techniques. Radio Frequency design and implementation techniques. Printed Circuit Board techniques, and production of PCB. Use of PCB CAD packages. Construction exercises using different prototyping techniques. **Prerequisite: 3rd yr. standing**

CEN 424 Microprocessor System & Interfacing (3)

A basic microprocessor system: the CPU, memory, I/O, and buses subsystems, basic operation of a microprocessor system: fetch and execute cycle, the architecture of some typical 8-bit, 16-bit microprocessors (INTEL, MOTOROLA) and their features. Programming model in real mode: registers, memory, addressing modes. Organisation of the interrupt system, interrupt vectors, and external interrupts, implementation of single and multiple interrupts in real mode. Programming model in protected mode: registers, memory management and address translation, descriptor and page tables, system control instructions, multitasking and memory protection, addressing modes, and interrupt system. Memory interfacing and address decoding. I/O interfacing: memory mapped i/o, isolated i/o, bus timing, i/o instructions. Peripheral devices interfacing: 8255 PPI/6821 PIA, 8251 USART/6821 UART, DMA, Timer/Counter chips, etc. Instruction set. Assembly language Programming of INTEL and MOTOROLA microprocessors. Discussion of a typical system e.g. IBM PC, Apple Macintosh.

Prerequisite: CSC 232

CEN 493 Students Industrial Work Experience (SIWES) (6)

is an internship field experience that abides by SIWES requirement. Internship prepares students for industrial work situations. Students are expected to complete a daily log-book during their internship experience and upon completion of internship, a written report must be submitted. Internship supervisors are expected to conduct site visitation. It is recommended that internship is completed over one semester in the fourth year.

Prerequisite: minimum 3rd year standing.

CEN 510 Embedded System Design (3) Introduction to embedded system, components, characteristics, applications. Intel

Micro-controller: Features of the 8051/8031 family, block diagram and definitions of the pin of the 8051, I/O port structure, memory organisation: general purpose RAM, bit addressable RAM, register bank, special function registers, external memory, memory space mapping and decoding, bus control signals timing, a typical 8051 micro-controller based system. Instruction Set and Assembly Language Programming: Addressing modes, the 8051 instruction set and typical examples, assembler operation, assembly language format, assembler directives, operation of assemblers and linkers, programming examples. On-chip Peripheral Devices: I/O ports, operations and uses of port 0, port 1, port 2, port 3, timers: their operations, programming, and applications, serial port: operations and programming, typical applications, serial port interrupt. Interfacing to external memory, keypad, seven-segment LED display, ADC and DAC chips, and input / output port expansion, description and uses of hardware development tools. MOTOROLA M6811 Micro-controller: Features of the M6811 family, block diagram and definitions of the pin of the M6811, I/O port structure, memory organisation: general purpose RAM, bit addressable RAM, register bank, special function registers, external memory, memory space mapping and decoding, bus control signals timing. Instruction Set and Assembly Language Programming. On-chip peripheral devices and I/O interfacing. Introduction to PIC microcontroller: general architecture, applications and selection of microcontroller, advantages, low-end, and high performance PIC. Specific PIC microcontrollers: Features, architecture, block diagram, pin configuration, on-chip memory, and peripheral. Instruction set and Assembly language programming. Serial I/O interfacing: I2C, and SPI interfacing and programming. Memory interfacing: external memory interfacing, EEPROM

and Flash memory interfacing. Design exercises using development system. **Prerequisite: CSC 301**

CEN 512 Digital System Design With VHDL (3)

Finite State Machine: definition, mealy and Moore models, state diagram, state table, transition table. Sequential circuits design using flip-flops, asynchronous, and synchronous circuit design. Algorithm State Machine. Design examples and exercises. Structured Design: Design constructs, Design Levels, Geometry-based interchange formats, Computer aided electronic system design tools, Schematic circuit capture, Hardware description languages, Design process (simulation, synthesis), Structural design decomposition. Introduction to VHDL: VHDL language abstractions, Design hierarchies, VHDL component, Lexical description, VHDL source file, Data types, Data objects, Language statements, Concurrent VHDL, Sequential VHDL, Advanced features of VHDL (library, package and subprograms). Structural level modelling, Register-Transfer level modelling, FSM with data path level modelling, Algorithmic level modelling. Introduction of ASIC, Types of ASIC, ASIC design process, Standard cell ASIC synthesis, FPGA Design Paradigm, FPGA synthesis, FPGA/CPLD Architectures. VHDL Design: Top-down design flow, Verification, simulation alternatives, simulation speed, Formal verification, Recommendations for verification, Writing RTL VHDL code for synthesis, top-down design with FPGA. VHDL synthesis, optimization and mapping, constraints, technology library, delay calculation, synthesis tool, synthesis directives. Computer-aided design of logic circuits. **Prerequisite: EEE 327**

CEN 514 Cyberpreneurship & Cyberlaw (3)

Introduction: Definition of creativity, innovation, examples of creativity leading to innovation,

commercialization of creative and innovative ideas. Trends in technology development. Entrepreneurship management and ownership. Characteristics of entrepreneur, starting a new business, business planning, strategic planning & management, site selection and layout. Establishing new venture, risk management. Business Plan Development: definition, need, preparation of business plan. Forecasting developments and charting an action plan. Identifying the product/service, market research and feasibility study. Financing business. Sources of debt financing. Creating the marketing plan, pricing, creative advertising and promotion. Entrepreneurship case studies: Overview and analysis of successful entrepreneurs such as Bill Gates, Michael Dell, David Filo and Jerry Yang of Yahoo, etc. Nigerian Entrepreneurship: Discussion of Nigerian business environment, and illustrated with successful Nigerian entrepreneurs. Overview of the Nigerian Legal System: Civil and criminal. Basic concepts of law. Contract Law. Current issues: digital signatures, Intellectual property and copyright. Speech Law: Defamation, Sedition, Printing Press Act. Speech on the Internet. Advertising Code: Made in Nigeria rules and guidelines, Advertising Standards. Media and Licensing law in Nigeria: Developing an in-depth understanding of the nature and function of Nigerian media law. Public and Private licensing. Intellectual and moral rights. Music royalties, synchronization rights, performance rights. Role of music publishers. Broadcast rights, merchandising. Detailed analysis of Communications and Multimedia Act. Ethic and Etiquette: New codes of social behaviour: the right to privacy. **Prerequisite: 3rd yr. standing**

CEN 515 Computer Graphics & Animation (3)

Overview of 3D animation and its application and types. Coordinate system, vertex, faces and object. Concept of wireframe, surface and solid modelling. Construction planes and differences between object space and world space. Principles of making characters alive. Polygonal Modelling techniques: the Box, using Edit Mesh, Smoothing Techniques, Subdivision Surfaces. Nurbs Modelling techniques: Utilizing NURBS toolbox, surface points and CVs. Importing and attaching NURBS surfaces, rebuilding surfaces, curve and surface approximation. Graphic animation process: Camera & Animation Camera, Set & Background (Image Plane), Light Linking. Animation Techniques: Walk Cycle and Facial Expression using Blend Shape. Dynamics animation: Rigid Bodies, Soft Bodies, constraint, Particles. Tips and tricks on rendering. Concept of Rendering in 3D modelling. Render options and file output. **Prerequisite: MAT 311**

CEN 516 Computer Security Techniques (3)

Introduction: Overview of computer security, attacks and services, control of hardware software. Usage. Intruders, Viruses and Worms: Intrusion techniques. Nontechnical attacks. Password protection and its vulnerability. Intrusion detection. Nature of viruses. Malicious programs. Types of viruses. Antivirus approaches. Worm propagation and countermeasures: access control, intrusion detection and firewalls. Disaster Recovery: Recovery requirements, policy, strategy, technical team. Execution of recovery plans. Documentation and backup system. Loss estimation. Developing Secure Computer System: External Security Measures, Issue, Security Models [Specification and Verification, Bell and LaPadulla Model, Clark-Wilson Model, Goguen-Meseguer, TCPEC], Discretionary Access Requirements, Mandatory Access Requirements,

User Authentication, Access and Information Flow Control, Auditing and Intrusion Detection, Damage Control and Assessment, Microcomputer Security. Entropy, perfect secrecy, unicity distance, complexity theory, NP completeness, number theory. Cryptographic System, Public Key Systems, digital signatures. Network and Telecommunication Security: Fundamentals, Issue, Objective and Threats, Security Services, Distributed System Security, The Trusted Network Interpretation, TNI Security Services, AIS Interconnection Issues, Firewalls [Gateways, Application, Cost and Effectiveness. Database Security: Security Requirements to Databases, Designing the Security, Methods of Protection, Security of Multilevel Database. **Prerequisite: 3rd yr. standing**

CEN 525 Fuzzy Logic and Programming (3)

Introduction: fuzzy set theory, knowledge base problem, objective and subjective knowledge, crisp sets, fuzzy sets, linguistic variables, membership functions. Set theoretic operations, comparison between crisp sets and fuzzy sets. Law of Contradiction and Law of Excluded Middle, fuzzy intersection, union and complement, and other fuzzy operators. Fuzzy relations and compositions on the same and different product spaces. Max-Min composition, Max-Product composition, fuzzy relational matrix, sup-star composition. Hedges or modifiers of linguistic variables, fuzzy logic vs. probability. Fuzzy reasoning and implication, the fuzzy truth tables, traditional propositional logic and the rule of inference, the Modus Ponens and Modus Tollens, fuzzy modelling with causal IF-THEN statements. Fuzzy Models, fuzzy logic systems, combination of fuzzy basis functions, universal approximator, fuzzy neural network, fuzzy associate memory matrix, self-learning fuzzy systems. Fuzzy logic

system applications. Fuzzy programming.

Prerequisite: CIE 105, EEE 327

CEN 526 Digital Signal Processing (3) Discrete signals and Z-transform, digital Fourier Transform, Fast Fourier Transform. The approximation problem in network theory. Synthesis of lowpass filters. Spectral transforms and their application in synthesis of high-pass and band-pass filters. Digital filtering, digital transfer function aliasing, onedimensional recursive and non-recursive filters; Computer techniques in filter synthesis, Realisation of filters in hardware and software. Basic image processing concepts. **Prerequisite:** CIE 105, EEE 401

CEN 527 Non-linear Control Systems (3) Intended to present treatment of the classical digital control with an introduction to modern digital control system in the state space. Z-transform as applied to discrete-time systems with transformation from the s-plane to the z-plane. Analyzes digital control systems using Nyquist and Bode plots and root locus. Stability analysis of digital systems using Jury test, Routh criterion, Nyquist and Bode plots. Design using root-locus and Bode plots introduced. Introduction to state-space and pole assignment. Finite-word length effects. MATLAB applications. **Prerequisite:** EEE 401

CEN 528 Cryptography Principles & Applications (3) History of cryptographic System, Public Key Systems, Digital Signatures. Information Theory: Entropy, Perfect Secrecy, Unicity Distance, Complexity Theory, NP Completeness, Number Theory. Data Encryption Methods : Transposition Ciphers, Substitution Ciphers, Product Ciphers, Exponentiation Ciphers, Knapsack Ciphers, Breakable NP-Complete Knapsack, Encryption Standards DES, RSA, Elliptic Curves. Cryptographic Techniques: Block and Stream Ciphers, Autokey, Endpoints of Encryption, One-way Ciphers,

Password and Authentication, Secret Keys and Public Keys, Threshold Scheme. Video scrambling techniques. Digital video encryption techniques: principle, IRDETO, Viaaccess, Videoguard, etc. Security and Legality Issues: Copyrights, Patents, Trade Secret, Ownership of Products, Computer Crimes, Ethical Issue in Computer Security.

Prerequisite: 3rd yr. standing

CEN 530 Robotics & Automation (3) Robot classification and manipulation. Technology and history of development of robots. Applications. Direct and inverse kinematics: arm equation. Workspace analysis and trajectory planning. Differential motion and statics. Manipulator dynamics. End-of arm tooling. Automation sensors. Robot vision. Work-cell support systems. Robot and system integration. Safety. Human interface. Robot control system. Circuit and system configuration. Task oriented control. Robot control programming. Fuzzy logic and AI based robot control. Fundamentals of automation. Strategies and economic consideration. Integration of systems. Impact to the production factory. Evaluation of conventional processes. Analysis of automated flow lines. Assembly systems and line balancing. Automated assembly systems. Numerical control and adaptive control. Robot applications. Automated materials handling and storage systems. Automation in inspection and testing. Linear feedback control system. Optimal control. Computer process control. Computer integrated manufacturing systems. Future automated factory. **Prerequisite:** 3rd yr. standing

CEN 531 Micro-Computer Hardware and Software Techniques (3) Elements of digital computer design; control unit, micro-programming, bus organisation and addressing schemes. Micro-processors, system architecture, bus control, instruction execution and addressing modes. Machine codes, assembly language and high-level language programming, Micro-processors as state machines. Microprocessor interfacing: Input/output. Technique, interrupt systems and direct memory access; interfacing to analogue systems and applications to D/A and A/D converters. System development tools: simulators, EPROM programming, assemblers and loaders, overview of a available microprocessor application. **Prerequisite: CSC 301**

CEN 532 Analogue and Digital Computer (3) This course introduces students to analogue computation, electrical analogue of mechanical, electromechanical systems and servomechanisms. Analogue computer elements: potentiometers, operational amplifiers, function generators, simulation of system transfer functions. Digital computer structure and elements, CPU, storage, peripherals Arithmetic processes, Hybrid computer systems. **Prerequisite: EEE 323, EEE 327**

CEN 590 Senior Design Project (3) The project work is to be completed in this semester. Each student is to submit a proper written report (bound 3 hardcopies, and a soft copy). The project is presented and defended at a seminar. **Prerequisite: 5th year standing**

CHEMICAL ENGINEERIN

CHM 493 Students Industrial Work Experience (SIWES) (6) is an internship field experience that abides by SIWES requirement. Internship prepares

students for industrial work situations. Students are expected to complete a daily log-book during their internship experience and upon completion of internship, a written report must be submitted. Internship supervisors are expected to conduct site visitation. It is recommended that internship is completed over one semester in the fourth year. **Prerequisite: minimum 3rd year standing.**

COMPUTER SCIENCE

CSC 201 Introduction to UNIX (3) This hands on motivational course aims to introduce students to the world's best and most versatile operating systems, the system behind much of the Internet revolution and continued success. **Prerequisite: none.**

CSC 202 Data Structures and Algorithms (3) The course covers, from an object-oriented programming language perspective, Abstract Data Types (ADTs) and their implementations. Topics include recursion, complexity analysis, linear data structures (stacks, queues, priority queues, lists and strings), and non-linear data structures (hash tables, binary trees, search trees, balanced trees, heaps), searching and sorting algorithms, and graph algorithms. This will also include substantial programming assignments and projects. **Prerequisite: CIE 106.**

CSC 213 Discrete Structures (3) This covers the Mathematics needed for Computer Science. Topics covered include: functions, relations, propositional and first order predicate logic, set theory, proofs and their construction, counting and elementary probability. **Prerequisites: CIE 105.**

CSC 214 Logic in Computer Science I (3) Topics include: valid and invalid arguments; translating

from English to the language of propositional and predicate logic; formal deduction and its role in proving the validity of an argument; logic and computer science; how to build circuits from logic gates and how to minimize circuits using propositional logic; introduction to Prolog a programming language based on logic; and the applications of logic in computer science AI, automated theorem provers, expert systems, and so on. **Prerequisite: CSC 213.**

CSC 232 Computer Organization and

Architecture (3) is a bottom up course that covers CPU organization and micro architectural level design; Instruction set design; register transfer; RISC design principles; data path design; controller design; memory system; addressing; microprogramming; computer arithmetic; survey of real computers and microprocessors; peripheral devices and input/output busses; and introduction to parallel computing. The course is a broad introduction to all aspects of computer systems organization and architecture and serves as the foundation for subsequent computer systems courses. **Prerequisite: CIE 105.**

CSC 251 Digital Systems and Lab (3) This course introduces students to the fundamental concepts of digital systems and gives extended possibilities to have hands on experience with main devices and circuits. Introduction to Digital and Analog Systems, simplification techniques (K map). Larger combinational systems (adders, decoders, muxes, etc.), Sequential systems (latches, flip flops, etc.). Sequential systems applications and design (counters, registers, PLDs, etc.). **Prerequisite: CIE 105.**

CSC 301 Systems Programming (3) This course is an introduction to systems programming concepts and techniques. Topics include: the Intel system architecture, its assembly language, the C language, and how to use these tools for system calls with the low level hardware and the Unix operating system and inter-process communication threads. The functions of an operating system, operating system utilities and programming embedded systems for set top devices will be taught using Java and/or C. **Prerequisites: MAT 210 and CIE 105**

CSC 314 Introduction to Data Science (3)

This is an advanced course in discrete mathematics primarily dealing with discrete dynamical systems, algorithms, combinatorics, and graph theory. This course will cover a number of topics, including propositional logic, techniques of proof, lattice, algebraic structures, discrete numeric function, generating functions, recurrence relations and graph theory. **Prerequisite: CSC 213 Discrete Structures (3).**

CSC 350 System Administration (3) This course will be an in depth look at some of the functions that a system platform administrator performs on a daily basis including planning, resource allocation and sharing configuration and optimizations for a run time hosting system covering both hardware (network and non-network) and software (from operating system to application server and client systems). **Prerequisite: CSC 301.**

CSC 364 Design and Analysis of Algorithms (3) is a study of techniques to design and analyze the complexity of algorithms. The course builds on CSC 202. More awareness, understanding and application of a large number of classical algorithms and their complexity and will introduce the area of NP completeness. **Prerequisite: CSC 202.**

CSC 384 Database Systems (3) The course will cover the concepts, principles, components, development and application of database systems emphasizing the relational model. The conceptual models and structures necessary to designing and implementing a relational database system will be taught. Topics to be covered: entity relationship, relational data models, relational algebra, SQL, normalization, file organization, indexing, hashing, and enterprise wide web based applications that employ databases and emerging database systems supporting Cloud Computing. **Prerequisites: CSC 202 and CIE 231.**

CSC 407 Programming Languages Skill (3: lecture, lab) this will be a study of the syntax and semantics of a diverse set of high level programming languages and paradigms. The languages chosen are compared and contrasted in order to demonstrate general principles of programming language design. The course emphasizes the concepts underpinning modern languages rather than the mastery of particular language details. Programming projects will be provided. **Prerequisites: CIE 106 and CSC 202.**

CSC 415 Advanced Programming Skill (3) The goal of this course is to introduce the students to a specific programming paradigm and an appropriate high level dynamic programming language chosen from those that are currently important in industry or that show high promise of

becoming important. A significant portion of the learning curve occurs through programming assignments with exemplary solutions discussed later in class. **Prerequisites: CIE 106.**

CSC 427 Introduction to Artificial Neural Networks (3) Principles of massively parallel real time computation, optimization, and information processing via nonlinear dynamics and analog VLSI neural networks. Applications selected from image processing, pattern recognition, feature extraction, motion detection, data compression, secure communication, bionic eyes, auto waves, and Turing patterns. **Prerequisites: CIE 106.**

CSC 434 Theory of Computation (3) is an introduction to the classical and contemporary theory of computation covering regular, context free and computable (recursive) languages with finite state machines, pushdown automata and Turing machines. Basic concepts of computability theory and NP theory. **Prerequisite: Senior standing.**

CSC 437 Interactive Computer Graphics (3) is a thorough introduction to computer graphics techniques, including 3D modeling, rendering, and animation. Topics cover: geometric transformations, geometric algorithms, software systems (OpenGL), 3D object models (surface and volume), visible surface algorithms, image synthesis, shading and mapping, ray tracing, radiosity, global illumination, photon mapping, anti-aliasing, animation techniques, and virtual environments. **Prerequisites: CSC 202 and MAT 312.**

CSC 438 Internet and Web Technologies (3) This course focuses on Internet and Web technologies and the underlying principles of distributed systems, information retrieval, and data

management. The material covered will include web and applications server architectures, XML and semi structured data, schema mediation, document indexing and retrieval, peer to peer systems, distributed transactions and remote procedure calls. The course has a substantial group implementation project. **Prerequisites: CIE 106 and CSC 384.**

CSC 445 Intro to Parallel and Distributed Programming (3) for this course, software design experience and programming proficiency in Java is required. Students will undertake a real software design project and be expected to deliver a working product. Topics include widely used programming paradigms such as multi-threading, message passing and remote procedure calls. In addition, the course covers enough information on synchronization, resource management and security so that students can analyze the correctness of their program and optimize their performance. **Prerequisites: CIE 302 and CIE 106.**

CSC 453 Advanced Database Systems (3) This course covers data structures and algorithms used to implement database management systems. Topics include physical data organizations, indexing and hashing, query processing and optimization, database recovery techniques, transaction management, concurrency control and database performance evaluation. Programming projects will be required. **Prerequisite: CSC 384.**

CSC 456 Design of Web based Systems (3) introduces students to the underlying infrastructure of the Internet and the World Wide Web. Topics include Internet protocols that support a variety of applications including file transfer, client server computing, peer to peer computing, and Internet messaging and Web

syndication. Covers front, middle and back end technologies for non-trivial Internet applications. Introduction to service oriented architectures and Web services and the semantic Internet. Includes and Internet programming project.

Prerequisites: CIE 106 and CSC 384.

CSC 465 Artificial Intelligence (3) This course provides an introduction to the field of artificial intelligence. Topics include knowledge acquisition, knowledge representation, knowledge based search techniques, machine reasoning and learning. Emphasis will be put on algorithms for search, inference, constraint satisfaction and optimization. Applications in tasks such as expert systems, data mining, game playing, natural language understanding, computer vision, speech recognition, robotics and other knowledge intensive problems requiring smart agents will be examined. **Prerequisite: Senior standing**

CSC 468 Foundations of Cryptography (3) The course is devoted to the review of basic cryptographic algorithms, their implementations and usage. Classical encryption techniques and those of Rivest Shamir Adleman and El Gamal will be seen in depth, and an overview of several others will be presented. The course also presents authentication schemes and interactive proof protocols. Students will write a term paper, either theoretical based on literature or reporting a student's own implementation or experiments with a chosen cryptographic scheme. Depending on the size of the group, some or all students will give a presentation to the class.

Prerequisite: CIE 333.

CSC 484 Compiler Design and Interpreters (3) is a survey of programming languages and the design of modern programming languages. It includes compilation principles and techniques for high

level languages. Detailed topics include: lexical analysis, grammars, top down parsing, bottom up parsing, symbol table management, syntax directed translation, principles and techniques of scanning, parsing, semantic analysis, code generation, and optimization. The course involves a substantial programming project to develop a compiler. Overview of run time organization, and error handling. **Prerequisite:.**

CSC 490 Senior Project I (3) This is about the design and implementation of a significant piece of work: software, hardware, or research. In addition, emphasis is placed on technical writing and oral communication skills. **Prerequisites: Supervisor Permission and fourth year standing.**

CSC 493 Students Industrial Work Experience (SIWES) (1) is an internship field experience that abides by SIWES requirement. Internship prepares students for industrial work situations. CSC 493 is to be completed over two summers - Summer A and Summer B - May-August. Students are expected to complete a daily log-book during their internship experience and upon completion of internship, a written report must be submitted. Internship supervisors are expected to conduct site visitation. **Prerequisite: minimum 3rd year standing.**

CSC 495 Guided Studies in Computer Science (3) This is about design and implementation of a significant piece of work: software, hardware, or theory under the supervision and direction of the instructor. Students are required to submit a final written report and give a final presentation and demonstration of their project. Grades are based on the report, the presentation and the satisfactory completion of the project. These are evaluated by the Project Advisor and the Course Instructor. **Prerequisites: CSC 490 and Supervisor Permission.**

ECONOMICS

ECO 101 Introduction to Economics (3) introduces basic principles of economics and their application in Nigeria. Topics include: supply and demand, consumer and firm behavior, inflation, economic growth, and international trade. This course is designed for students not majoring in economics. **Prerequisite: none.**

ECO 210 Principles of Microeconomics (3) introduces the basic principles of microeconomics and their applications: supply and demand, operation of markets, consumer and enterprise behavior, competition and monopoly, income distribution and international trade. **Prerequisite: MAT 110 or higher**

ECO 220 Principles of Macroeconomics (3) introduces the basic principles of macroeconomics, stressing national income, unemployment, inflation, economic growth, business cycles and open economies. **Prerequisite: MAT 110 or higher**

ECO 230 Introductory Mathematics for Economists (3) introduces and applies some basic mathematical tools needed for economics majors. Topics include the following: functions and economic models, logarithms and exponential growth, linear models and basic matrix algebra, review of univariate differential calculus, univariate optimization, and multivariate calculus. **Prerequisites: MAT 112 or higher or by Instructor approval.**

ECO 310 Intermediate Microeconomics (3) focuses on the theory of markets and prices: decision-making by individuals and firms, equilibrium conditions under various market

structures, and issues of individual and social welfare. **Prerequisites:** ECO 201 and ECO 202 and MAT 112 (formerly MAT120) or higher level mathematics course.

ECO 312 Labor Economics (3) Introduces students to concepts in labor economics, including: labor supply and demand, taxes and transfers, minimum wages, human capital (education and health), migration, discrimination, inequality, and unemployment. **Prerequisites:** ECO 220 and 230 and 310.

ECO 320 Intermediate Macroeconomics (3) covers the basic models of national income determination and financial markets. The course includes application of policy problems such as inflation, unemployment and balance of payments disequilibria. **Prerequisites:** ECO 210 and ECO 220 and MAT 112 or higher level mathematics course.

ECO 321 Money and Banking (3) examines the role of money and credit in the economy. Topics include the structure and operations of commercial banks, central banking and the operation of monetary policy, non-banking institutions and the structure of financial markets, and elements of monetary theory.

Prerequisites: ECO 210 and ECO 220 and MAT 210 or higher level mathematics course.

ECO 330 Foundations of Econometrics (3) introduces the student to the basics of statistics and probability theory necessary for ECO 331 'Econometrics I'. The course also includes extensive coverage of data collection and analysis. Students will be use Statistical software package chosen by the instructor to complete lab assignments. These features will provide students with an overall understanding of statistics and probability and its relevance to not only economics and econometrics but to social science and business applications. **Prerequisites:** ECO 210, ECO 220 and ECO 230.

ECO 331 Econometrics I (3) reviews the theory of statistics and statistical techniques. This course emphasizes the application of statistical models to economic models. Topics include regression analysis and estimation of economic models, including violations of the basic assumptions of the regression model, dummy variables, autocorrelation, heteroskedasticity, cross-section and time series data analysis. **Prerequisites:** ECO 210 and ECO 220 and STA 101 and MAT 210 . **Recommended but not required:** ECO 330 and STA 301.

ECO 340 Development Economics (3) surveys various economic theories and models elaborating the process of development. The course considers

the meaning of economic development; the fundamental analytics of economic growth. Inequality, credit markets, and capital markets in so called developing countries are also discussed. **Prerequisites:** ECO 210 and ECO 220 and MAT 210 or higher level mathematics course.

ECO 341 Environmental Economics (3) Explores economic approaches to environmental and natural resource issues with the principal objective of elucidating the basic concepts, approaches and methods of environmental and natural resource management and policy issues. **Prerequisites:** ECO 210 and ECO 220 and MAT 112 or higher level.

ECO 350 International Trade (3) expands on the principles studied in the introductory and intermediate courses and uses these principles to explain the basis for trade and the gains from trade. The course focuses on balance of payments, exchange rates, interest rates, and open economy macroeconomic theories. **Prerequisites:** ECO 210, ECO 220, MAT 210.

ECO 351 International Finance (3) focuses on foreign exchange markets, forecasting exchange rate, currency risk hedging techniques, and currency derivative instruments. In addition, macroeconomic policies, international portfolio management, and investment practices of multinational firms will also be reviewed. **Prerequisites:** ECO 210, ECO 220, MAT 210.

ECO 361 International Political Economy (3), cross-listed with ICP 361, examines the major economic and political systems with emphasis on implications for resource allocation, income distribution and economic growth. **Prerequisites:** ECO 220 and ICP 131 or ICP 161.

ECO 362 Public Choice: The Study of Self-Interested Government (3) Studies “politics without romance.” Rather than assuming, as most of economics does, that governments are benevolent and seek to maximize social welfare, public choice theory asks how the private incentives of policymakers from presidents, prime ministers, and kings to legislators, bureaucrats, and civil servants affect optimal policy choice and implementation. Topics include: market failure and government failure, the median voter theorem, rent-seeking, ideology, corruption, the optimal scope of government, and political history of post-colonial Africa. **Prerequisites:** ECO 210 and 220 and 230; or ICP 101 and 161.

ECO 370 History of Economic Thought (3) surveys the development of economic thought from Aristotle to Adam Smith, and modern economists from Ricardo to the present including such figures like Malthus, Mill and Keynes focusing on the conceptual foundations of economics, particularly the problems of value, distribution, and economic growth. **Prerequisites:** ECO 210 and ECO 220.

ECO 410 Advanced Microeconomics (3) This course provides an overview of major theoretical contributions using microeconomic theory. The course is intended to give participants a sense of different fields in microeconomics (see details below). The course also includes various reading from academic journal articles that approximately coincide with each area of microeconomics. **Prerequisites:** ECO 310 and 320.

ECO 411 Game Theory (3) focuses on the principles of rational behavior in strategic situations and various notions of equilibrium

useful in predicting outcomes. Applications from economics, business, politics, law and biology are presented. **Prerequisites:** ECO 310 and ECO 320 and MAT 210.

ECO 420 Advanced Macroeconomics (3) Macroeconomics is a study of economy-wide outcomes as a result of aggregating behavior of people (consumers) and firms (producers). The principles of micro and macro will give you the tools needed to take other economics courses. Advanced Macroeconomics continues to expand on these principles more in depth and introduces new subject areas where advanced principles are applied. **Prerequisites:** ECO 310 and ECO 320.

ECO 422 Monetary Economics (3) studies the effects of monetary variables on the macroeconomic system, the role of the Central Bank and the conduct of monetary policy emphasizing on the concept of money, interest rates, money supply mechanism, classical and modern theories of demand for money including Friedman’s theory, the global financial system, interaction between monetary and fiscal policies, the transmission mechanism, monetary policy tools, strategies and goals including inflation targeting and Taylor rules. **Prerequisites:** ECO 101 and ECO 320 and ECO 321 and MAT 210.

ECO 430 Advanced Mathematics for Economists (3) focuses on mathematical methods applied specifically to economic questions. Focus includes constrained and unconstrained optimization, choice under uncertainty, general equilibrium and welfare economics, dynamical systems and control theory, game theory. **Prerequisites:** ECO 310 and ECO 320.

ECO 431 Econometrics II (3) includes elements of statistical decision theory and related experimental evidence; some game theory and related experimental evidence; maximum likelihood; logic, normal profit, and ordered profit regression models; panel data models with random effects; omitted variable bias and random assignment; incidental parameters and conditional likelihood; demand and supply. **Prerequisite: ECO 331.**

ECO 440 Advanced Economic Development (3) This course will introduce the major ways in which economists have described the process of economic growth as well as the lessons learned during a century of notable innovation-- successes as well as failures--in attempts to foster socio-economic development. Students taking this class will emerge with methodological tools, models, case studies, and exposure to historical context that will make them more thoughtful and effective practitioners in the field of international development. **Prerequisites: ECO 310 and ECO 320 and ECO 340 and MAT 210.**

ECO 442 Urban and Regional Economics (3) Urban and Regional Economics introduce the basic principles of city economics and location theory. Rent, urban problems, transportation and housing are all studied in the context of economic applications to regional theory and the theory of the city. **Prerequisites: ECO 31 and ECO 320 and ECO 330 and MAT 121**

ECO 450 Industrial Organization (3) studies the theory and the empirical evidence concerning the organization of firms and industries. It focuses on industry structure, on conduct and performance, and on more recent advances based on microeconomic theory, including transaction cost economics, strategic behavior and information

theory. **Prerequisites: ECO 310 and ECO 320.**

ECO 460 Comparative Economic Systems (3) Students will examine the historical development of the economic systems and the increasing interdependence of economies, governments, and public policy. Economic theories in capitalism, socialism and communism will be explored within the context of globalization. Contemporary global economic issues will be analyzed using case studies from various nations. **Prerequisites: ECO 310 and 320.**

ECO 461 Political Economy of Globalization (Cross-listed with ICP 444) (3) Lessons will consist of seminars. During each seminar the students will discuss their reactions to the assigned readings. After the seminar, students will post their reaction essays based on the assigned readings and the class discussion. Students will also have to submit 3 written assignments: an abstract and an annotated bibliography to be submitted in Week 7, and a research paper to be submitted in Week 15. There will be a mid-term and a final examination. **Prerequisites: ECO 310 and 320 or ICP 101 and 161.**

ECO 490 Senior Research Project I (3) exposes students to research methods in economics and investigates special topics in discipline chosen by the instructor. A thesis paper is required. This course is a prerequisite for ECO 491 Senior Research Project II, during which the papers produced in this course will be polished and ideally prepared for publication. Prerequisites: Third year standing or higher; ECO 310 and ECO 320.

ECO 491 Senior Research Project II (3) investigates special topics in economics chosen by the student. Using the literature review and research proposal which the student produced in ECO 490, the student will perform actual research in economics producing new knowledge. Final projects must include at least one of the following: multivariate regressions, qualitative analysis of in-depth interviews, a mathematical model, or significant policy analysis. **Prerequisites:** fourth year Standing or higher; ECO 310 and ECO 320 and ECO 331 and ECO 490 and WRI 321.

ECO 492 Independent Study (1-6). **Prerequisites:** 2.0 CGPA or higher and third year standing.

ECO 493 Internship in Economics (3)
Prerequisites: Permission of Department Chair and CGPA minimum 2.0 or higher and third year standing.

ELECTRICAL & ELECTRONICS ENGINEERING

EEE 311 Electromagnetic Fields and Waves (3)
This course covers static, quasi-static, and dynamic electromagnetic fields and waves. Topics include Maxwell's equations (integral and differential forms), fields of charge and current distributions, boundary conditions, fields near conductors, method of images, material polarization and dielectrics; energy, work, and power in electromagnetic systems; wave propagation and polarization, waves in media (dielectrics, conductors, and anisotropic materials); reflection, transmission, and refraction at media interfaces; guided waves in transmission lines, Smith charts, transients; metallic and dielectric waveguides; radiation and antennas, antenna arrays, electric circuits for transmission and reception, aperture antennas and diffraction. **Prerequisite:** GEC 211

EEE 313 Physical Electronics (3) This course introduces the fundamentals of electronic communication systems. Topics include the frequency spectrum, electrical noise, modulation techniques, characteristics of transmitters and receivers, and digital communications. Upon completion, students should be able to interpret analog and digital communication circuit diagrams, analyze transmitter and receiver circuits, and use appropriate communication test equipment. **Prerequisite:** GEC 211

EEE 314 Circuit Theory I (3) This course Introduction to theory, analysis and design of electric circuits. Voltage, current, power, energy, resistance, capacitance, inductance. Kirchhoff's laws node analysis, mesh analysis, Thevenin's theorem, Norton's theorem, steady state and transient analysis, AC, DC, phasors, operational amplifiers, transfer functions. **Prerequisite:** GEC 211

EEE 316 Electrical Machines (3) The course covers the basics of electrical machines and electrical drive systems. The operating principles are thoroughly described as well as the design and control of the drive systems. Electromechanical energy conversion: Law of conservation of energy. General energy balance equation. Singly excited system (induced voltage, electrical energy and torque equations). **Prerequisite:** GEC 211

EEE 318 Laboratory Course II (MATLAB) (3) This course investigates and reports submission on selected experiments and projects drawn from courses taught in this semesters. This course will explore the features and use of MATLAB to model different projects. **Prerequisite:** 3rd year standing

EEE 322: Electrical Power Systems (3) focuses on power systems and sources of electric energy, structure of electric system, load characteristics, electric energy transmission and distribution, line impedance, representation and per unit systems, relationship between currents and voltage; regulation of voltage, transmitted power and losses; construction of overhead lines and underground cables; power system equipment: standard and safety. **Prerequisite:** EEE 316.

EEE 323 Analogue Electronics (3) This course covers additional applications of analog electronic circuits with an emphasis on analog and mixed signal integrated circuits (IC). Topics include amplification, filtering, oscillation, voltage regulation, and other analog circuits. Upon completion, students should be able to construct, analyze, verify, and troubleshoot analog electronic circuits using appropriate techniques and test equipment. **Prerequisite:** GEC 211, MAT 211

EEE 324 Electric Circuit Theory II (3) This course is an exploratory, second advance course in circuit theory primarily designed for students in electrical and electronics engineering discipline. The focus of the course is to impart useful skills on the students in order to enhance their circuit synthesis capability since no electrical/electronics engineering graduate will be versatile in the field without a good knowledge of modern circuit analysis and synthesis methods. Hence, this course is design to provide fundamental knowledge on circuit analysis and network synthesis. **Prerequisite:** EEE 314

EEE 327 Digital Electronics (3) This course covers combinational and sequential logic circuits. Topics include number systems, Boolean algebra, logic families, medium scale integration (MSI) and large scale integration (LSI) circuits, analog to digital

(AD) and digital to analog (DA) conversion, and other related topics. Upon completion, students should be able to construct, analyze, verify, and troubleshoot digital circuits using appropriate techniques and test equipment. **Prerequisite:** GEC 211, MAT 211

EEE 328 Laboratory Course III (VHDL & HDL) (3) investigates and report submission on selected experiments and projects drawn from courses taught in this semester. **Prerequisite:** CIE 105, EEE 314

EEE 401 Control Theory (3) Introductory course in control theory: system modeling, simulation, analysis and controller design. Description of linear, time-invariant, continuous time systems, differential equations, transfer function representation, block diagrams and signal flows. System dynamic properties in time and frequency domains, performance specifications. Basic properties of feedback. Stability analysis: Routh-Hurwitz criterion, Root Locus method, Bode gain and phase margins, Nyquist criterion. Classical controller design in time and frequency domain: lead, lag, lead-lag compensation, rate feedback, PID controller. **Prerequisite:** MAT 311

EEE 407 Measurements and Instrumentations (3) This course is electronics based course dealing with measurements and instrumentation designed for students in Physics Electronics, Electrical and Electronics Engineering and allied disciplines. It is a theory course based on the use of electrical and electronics instruments for measurements. The course deals with topics such as Principle of measurements, Errors, Accuracy, Units of measurements and electrical standards, Q- meters, Watt-meters, Semiconductor device testers Counters, Digital voltmeters, X-Y recorders, Temperature controllers, Operational amplifiers, transducers, introduction to the design

of electronic equipment for temperature measurement, resistance, liquid level, speed etc.

Prerequisite: EEE 314

EEE 408 Electric Power Principles (3) The objective of the course is to make the student familiar with the transmission and distribution of electrical energy from the places of production to consumer areas and isolated consumers in order to be able to appreciate the relative procedures from the technical, economic and social point of view. **Prerequisite:** EEE 316

EEE 418 Laboratory Course IV (3) This investigates and report submission on selected experiments and projects drawn from courses taught in this semester. **Prerequisite:** EEE 328

EEE 493 Students Industrial Work Experience (SIWES) (6) is an internship field experience that abides by SIWES requirement. Internship prepares students for industrial work situations. Students are expected to complete a daily log-book during their internship experience and upon completion of internship, a written report must be submitted. Internship supervisors are expected to conduct site visitation. It is recommended that internship is completed over one semester in the fourth year. **Prerequisite:** minimum 3rd year standing.

EEE 501: Industrial Electronics Design (3) Characteristics and industrial applications of thyristors and other SCR devices. Transducers and their applications in sensing light, voltage pressure, motion, current temperature, etc. Mechanical relays, solid state relays and stepping motors. Real time control and remote control concepts in instrumentation. Micro-processor and micro-computer based systems. Fire alarms, burglar alarms and general home and industrial instrumentation. **Prerequisite:** EEE 324.

EEE 506: Feedback and Control Systems (3) Introduction: definition, examples of control systems. Open-loop and closed-loop control systems. Review of Laplace and inverse Laplace transforms. System modelling: Signal flow graph, block diagram. Transfer function. Poles and zeros. Block diagram reduction using signal flow graph and block diagram reduction techniques. Mechanical, electrical and electromechanical systems. First and second order models, higher order models. Definitions of transient response parameters. Analysis of second-order system as prototype. Routh-Hurwitz stability criterion. Classification of systems based on steady-state characteristics, steady-state error coefficient. Definition of Root locus, Properties of root locus, sketching of root locus plots. Effect of open-loop zeros and poles. Root locus design concepts. Frequency response analysis and design: Bode diagram, Polar plot, Nichols plot. Nyquist stability criterion: non-mathematical description of Nyquist criterion, interpretation of stability. Relative stability - Gain and phase margins. Closed-loop frequency response analysis - M and N contours, Nichols chart. Compensation techniques: lag, lead and lag-lead compensation, PD, PI and PID controllers. Cascade compensation based on root-locus method. Introduction to Feedback compensation. Computer-aided design and analysis of control system. **Prerequisite:** EEE 401.

EEE 510 Advanced Circuit Design (3) Analysis and design of integrated operational amplifiers and advanced circuits such as wideband amplifiers, instrumentation amplifiers, multiplier circuits, voltage controlled oscillators, and phase locked loops, Design techniques for advanced analogue circuits containing transistors and operational amplifiers. Simulation of circuit using appropriate packages e.g PSpice, Electronic workbench, Visio

technical etc should be encouraged. **Prerequisite:**
EEE 324

EEE 511 Power Systems Engineering (3) This course is an introductory subject in the field of electric power systems. Electric power has become increasingly important as a way of transmitting and transforming energy in industrial, military and transportation uses. Examples of new uses for electric power include all manners of electric transportation systems (electric trains that run under catenary, diesel-electric railroad locomotion, 'maglev' medium and high speed tracked vehicles, electric transmission systems for ships and diesel-electric locomotives, replacement of hydraulics in high performance actuators, aircraft launch and recovery systems, battery powered factory material transport systems, electric and hybrid electric cars and buses. Electric power systems are also at the heart of alternative energy systems, including wind and solar electric, geothermal and small scale hydroelectric generation. **Prerequisite: EEE 408**

EEE 512 Reliability and Maintainability of Electrical Electronic Systems (3) It has been observed that unreliability of various systems in engineering is due to lack of the required skill and poor maintenance culture. This course is intended for students majoring in electrical and electronics engineering and related engineering disciplines. It can assist graduate students and practicing engineers who wish to improve their knowledge on reliability and maintainability of engineering systems. The course is to introduce students to reliability engineering so that engineering techniques could be applied to prevent or reduce frequency of failures of the system. Also, ways of identifying and correcting causes of the failures. Students will also be informed about diagnosis of engineering failures, application of statistical analysis, risk analysis and quality control. Furthermore, reliability-centered maintenance (RCM) concept will be explained to students for

maximizing the performance and increasing the reliability of 2 systems. **Prerequisite: 3rd year standing**

EEE 514 Electrical Power Generation and Utilization (3) This course introduces students to the generation of electricity. Three phase balanced circuits; magnetic circuits. Transformers. Harmonics. Steady state analysis of dc. Synchronous & induction machines. Special motors. Modern motor control systems. Demand side management. Renewable energy sources. Distributed generation & uninterruptible power supplies. **Prerequisite: EEE 408**

EEE 516 Renewable Energy (3) This is an engineering introduction to renewable energy technologies and potentials. The course aims to introduce a general engineering/science audience to the basic concepts of renewable energy. **Prerequisite: EEE 408**

EEE 525 Use of Engineering Packages (3) This course provides hands-on proficiency in the use of engineering packages for analysis, design, and simulation such as MATLAB, PSPICE, etc. **Prerequisite: EEE 407**

EEE 527 Electrical Machines Design (3) This course provides an in-depth analysis of electric machines, the drive systems and the dynamic behavior of electric machines. Topics include inrush current, current and voltage transformer errors, dc saturation, synchronous machine capability curves, effect of salient poles, wind power generation (induction generators, doubly fed induction generators basics, simulation models, design of control systems for stability), variable reluctance and stepping motors, power electronic drives for speed and torque control of machines, transients and dynamics of AC machines. **Prerequisite: EEE 316**

EEE 528 Control Engineering (3) This course will introduce State space description of linear system, concept of controllability and observability, Realization of systems having specified transfer function, Relay control system, Introduction to calculus of variations: system identification Kalman filter, least square error controller for second order systems, Numerical Controllers-Elements of adaptive control systems practice. Definition, properties and theorems of Z-transform, inverse Z-transform. The pulse transfers functions of systems. Pole-zero mapping signal, Phase plane principles; Lyapunov functions; Lyapunov's method of stability analysis; stability regions for non- linear systems and Application of Microprocessors to control systems. **Prerequisite:** **EEE 401**

EEE 530 Introduction to Mechatronics (3) This course is made up of two modules that teach fundamental skills that Engineering students require. Introduction to your Discipline and Introduction to Programming for Engineers. Introduction to your Discipline presents an overview of the activities undertaken as a professional in your discipline, providing context for your Engineering studies. Introduction to Programming for Engineers teaches students the importance of computer programming in solving Engineering problems. Students will learn how to analyse computing problems, develop algorithms to describe solutions to these problems, and software implementations in the MATLAB and C or Fortran programming environments. **Prerequisite:** **EEE 316, CIE 106**

EEE 531 Electromechanical Devices Design (2) An introduction to electrical machines and transformers. Direct and alternating current machines are reduced to equivalent circuits. Understand the theory of magnetic circuits and transformers; discuss the fundamentals of

rotating machines, describe the theory and applications of induction motors, comprehend principle of synchronous machines, analyze performance of direct-current machines, synthesize the above concepts in a design project.

Prerequisite: **EEE 316**

EEE 532 Electrical Services Design (3) This course is designed primarily for the students in electrical/electronics engineering disciplines. Topics to be covered include Lighting installations; Basic power installations; Power supply and distribution Systems; Regulations -IEE, NEC Nigerian Standards; management; Choice of cable and conductor; wire systems and accessories; Outdoor low voltage lines and cables; Protection of low voltage installation; design of electrical installation domestic, industrial, and commercial. Earthing and testing of electric installations. Proposals and contract document preparation. The use of AutoCAD. **Prerequisite:** **EEE 408**

EEE 533 Power Electronics (3) This course examines the application of electronics to energy conversion and control. Topics covered include: modeling, analysis, and control techniques; design of power circuits including inverters, rectifiers, and DC-DC converters; analysis and design of magnetic components and filters; and characteristics of power semiconductor devices. Numerous application examples will be presented such as motion control systems, power supplies, and radio-frequency power amplifiers. **Prerequisite:** **EEE 327**

EEE 534 Power Systems Engineering (3) The objective of the course is to make the student familiar with the transmission and distribution of electrical energy from the places of production to consumer areas and isolated consumers in order to be able to appreciate the relative procedures

from the technical, economic and social point of view. **Prerequisite: EEE 408**

EEE 535 Power Systems Communication and Control (3) This introductory course provides a wide perspective on the field, opening for continued studies in specialized subjects. The course is focused on design, implementation and use of information and control systems for control and operation of the physical power system. Review of transmission line theory. High frequency communication on power lines carrier systems and power line carrier applications. Multiplexing, Telemetry, Signal processing and data transmission. Control of power generation, voltage control, system stability, automatic voltage regulators, regulating transformers. **Prerequisite: EEE 324**

EEE 536 Switchgear and High Voltage Engineering (3) Generation of High Voltages and Currents: Generation of high D.C. voltages. Voltage multipliers. Van-de-Graff generators. Generation of high a.c. voltages: cascaded transformers and Tesla coil. Impulse voltages and currents. Control of Impulse generators. Breakdown Phenomena: Breakdown in electronegative gases. Time lags for breakdown. Streamer theory of breakdown. Paschen's law. Breakdown in non-uniform fields and corona discharges. Conduction and breakdown in liquids. Breakdown in solid dielectrics: intrinsic breakdown, thermal breakdown and electromechanical breakdown. High Voltage Measurement and Testing: Measurement of D.C. resistivity. **Prerequisite: EEE 408**

EEE 537 Industrial Electronics (3) introduces the application of electronic devices for conversion, control and conditioning of electric power. Programmable Logic Controller: Introduction to PLC, PLC instructions, Timing and Counting,

Closed-loop and open-loop control using PLC. Mechanical and Solid-State Switches: Mechanical Switches, Electromechanical Devices, Solid-State Switches: BJT MOSFET, UJT, SCR, TRIAC. **Prerequisite: EEE 324**

EEE 540 Solid State Electronics (3) Physics and property of semi-conductors including high field effects, carrier injection and semi-conductor surface phenomena, devices technology, bulk and epitaxial material growth and impurity control, metal-semi-conductor interface properties, stability and methods of characterisation: controlled and surface-controlled devices. **Prerequisite: PHY 206, EEE 324**

EEE 590 Senior Design Project (3) The project work is to be completed in this second phase. Each student is to submit a proper written report (bound 3 hardcopies, and a soft copy). The project is presented and defended at a seminar. **Prerequisite: 5th year standing**

ENGLISH

ENG 101 Introduction to the Study of Literature (3) introduces student to literary genres and approaches to the reading and appreciation of literary works, with readings drawn from the best of world literatures. **Prerequisite: WRI 101.**

ENG 102 Introduction to Nigerian Literature (3) see your chair for more information. **Prerequisite: WRI 101**

ENG 201 Introduction to American Literature (3) introduces students to the works of major American writers in various literary forms. **Prerequisite: WRI 101.**

ENG 203 Language and Society (3) examines the relationship between language and society. Students will be introduced to basic sociolinguistics concepts such as bilingualism, multilingualism, speech communities, standard and non-standard language, dialects, registers, language variation, language death, language maintenance, and language shift. **Prerequisite:** none.

ENG 211 Introduction to British Literature (3) introduces students to the works of major writers in the British tradition in various literary forms. **Prerequisite:** WRI 102.

ENG 221 Introduction to African Literature (3) introduces students to the works of major African writers including the oral tradition in African literature. **Prerequisite:** WRI 102.

ENG 231 Introduction to World Literature in Translation (3) introduces students to the works of major world authors other than American, British and African. **Prerequisite:** WRI 102.

ENG 301 Introduction to the Study of Language (3) introduces the concepts of linguistics and language study. **Prerequisite:** WRI 102.

ENG 302 History of the English Language (3) provides a survey of the development of English from its roots to the present day with attention to major linguistic and historical events that shaped the language. **Prerequisite:** WRI 102.

ENG 303 Introduction to Psycholinguistics (3) introduces students to the study of Psycholinguistics. Following David Carroll's 2008 definition, "Psycholinguistics is the study of how individuals comprehend, produce and acquire language." This course attempts to cover major

concepts in psycholinguistics including bilingual language processing, cognitive processing in reading, and language development in early childhood. The course is hinged on the notion that every individual is uniquely endowed with the ability to develop a highly complex communication system. **Prerequisite:** WRI 102

ENG 304 English Syntax I (3) provides a comprehensive description of the syntactic structures of English using insights from both traditional and Modern approaches; the goal is to provide the student with a thorough knowledge of English grammar and how it can be used effectively to achieve a given purpose. **Prerequisite:** WRI 102.

ENG 306 English Poetry and Prose I: Beginnings to Eighteenth Century (3) focuses on major poets, essayists, short story authors and novelists from the medieval era to the eighteenth century. Authors to be studied will include Chaucer, Shakespeare, Spenser, Milton, Swift, Pope, Dryden, Johnson, and more. **Prerequisite:** WRI 102.

ENG 307 Advanced Sociolinguistics (3) leads students through advanced study and application of sociolinguistic theory and methods, focusing primarily on sociolinguistic variation and change. Student will be familiarized with canonical studies on variation in English, and apply the theories and methods of sociolinguistic variation to a research project of their own. Variation applies at all levels of language (pronunciation (phonology), vocabulary, morphosyntax, pragmatics, etc.). However, since the field is largely dominated by studies of sociophonetics (dealing with pronunciation), students are strongly encouraged to complete ENG 312 (Phonetics & Phonology)

prior to enrolling in this course. **Prerequisites:** WRI 102, ENG 203.

ENG 309 Literary Criticism (3) examines the Aristotelian (Intrinsic) criticism and the Platonic (Extrinsic) criticism; the elements of Art theory as they apply to literature and focus on contemporary critical approaches: Moral approach, Psychological approach, Sociological approach, and the Formalistic approach. It also explores new criticism and the application of critical theories to works of art; African literature and its criticism. **Prerequisite:** WRI 102.

ENG 310 Modern Drama (3) provides an intensive examination of major contemporary works in drama drawn from different regions of the world. **Prerequisite:** WRI 102.

ENG 311 Literature of the Diaspora (3) surveys African American and Caribbean literature from colonial times to the present. It will include authors such as William Wells Brown, Phyllis Wheatley, Frederick Douglass, Paul Lawrence Dunbar, Langston Hughes, Zora Neale Hurston, Richard Wright, Jamaica Kincaid, Derek Walcott, Ralph Ellison, and Toni Morrison. Historical and cultural movements are included. **Prerequisite:** WRI 102.

ENG 312 Phonetics and Phonology (3) provides practical knowledge and skills for the study of speech sounds as physical entities in terms of articulation, acoustics, and aural perception (phonetics) and conceptual frameworks for the study of the systematic patterning of speech sounds as linguistic units (phonology). **Prerequisite:** WRI 102.

ENG 313 Semantics and Pragmatics (3) provides a comprehensive introduction to the study of

meaning and how context of utterance affects human communication. Topics covered will include semantic fields, extensions and prototypes, deixis, anaphora, speech acts, presupposition, and conversational implicature. **Prerequisite:** WRI 102.

ENG 314 English Language in Nigeria (3) studies the history of English language in Nigeria; focus will be on the evolution of a Nigerian standard. The distinctive characteristics of Nigerian languages and how they affect production and performance will also be studied. **Prerequisite:** WRI 102.

ENG 315 Introduction to World Literature in Translation (3) introduces students to the works of major world authors other than American, British and African. **Prerequisite:** WRI 102.

ENG 316 Literature and Film (3) explores the complex interplay between film and literature. Selected novels, short stories and plays are analyzed in relation to film versions of the same works in order to gain an understanding of the possibilities and problems involved in the transposition to film. The aim of the course is to sharpen appreciation of film and literary fiction by studying the differences and similarities between the ways that filmed narratives and written narratives tell their stories. **Prerequisite:** WRI 102.

ENG 317 Discourse Analysis (3) This course introduces students to the study of language in use. Written and spoken forms of language are examined within particular contexts. According to Brown and Yule 1983, the study of discourse cuts across all disciplines of linguistics and therefore takes on a variety of approaches. For instance, the Sociolinguist may want to describe transcribed data of 'real' occurrences of language in use, while the psycholinguist might focus on describing processes of language comprehension. The course, Discourse Analysis, while drawing examples from interdisciplinary fields, will focus on a descriptive linguistic approach to demonstrate how language is used in communication. **Prerequisite: 102**

ENG 320 Introduction to Creative Writing Fiction (3) explores the artistic challenge of mimesis, or the creation of life-like worlds. Focus will be on what exists in the real world with the goal of creating authentic and believable characters. **Prerequisite: WRI 102.**

ENG 330 Language and Politics (3) examines how political actors use language to talk about politics (the language of politics) and how politics also influences language (the politics of language). Through the analysis of various genres of written and spoken communication (e.g., speeches, party platforms, news coverage), students will learn to recognize and assess the motivation behind and effect of different rhetorical strategies used in political discourse. **Prerequisite: WRI 102.**

ENG 331 Language & the Law (3) investigates the role that language and linguistics play in the legal written and oral discourse. Discussion will draw upon theory and framework in fields of semantics, pragmatics, discourse analysis and sociolinguistics as they apply to examples from

the legal discourse. This will include both (1) use of language in legal settings and (2) legislation of language use (such as issues of official language policy and freedom of speech). Students will be expected to apply their acquired knowledge about language and the law to practical, current societal issues. **Prerequisites: WRI 102**

ENG 401 Studies in American Literature (3) provides an in depth study of one or more topics in American literature. Topics vary. **Prerequisites: One or more ENG course and WRI 102 and third year standing.**

ENG 410 Advanced English Grammar (3) provides an intense study of English grammar with a focus on core grammatical concepts relating to different syntactic constructions examined from various grammatical approaches; emphasis will be on practical applications. **Prerequisites: One or more ENG courses and WRI 102 and third year standing.**

ENG 411 Studies in British Literature (3) provides an in-depth study of one or more topics and authors in British literature. Topics vary. **Prerequisites: One or more ENG courses and WRI 102 and third year standing.**

ENG 412 Studies in British Literature: Shakespeare (3) is a landmark in the study of world literature. Selections of Shakespeare's drama include history plays, tragedy and comedy. At least five plays, as well as a sampling of his sonnets and the author's life and the historical and cultural influences on his works will also be studied. **Prerequisite: One or more ENG courses and WRI 102 and third year standing.**

ENG 413 Oral Literature (3) examines the various

forms of oral literature such as myths, legends, folktales, proverbs, riddles, African traditional poetry, and the epic. Students will be required to carry out field work and collect sample materials for analysis. **Prerequisites: One or more ENG courses and WRI 102 and third year standing.**

ENG 414 Studies in American Literature: Mark Twain (3) examines the works of Mark Twain, ranging from memoir to historical romance, from frontier humor to social realism. Readings include *Adventures of Huckleberry Finn*, *The Adventures of Tom Sawyer*, *Pudd'nhead Wilson*, *A Connecticut Yankee in King Arthur's Court*, *Roughing It*, and *The Innocents Abroad*. **Prerequisites: One or more ENG courses and WRI 102 and third year standing.**

ENG 416 Language and National Development (3) focuses on the constraints placed on national development by the linguistic situation in developing African nations. **Prerequisites: One or more ENG courses and WRI 102 and third year standing.**

ENG 418 Studies in English Poetry and Prose: Nineteenth Century to the Present (3) provides a continuation of English Poetry and Prose I. It is a survey of the major poets, essayists, short story authors and novelists of British literature from the nineteenth century to the present. Historical and cultural movements of England are included. **Prerequisites: One or more ENG courses and WRI 102 and third year standing.**

ENG 421 Studies in African Literature (3) provides an in depth study of one or more topics and authors in African literature. Topics vary. **Prerequisites: One or more ENG courses and WRI 102 and third year standing.**

ENG 425 Phonetics, Phonology, and Morphology

(3) introduces students to how speech sounds are produced, how they are classified and transcribed, and what rules govern their production. The course will also examine the structure of words and various morphological processes, with practical applications to English. **Prerequisites: One or more ENG courses and WRI 102 and third year standing.**

ENG 426 Stylistics (3) helps students develop a fuller and articulate awareness of language through stylistic analysis of literary texts. A wide range of literary devices will be studied for their literary effects. **Prerequisites: One or more ENG courses and WRI 102 and third year standing.**

ENG 431 Studies in World Literature in Translation (3) provides an in depth study of one of more topics and authors in world literature in English translation. Topics vary. **Prerequisites: One or more ENG courses and WRI 102 and third year standing.**

ENG 441 Special Topics in English Literature and Language (3) provides an opportunity for students to study one or more topics in depth in a seminar setting. Topics vary and may encompass more than one national literature. Students may repeat the course, if the topic changes, for additional credit with the permission of the instructor. **Prerequisites: One or more ENG course(s) and WRI 102.**

ENG 490 Senior Research Project in Language and Literature (3) provides students with the opportunity to carry out an in-depth study of a subject or topic in their field of concentration under the guidance of a faculty member. **Prerequisites: One or more ENG course(s) and WRI 102 and third year standing.**

ENTREPRENEURSHIP

ENT 101 Introduction to Entrepreneurship (3)

Introduces students to the principles of entrepreneurship, the major areas of business, and the relevance of the various business functions. They are also exposed to the principles of business and connected to how you apply relevant economic, accounting, finance, marketing, human resource management, and other business concepts in the real world of starting and running a successful business .

Finally, it lays the crucial foundation for the second entrepreneurship field experience course (ENT 201). **Prerequisite: none.**

ENT 201 Entrepreneurial Field Experience (3)

is the second required course for all students in the GER entrepreneurship mandate of the Board of Trustees. Students will engage in an entrepreneurial field experience in order to study in more depth aspects of running a business, to create a business plan for a business of their own, and to study business plans of small and large businesses. The transferable skills to be acquired during and after the course include environmental scanning, opportunity identification skill, idea screening/sifting, business concept development, writing business plan, risk taking, people management, consensus-building, financing & financial management, book-keeping & reporting, crisis management among other. He said the students will find these helpful when they become employed. **Prerequisite: ENT 101 and second year standing.**

ENT 203 Nigerian Entrepreneurial Environment

(3) introduces students to the components of the environmental variables that have implications for entrepreneurial development in Nigeria, and the adaptive mechanisms for thriving in the Nigerian entrepreneurial environment. It is aimed at

exposing students to the history of entrepreneurship in Nigeria, role and functions/values of entrepreneurship, entrepreneurship tasks, risks and hazards. In addition, it focuses on the role of entrepreneurship in a national economy. **Prerequisite: ENT 101.**

ENT 301 Family Business & Succession (3)

provides analysis of and insights into the behaviors and dynamics of family businesses. Specifically, the course focuses on the unique characteristics of family businesses, the complexities that lie at the intersection of family ownership, control, and management of a firm. In this course, students are expected to gain an understanding of the distinctive advantages inherent in family businesses and an appreciation of the unique challenges they face. The knowledge, skills and attitudes required for entrepreneurship within a family business, the various stakeholders of a family business and understand their relationship to business performance, and importance of growth in relation to family businesses are some of the topics covered in this course. **Prerequisites: ENT 101, ENT 201.**

ENT 320 - Technology Entrepreneurship (3) explores how to start and operate technology ventures, with an emphasis on the process technology entrepreneurs use to start companies. The course also explores frameworks and analytical tools that are critical for the development of technology strategy; for deciding which technologies to invest in, how to structure these investments to create value; and how to capture that value; to understand how new technologies change the way we work and interact, and consequently how to anticipate and respond to the behavior of customers, suppliers, and competitors. Students from any background including engineers and scientists who want to actually be entrepreneurs would benefit from this course. **Prerequisites: ENT 101 and CIE 111.**

ENT 325 Social Entrepreneurship (3) introduces students to social entrepreneurship and non-Profit Enterprises (NPEs). Students will learn about the triple bottom line social return to mission customers; operational performance return for sustainability for organizational and brand value; and stakeholder/donor return. It also covers how and why of socially responsible not-for-profit firms. The essential steps for launching, building and driving a non-profit enterprise will be covered. Students will develop a NPE start-up model, provide NPE business model analysis, and develop a 5 year personal philanthropy plan. **Prerequisite: ENT 101.**

ENT 326 Microfinance and Economic Development (3) introduces students to microfinance and economic development. Students will learn about the relationship between microfinance and social development. The focus will be on the role of international poverty alleviation efforts. They will also look at the history and evolution of the field, from both a theoretical

and practical perspective. While the roles of various constituencies will be examined, emphasis will be on the practitioners' perspective and challenges faced. **Prerequisite: ENT 101.**

ENT 328 Innovation for a Sustainable Society (3) explores different forms of sustainable innovations in products and services with a focus on strategies for energy, transportation, food provision, etc. A central proposition for this course is that markets can be made to work for environmental and social sustainability, and that entrepreneurial action to capture economic value associated with environmental resources can alleviate unsustainable economic systems: entrepreneurs can take an important and a lead role in resolving social and environmental challenges. **Prerequisite: ENT 101.**

ENT 340 Entrepreneurial Sales and Marketing (3) covers various aspects of marketing an entrepreneurial venture. Major topics include positioning and segmentation, new product/service offerings, pricing, and distribution. Discussion of how new products are rolled out in the market place. Sales Management, promotional mix, and branding will be discussed. **Prerequisites: ENT 201 and third year standing.**

ENT 345 Entrepreneurial Innovation (3) provides students with the skills to explain the concept of innovation and the elements of creativity. They will also understand how innovation can work within companies. Students will understand when paradigms should be broken and how one can make more successful businesses. They will be able to understand the culture and environment which make innovation possible within organizations. **Prerequisites: ENT 201 and third year standing.**

ENT 426 Social Entrepreneurship Research (3) teaches students how to conduct research on an ongoing social entrepreneurship project. It will provide students with the tools to analyze and report on social entrepreneurship endeavor. The focus will be on preparing and publishing research findings in a journal article or case format. **Prerequisites: fourth year standing.**

ENT 430 (Business Condition Analysis)

Decision-making in businesses and corporations does not take place in a vacuum. The conditions prevailing in the national and international economies crucially affect business activities like production, consumption, investment, and personnel decisions. This course covers problems of managing the firm in relation to the changing economic environment. The course focuses on the analysis of major business fluctuations like fluctuations in national income, output, employment, prices and exchange rates and the implication of such changes for business decisions. The course is intended to provide students with a variety of approaches and methodologies available for understanding and predicting business conditions. **Prerequisites: ENT 201, ENT 301, Senior Standing**

ENT 430 Financing Entrepreneurial Ventures (3) examines various aspects of financing an entrepreneurial venture. Major topics include attracting seed and growth capital from sources such as venture capital, investment banking, government, and commercial banks. Among the issues discussed are valuing a company, going public, selling out, acquisitions, bankruptcy, different legal forms of organization, and partnerships. **Prerequisites: ENT 201 and fourth year standing.**

ENT 440 Managing a Growing Business (3) covers various aspects of marketing an entrepreneurial venture. Major topics include positioning and segmentation, new product/service offerings, pricing, and distribution. The course will also focus on how new products/are rolled out in the market; explaining sales management, promotion, advertising, and branding. **Prerequisites: ENT 201 and third year standing.**

FINANCE

FIN 201 Business Finance (3) introduces business finance, including global aspects; acquisition and use of short-term funds and long-term capital; overview of money and capital markets; management of assets, liabilities and capital accounts; financial analysis and time value of money; cash operation and long-range budgeting; leasing; corporate securities; dividend policy; and cost of capital. **Prerequisites: QBA 201.**

FIN 310 Financial Statements Analysis (3) provides students with the skills needed to read, analyze and interpret the information contained in a company's financial statements. It integrates accounting and financial principles and discusses the ethics of both professions. **Prerequisites: FIN 201 and ACC 201.**

FIN 320 Financial Institutions and Markets (3) provides an overview of the banking industry with an emphasis on commercial bank management. Specific topics include the duration and term structure of interest rates, asset/liability management, and risk and credit management. **Prerequisites: FIN 201 and WRI 102.**

FIN 330 Security Analysis (3) covers investment objectives, mechanics of buying and selling financial assets, and portfolio management. The focus is on risk versus return in investment theory, but students also construct and manage real-time hypothetical investment portfolios. **Prerequisites:** **FIN 201.**

FIN 340 Corporate Finance (3) emphasizes long-term (capital budgeting) and short-term investment decisions. The course also covers the total environment in which the financial officer functions with comprehensive coverage of the financial officer's use of budgets as well as financial and accounting concepts. **Prerequisites:** **FIN 201 and ECO 220 and QBA 201.**

FIN 401 International Financial Management (3) covers financing of international trade and investment, foreign exchange markets and exchange rate determination, and balance of payments. It focuses on international financial management within the firm. **Prerequisites:** **FIN 330 and FIN320.**

FIN 402 Derivative Securities (3) covers conceptual and practical aspects of the functioning of speculative markets various derivatives. It examines futures, options, swaps, and other products. **Prerequisites:** **FIN 330 and FIN320.**

FIN 420 Portfolio Management (3) emphasizes the portfolio aspects of Investments. Topics covered include in-depth coverage of fixed income portfolio management; equity portfolios; mutual fund portfolios; derivatives options, futures, and forward contracts; international portfolio diversification and ethics in finance. It is a continuation of Fin 330. **Prerequisites:** **FIN 330 and FIN 340.**

FIN 430 Financial Modeling (3) is an applied computer intensive course that illustrates how to use statistical models and technical analysis to forecast future movements of financial variables such as stock prices, exchange rates and interest rates. **Prerequisite:** **FIN 201 and QBA 201.**

FIN 440 Corporate Valuation and Financial Strategy (3) covers concepts and techniques for analyzing financial decisions and Corporate Valuation and Financial Strategy. Topics include valuation techniques for various asset classes, forecasting and estimation of free cash flow, estimating the cost of capital and real options. Valuation is applied to single and multiple projects, individual businesses, subsidiaries and diversified companies. **Prerequisite:** **FIN 330 and FIN 420.**

FIN 444 Bank Management (3) covers topics, such as: problems and the impact of government policy and regulation on banking, regulatory policies associated with liquidity and solvency, assets and liability (GAP) management, management of banks investment portfolio, reserves and earning assets, loans and discounts, financial statement analysis of banks, services, personnel, and public relations in banking. **Prerequisite:** **FIN 320.**

FIN 450 Cases in Corporate Finance (3) emphasizes the case study approach to intermediate financial management (corporate finance). Topics include capital budgeting, corporate governance, mergers, capital structure, dividend policy and short-term financial management. **Prerequisites:** **FIN 340 and FIN 310.**

FIN 492 Finance Independent Study (1-6). **Prerequisites:** **2.0 CGPA or higher and third year standing.**

FRENCH

FRE 101: Elementary French (3)

This is a beginners' course for students with little or no knowledge of French language. This introductory course gives training in the basic patterns and structures of French language and culture through reading, listening, writing and speaking. Besides focusing on grammar, elementary French also stresses the importance of communication through use of a wide variety of activities including: group work, oral practice, games and role playing. Through extensive practice in class, students will acquire the basic vocabulary and sentence structures of French. **Prerequisite: none.**

FRE 102: Elementary French II (3)

This course will enable students to develop abilities in reading, writing, speaking, and understanding French. This course is designed to build on French 101 or other previous experience in French, to expand the knowledge of French vocabulary and grammar and offer experience in handling this new knowledge in written and oral forms. It will also help students experience, appreciate and become sensitive to cultural and linguistic differences. **Prerequisite: FRE 101.**

FULFULDE

Fulfulde 101: Basic Fulfulde (3) The course introduces participants to the four basic skills of listening (understanding), speaking, reading and writing in Fulfulde. The course offers learners the opportunity to learn and practice the four basic skills in life situations and fields of language use such as in the home, at school, in the office, in the market, etc. **Prerequisite: none**

GENERAL ENGINEERING COURSES

GEC 201 Basic Engineering Drawing (2) Is an introductory experience in technical drawing as a tool of technical communication. Emphases are on development of basic drafting skills, visualization and solving graphical problems. Topics covered will include Drawing Tools, Dimensioning, Plane Geometry etc. **Prerequisite(s): None**

GEC 211 Introduction to Electrical Engineering (3) Introduction to fundamental concepts and applications of electrical engineering. Topics include: dc and ac circuit analysis; sinusoids and spectra; analog filtering; signal sampling and digital filtering; channel capacity; feedback and control systems; operational amplifiers; and semiconductor devices including diodes, transistors, light-emitting diodes, and lasers. **Prerequisite(s): PHY 206, MAT 211**

GEC 213 Engineering Law (3) This course is a survey of legal topics relevant to engineers, including basic of legal system, labor law, intellectual property, torts, and contracts. This is an introductory course, emphasizes on legal principles that can provide engineers with the ability to recognize legal issues that are likely to arise in the engineering profession and engineering management. It will also cover topics of importance to the practicing engineer, including the legal system, business structures, sales and marketing laws, contracts, tort liability, environmental laws, patents, copyrights, trademarks, and trade secrets. **Prerequisite(s): None**

GEC 214 Applied Mechanics 3 CREDIT UNITS This course provides a sound working knowledge of the fundamentals of applied engineering mechanics including kinematics, dynamics, statics and hydraulics. Topics covered will include Forces, moments, couples. Equilibrium of simple structures. First and second moments of area; centroids. Kinematics of rigid bodies in plane motion, etc. **Prerequisite(s): PHY 205**

GEC 217 Engineer-In-Society (1) Philosophy of science. History of engineering and technology. Engineering professions and specializations. Engineering Draftsmanship. Engineering training, institutions and post-training capacity building. Safety in engineering and introduction to risk analysis. The role of engineers in nation building. Invited lectures by professionals in practice at an organized symposium. **Prerequisite(s): None**

GEC 218 Manufacturing Technology/Workshop Practice (2) This course will allow the student to develop the skills required to operate the various machines and equipment necessary to work safely and productively in a machining and manufacturing setting. It will also cover the use of hand tools, and safety measures in these fields. **Prerequisite(s): None**

GEC 221 Thermodynamics and Fluid Mechanics (3) This course discusses the fundamental laws of thermodynamics for simple substances; application to flow processes and to non-reacting mixtures; statistical thermodynamics of ideal gases and crystalline solids; chemical and materials thermodynamics; multiphase and multicomponent equilibria in reacting systems; electrochemistry. This Fundamentals of fluid mechanics. Microscopic and macroscopic

properties of liquids and gases; the continuum hypothesis; review of thermodynamics; general equations of motion; kinematics; stresses; constitutive relations; vorticity, circulation; Bernoulli's equation; potential flow; thin-airfoil theory; surface gravity waves; buoyancy- driven flows; rotating flows; viscous creeping flow; viscous boundary layers; introduction to stability and turbulence; quasi one-dimensional compressible flow; shock waves; unsteady compressible flow; acoustics. **Prerequisite(s): MAT 210, PHY 205**

GEC 224 Strength of Materials and Materials Science (3) Introduction to stress and deformation analysis of basic structural materials subjected to axial, torsional, bending and pressure loads. This course describes the structure of materials, chemical composition, phase transformations, corrosion and mechanical properties of metals, ceramics, polymers and related materials. Electrical, thermal, magnetic and optical properties of materials. Materials selection in engineering applications. **Prerequisite(s): GEC 214**

GEC 228 General Engineering Laboratory I (3) This course provides a sound laboratory experience covering the areas of Electrical Engineering, Materials Science, Applied Mechanics and Applied Computer Programming. Laboratory investigations and report submission on selected experiments and projects drawn from introduction to Electrical Engineering, Materials Science, Applied Mechanics, Applied Computer Programming I and Workshop Technology Courses. **Prerequisite(s): None**

GEC 448 Engineering Project Management &

Law (3) Management Concepts. Project organization, teams, methods and tools for project management. Organization constraints on development. Project Planning Objectives, Resources, Project Estimation, Cost Factors, Decomposition Techniques, Estimation Models. Risk Strategies, Risk Identification, Risk Projection, Risk Monitoring and Management. Work Breakdown Structure, Task Allocation/Effort Distribution. Network Diagrams, PERT and Critical Path Method, Gantt Chart. Scheduling Strategies. Project Tracking, Controlling Progress. Quality measurement. Linear Programming and PERT/CPM applications. System Engineering, Software Development Process, Software Life Cycle, Software Metrics and Measurement. **Prerequisite(s): 4th yr. standing**

GENERAL EDUCATION

GEN 102: Nigerian Peoples and Cultures (3). This course focuses on the history and the cultures of peoples of Africa and particularly Nigeria. It explores the origin of African and Nigerian peoples, as well the social beliefs, norms and values of the peoples of Nigeria and their respective characteristics. This course also examines a wide range of topics from evolution of Nigeria as a political unit, to the diversity of the ethnic groups in pre-colonial, colonial, and post-colonial Nigeria, to topics such as social justice, political economy, religion, politics, colonialism, law and society, nationalism, and host of other contemporary issues in Nigeria. The actual range of issues examined may vary from one semester to another. **Prerequisite: none**

GEN 103 : History and Philosophy of Science (3).

The aim of this course is to explore the history and the philosophy of science and technology from the first efforts of human beings to investigate, understand and master the natural environment, to the separation between scientific knowledge and other forms of knowledge, the birth of rational and objective thinking, the earliest formulations of scientific laws, to the elaboration and spread of modern science and scientific thought. A special emphasis will be put on the universal character of science as a way of thinking, the contributions of African peoples and all peoples of all continents and cultural traditions to scientific progress, and the common challenges we are facing today, due in part to questionable uses of modern science and modern technology. The case of Nigeria will be specially highlighted as a good example of those challenges in the areas of threat to biodiversity, climatic change, and natural and environmental resources management. The course will also examine the scientific methods and related epistemological issues as well as some of the current theories of science and the relationship between science, society and development, particularly in the African and Nigerian context. **Prerequisite: none**

GEOLOGY

GEO 101 Introduction to Geology (4: 3 lecture, 1 lab) explores formation of landforms, rivers, groundwater, glaciers, oceans, and volcanoes. Included is the study of minerals and rocks, plate tectonics, the makeup of continents, mountain building, heat flow, magnetism, gravity, rock deformation, earthquakes and the earth's interior, weathering, erosion, transport, deposition, the origin of hydrocarbon and coal deposits, methods of petroleum exploration, global distribution of hydrocarbon resources with emphasis on Nigerian petroleum resources. **Prerequisite: none.**

GEO 301 Elements of Petroleum Geology (3) provides an understanding of the fundamental concepts of petroleum exploration, geological processes, geological prospecting, and the technology involved in the exploration of crude and also in crude being converted into petroleum. **Prerequisite: GEO 101.**

GEO 312 Soil Science and Environmental Change (4: 3 lecture, 1 lab) examines past and present change on the Earth from a global geologic perspective, including the study the structure of the earth, plate tectonics, global catastrophes and geologic hazards, human impacts on the environment, global warming, pollution, ozone depletion, acid rain, resources consumption, and population growth. **Prerequisite: GEO 101.**

HAUSA

Hausa 101: Basic Hausa (3) The course introduces participants to the four basic skills of listening (understanding), speaking, reading and writing in Hausa Language. The course offers learners the opportunity to learn and practice the 4 basic skills

in real life situations and fields of language use such as in the home, at school, in the office, in the market, etc. **Prerequisite: none**

HISTORY

HIS 202 World History Since 1500 (3) provides an overview of World history, from about 1500 to the present. We will address how the human past has been shaped by various socio-economic and political forces such as religion, trade, migration, technology, military rivalry, and competition for resources and the events and convergences that have led to our world today. (World scale) **Prerequisite: none.**

HIS 212 Conquest & Resistance: African History Since 1880 (3) deals with the emergence of modern Africa. It examines the African search for modernity, social reforms, the European conquest of Africa, anti-colonialism, and post-independence challenges. (Regions scale) **Prerequisite: none.**

HIS 270 Nigeria In World History (3) provides an overview of Nigerian history from the conquest of the territories that comprise modern Nigeria, to colonial rule, the fight for independence, civil war, post-colonial developments, and the influence of Nigeria and Nigerians in African and world affairs. It will place the main themes and developments of the Nigerian past into a global context. (State/Nation/Locality scale) **Prerequisite: none.**

HIS 301 Forced And Free Migration: The Global African Diaspora (3) explores selected themes in the history of the African Diaspora in the Americas, Europe, the Middle East, and Asia with a focus on understanding the experiences of Africans and people of African descent. (World scale) **Prerequisite: second year standing.**

HIS 311 The History Of Islam In Africa (3) explores the historical, political, cultural, and religious aspects of the expansion of Islam in Africa from about the 9th century CE into the post-independence period through a chronological, thematic, and regional approach. (Regions Scale) **Prerequisite: second year standing.**

HIS 351 The Indian Ocean World: Sailors, Slaves, And Scholars (3) focuses on the themes and events that unite the societies and cultures of the Indian Ocean Basin in Africa, Arabia, South Asia and Southeast Asia from the earliest times to the present. (Regions Scale) **Prerequisite: second year standing.**

HIS 361 The Swahili: An African Mercantile Civilization (3) examines the people who inhabit the Swahili Coast from Somalia to Mozambique. It explores the religious, historical and political context of the Swahili Coast and the peoples who inhabit this region, and the region's significance to African and World history. (State/Nation/Locality scale) **Prerequisite: second year standing.**

HIS 400 Seminar In World History (3) explores specific, usually thematic, topics in World history. The topic will often change, but might include issues such as patterns of migration, the emergence of global institutions, cultural and material exchanges, war, and terrorism. (World scale) **Prerequisite: third year standing.**

HIS 470 Local History Workshop – Nigeria/Yola (3) provides students with the opportunity to enhance their skills of historical analysis, writing and oral communication through close engagement with an important historical event or issue specific to Yola, Adamawa State or Nigeria using local archives and/or oral interviews. It will culminate with the writing of a senior research paper. The particular topic and content will vary. (State/Nation/Locality scale) **Prerequisite: third year standing.**

HIS 480 Seminar In Regions History (3) explores a specific topic in the social, political, economic or intellectual history of Africa, Europe, Asia, or the Americas. Topics and content will vary. (Regions scale) **Prerequisite: third year standing.**

POLITICS AND INTERNATIONAL STUDIES

(formerly known as *International and Comparative Politics* - ICP)

ICP 101 Introduction to Comparative Politics (3) examines various forms of government and political cultures across time and nations. The first half of the course looks at the variety of principles and concepts having to do with comparative politics. The second half looks at specific case studies such as, for example, Nigeria, South Africa, Mexico, Brazil, India, China, Russia, Germany, Britain and the United States. **Prerequisite: none.**

ICP 131 Introduction to International Relations (3) looks first at the structures and dynamics of the international system of states and then considers alternative perspectives, non-state actors, and a wide variety of issues in global politics including the political economy, information and culture, the environment, development, conflict and conflict resolution. **Prerequisite: none.**

ICP 135 Introduction to International Development (3) this course introduces students to the emerging discipline of sustainable human development (SHD), which utilizes a holistic approach to the challenges of development by taking into account the interaction between economic, environmental, political, and social processes. Students will examine the theory, methods, and goals of development on a global scale through articles and case studies. Students will emerge from the course with a greater understanding of what fosters successful development, what policy options and strategies are available to overcome challenges, and how development standing can be measured through the use of indicators and comparative analysis. **Prerequisite: none.**

ICP 161 Introduction to Political Theory (3) introduces students to political theories, primarily those within the Western tradition, as well as the key names and texts within this tradition. Consideration will also be given to the relationship between the “modern” (post-1500) Western tradition and Islamic traditions of political thought. **Prerequisite: none.**

ICP 186 Introduction to Public Administration (3) focuses largely on policy implementation and to a lesser degree on public policymaking. This course is designed to examine the role of administration

in government. It explores various trends in public administration as well as examining the unique circumstances involved in administering public organizations. **Prerequisite: none.**

ICP 187 Introduction to Public Policy (3) focuses on understanding how public policies are made, how the policy processes work and shape public policy. It examines why certain problems make their way to the policy agenda and why some policies are adopted; why others are rejected, and why some policies seem to succeed while others appear to fail. It specifically focuses on public policy at the national level, exploring a wide range of policy areas, including education, economy, society, globalization, sustainable development, environmental, foreign policy, and other problems. **Prerequisite: none.**

ICP 201 Contemporary Nigerian Politics (also known as Introduction to Nigerian National Government for Public Policy and Administration program) (3) addresses the internal political processes of modern Nigeria including issues such as regionalism, ethnicity, religion, democracy, the military, and corruption. **Prerequisite: ICP 101.**

ICP 205 Contemporary African Politics (3) focuses on the basic concepts and theoretical models used in studies of politics in Africa from the pre-colonial era to the contemporary period and introduce students to African traditions and experiences of colonialism and the struggle for independence that have shaped modern-day politics. **Prerequisite: ICP 101 or ICP 131.**

ICP 210 Contemporary American Politics (3) covers the basics of the American political system including the Constitution, separation of powers, American federalism, and the legislative, executive and judicial branches. **Prerequisite: ICP 101 or ICP 131.**

ICP 215 Contemporary European Politics (3) survey the political systems of selected European states, parliamentary and mixed systems, constitutional monarchies, different electoral systems, etc. **Prerequisite:** ICP 101 or ICP 131.

ICP 220 Politics of the Middle East (3) focuses on the internal politics of selected Middle East states and addresses questions such as movements toward democracy, human rights, and the Israeli-Palestinian conflict. **Prerequisite:** ICP 101 or ICP 131.

ICP 224 The Politics of Latin America and the Caribbean (3) provides a survey of politics in Latin America and the Caribbean. Special attention will be paid to Mexico, Brazil and Argentina. It emphasizes the history of imperialism, underdevelopment, military rule, external influence and democracy that has created modern Latin America. It will also examine the continuing contentious relationship with the West, in particular the United States. **Prerequisite:** ICP 101 or ICP 131.

ICP 225 Politics of Modern Asia (3) provides a survey of the internal political systems and foreign policies of contemporary Asian states with emphasis on India, China and Japan. **Prerequisite:** ICP 101 or ICP 131.

ICP 229 Introduction to Peace and Conflict Studies (3) This course will explore the reasons for conflict and war. The different types of peace will be discussed – negative peace and positive peace – and the ways of building these. Specific topics which will also be considered include conflict prevention, gender and conflict the role of international organizations, such as the United

Nations and regional organizations. **Prerequisite:** ICP 101 or ICP 131 or ICP 161.

ICP 231 International Organizations (3) studies the operations, goals and roles of various international organizations including the UN, its subsidiary organizations, the EU, the AU, ASEAN, NATO and INGO's. **Prerequisite:** ICP 131.

ICP 232 Model United Nations (1) helps students prepare for an intercollegiate Model United Nations (MUN) competition both at home and abroad. The objective is to seek, through discussion, negotiation and debates, solutions to the various problems of the world. It emphasizes an introductory survey of the concepts, institutions, processes, and forces at work in the UN. **Prerequisite:** none.

ICP 235 African Union and African International Relations (3) explore the origins and development of the AU, intra-African relations, relations with other international organizations and the wider world. **Prerequisite:** ICP 131 or ICP 205.

ICP 240 American Foreign Policy (3) offers a general survey of American foreign policy historically, America's role in the contemporary world, America's relations with international organizations and with various regions of the world. **Prerequisite:** ICP 131 or ICP 210.

ICP 263 Modern Political Theory (3) focuses on the development of modern political philosophy. Topics which will be addressed include the emergence of the modern subject, the relation between economics, politics and human nature. Readings include, among others, Descartes, Machiavelli, Hobbes, Locke, Rousseau, Kant, and Nietzsche. **Prerequisite:** ICP 161.

ICP 287 Public Policy Analysis (3) is designed to expose students to the field of public policy analysis. Public policy analysis is the science of providing problem-solving advice to policy-makers, or citizens. Public policy analysis requires skills and expertise critical to underlying policy context and producing analyses to the concerned parties. **Prerequisite:** ICP 101 or ICP 186 or ICP 187

ICP 288 State and Local Government (also known as Intergovernmental Relations for Public Policy and Administration program) (3) This course is an analysis of the formation and implementation of policies at the state and local levels. State and Municipal management concerns with human and financial resources, city and town planning. Services and related cases are examined, particularly in the context of Africa. **Prerequisite:** none

ICP 301 Topics in Comparative Politics (3) addresses selected issues in comparative politics including, but not limited to, public policy, democracy, human rights, civil society, freedom of speech, political parties, etc. **Prerequisite:** ICP 101.

ICP 302 Politics of Development and Underdevelopment (3) focuses on the origins of underdevelopment and the various proposals for overcoming it: modernization theory, dependency, imperialism, neo-colonialism, culture, religion, etc. **Prerequisite:** ICP 101 or ICP 135.

ICP 303 Comparative Studies in Transitional Societies (3) focuses on selective countries and regions undergoing a transition from authoritarian (communist, military) regimes to more open and democratic regimes. **Prerequisite:** ICP 101 or ICP 135 or ICP 131.

ICP 304 Democracy and Elections in Africa (3) begins with an examination of democratic theory and practice. It then examines several case studies of African elections and the degree to which democratic procedures and results were actually implemented. **Prerequisites:** ICP 101. **Prerequisite:** Public Policy and Administration students - ICP 201.

ICP 306 Topics in African Politics (3) concentrates on the politics of a particular region (East Africa, West Africa, Southern Africa, the Horn, the Maghreb, etc.) or a specific country (e.g. South Africa, Tanzania) or a theme (democracy, poverty, corruption, natural resources, the military, civil war, and religion). **Prerequisite:** ICP 205 or ICP305.

ICP 307 Politics of Contemporary South Africa (3) provides an in depth examination of the domestic and external politics of the Republic of South Africa. It looks closely at South African history, the creation of the apartheid state and the ultimately successful struggle to create a non-racial democracy. It also looks at the problems -- economic, political, racial and ethnic--that have emerged in the post-apartheid period as well as at the mechanisms for overcoming those problems. **Prerequisites:** ICP 101 and ICP 205.

ICP 309 Strategies of Conflict Transformation – Approaches to Peacebuilding (3) This course will examine the theory and practice of conflict transformation and resolution, including the structural factors that play a part in conflict. Conflict transformation models will be considered, including resolution, negotiation and mediation. Case studies will be used. **Prerequisite:** ICP 229.

ICP 319 Russia and Post-Communist Society (3) examine the politics of post-communism in what were the Soviet Union and its allies with a particular emphasis on the Russian Federation. Specific attention is paid to the evolution of democratic procedures, political culture, and popular participation in these formerly one-party states. **Prerequisite:** ICP 215.

ICP 320 Islam and Politics (3) explores the intersection of Islam and politics as a global phenomenon in the modern era. **Prerequisite:** ICP 220

ICP 325 Great Power Politics in Asia: China, Japan and India (3) examines and compares the domestic and international politics of the three great Asian political and economic powers: China, India and Japan. All three of these states have varied and complex political histories and a relatively recent political and economic transition and experience with democracy: one still ruled by a Communist Party that has moved radically towards a private enterprise economy; another with a fascist past, an American imposed constitution, an innovative capitalist political economy and, until recently, virtual one-party rule; a third that emerged from centuries of colonial rule with what is probably the most robust, albeit combustible, democracy in the region. **Prerequisite:** ICP 225.

ICP 331 Topics in International Relations (3) focuses on a selected issue in international relations: human rights, gender, religion, democracy, war, peace, terrorism, international security. **Prerequisites:** ICP 131 or ICP 135.

ICP 332 International Political Economy (3) provides a detailed analysis of the way in which

politics and economics intersect at the international level. It is cross-listed with ECO 361. **Prerequisites:** ICP 131 or ICP 135.

ICP 333 International Relations Theory (3) provides an overview of some of the major theoretical perspectives (realism, liberalism, constructivism, structuralism, and beyond) in the international relations field. It also prepares students with cutting-edge analytical tools in applying these different perspectives to a real world situation. **Prerequisite:** ICP 131.

ICP 336 Women and Development (3) provides an interdisciplinary approach to examine the multiple roles women play in developing countries. It looks at the variety of themes relevant to women in the developing world, including theories of development, reproductive and productive labor, sexuality, population, globalization, motherhood, revolution, and feminism. **Prerequisite:** ICP 131 or ICP 135.

ICP 345 European Integration (3) addresses the issue of supra-national organizations and international integration. The course specifically looks at the origins of European integration after World War II and the gradual, yet steady, progress from a coal and steel community, through the EEC and the EC to currency integration and the EU. **Prerequisite:** ICP 131.

ICP 361 Topics in Political Thought (3) focuses on selected topics or a specific topic in political theory. Specific content depends upon the Instructor. **Prerequisite:** ICP 161.

ICP 366 African Political Thought (3) surveys the principle figures and issues in African political thought. It begins with an examination of the parameters and scope of the field, and then proceeds in three parts: first, central presuppositions of African political thought, for example, human nature, the relation between soul and body, and the relation of these categories to the two traditions in African political philosophy. It also engages issues around colonialism and the colonial legacy, utilizing such authors as Frantz Fanon, Albert Memmi, Julius Nyerere and Kwame Nkrumah. It covers recent African political thought, including such authors as Mamood Mamdani, Pal Ahluwalia, Ashwin Desai - as well as contemporary Nigerian authors such as Polycarp Ikuenobe. **Prerequisite: ICP 161 or ICP 306.**

ICP 367 Post-Colonial Political Thought (3) explores the colonial legacy from the vantage points of epistemology, ethics, and politics. Engaging the seminal works (Franz Fanon and Aimé Césaire, among others) the course explores issues pertaining to contemporary Africa - questions of identity, culture, epistemology -- as well as the relation between post-colonialism and the politics and economics of globalization. **Prerequisite: ICP 161**

ICP 370 American Political Thought (3) addresses basic problems of political theory within the American setting. It explores both the mainstream tradition and some branches of the counter tradition of political ideas in America, focusing on the themes of authority, community, equality, and liberty. Authors include The Federalists, Jefferson, Lincoln, Douglass, Emerson and Thoreau. **Prerequisite: ICP 161.**

ICP 371 African American Political Thought (3) surveys the principal figures and issues in African American political thought. The core portion of the course will examine the classical writings of Booker T. Washington, W.E.B. DuBois, Marcus Garvey, Malcolm X and Martin Luther King, among others. The subsequent portion will consider contemporary authors such as bell hooks and current issues in African American political thought such as the persistence of racial inequality, the politics of gentrification and feminist theory. **Prerequisite: ICP 161.**

ICP 376 Islamic Political Thought (3) provides an understanding of the general development of political thought in Islamic civilization with an awareness of the key figures and their importance to this evolution. Among others we will look at the political thought of Muwardi, Nizam al-Mulk, Ghazali, ibn Rushd, ibn Taymiyyah, ibn Khaldun, Ali Shariati and Zia Gökalp. **Prerequisite: ICP 161.**

ICP 387 Organizational Behavior and Administrative Communication (3) presents an analysis of the elements that make up complex organizations and the factors that affect human behavior within them, with emphasis on the processes of interpersonal and group communication. **Prerequisites: ICP 186 and ICP 187.**

ICP 388 Public Management (3) An introduction to organization and management theories and practices as they concern federal, state and local governments. This course examines fundamental issues underlying the field of government and nonprofit management. Topics include ethics in public service, leadership, strategic management, human resources and budget. **Prerequisite: ICP 101 or ICP 186 or ICP 187.**

Prerequisite: Public Policy and Administration

students - ICP 101.

ICP 389 Public Personnel Administration (3) This course provides an introduction to the major dimensions of public personnel administration and to some of the major issues confronting those with public personnel management responsibilities. It explores the development of public personnel management, in federal, state, and local government, strategic management, position management; the processes used in staffing and training, including recruitment, selection, performance management, compensation, work place relations, and discipline, all of which are crucial to effective public management in the 21st century. **Prerequisite:** ICP 101 and ICP 186 or ICP 187.

ICP 390 Non-Profit Sector Management (3) covers the historical, contemporary context and management of nonprofit organizations. Specifically, it examines issues ranging from functions, theories, legal, regulatory, policy and ethical aspects of the nonprofit sector. Closer attention will be paid to common themes that have been relevant in nearly all nonprofit organizations, and some of these include: organizational development, volunteer management, human resources, strategic planning, collaboration, program development, as well as key challenges of the nonprofit sector. **Prerequisites:** ICP 101 or ICP 186.

ICP 392 Public Budgeting (3) is a study of fiscal planning and management in the administrative process, budget process employed at the federal, state and local levels of government: special emphasis on the role of budgeting in shaping public policy. **Prerequisite:** ICP 186 or ICP 187.

ICP 394 Environmental Policy, Management and Regulation (3) is an introduction to environmental policy and management in the US and Africa. It provides a review of environmental ethics; major substantive areas of air, water, land and hazardous waste policy; the political dynamics that frame environment policymaking at the federal, state, and local levels of government; and the management issues arising as a result of the implementation of environmental policy within the context of intergovernmental agencies and multinational organizations. **Prerequisites:** ICP 186.

ICP 395 Social Sciences Research Methods (3) This course is an introduction to social research methods. It covers the fundamentals of basic research methods and social science inquiry and a variety other approaches, including the exploration of research design, data collection and analysis. Furthermore, quantitative and qualitative data collection and research, questionnaires, and participant observation, as well as other critical techniques will be examined. **Prerequisite:** STA 101

ICP 401 Advanced Topics in Comparative Politics (3) is an advanced topics course designed for upper-level students and focusing on one or another selected issue in comparative politics. Topics vary. Research paper required. **Prerequisites:** ICP 101.

ICP 404 Politics of Nationalism, Race and Ethnicity (3) is offered as a senior-level seminar and focuses on the role of identity in global politics; identities having to do with race, nationalism, ethnicity and religion. Research paper required. **Prerequisite:** ICP 101.

ICP 406 Advanced Topics in African Politics (3) involves an extensive examination of a specific

issue in African politics. Topics vary and will depend upon the instructor. Research paper required. **Prerequisite: ICP 205 or ICP 306.**

ICP 431 Advanced Topics in International Relations (3) subjects a particular issue in international relations to an intensive, semester long investigation. Topics vary and are determined by the instructor. Research paper required. **Prerequisites: ICP 131.**

ICP 432 The Politics of Globalization (3) introduces students to the concepts, processes, and consequences of globalization. It explores contemporary debates on globalization by highlighting the perils and benefits associated with globalization, the role of international institutions such as the IMF, World Bank, and WTO, and the subsequent protests and demonstrations from the global civil society. Research paper required. **Prerequisites: ICP 131.**

ICP 434 Global Environmental Politics (Sustainable Development) (3) explores some of the major global ecological problems (ozone depletion, climate change, deforestation, desertification, whaling, and loss of biodiversity) and then examines significant international environmental initiatives to conserve resources, protect endangered species, and limit pollution. Special emphasis will be given to the important roles played by Non-Governmental Organizations (NGOs) in pressing states to address major issues such as the 1992 Earth Summit, the Kyoto Protocol, the international forest policy, and the interplay of economics, politics, and the environment. Research paper required. **Prerequisites: ICP 101 or 131 or ICP 135.**

ICP 435 International Development (3) focuses on economic, environmental, social, and political challenges confronting Less Developed Countries

of the world. The primary concern of the course is how to improve the opportunities for the poor and vulnerable of these countries by reducing inequality in wealth and welfare, as well as gender, class, ethnic and regional stratification. Research paper required. **Prerequisites: ICP 135 or ICP 131.**

ICP 446 International Law (3) introduces students to the set of rules and obligations that states and non-state actors recognize as binding on each other without a central enforcement authority to assure compliance. It focuses on the sources of international law (treaties, customary practice, generally accepted principles, and writings of jurists) and how the International Court of Justice interprets them and applies them to individual cases brought by states. Research paper required. **Prerequisites: ICP 131 or ICP 135.**

ICP 447 International Human Rights Protection (3) This course introduces the student to the international mechanisms to protect human rights. The course commences with the concept and history of human rights and their incorporation into the international legal and political system. The course covers international systems for protecting human rights, principally the United Nations with its various conventions, declarations and treaties for the promotion, protection and enforcement of human rights. Regional systems for human rights protection, such as the Council of Europe and the European Convention for the Protection of Human Rights and Fundamental Freedoms and the African Union and the African Charter of Human and People's Rights, will also be examined. Against the background of conflict, international criminal tribunals and courts will be considered, from Nuremburg to the Hague, as well as the Geneva Conventions. **Prerequisite: ICP 101 or 131 or 161.**

ICP 448 Humanitarian Intervention (3) The course will commence by examining state sovereignty and its evolution from the Treaties of Westphalia. The concept of humanitarian intervention will be introduced and distinguished from the usual peace-keeping operations of the United Nations. The doctrine of Responsibility to Protect (R2P) will be examined: its evolution, the criteria for acting and who decides. Criticisms of the idea of humanitarian intervention will be discussed, e.g. that it is the latest phase of Eurocentric domination or that it is an excuse for the self-interest of the stronger powers. Cases of humanitarian intervention will be discussed, as well as broadly similar cases where there was no intervention. Particular attention will be paid to cases of genocide. Finally, the future of humanitarian intervention will be considered. **Prerequisite ICP 101 or 131 or 161.**

ICP 461 Advanced Topics in Political Theory (3) offers the opportunity for students to undertake an intensive examination of a particular issue in political theory; for example the political thought of a specific individual or of a particular work. Topics vary and are determined by the instructor. Research paper required. **Prerequisites: ICP 161.**

ICP 462 Marxism and Socialism (3) is a seminar and focuses on the political, economic and social thought of Karl Marx and will include original readings of his work: among others, but not limited to *The Communist Manifesto*, *Capital*, Vol. 1, *The 18th Brumaire of Louis Bonaparte*, etc. It also looks at the writings of others whose work was influenced by their readings of Marx: for example, Lenin, Luxemburg, Fanon, Western Marxism, Social Democracy, etc. Research paper required. **Prerequisites: ICP 161.**

ICP 463 Resistance and Revolution (3) introduces

students to various theoretical approaches to the study of social unrest, its causes, origins, and outcomes. The first part of the course serves as a general introduction to the phenomenon of revolution, and explores both the concepts and processes associated with social and political upheaval. The second part of the course involves a comparative study of historical revolutions and rebellions and seeks to raise questions about how resistance movements and revolutionary inversions of political power have traditionally been expressed in various political systems. Topics may include: New Social Movement theory; democratic, historical, transnational, global and/or local social movements. Research paper required. **Prerequisites: ICP 161.**

ICP 464 Political Corruption (3) explores definitions, causes, consequences, and major types of political corruption around the world. What kinds of activities are corrupt? Do different cultures evaluate corruption differently? Why does corruption happen, how can it be stopped, and what are its outcomes? Case material will be drawn from early modern Europe, Nigeria, and post-Mao China, as well as from American political history. Research paper required. **Prerequisites: ICP 161 or ICP 101.**

ICP 465 Feminist Political Thought (3) explores the main currents in American and European feminism. The second portion of the course will locate feminism in the African context. The course readings assume (rather than demonstrate) women's historical subordination to man and put forward various explanations and strategies for change. Readings include J.S. Mill, C. P. Gilman, Emma Goldman, Simone de Beauvoir, Adrienne Rich, Bell Hooks, Audre Lorde, among others. Research paper required. **Prerequisites: ICP 161 or ICP 101.**

ICP 467 The Political Thought of Frantz Fanon (3) explores the political writings of Frantz Fanon, the Afro-French psychiatrist and revolutionary, whose seminal work on the psychological effects of racism, nationalism and revolution have been enormously influential. The course will examine all of Fanon's political writings including *Black Skin, White Masks*, *The Wretched of the Earth*, *Toward the African Revolution* and *A Dying Colonialism*. Research paper required. **Prerequisites:** ICP 161.

ICP 477 Peace Studies/Political Violence (3) This course will introduce students to the analysis of political violence and peace-building through close studies of the Cambodian and Rwandan genocides and their aftermaths. Students will then deploy the insights they have gained in individual research projects on events of political violence. **Prerequisites:** ICP 161.

ICP 486 Management Policies in Public Administration (Politics of the Administrative Process) (3) examines the application and relationships of governmental management policies to contemporary economic, political, and technological processes. Research paper required. **Prerequisites:** ICP 101 or ICP 186 and ICP 187. **Minimum third year standing.**

ICP 487 Organizational Theory (3) explores the evolution and development of theories of organization, ranging from classical organizational theory; Neoclassical organizational theory, Human resource theory, Reform through changes in organizational culture, etc. This course is also designed to help public administrators tackle everyday problems and explores the relationship between theory and practice. **Prerequisite:** ICP 101 and ICP 186 and ICP 187.

ICP 488 Comparative Public Policy (3) is an

advanced level course that enriches our understanding of the politics of policymaking in comparative perspective. The course examines why, how, and to what extent policy areas such as education, environment, healthcare, immigration, taxation, and regulations differ from nation to nation. It entails a cross-national assessment of public policy dynamics and will specifically address the similarities, and dissimilarities in terms of the policy process, public policy, and a selected number of key policy areas. Research paper required. **Prerequisites:** ICP 101, ICP 186, or ICP 187.

ICP 489 Collective Bargaining - Public Sector (3) is an examination of the historical development of labor relations and collective bargaining in the public sector and the impact of public employees union on public personnel administration. **Prerequisite:** ICP 101 and ICP 186 or ICP 187 and research paper required.

ICP 490 Senior Research Project 1 (3) The general purpose of the course is to provide a seminar setting for graduating seniors to combine their experiences in fieldwork, coursework, internship, study abroad and experiential learning to engage in a scholarly research and produce a thesis project that reflects their independent thinking, interdisciplinary scholarship and an understanding of broad themes, issues, and debates within the discipline. This course also entails part I (3) & part II (3) totaling 6 credits.

Prerequisite: fourth year standing.

ICP 491 Senior Research Project 11(3) continuation of Senior Research Project 1
Prerequisite: ICP 490.

ICP 492 Independent Study (3-6) is an in depth research project on a topic not available in the regular curricular offerings. A student wishing to take independent study must write a proposal and present it to someone with expertise in this topic who would then agree to supervise the project. The availability of an independent study course is not the automatic right of a student. **Prerequisites: minimum. CGPA 2.0 and third year standing.**

ICP 493 Internship in International and Comparative Politics (3) is an opportunity for students to combine academic study with substantial work experience. Internship is for a minimum of 6 weeks.

Prerequisites: Permission of Department Chair and min. CGPA 2.0 and third year standing.

ICP 496 Honors Seminar I (3) provides an opportunity for students to develop a 12,000-15,000-word honors thesis in completing requirements for program honors. **Prerequisites: ICP 101 and ICP 131 and ICP 161 and ICP 205 and a declared ICP major and permission of the Instructor.**

ICP 497 Honors Seminar II (3) is a continuation of ICP 496 and will culminate with a public thesis defense. **Prerequisites: completion of major coursework and ICP 496.**

INFORMATION SYSTEMS

INF 201 Principles of Information Systems (3) this course provides an understanding of the importance of computer based information in the success of the firm. Emphasis is on the role of information systems in each of the functional areas. Concepts are reinforced with up-to-date

business examples and hands on practice.

Prerequisite: CIE 111.

INF 206 IT Systems: Hardware and Software (3) an introduction to computer hardware, software architecture, organization, and operation. Hands-on work with the computer system is included.

Prerequisite: CIE 111.

INF 260 Systems Analysis and Design (3) examines the concepts, tools, and techniques used to develop and support computer based information systems. Systems planning, analysis, design, and implementation are covered. Behavioral and model building aspects of systems development are emphasized throughout. **Prerequisites: INF 201 and min. third year standing.**

INF 301 Security Script Programming (3) this course covers the design, coding and implementation of scripts to secure information systems. **Prerequisites: INF 206 and min. third year standing.**

INF 302 Program Development and Implementation (3) Application of knowledge, skills and abilities from earlier programming courses to develop and implement applications using an industry language such as Visual Basic (VB). Group work will be encouraged in the development and implementation of an expansive system to immerse students in real world enterprise application development. **Prerequisite: CIE 106.**

INF 310 Principles of Information Security Assurance (3) This course introduces concepts on threats to information systems security as well as defenses for such threats. Topical issues include viruses, worms, backup and recovery as well as other security related issues. **Prerequisites: INF 206 and min. third year standing.**

INF 304 Software Applications I (3) is the application of selected software to the development of solutions to problems including the design and application of Decision Support Systems using microcomputer applications. Software used include spreadsheet, database and project management. The level of development will be intermediate and topics will include project management, scenario analysis and sample database projects. **Prerequisite: CIE 111.**

INF 320 Applications in Information Security and Assurance (3) This course provides both fundamental principles and technical skills for analyzing, evaluating, and developing secure systems in practice. Students will learn essentials about security models, algorithms, protocols, and mechanisms in computer programs, operating systems, networks, and database systems. Classroom instruction will be integrated with real life applications such as privacy control in health care system, protection of digital assets in web services, and security issues in supply chain management. **Prerequisites: INF 206 and min. third year standing.**

INF 330 Policy and Administration in Information Security and Assurance (3) planning and development of policies for security and uninterrupted performance of information systems are covered in this course. Other topics to be covered include the value of information, assessment of policy alternatives and other related topics. **Prerequisites: INF 206 and min. third year standing.**

INF 331 Database Analysis and Design (3) examines theoretical concepts of database system architectures, data models, conceptual data modeling, database schema design, relational

algebra, and query languages. Related to database design and implementation it will focus on ER modeling, SQL implementation, query optimization and processing, indexing, and transaction control. Object Oriented Databases, XML and Application Design will be briefly described. This course also provides students with an opportunity to acquire practical skills in using ER modeling tools and Oracle DBMS. **Prerequisite: CIE 231.**

INF 333 UNIX Administration and Security (3) is the application of security principles from the perspective of the UNIX server. It involves hands-on application approaches in the application of security concepts. **Prerequisites: INF 206 and min. third year standing.**

INF 334 Fundamentals of Network Security (3) provides an introduction to the field of network security, including coverage of all the domain objectives for the latest Security+ exam. It is designed to provide updated information regarding the changes in security. **Prerequisite: INF 206.**

INF 335 Computer Forensics (3) is an in-depth analysis of the causes and effects of computer failures. Topics covered include auditing of access and usage trails and other related topics. **Prerequisites: INF 206 and min. third year standing.**

INF 341 Enterprise Integration (3) The objective of this course is to teach students the different technologies that are currently being used to meet the integration needs of organizations. Topics covered in the course include fundamental concepts of Enterprise Integration; an overview of critical technologies; integration methodology, B2B integration, and web services for enabling

integration. There is also a design/programming assignment. **Prerequisite:** INF 201.

INF 351 Information Security and Auditing (3) studies the key facets of information security, from theory to applications in a networked environment. Topics to be covered include symmetric key cryptosystems, number theoretical foundations, public key cryptosystems, authentication, key exchange, access control, Internet security architecture, and emerging security standards. **Prerequisite:** INF 206.

INF 353 Database Security and Auditing (3) This groundbreaking approach to database security will prepare students for business applications in a non-database specific environment. **Prerequisite:** INF 351

INF 354 Operating Systems Security (3) This course is designed to expand the networking student's basic network and operating systems skills to include planning, implementation and auditing of a system's security. **Prerequisite:** CIE 302.

INF 361 Process Modeling and Solution Blueprinting (3) The Process Modeling and Solutions Blueprinting course presents the concepts and methodologies required to execute a methodical approach to translate business process change requirements into clear IT solutions. The course will be mostly based on the INFLUX(TM) methodology developed by Infosys Technologies Ltd. The course will cover process modeling, e-business architecture patterns and technical architecture to ensure that the students can smoothly translate enterprise business objectives into an effective IT solution architecture. **Prerequisite:** INF 260.

INF 402 Information Technology for Development (3) Information technology and communication (ICT) have an impact on development in varying degrees in the world. At the present time, this impact is less visible in less developed countries. In this course, students and their instructor will analyze the causes and the obstacles to development in African countries and through simulation; they will propose strategies to remedy the situation. Topics include ICT capacity building, ICT development planning, ICT Policy development. **Prerequisite:** fourth year standing.

INF 403 Information Resource Management (3) is the management of the hardware, and software, communications; and other components of information capture and delivery in the enterprise. Topics include hardware, software, people, procedures and management issues related to these components and their interactions. **Prerequisite:** INF 201.

INF 405 IS Strategy (3) is about IS architecture and configuration concepts and applications. It also includes Enterprise problem analysis and solution generation using IT components. Other topics will include IS hardware, software and communication components capabilities and applications to problems in the enterprise. Semester projects will be used to apply concepts covered in the course. **Prerequisite:** fourth year standing.

INF 415 Telecommunications and Network Security (3) In this course, various techniques for the protection and survivability of information systems and networks will be covered. Topics include critical infrastructure definition, risk management, vulnerability and risk analysis, fault and attack trees, availability analysis, traffic

restoration schemes and survivable network design and management techniques; critical infrastructure simulation, CIP policy and legal issues, SCADA systems. **Prerequisite: INF 354.**

INF 421 Client Operating System Security (3) This course is an exploration of programming and security issues in client/server systems from the client side. Various security challenges are explored and students are given hands-on experience through semester long projects. **Prerequisites: INF 351 and min. third year standing.**

INF 422 Server Operating Systems Security (3) This course is an exploration of programming and security issues in client/server systems from the server side. Hands-on programming will be used to explain some of the concepts. **Prerequisites: INF 206 and min. third year standing.**

INF 423 Access Control Systems and Methodology (3) is about fundamentals of cryptology concepts and the methodologies of access control systems. **Prerequisites: INF 206 and third Year standing**

INF 425 Business Continuity and Recovery Planning (3) This course will explore the threats to business continuity and analyze various recovery techniques. Other topics to be covered include: recovery planning techniques, spoofing, gateways, firewalls, etc. and how to protect against intrusion from unauthorized sources. **Prerequisites: INF 206 and min. third year standing.**

INF 430 Cryptology (3) This course is a continuation of INF 423 and provides hands on analysis and programming. **Prerequisites: INF423**

and min. third year standing.

INF 431 Database Systems (3) is a third course in database concepts, the focus is on database implementation issues. Topics may include relational DBMS, object oriented DBMS, graphical user interface design in a database environment, database administration, client server and distributed database applications. **Prerequisites: INF 206 and min. third year standing.**

INF 450 Advanced Programming (3) This course is focused on programming itself, not on any particular problem domain or a particular programming language (though we'll use cutting edge and industry languages, with some powerful features that will be showing up in mainstream commercial languages over the next few years), and not on software engineering (in the sense of project management, team organization, or modeling tools like UML). **Prerequisites: INF 206 and min. third year standing.**

INF 451 Java Support for E-Business (3) The course focuses on the technical aspects of developing e-business systems using Servlets and JSP. It will integrate the student's prior knowledge of GUI development on the client side with server side Java applications in a multi-tiered environment that includes database connectivity. Students will use XML, messaging and distributed registries along with Web Services to support the sharing of data and processes for e-business applications. **Prerequisites: CIE 231 and min. third year standing.**

INF 461 Information Systems Planning (3) is a concentrated study of planning methods and techniques required for defining, planning, integrating and implementing information technology projects consistent with the organizational strategic plan and mission. **Prerequisites:** INF 260 and min. third year standing.

INF 463 Reengineering Technology in Organizations (3) is a survey of legacy system reengineering technologies in which the student becomes familiar with a variety of tools used in practice and has the opportunity to develop applications using these tools under supervision. Selection of technologies is determined each semester. **Prerequisites:** INF 461 and min. third year standing.

INF 465 - Information Technology and Business Analytics (3) provide students with the computing, data analytics, and decision support knowledge and skills needed for the converging fields of information technology and business analytics. Hands-on computer work is included. **Prerequisite:** CIE 111.

INF 468 Information Engineering (3) is a study of information engineering as a model based, data centric approach to integrating organizational strategic planning with enterprise information systems development. Involves readings, group discussions, and case studies. **Prerequisites:** INF 461 and INF 463 and third year standing.

INF 472 LAN Administration (3) This course introduces current networking standards, the OSI Model, various protocols and topologies, the interconnections between various hardware components, network operating systems, DNS, DHCP, TCP/ IP, Ethernet, wired and wireless

transmission. This course also instructs students on how to install, configure, and implement Active Directory Domain Services in Microsoft Windows Server operating systems. The course exposes students on what an Active Directory is and how it is used to organize, administer and manage an organization's network environment. **Prerequisites:** INF 206 and min. third year standing.

INF 478 Advanced Application Development (3) This course deals with advanced programming techniques including concepts of object oriented programming with data abstraction, encapsulation, information hiding, inheritance and polymorphism. Competency in programming is assumed for this course. **Prerequisites:** INF 206 and min. third year standing.

INF 488 Data Administration (3) This data Management course covers fundamentals of relational database theory, important data management concepts such as data modeling, database design, implementation, data access, and practical data related issues in current business information systems as well as the responsibility for developing policies and setting of standards for database design, processing and security. Students are expected to apply knowledge learned in the classroom to solve many problems based upon real life business scenarios, while gaining hands on experiences in designing, implementing, and managing database systems. **Prerequisite:** min. third year standing.

INF 489 Web Database Driven Application Development (3) This course will be an in depth study of the issues associated with web database driven applications. The course will cover concepts required for developing web database driven applications such as the client server model, 3-tier architecture and the MVC design pattern. In order to develop web database driven application the students will obtain practical skills in web and database technologies such as HTML, CSS, JavaScript, MySQL and PHP. **Prerequisite: INF 231.**

INF 490 Introduction to Business Dynamics: Systems Thinking and Modeling for a Complex World (3): this course introduces the basic principles of system dynamics with a hands-on approach involving frequent problem sets and case studies. Students will learn the basic principles governing systems modeling, thinking skills, systems modeling techniques including creating computer based simulation models. Introduction to System dynamics is designed to develop skills in the creation and use of computer simulation models for policy analysis and business dynamics. A principal focus of the course is the significance of information feedback and circular causality in the behavior of social systems. **Prerequisite: fourth year standing.**

INF 491 Senior Design Project/Capstone (3) is about the design and implementation of a significant piece of work: software, hardware, or theory. Students are required to submit a final written report and give a final presentation and demonstration of their project. Grades are based on the report, the presentation and the satisfactory completion of the project. These are evaluated by the Project Advisor and the Course Instructor. **Prerequisites: INF 490 and fourth years standing.**

INF 493 Students Industrial Work Experience (SIWES) (1) is an internship field experience that abides by SIWES requirement. Internship prepares students for industrial work situations. INF 493 is to be completed over two summers - Summer A and Summer B - May-August. Students are expected to complete a daily log-book during their internship experience and upon completion of internship, a written report must be submitted. Internship supervisors are expected to conduct site visitation. **Prerequisite: minimum 3rd year standing.**

LAW

LAW 101 Legal Methods I (2) this course is an introductory course for students who are starting a law program. It is also the introduction of the skills of oral advocacy, reasoning, examination writing, teamwork, application of professional ethics, and developing a professional critical-thinking and problem-solving, identity in the context of practicing law. **Prerequisite: none.**

LAW 102 Legal Methods II (2) this course is a continuation of LAW 101 and it seeks to enable first year students to identify, analyze and research issues in any area of law. It is a bridge course designed to equip students with the basic skills and information necessary to navigate the law-related courses and activities during their law school life and later. **Prerequisite: LAW 101.**

LAW 201 Law of Contract I (4) there are various reasons which can be cited for studying this subject. The least of them would be the compulsion imposed by the institutional course structure. The foremost reason that makes it imperative to study the course is the wide application of the law of contract in every-day life. We make contracts when we buy a newspaper or travel on a bus. But the student will realize that not all contracts are of those simple types. Contracts dealing with the construction of ships or buildings will be highly complex. Nevertheless, across that spectrum the underlying principles of contract law remain the same and it is those basic principles which are the subject matter of this course. Moreover formation of contract being mandatory for all commercial transactions accentuates the importance of the subject. This course introduces the students to the principles of contract law, including the consideration doctrine, offer and acceptance, promissory estoppel, and the regulation of the bargaining process. **Prerequisite: none.**

LAW 202 Law of Contract II (4) this course revolves around factors that may vitiate a contract and the remedies available to the affected parties. **Prerequisite: LAW 201.**

LAW 203 Constitutional Law I (4) this introductory course focuses on the issues raised by the structural parts of the Constitution of the Federal Republic of Nigeria. Consideration will be given to the historical foundations of Nigerian constitutionalism, judicial processes in constitutional cases; judicial review; and the courts functioning in the constitutional system. Attention will be given to the relationships of the three arms of government, with emphasis on some of the powers and limitations of the executive, legislative and judicial bodies that arise

from principles of separation of powers and checks and balances. The course will also consider federalism and the respective roles of the national and state governments. **Prerequisite: none.**

LAW 204 Constitutional Law II (4) this is a continuation of LAW 203 and introduces the student to the application of the theoretical aspects of constitutionalism to practice under the Nigerian constitution as well as in comparative dimensions. **Prerequisite: LAW 203.**

LAW 205 Nigerian Legal System I (4) this course deals with the fundamentals of the entire body of laws and institutions constituting the legal system of the Federation of Nigeria. It reflects on the historical narratives responsible for the notable character of Nigeria as a legal pluralist state. **Prerequisite: none.**

LAW 206 Nigerian Legal System II (4) this is a continuation of Law 205 to give the students a strong understanding of the nature, structures and framework of the Nigerian legal system in a way that prepares them for professional life in their legal careers and practice. **Prerequisite: LAW 205.**

LAW 207 Family Law I (4) family law is concerned with the law regulating the affairs of the family and family property. The Nigerian family law, as would be seen in the historical perspective was adopted from the English legal system based solely on the fact that we inherited the English legal system by reason of our affiliation with them through the instrument of colonialism. The practice of family law is influenced by the general legal context that prevailed in England. The major statutes that guide family law in Nigeria are the Marriage Act and Matrimonial Causes Act, as contained in the Laws of the Federation of Nigeria. This course deals with basic points typical and relevant as found in the Commonwealth jurisdiction most of which gained independence from Britain. These topics generally border on the relationship within the family in Nigeria. They most importantly touch on the underlying values and features which concern the way which family law is put to use in a democratic, pluralistic and law-governed society. The dimension of Islamic and customary marriages will be examined and analyzed. **Prerequisite: none.**

LAW 208 Family Law II (4) this course pertains to the formation, restoration and dissolution of domestic relations, including the law of marriage, annulment, separation and dissolution, maintenance, and custody and support of children. This course will study the differences between community and separate property, the classification of property, and the impact of such classification. The role of the courts in family law practice and the importance of mediation of domestic issues will also be discussed. **Prerequisite: LAW 207.**

LAW 209 Labor Law and Employment Relations I (4) this course is designed to introduce the students to the rudiments of labor and

employment law in Nigeria and other matters necessarily incidental to that field of law. **Prerequisite: none.**

LAW 210 Labor Law and Employment Relations II (4) this course is designed to introduce the students to the rudiments of labor law and other matters necessarily incidental to that field of law. **Prerequisite: LAW 209.**

LAW 211 Administrative Law I (also known as **Public Law** for Public Policy and Administration program) **(4)** this course introduces the student to the body of law that governs the activities of administrative agencies of government. Government agency action can include rule-making, adjudication, or the enforcement of a specific regulatory agenda. **Prerequisite: none.**

LAW 212 Administrative Law II (4) this course enables students to be well-acquainted with the essential concept in the administrative structure and administrative agencies of the government. It will also help the students to have a comparative understanding of the concepts of administrative law and other concepts. **Prerequisite: LAW 211.**

LAW 213 Law, Society and Development I (4) this course begins with a sociological introduction to mores, folkways and codified law, and explores how the founding principles of the nation may be both liberating and restrictive. The course introduces a wide variety of topics related to law's varying functions. It focuses on social and legal theory and analyzes law and legal institutions from a critical perspective. It seeks to help students become better able and equipped to evaluate law and legal institutions, especially in relation to equality, discrimination, social integration, justice, and fairness. The course emphasizes class discussion and intensive work on improving analytical writing about controversial issues. **Prerequisite: none.**

LAW 214 Law, Society and Development II (4) this course examines the role of law and the legal system in economic and social development, particularly in less developed countries, emerging markets, and nations in transition. It will explore how law, in its various forms, may bring about or impede development, however defined, and how development may affect or change the legal system of the country concerned. The course first considers the nature of law, with particular reference to developing countries, and then examines various theories and concepts of development. It next probes the theoretical relationships between law and development. The remainder of the course addresses the role of law in development through a series of cases on such crucial issues as land tenure, capital formation and foreign investment, corporate governance, the rule of law and good governance, constitutionalism, judicial reform, and corruption. **Prerequisite: LAW 213.**

LAW 300 Application of Computers to Legal Studies (3) the work of legal practitioners involves

a high level of documentation and information processing, storage, and retrieval. The focus of this course is on the emerging generation of digital lawyers and how to re-orient the student to cyber space and its tremendous implications for the study of law and professional life. This course will acquaint students with contemporary computer tools and applications used to satisfy the demands of contemporary legal research, law firms and law related fields. The course will include computer-assisted work. **Prerequisite: none.**

LAW 301 Commercial Law I (4) commercial law, also known as business law or mercantile, is the body of law that applies to the rights, relations, and conduct of persons and businesses engaged in commerce, merchandizing, trade, and sales. It is often considered to be a branch of civil law and deals with issues of both private law and public law. **Prerequisite: none.**

LAW 302 Commercial Law II (4) the course considers particular types of transactions in their commercial context including sales, credit and security, syndicated loans, derivatives, multi-party projects, and banking transactions. Aspects of commercial litigation including arbitration will also be considered. These examples are chosen to illustrate the commercial and practical problems arising in different market sectors, in comparative dimensions. **Prerequisite: LAW 301.**

LAW 303 Law of Torts I (4) this course considers deals with the body of rights, obligations and remedies that is applied by courts in civil proceedings to provide relief for individuals or victims (claimant or plaintiff) who have suffered harm from the wrongful acts of others (defendant). However, this course helps you to distinguish the law of torts from two other kinds

of law, namely, criminal law and contract law.

Prerequisite: none.

LAW 304 Law of Torts II (4) the course continues LAW 303 and introduces students to the proper understanding of remedying personal and economic injury which may be occasioned from wrong done to the person, land and all other interests. **Prerequisite: LAW 303.**

LAW 305 Criminal Law I (4) this course examines the history and sources of Nigerian criminal law; general principles of criminal liability; the place of Criminal Law in the legal system; theories of punishment; the general elements of a crime; participation in crime; attempts, conspiracy and incitement as well as understanding of how this knowledge is relevant within the different fields of Criminal Law in Nigeria **Prerequisite: none.**

LAW 306 Criminal Law II (4) this course examines comparative principles of criminal liability, a range of fatal and non-fatal offences against the person, the public and selected offences against property. Sentencing and secondary liability as well as defenses also form part of the course. **Prerequisite: LAW 305.**

LAW 307 Public International Law I (4) this course is designed for students who will eventually become legal practitioners who will be required to give legal advice and carry out responsibilities pertaining to the international realm. It is aimed at providing them with an introductory knowledge of principles of Public International Law. It also gives them a basic understanding of the role international law plays in Nigeria and the role of Nigeria within the international community. **Prerequisite: none.**

LAW 308 Public International Law II (4) this course is designed for students who will eventually

become legal practitioners who will be required to give legal advice and carry out responsibilities pertaining to the international realm. It is aimed at providing them with an introductory knowledge of principles of Public International Law in an all-encompassing way that avails insights into several other dimensions of the global system. It also gives them a basic understanding of the role international law plays in Nigeria and the role of Nigeria within the international community. **Prerequisite: LAW 307.**

LAW 309 Human Rights Law I (4) this two-semester course is divided into two main parts. The first part deals with the ideological concept, historical struggle and background to human rights. The second part deals with the application, promotion and enforcement of human rights at international, regional and national level. The course provides an introduction to basic human rights philosophy, principles, instruments and institutions, and also an overview of current issues and debates in the field with focus on the problems specific to Nigeria. **Prerequisite: none.**

LAW 310 Human Rights Law II (4) this course is designed to equip students with the basic tools necessary to work with the specific sources, methods and institutions of the international human rights system and to apply them in the Nigerian context. Implicit in this approach is the assumption that human rights call for legal and other advocacy skills. Accordingly, the course requirements will focus on developing the ability to recognize the factual and the legal problems and to analyze them, the capacity to apply the legal information in practical situations as well as the mastery of the applicable law – knowledge of the applicable law, understanding of the norms, aptitude to interpret and provide a critical analysis

of the law, competence to understand the context in which the law exists. **Prerequisite: LAW 309.**

LAW 311 Law of Banking (4) this course seeks to review the history of banking, the role of banking in the society, classes and function of banks, the law governing banking, evolution of banks and banking in Nigeria, rules governing the establishment of banks and financial institutions, the nature of banker/customer relationship. It further examines aspect of international finance, regional banks, the IMF and the World Bank, commercial credits, history, nature and function of negotiable instruments, checks, bank drafts, letter of credit and money order. **Prerequisite: none.**

LAW 312 Law of Insurance (4) this course is designed to examine origins of insurance, the principles and instruments involved in the course of insurance in Nigeria. Also, some of the reforms in the banking industry in Nigeria will be examined. **Prerequisite: LAW 311.**

LAW 313 Medical Law and Ethics I (4) this course deals with the interrelationship between law and healthcare practice. It would introduce students to the basic principles of moral philosophies and ethics. The main issues to be explored would be the rights of patients, for example the right to privacy and confidentiality, autonomy and consent to treatment, access to healthcare, malpractice litigation, reproductive technologies, the right to life of unborn children and issues of whether one should be permitted by law to commit or assist another to take one's own life. A comparative study of the Nigerian law and ethical practice would be carried with US law and ethical practices. **Prerequisite: none.**

LAW 314 Medical Law and Ethics II (4) this course is about communicable diseases particularly HIV/AIDS and the rights of persons living with it. It takes a holistic view of the HIV/AIDS pandemic as involving questions of law, society and development. Case law from India, South Africa, the United States, and elsewhere, are considered to provide comparative lessons for Nigeria **Prerequisite: LAW 313.**

LAW 401 Land Law I (4) the course is designed in such a way as to gradually introduce law students generally, into the concept of customary land holding. The course will cut across the basic principles of land law as it relates to acquisition, ownership as well as disposition of land under native law and custom. **Prerequisite: none.**

LAW 402 Land Law II (4) this course is designed to offer deeper appreciation of key legal issues that arise in the area of property and land use in contemporary Nigeria, with a comparative focus on the laws of England and the United States. The focus of the course is not on law itself, but on the policy implications of various rules, doctrines and practices which are covered in great detail. Legal rules regulating property are among the most fundamental to Nigeria, and most other economies and societies. They figure prominently in city and local governance and economic development, in areas as diverse as housing, zoning, environmental policy, and international development. Virtually every public policy issue has a 'property angle' to it, which makes it essential to know how it works. The main focus is on Nigeria property and land use law due to its prominence in national development policy and practice, although substantial comparative legal materials are also introduced from selected countries. **Prerequisite: LAW 401.**

LAW 403 Equity and Trusts I (4) this course introduces the student to the main principles and doctrines of equity and trusts. It is designed to challenge the somewhat dull image of this area of law and to encourage a critical and imaginative understanding of the subject. The law of equity and trusts is contextualized within a historical, social and jurisprudential inquiry thereby providing a much wider range of possible interpretations of its development and application. What then becomes central to the approach in the course is the complex interrelation of law with ethical, political, economic and jurisprudential considerations, and that between legal outcomes, pragmatic concerns and policy objectives. **Prerequisite: LAW 206.**

LAW 404 Equity and Trusts II (4) drawing upon the student's experience of the study in LAW 403, this course examines the trust both as a private legal institution (the trust in family and commercial settings) and a public one (the charitable trust), placing special emphasis on the management of the trust and the powers, duties and obligations of the trustee. Yet, in departing from conventional approaches this module does not study equity merely in regards to its role as the original creator of the trust. Equity is instead acknowledged to be what it really is - a vital and fruitful component of the English legal system; a distinct form of legal interpretation possessing its own principles and method of legal reasoning, and comprising an original and continuing source of legal development in the sphere of remedies under Nigerian law. **Prerequisite: LAW 403.**

LAW 405 Law of Evidence I (4) the law of evidence governs how parties, judges, and courts offer and then evaluate the various forms of proof at trial. In some ways, therefore, evidence is an extension of civil and criminal procedure. Generally, evidence

law establishes a group of limitations that courts enforce against lawyers in an attempt to control the various events that the trial process presents in an adversarial setting. This course examines the basic principles of the Law of Evidence and other related concepts which are necessary in order to properly comprehend the course work.

Prerequisite: LAW 305 and LAW 306.

LAW 406 Law of Evidence II (4) drawing upon the student's experience of the study in LAW 405, this course deals with the breadth of the subject, from admissions, estoppels and the burden and standard of proof to confession evidence, expert evidence and documentary evidence. It examines evidence taken or served prior to a trial, the rules of evidence during the course of a trial and the examination of witnesses and explores good and bad character, and hearsay. It analyzes privilege and facts excluded by public policy, covers judicial discretion to admit or exclude evidence and includes a chapter on statistical and survey evidence. The course finally considers case law from comparative jurisdictions. **Prerequisite: LAW 405.**

LAW 407 Gender, Law and Development I (4) a central question will be: How do we situate cultural, geographical and historical understandings of sexuality while remaining attentive to local state and individual practices? We will also pay close attention to the methodology of comparative law itself, and track the politics of comparison as we explore various judicial approaches toward sexuality and gender identity. How have histories of colonialism and imperialism shaped modern understandings of nation, gender and sexuality? How are new complexities being created across these historical entanglements? We will move beyond Nigerian jurisprudence to a global setting as we seek to understand how different structural conditions produce particular legal outcomes. In looking at case law, international rights norms and legal precedent from other common and civil law jurisdictions, we can begin to unpack the multiple ways that legal regulation operates. Throughout these classroom discussions we will pay close attention to the variety of social forces and discourses that operate to regulate sexual subjects. As a whole, the seminar will offer students a strong theoretical and doctrinal analysis, and provide the critical tools required to evaluate a host of legislative and judicial responses to human sexuality. **Prerequisite: none.**

LAW 408 Gender, Law and Development II (4) this course offers an introduction to legal reforms and strategies in response to understandings of the relationship between war and gender as well as feminist peace studies. Contemporary institutional take up of 'gender perspectives' are studied alongside theoretical and empirical accounts of the gendered experience of war and armed conflict. Some study of post-conflict communities is also discussed. The collective security regime, particularly Security Council

initiatives on women, peace and security are analyzed alongside debates from feminist and gender theorists. **Prerequisite: LAW 407.**

LAW 409 Energy, Oil and Gas Law I (4) this course concerns the regulation of energy, energy resources, and energy facilities. Among the topics will be the regulation of rates and services; the roles of state agencies and state public utility commissions. Attention will be devoted to energy resources (other than oil and gas, which are covered in the Second Semester) and to generating, transmission and distribution facilities. The current and future roles of renewable energy, energy efficiency, and nuclear energy will receive special attention, as will the regulation and deregulation of electricity. The course reflects on comparative developments from foreign jurisdictions to enlighten the student about the Nigerian situation. **Prerequisite: none.**

LAW 410 Energy, Oil and Gas Law II (4) this course is about the legal aspects of oil and gas industry in general but with some specific reference to Nigeria as the cases demand. The course is meant to expose the student to the history, development, law and policy of oil and gas. This course introduces students to the various pieces of legislations that are related to the oil and gas industry. **Prerequisite: LAW 409.**

LAW 411 Intellectual and Industrial Property Law I (4) this course is an intensive study of the core subjects of intellectual property law: patents, copyrights, trade secrets, and trademarks. This portion of the two-semester course covers the copyright aspects. It examines the fundamental principles of these bodies of law, their underlying policies, and how the laws inter-relate. **Prerequisite: none.**

LAW 412 Intellectual and Industrial Property Law II (4) this course is an intensive study of the core subjects of intellectual property law: patents, copyrights, trade secrets, and trademarks. This portion of the two-semester course covers the patents, industrial designs, trade secrets and trademarks aspects. It examines the fundamental principles of these bodies of law, their underlying policies, and how the laws inter-relate. **Prerequisite: LAW 411.**

LAW 413 Legal Drafting and Conveyancing Law I (4) legal Drafting and Conveyancing deals with the practical aspect of a lawyer's work in practice. No legal practitioner whether into full time litigation or as in-house lawyer can avoid writing a legal document. An average lawyer writes at least two letters per week. This is outside drafting of agreements, deeds, legal opinion, will, report writing, bills, etc. Before doing any of these there are steps, techniques and rules to observe. This course covers general introduction to legal drafting, official letter, memorandum, legal opinion and report writings, legislative drafting, interpretation of statutes, will, codicil and customary conveyancing. The material has been developed with local authorities (statutory and case law). Furthermore, references are made to foreign authorities where necessary. **Prerequisite: none.**

LAW 501 Law of Business Associations I (4) this course examines the nature of the legal vehicles available for the carrying on of entrepreneurial activities, paying particular attention to the analysis of companies under Nigerian law. It examines the core features of a company. These are: separate legal personality, limited liability, centralized management, the allocation of control rights, and free transferability of shares. The course analyzes how the law implements these

features and the policy trade-offs among them. **Prerequisite: LAW 201 and LAW 202 and LAW 301 and LAW 302.**

LAW 502 Law of Business Associations II (4) the course discusses the relationship between various groups with an interest in the affairs of the company – shareholders, directors, managers, financiers, trade creditors, employees, consumers and regulators - and the balance of power between them. The course looks beyond purely technical legal issues and encourages a critical examination of the system and proposals for reform. **Prerequisite: LAW 501.**

LAW 503 Jurisprudence and Legal Theory I (4) this course is designed to examine the philosophical dimensions of law and seeks to provide the students with a general overview of the purpose and importance of law to all human endeavors, particularly in society. It involves the study of law in relation to justice, equality, morality, politics and religion and the interdependence of these various forces to each other. Further, it also involves an inquiry into law and its influence on society and social change, ethics and development. The sources of law are also made a subject of inquiry as a means to deciphering the specific content of law in a developing democracy such as Nigeria. **Prerequisite: none.**

LAW 504 Jurisprudence and Legal Theory II (4)

this course is essentially an examination of classic jurisprudential questions in and around the theory of adjudication: the theory of how judges actually do decide cases and how they ought to decide them. These questions include: Do legal rules really constrain judicial decision-making? What makes a rule (or norm) a rule of the legal system? Are principles of morality legally binding even when such principles have not been enacted into a law by a legislature? (Relatedly, are there objective principles of morality?) Where no legal norm controls a case, how ought judges to decide that case? Can there be “right” answers to legal disputes, even when informed judges and lawyers disagree about the answer? Are there principles or methods of legal reasoning that constrain judicial decision-making, or is legal reasoning essentially indeterminate, such that a skillful judge can justify more than one outcome for any given dispute? Is judicial decision-making really distinct from political decision-making of the sort legislators engage in? **Prerequisite: LAW 503.**

LAW 505 Environmental Law and Policy I (4)

a comprehensive understanding of existing environmental laws and institutions is essential to those seeking to work with environmental policy and sustainability. This course deals with the underpinning principles of environmental law and places emphasis on municipal considerations concerning the environment. It traces the historical background, that is, global economic, industrial and technological challenges of the post-WW II era; sources/causes of environmental pollution; foundations of environmental law; National Policy on the Environment and the legal framework for the protection of the environment. **Prerequisite: none.**

LAW 506 Environmental Law and Policy II (4)

the course goal is to provide students with a broad, practical understanding of Nigerian, African and international environmental law, policy, and institutions. **Prerequisite: LAW 505.**

LAW 507 International Humanitarian Law I (4)

international Humanitarian Law (IHL) is a set of rules seeking to limit the effects of armed conflict for humanitarian reasons. It protects persons who are not or are no longer participating in hostilities and restricts the means and methods of warfare. The complexities of modern-day conflicts combined with the availability of information and media interest have resulted in a higher profile of difficult humanitarian issues. Knowledge of IHL is a definite asset, if not essential, for those working on or in countries affected by armed conflicts, those involved in humanitarian work or interested in working for international criminal tribunals. This course investigates IHL (sometimes called the Law of Armed Conflict), the field concerned with rules developed by civilized nations to protect the victims of armed conflict, including the Geneva Conventions. **Prerequisite: none.**

LAW 508 International Humanitarian Law II (4)

IHL is one part of the law of war: it relates to the conduct of war (*ius in bello*). The other part of the law of war concerns the legitimacy of the resort to armed force (*ius ad bellum*) and is quite distinct. This course is therefore a continuation of LAW 507 and employs case studies in the teaching and learning processes. **Prerequisite: LAW 507.**

LAW 509 Conflict and Alternative Dispute Resolution I (4) there exists a common misapprehension that lawyers and legal assistants do most of their work in court. More often, attorneys and their clients are seeking ways to reconcile differences without spending the time and money involved in a lawsuit. This course examines the concept of ADR and the various range of ADR methods by which disputes can be resolved, the kinds of disputes that can be resolved through ADR, the benefits of referring disputes to ADR and limitations to the ADR process. It introduces students to the principal dispute resolution processes and to help prepare students to use such processes to advance the interests of clients. **Prerequisite: none.**

LAW 510 Conflict and Alternative Dispute Resolution II (4) reflecting on theories of conflict, peace and security as well as conflictology, this course surveys the growing alternative dispute resolution field, with a focus on negotiation, mediation, arbitration and therapeutic jurisprudence. Considers the theoretical foundations for the processes, and teaches the strategies, tactics and skills required for lawyers to participate in these processes through readings, videos and simulation exercises. Participants will learn negotiation skills and how to select the most cost-effective and least intrusive ADR method to achieve the most positive result for both parties. Students will understand the processes and methods of ADR techniques; learn the proper application and limits of ADR techniques; appreciate the ethical considerations involved in ADR; and develop a basic ability to apply ADR methods. **Prerequisite: LAW 509.**

LAW 511 New Technologies and the Law I (CyberLaw) (4) this course provides an overview of the entire field of Information and Communication Technologies (ICT) Law, with specific emphasis on the legal aspects of computing, communication and other components of modern ICT. It discusses the use of computers, the internet, the right to information, privacy laws, invasion of privacy of individual and institutions, violation of intellectual property rights, misinterpretations, computer fraud or crimes interfering with state security or communications, formation and enforcement of (e-commerce) contracts, disclaimers and implications of cross border or transnational transactions, remedies available in breach or computer crimes, evolution of computer crime. **Prerequisite: none.**

LAW 512 New Technologies and the Law II (Bioethics and Biotechnology) (4) this course will explore the ethical, legal, and public policy issues arising from various advances in biomedical science and biotechnology. Students will be invited to consider the ways in which such developments affect law and public policy, as well as the issues that may arise in attempts to govern and regulate science according to ethical principles. **Prerequisite: LAW 511.**

LAW 513 Journal of Law, Ethics & Development I

(4) law students who have passed all the prescribed courses up to the third year level of the LLB program may earn academic credits each semester for editorial work on the *AUN Journal of Law, Ethics & Development*. The mission of the *AUN Journal of Law, Ethics & Development* is to provide a forum of discussion for any aspect of law, ethics or public policy; to stimulate students' interest in interdisciplinary issues; to provide open and equal access to our publications; to be economically efficient, environmentally sustainable, and immediately responsive to current events in the thematic fields; and to inspire readers to address their minds to these issues. Students may only participate in the Journal after submitting a letter of interest and being offered membership on the Journal by the School Research Chair. **Prerequisite: Passed All Registered Courses Up to LLB Year 4 plus Approval by School Research Chair.**

LAW 514 Journal of Law, Ethics & Development II

(4) this course continues LAW 511. It helps students to cultivate interest in legal and transdisciplinary research and publishing through the *AUN Journal of Law, Ethics & Development*. **Prerequisite: LAW 513.**

LAW 577 Trial Advocacy and Law Clinic I (1)

this course is designed to expose the student to the work of an attorney and/or advocate. As a skills course, each topic addressed throughout the semester will be developed through practice with an eye toward the formation of the law student as practitioner. At its core, law governs relationships and all areas of the law, at some level, are about relationships between persons. The professionally distinct fiduciary role of the lawyer as Counsellor, while also always Advocate and Officer of the Court, will be examined with awareness given to

the relational character of the legal enterprise and one's client. The dual purpose of lawyer-client counselling, which includes informed decision-making by both the client and the attorney, will be highlighted throughout the entire course.

Prerequisite: Strictly for 500-Level Law Students.

LAW 578 Trial Advocacy and Law Clinic II (1)

this course continues LAW 577 and is designed to expose the student to the work of an attorney and/or advocate towards community engagement. Through exposure to the AUN Community Law Centre, the student will be able to understand pre-litigation methods of client interviewing, case recording, file management and processing. **Prerequisite: Strictly for 500-Level Law Students.**

LAW 598 Research Methodology and Long Essay I

(3) the legal research process is much more than simply finding material. The different component parts of the legal research process are canvassed in this course: initial analysis, finding relevant and appropriate information, research ethics, writing style and writing a research essay. All students are provided with information about the AUN's Archival and Digital Libraries with emphasis on the AUN Law Library, its collections and resources. Each final year student will have approved for him or her, a topic of research at the beginning of the final year. Such a candidate will be expected to produce a well-researched, publishable essay containing 10,000-20,000 words (including bibliography) under the supervision of a member of the academic staff. This course runs as a continuum through both semesters. **Prerequisite: Strictly for 500-Level Law Students.**

LAW 599 Research Methodology and Long Essay II (3) the legal research process is much more than simply finding material. The different component parts of the legal research process are canvassed in this course: initial analysis, finding relevant and appropriate information, research ethics, writing style and writing a research essay. All students are provided with information about the AUN's Archival and Digital Libraries with emphasis on the AUN Law Library, its collections and resources. Each final year student will have approved for him or her, a topic of research at the beginning of the final year. Such a candidate will be expected to produce a well-researched, publishable essay containing 10,000-20,000 words (including bibliography) under the supervision of a member of the academic staff. This course runs as a continuum through both semesters. **Prerequisite: LAW 598, Strictly for 500-Level Law Students.**

MATHEMATICS

MAT 110 or higher (higher MAT refers to MAT 112, MAT 210, MAT 211, MAT 310, MAT 410)

MAT 100 Pre-Algebra (0) This course is a follow up to high school algebra (or its equivalent) and is intended to provide a thorough review of basic algebra skills necessary for further study in mathematics, the sciences, and in applied fields. This course will not count towards overall graduating credits for any degree program. **Prerequisite: placement test result.**

MAT 110 University Algebra (3) is a university level course in algebra that provides a foundation for further courses in mathematics and includes discussions on real numbers and their properties, exponents and radicals, polynomials and factoring, rational expressions, linear and quadratic equations, linear and quadratic

inequalities, the Coordinate Cartesian plane, functions and their graphs. **Prerequisite: MAT 100 or University mathematics placement test – (NOT allowed for anyone who has attempted (Pass or Fail) MAT 111 or higher course).**

MAT 111 Finite Mathematics (3) (formerly MAT101) provides the background in the basic quantitative techniques and lays foundation for more advanced courses in Mathematics and related courses. It covers straight lines and linear functions, financial mathematics, sets and its operations, probability, distributions and logic. **Prerequisite: MAT 100 or higher – (NOT allowed for anyone who has attempted (Pass or Fail) MAT 112 or higher course).**

MAT 112 Pre-Calculus (3) focuses principally on trigonometry and analytic geometry and prepares students for further courses in calculus while building on the algebra substructure erected by MAT 110 (University Algebra). **Prerequisite: MAT 110 or University mathematics placement test - (NOT allowed for anyone who has attempted (Pass or Fail) MAT 210 or higher course, or who is beyond the second year standing).**

MAT 210 Calculus I (3) introduces the basic notions of calculus such as limits and continuity, differentiation and integration such as the indefinite integral, integration by substitution, the definite integral, the fundamental theorem of calculus, and curve sketching, with applications. **Prerequisite: MAT 112 or University mathematics placement test - (NOT allowed for anyone who has attempted (Pass or Fail) MAT 211 or higher course).**

MAT 211 Calculus II (3) provides an overview of integration, applications to area, volume, motion, length, work and fluid pressure, methods of integration, approximate integration, improper integrals, differential equations and applications, infinite series, convergence tests, MacLaurin and Taylor series, analytic geometry, calculus for polar and parametric curves, and conic sections. **Prerequisite: MAT 210 (formerly MAT121) with min. C grade - (NOT allowed for anyone who has attempted (Pass or Fail) MAT 310 or higher course).**

MAT 310 Calculus III (3) is a continuation of the study of functions introduced in Calculus I and II. Students apply and extend the ideas of limit, continuity, differentiation and integration to vector-valued functions and functions of several variables, gradients, divergence, directional derivatives, maxima, minima, surface integrals, and Stoke's Theorem. **Prerequisite: MAT 211 (formerly MAT 210) with at least C grade - (NOT allowed for anyone who has attempted (Pass or Fail) MAT 311).**

MAT 311 Vector Calculus (3) This course completes the calculus sequence and consists of topics in the calculus of vector-valued functions, multiple integration and their applications in find the mass, density and center of mass of solids, vector fields, line integrals, surface integrals, parametric surfaces and their areas and the three most important theorems in several variable calculus which are the Green's Theorem, the Stoke's Theorem, and the Divergence Theorem. **Prerequisite: MAT 310.**

MAT 312 Linear Algebra (3) is a complete course in linear algebra including theory of matrices, determinants, vector spaces, linear transformations, eigenvectors, eigenvalues, and

applications. **Prerequisite: MAT 211 (formerly MAT 210) with at least C grade - (NOT allowed for anyone who has attempted (Pass or Fail) MAT 315).**

MAT 313 Real Analysis I (3) is a field of mathematics based on the properties of real numbers and ideas of sets, limit of functions and their properties (e.g. continuity, differentiability and integrability), convergence of sequences and series etc. It is a theoretical foundation behind calculus and also as a part of the essential foundations of graduate study in many areas of pure and applied mathematics. **Prerequisite: MAT 211 (min. C grade) – (NOT allowed for anyone who has attempted (Pass or Fail) MAT 316 or higher course).**

MAT 315 Abstract Algebra (3) This is a foundation course in Abstract Algebra, which introduces students to topics on Binary Operations, Groups, Subgroups, Permutations, Cyclic groups, Isomorphism, and Direct Products. The course also gives a general introduction to algebraic structures besides Group, such as Rings and Fields, but without detailed exposition. Emphasis shall be placed on relevant applications. **Prerequisite: MAT 312.**

MAT 316 Numerical Analysis (3) discusses both theoretical and practical aspects of numerical methods, such as approximate solution of algebraic equations, interpolation, curve fitting, numerical integration and differentiation, numerical solutions of ordinary differential equations and numerical methods for solving systems of equations. The course analyzes algorithms and discusses applicability and accuracy of numerical methods. Some knowledge of computer programming is required. Construction of practical algorithms and actual implementation of these algorithms will be addressed using MATLAB, Monte Carlo integration and other mathematical software. **Prerequisite: MAT 313.**

MAT 410 Differential Equations (4) introduces first and second order differential equations with applications, series solutions, numerical methods, Laplace transforms, and systems of differential equations with applications, as well as an introduction to partial differential equations. **Prerequisite: MAT 310 (formerly MAT 211) with min. C grade - NOT allowed for anyone who has attempted (Pass or Fail) MAT 411).**

MAT 411 Partial Differential Equations (3) The course covers Laplace equation, the heat equation and the wave equation. Solutions of linear equations by means of Fourier series and separation of variables. Poisson formulas and maximum principles. **Prerequisite: MAT 410 with at least C grade.**

MAT 412 Complex Analysis (3) This course is the study of calculus with the imaginary number included. Topics include the algebra of complex numbers, complex functions, analytic or holomorphic functions, contour integration and Cauchy integral theorems, Taylor and Laurent

series and the residue theorem, the evaluation of real definite integrals, elementary mapping problems such as the Mobius transformation. **Prerequisite: MAT 313 (min. C grade).**

MAT 413 Differential Geometry (3) The course discusses the differential geometry of curves and surfaces. It also looks at parameterized curves, regular surfaces, inverse images of regular values, definition of the Gauss map and its properties, as well as intrinsic geometry of surfaces. **Prerequisite: MAT 310.**

MANAGEMENT

MGT 201 Principles of Management (3) surveys the basic concepts and ideas of organizational behavior and the various functions and activities of the manager through global perspective. Topics include plans, goals, decision making, change, motivation, human resources, ethics and social responsibility, groups and teams, organization design, leadership and control. **Prerequisite: WRI 102.**

MGT 300 International Business (3) introduces students to the opportunities created, and problems encountered, when business transactions are conducted across national boundaries. It covers topics such as: globalization, balance of payments analysis, theories and trends in world trade and foreign investment, as well as international organizations such as WTO, IMF, and the World Bank. **Prerequisite: MGT 201.**

MGT 301 Organizational/Administrative Behavior (3) takes an in-depth look at human behavior in organizations, incorporating current management theory and research. It looks into the factors that influence individual and group performance. Topics may include perception, personality, attitudes, values, motivation, decision making, leadership, power and politics, conflict and negotiation, groups and culture. **Prerequisite:** **MGT 201 or PPA 201**

MGT 302 Managing Human Resources (3) examines the foundations, functions, and activities involved in the managing of human resources, striking a balance between current theory and practice. Topics include manpower planning, recruitment and selection, policy and procedures, performance appraisal, compensation and benefits, training, safety and industrial relations. **Prerequisite:** **MGT 201.**

MGT 360 Business Ethics and Social Responsibility (also known as Ethics in Government Public Office & Private Life for Public Policy and Administrative program) (3) introduces the student to the ethical dimensions of business as they relate to the various stakeholders inside and outside the organization. Topics may include business ethical theory, ethical decision-making, typical dilemmas and corporate social responsibility. Cases and projects are used to examine these issues, with special attention to local applications as well as the global perspective. **Prerequisite:** **MGT 201.**

MGT 380 Project Management (3) examines the concepts and techniques of managing projects in service and manufacturing settings. Topics include project selection and evaluation, dynamics, motivation and evaluation of team members, scheduling, budgeting and closure. **Prerequisites:**

MGT 201.

MGT 405 Leadership and Motivation (3) builds on MGT 301 by focusing on the necessary skills and abilities of the successful leader and manager and the appropriate motivational techniques they use to achieve high performance levels. Students are not only introduced to these success factors, but are challenged to both assess and develop their own leadership skills throughout the course. **Prerequisites:** **MGT301 and third year standing.**

MGT 406 Business Policy and Strategy (3) applies the functional knowledge acquired in previous coursework to the analysis of strategic-level business problems and decisions. Business cases are used extensively in this course to highlight the diversity and complexity of organizational environments and systems. Topics include missions and objectives; environmental analysis; formulating, implementing and assessing strategies and policies; and international, social and ethical issues. **Prerequisite:** **fourth year standing.**

MGT 492 Management Independent Study (3)
Prerequisites: **2.0 CGPA or higher and minimum third year standing.**

MARKETING

MKT 201 Principles of Marketing (3) introduces the concept of making marketing decisions in business and non-profit organizations within the global context. Particular attention is devoted to analyzing consumer needs, segmenting markets, and developing product, promotion, pricing, and distribution strategies. Relationships among consumers, business and governments are explored. **Prerequisite:** **WRI 102.**

MKT 301 Consumer Behavior (3) studies marketing, psychology, sociology, and cultural anthropology to determine motivations for product purchases. A multimedia approach is used to illustrate the use of behavioral science theory to create new products and promotional campaigns. **Prerequisite: MKT 201.**

MKT 302 Marketing Research (3) examines research tools students can use to help make marketing decisions. Students learn to define research problems, to select projects and to analyze data. The execution of a consumer survey is a major component of the course. Students use computer statistical packages to analyze research data. **Prerequisite: MKT 301.**

MKT 303 Integrated Marketing Communications (3) exposes students to the managerial communications/promotional relevance of marketing principles and strategies. In addition to knowledge of the relevant marketing environment, it emphasizes the synergy between marketing promotions' strategies on the one hand and strategies associated with the other marketing-makes elements on the other. The course content includes: objectives of marketing promotions budgeting, integrated marketing communications and assessing the effectiveness of marketing communications policies and strategies. **Prerequisite: MKT 301.**

MKT 304 Sales Management (3) covers topics such as: evolution of sales management, sales force management, major tasks of sales management team, sales management and strategies, sales forecasting, internet sales systems, sales management decisions. **Prerequisite: MKT 301.**

MKT 305 Distribution and Supply Chain

Management (3) covers topics such as: relevance of distribution and supply chain management (SCM), physical distribution strategies, distribution channels and corporate strategy, purchasing and supply chain policy, planning in supply chain management, IT in supply chain management, value analysis, and ethical issues in SCM. **Prerequisite: MKT 301.**

MKT 309 Service Marketing (3).
Visit program chair for course description.

MGT 331 International Economics (3) is a course where students are introduced to the theories with which to understand international trade patterns, examine trade policies, analyze the determinants of exchange rates and financial crises and address topical issues of international economic interdependence between states. The course covers topics such as international trade, international finance, and specific policy issues such as environmentalism, protectionism, international dumping, the desirability of free capital flows, and how international economic theory has been shaped by real world events. **Prerequisite: ECO 210, ECO 220.**

MKT 401 Marketing Strategy (3) analyzes current marketing management issues. Students develop a marketing plan for an outside organization, analyze case studies and participate in computer simulation exercises. **Prerequisite: MKT 301.**

MKT 402 International Marketing (3) covers topics such as psychic distance in international marketing, forms of international market entry strategies, barriers to international marketing, international marketing environment, export marketing, identifying international marketing opportunities, evaluation and control of

international marketing operations. **Prerequisite:** MKT 301.

MKT 492 Marketing Independent Study (3)
Prerequisites: 2.0 CGPA or higher and third year standing.

NATURAL AND ENVIRONMENTAL SCIENCES

NES 101: Introduction to Environmental Sustainability (4) introduces students to important concepts and issues in the field of environmental sustainability, including the state of the global environment, basic environmental science, and the meaning of sustainability. Using an interdisciplinary approach, students will learn how human society, and they as individuals, harm the environment and ultimately human well-being. The course will also demonstrate how humans can take actions to reverse environmental harm by implementing sustainable solutions. As part of this focus on solutions, students will learn about and use tools to attain sustainability.
Prerequisites: none

NOTE: This course is designed for non-science majors who are fulfilling general-education requirements and for students who have an interest in issues related to the environment and sustainability. NES majors should take NES 201, Introduction to Natural and Environmental Sciences.

NES 102 Topics in Natural and Environmental Sciences: Conservation Biology (3) is designed for non-science majors who are fulfilling general education requirements and for students who have an interest in issues related to conservation biology, including the preservation of wildlife and

natural environments. Special focus will be on African wildlife and natural habitats, particularly those of Nigeria. **Prerequisite:** none.

NES 200 Environmental Science Forum & Colloquium (1) is an introductory seminar on current environmental science research. It also provides a forum to discuss current environmental issues and problems. **Prerequisite:** none.

NES 201 Introduction to Natural and Environmental Sciences (3) is for science majors. It covers the physical, biological, social, and economic forces that lead to and affect environmental problems, and presents solutions. Urgent issues related to the environment, such as pollution, human population growth, and climate change, will be emphasized. **NOTE:** Non-science majors should NOT take this course; they should take NES 101. **Prerequisite:** none.

NES 202 Principles of Ecology (4: 3 lecture, 1 lab) covers the patterns of environments and biological communities with a focus on the processes that maintain these patterns. Emphasis is on African (especially Nigerian) habitats.
Prerequisite: NES 201.

NES 300 Environmental Policy and Risk Management (3) cover policy institutions and policies related to environmental and health risks.
Prerequisite: NES 201.

NES 310 Behavioral Ecology (3) focuses on the interrelationship of an animal's ecology and its behavior. Key topics include optimal foraging theory, habitat selection, predator-prey adaptations, ecological constraints on sexual selection, and mating systems. **Prerequisites:** NES 202 and BIO 220.

NES 320 Special Topics in Natural and Environmental Sciences (3) offers a current perspective on a special topic within Natural and Environmental Sciences. Topics vary, and the course may be repeated with permission of the instructor. **Prerequisites:** **Prerequisites: completed eight (8) credits of NES courses and third year standing.**

NES 340 Pollution: Sources and Effects (3) studies the impact of modern industrial and agricultural activities on the environment, including the chemical nature of the pollutants and their origins and effects. Topics include global warming, ozone depletion, acid rain, and other air pollution resulting from the use of fossil fuels. **Prerequisite: CHE 210.**

NES 342 Environmental Toxicology (3) presents the biochemical and cellular basis for target site specificity of toxic agents in living organisms. Students will learn toxicant routes of entry, absorption, distribution throughout the body, Phase I and Phase II metabolism, organ specific toxicities, and defense mechanisms. **Prerequisites: BIO 121 and CHE 121 and NES 201.**

NES 344 Environmental Risk Assessment (3) introduces students to ecological and human health risks and issues related to quantitative risk assessment. **Prerequisites: BIO 121 and NES 201 and STA 101.**

NES 401 Community Ecology and Population Biology (3) focuses on the history, demography, environmental factors, density-dependent factors, genetics and population ecology, theories of population and community organization and includes the theoretical and empirical study of the structure and organization of natural communities. Topics include competition,

predation, disturbance, abiotic gradients, and species equilibria. **Prerequisites: NES 310 and STA 101.**

NES 406 Plant Community Ecology (3) provides a survey of the distribution of vegetation throughout Africa and the world. The course also offers comparative studies of vegetation sampling techniques and mathematical analysis of data. **Prerequisites: NES 310 and BIO 106 and STA 101.**

NES 420: Environmental and Occupational Health (3) covers a broad spectrum of environmental hazards and influential factors, their interactions with human health and well-being, and their relevance to effective promotion of environmental hazard awareness and public health. **Prerequisites: BIO 121 and NES 201.**

NES 430: Environmental Chemistry (3) (cross listed with CHE 322) covers the concept of elementary cycles; characteristics of the atmosphere, sources, types, effects and control of environmental pollution, and waste water treatment. It also examines the composition of domestic waste (handling solid waste) and waste recycling; water chemistry and analysis; and chemical and physical instrumentation in environmental sciences. Global warming: its sources, effects and remedies. Green Chemistry: Principles and concept of green chemistry, atom economic and noneconomic reactions, reducing toxicity, a few examples of environmental friendly reactions and reaction media. **Prerequisites: CHE 121**

NES 440 Environmental Impact Assessment (3) provides theory, regulatory guidance, and practical experience in objectively analyzing and reporting the environmental impacts of a wide variety of projects. After classroom discussions of theoretical and regulatory background, students will research and exchange presentations on the underpinnings of the various socioeconomic, natural, and health science disciplines to be addressed in a typical EIA. This will include interviewing a professor or practitioner in each science. The class will then turn its attention to methodology, whereupon students will get experience developing the approach and framework for a project of their choosing. Students will work together to understand EIS provisions for community involvement and the accompanying approach to stakeholder engagement. We will also read and discuss a number of actual EIAs and will seek the opportunity to participate in field trips to a development site where one is performed locally. **Prerequisites: Eight (8) credits of NES courses and third year standing.**

NES 490/BIO 490 Senior Research Project in Natural and Environmental Sciences (3) provides an opportunity for a directed field research project in the student's area of concentration, arranged before the course begins. **Prerequisites: At least three courses in NES and permission of the Instructor and fourth year standing.**

NES 491/BIO 491 Senior Research Project II is the second part of a two-semester Senior Research Project. This course builds upon the research proposal written in NES 490 or BIO 490. In this course students will conduct the field/laboratory work which they proposed in the previous course, analyze their data, and write up the results (i.e., complete the Results, Discussion, and Conclusion

sections of their theses). This is an exciting opportunity for students to conduct original research under the supervision of faculty members. By the course end, students will have completed their research project, which they will present in written and oral form to the department. **Prerequisites: NES 490 or BIO 490 and STA 305**

NES 492 Independent Study in Natural and Environmental Sciences (1-6) provides an opportunity for a contracted, independent study. Independent study includes library and/or laboratory research and field projects. **Prerequisites: Permission of the Instructor and Department Chair and CGPA of 2.0 or higher and Fourth Year Standing.**

NES 493 Internship in Natural and Environmental Sciences (1-6) is a supervised internship and summer training experience in aspects of Natural and Environmental Sciences, such as conservation biology, ecology, toxicology or other relevant environmental issues. This may take place in a setting outside the university under the supervision of experts in the specific field of study. A report is required. **Prerequisites: Permission of the Instructor and Department Chair and CGPA of 2.0 or higher and 75 earned credits.**

PETROLEUM CHEMISTRY

PCE 310 Petroleum Science (4) (3 lecture, 1 lab)

Petroleum discovery, utilization and processing in the world and Nigeria. Occurrence: world distribution of petroleum, major oil producing countries and worldwide scenario with respect to demand and supply of petroleum, forecasting future petroleum demand and prospects. Origin: theories of origin of petroleum; Biogenic theory. Physico-chemical properties and characterisation of petroleum. Crude oil pretreatments: Dehydration, Desalting principles. Separation processes: atmospheric distillation, vacuum distillation, azeotropic and extractive distillation, dewaxing, deasphalting. Conversion processes: thermal conversion processes (Delayed & Fluid coking, Vis-breaking) and catalytic conversion processes (catalytic reforming, catalytic cracking, hydrotreating. Impacts of organic acids and asphaltenes on crude oil emulsion, de-emulsifiers. Foaming and defoaming. Scaling: causes, effects, inhibitors. Environmental impacts of oil prospecting, drilling and production. Discussions on oil spillage and gas flaring: effects, prevention and treatments. **Prerequisite: CHE 210.**

PCE 311 Natural Gas (3) Discussions on formation, composition, and world distribution of natural gas. Physical and chemical properties of natural gas. Natural gas, wet and dry gas, biogenic and thermogenic gas, associated and non-associated gas, sour and sweet gas. Natural gas treatment processes: acid gas treatments, gas dehydration, recovery of natural gas liquids, and production of liquefied natural gas. Direct applications of natural gas as fuel; current technologies for more efficient utilization of natural gas as fuel; natural gas as source of raw materials (C_{2+} hydrocarbons) petrochemical industry; extraction of C_{2+} hydrocarbons and their conversion to olefins for

petrochemicals; production of synthesis gas from natural gas (C_1); chemistry and technology of conversion of natural gas (C_1) into petrochemicals via synthesis gas; ammonia from natural gas via synthesis gas. **Prerequisite: CHE 210.**

PCE 313 Introduction to Catalysis (3) Definition of terms; the concept of catalysis; mechanism of catalysis; role of catalysis in the chemical industry; types of catalysis; properties of catalysts; methods for characterization of catalysts; factors that determine industrial use of catalysts; catalyst deactivation; catalyst recycling and management; examples of industrial applications of catalysts: Wacker process, catalytic cracking with zeolites, catalytic reforming, Fischer-Tropsch process, Harber process, Contact process, Ziegler-type catalysts in polymerization. **Prerequisite: CHE 340.**

PCE 320 Petrochemicals (3) Introduction to petrochemicals and petrochemical industries; Primary feedstock for the petrochemical industry. Chemistry and technology of production of chemicals and polymers from (a) ethylene, and (b) propylene; Basic reactions of hydrocarbons: oxidation, halogenations, sulphonation and nitration; Chemistry and technology of production of chemicals and polymers from (a) C_4 - C_5 streams, and (b) BTX stream; Generation, composition and usage of syngas. Potential non-petroleum sources of petrochemicals. Formation, occurrence and potentials; classifications; coal and oil shale mining and processing techniques; coal as fuel, efficient combustion techniques, coal as source of cleaner fuels; coal as source of petrochemicals/raw materials, Fischer-Tropsch process; coal utilisation and the environment. Environmental impact of petrochemicals. The prospects of petrochemical industry in Nigeria. **Prerequisites: CHE 210 and CHE 220.**

PCE 321 Polymer Chemistry and Technology (4: 3

lecture, 1 lab) Polymer Nomenclature. Sources of raw materials for the polymer industries. Polymer Synthesis – Addition polymerisation, condensation polymerisation, copolymerization techniques. Polymerisation techniques – bulk solution, precipitation, emulsion, suspension and gas phase. Polymer additives. Thermodynamics of Polymer solutions. Fibre forming polymers and introduction to biopolymers. Physical and mechanical properties of polymers. End-use properties and applications of commercial polymers. Polymerisation mechanism – Addition Polymerisation – Radical Chain, Anionic, Cationic and Coordination polymerisation. Physical states of polymers and the thermal properties. Polymer reactions – Thermal oxidative degradation, Photo-oxidation degradation, Crosslinking reactions, mechanical degradation, Vulcanisation of Rubber, Plasticisation of plastics, flammability of polymers and stabilization processes. Mechanical properties of polymer. Rubber elasticity. Analysis and testing of polymers. Advanced Polymer processing-concept of size, shape, their distribution, behaviors and properties of powders in relation to particle size, types of additives, their role in product properties, broad description of various polymer processing – mixing, extrusion, injection and blow moulding, compression and transfer moulding, calendaring, vacuum forming and various coating processes, joining, plating and finishing. Practical rheometry. Polyurethane technology. Detailed treatment of Co-polymerisation techniques. **Prerequisites: CHE 210 and CHE 220.**

PCE 410 Oil Spill & Gas Flaring: Effects & Control (3) Covers aspects in controlling oil spill in the petroleum industry. Environmental impacts of oil prospecting, drilling and production. It includes discussion of the spill characteristics, chemical-physical and biological treatments, economics,

and international regulation of oil spills. Effects of oil spillage on water and land environments. Processes of treating oil spillage (chemical, biochemical and microbiological). Gas flaring; effects and control. Methods of controlling the environmental impacts of oil and gas industry. Nigerian experiences in environmental effects of oil and gas operations. Current affairs. A field trip to an agency and/or industry involved in oil spill control is also undertaken. **Prerequisite: fourth year standing.**

PCE 416 Coal & Oil Shale Chemistry (3) Formation, occurrence and potentials; classifications; coal and oil shale mining techniques; coal and oil shale processing techniques; coal as fuel, efficient combustion techniques, coal as source of cleaner fuels; coal as source of petrochemicals/raw materials, Fischer-Tropsch process; coal utilization and the environment. **Prerequisites: third year and PCE 321.**

PCE 421 Electrochemistry and Corrosion Science (3) studies various topics in electrochemistry such as equilibrium electrochemistry, ion activity, ionic transport, transport number, molar conductance and conductivity, Debye-Huckel and Onsager equations, processes at electrodes, electrical double layer, electrode processes. It also includes topics in corrosion such as oil and gas pipeline basic corrosion chemistry, thermodynamics and kinetics of corrosion, corrosion mechanisms occurring in oil and gas production / processing systems, as well as corrosion prevention and pipeline protection. **Prerequisite: CHE 220.**

PCE 493 (formerly CHE 493) Internship in Petroleum/Petrochemicals Industry (3) is a supervised internship and summer training experience in a petroleum refinery or in a petrochemical/polymer industrial plant. A report is required. **Prerequisite: Permission of Department Chair and CGPA minimum 2.0 or higher and fourth year standing.**

PHILOSOPHY

PHI 102 Philosophy and Human Existence (3) is a brief survey of the main branches of Philosophy – philosophy of religion, ethics, self, knowledge and mind, political philosophy. Reference will be made to Nigerian philosophy, where appropriate. **Required for Law Students. Prerequisites: None**

PHI 103 Logic An introduction to the theory and techniques of logic with emphasis on formal logic, including methods of deductive proof. Topics may include categorical and inductive logic, as well as informal logic and critical thinking. Required for Law Students, by law. **Prerequisites: PHI 102.**

PHI 201: Comparative Religion: Islam and Christianity (3)

Course provides students with an introduction to the study of religion by offering a comparative overview of the history, doctrines, beliefs, and practices of Christianity and Islam - two principal religions in Nigeria. Moreover, the course gives possibility to see the religion from different scientific positions (psychology, sociology, anthropology, philosophy). **Prerequisite: none**

PHI 300 Ethics and Leadership (3) This course provides an understanding of the two fundamental areas of social life – ethics and leadership: their basic paradigms, concepts and

practical dimensions. Moreover, course examines the ethical issues involved in effective leadership, with examples from the African experience. **Prerequisites: third year standing. For SOL students, second semester standing.**

PHYSICS

PHY 101 Physical Science I or Conceptual Physics I (4) It is essential in today's technical world that informed citizens possess fundamental science literacy. This course introduces the student to the fundamental principles of physical science embodied in the disciplines of physics and chemistry. Mathematics up to and including college algebra will be used throughout the course. Lab based Science Elective I for non-science majors. **Prerequisite: none.**

PHY 102 Physical Science II or Conceptual Physics II (4) provides a continuation for PHY101. Topics include electricity, magnetism, optics, matter, atoms and molecules, atomic and nuclear physics. Lab based Science Elective II for non-science majors. **Prerequisite: PHY 101.**

PHY 131 College Physics I (4) This course covers motion, energy, vibrations, temperature; heat and fluids are studied using algebra and trigonometry with an emphasis on applications. Students who have not taken high school physics are advised to take a semester of PHY101 before enrolling in this course. **Prerequisite: MAT 110 or higher.**

PHY 132 College Physics II (4) provides a continuation for PHY131. Electricity, magnetism, circuits, waves, optics and the atomic and nuclear structure of matter are studied using algebra and trigonometry with an emphasis on applications. **Prerequisite: PHY 131 or PHY 205.**

PHY 205 University Physics I (4) This course covers basic principles of mechanics, heat and wave motion are studied using calculus with an emphasis on applications. Students who have not taken high school physics are advised to take a semester of PHY101 before enrolling in this course. **Prerequisite: MAT 210.**

PHY 206 University Physics II (4) This course provides a continuation for PHY205. Basic principles of electricity, magnetism and optics are studied using calculus with an emphasis on applications. **Prerequisite: PHY 205 or PHY 131.**

PHY 220 Meteorology (3) includes the general character of the atmosphere and its weather and climate systems, phenomena, and distributions of variables (winds, temperature, pressure, moisture). Topics include forecasting, basic observations, hurricanes, monsoon, El Niño, and modeling. This course satisfies one of the Natural and Physical Science General Education requirements. **Prerequisite: MAT 112.**

PHY 310 Introduction to Modern Physics (3) introduces atomic structure, quantum mechanics, and relativity, nuclear and solid state physics. **Prerequisite: PHY 206.**

PHY 320 Fluids (3) covers steady ideal and viscous fluid flow systems using the continuity, Bernoulli and momentum equations, boundary layer theory, dimensional analysis and dynamic similitude. Pipe flow and open channel flow are introduced. **Prerequisite: PHY 206.**

PHY 330 Introduction to Electronics (3: 1 lecture, 2 lab) introduces students to circuit design and the analysis of electronic devices and will cover circuit analysis (DC and AC), semiconductor devices (diodes and transistors), analog electronics (operational amplifiers), and other topics. **Prerequisite: PHY 206.**

PHY 340 Issues in Environmental Physics (3) focuses on the application of physics to the Earth's environment. Topics may include energy conservation principles, thermodynamics of fossil fuel engines and devices, solar and other alternative energy sources, nuclear fission reactors and nuclear fusion research, and the physics of the atmosphere, air pollution, global climate change, and ozone depletion. **Prerequisite: PHY 206.**

PHY 399 Supervised Physics Laboratory Instruction (3) provides the opportunity for students to gain experience in physics laboratory instruction under close supervision of the primary physics professor. **Prerequisites: Permission of the Instructor and PHY 206.**

PSY 101 Introduction to Psychology (3) This course introduces students to the science of Psychology. It explores essential topics such as perception, human communication, cognition, memory, the process of decision-making, faith and religion, persuasion, love, art, dreams and general functioning of the human mind – revealing its complexities. The course further explores how these aspects of the mind develop in children; how they differ across peoples; and how they break down in situations of old age, disease and injury. Students will also gain insight into the history and development of the field, explore basic theories and understand the importance of the scientific methods. On completion, students should have a richer understanding of individuals as thinking, feeling and social beings. **Prerequisite: WRI 101v**

QUANTITATIVE BUSINESS ANALYSIS

QBA 201 Quantitative Business Analysis (3) is an application-oriented course that introduces some basic concepts of statistics and calculus for business majors. Topics to be covered include: descriptive statistics, probability distributions, estimation and hypothesis testing, correlation, regression, functions, partial derivatives, optimization, differential and integral calculus. The course also introduces students to the use of statistical package for social sciences (SPSS). **Prerequisite: MAT 210.**

QBA 202 Operations Management (3) covers and applies the basic principles, functions and concepts involved in the design, operation, and control of operations in contemporary organizations to real operations management decisions. Topics include operations strategy, forecasting, capacity planning, location decisions, production planning, materials management, productivity management and quality management. **Prerequisite: QBA 201 or STA 101.**

QBA 411 Research Methodology (3) provides students with a good understanding of business research, and equips them with the practical tools and skills to conduct business and applied economic research. It equips students with the skills to identify and formulate research questions, formulate hypotheses, and critically write and evaluate research proposals. It also aims to improve the student's critical approach to gathering data through survey, secondary sources, discussing concepts, as well as testing for validity, reliability, and accuracy. Another important aim is to help the student to design his/her final year research project (QBA 412). **Prerequisite: fourth year standing.**

QBA 412 Research Project (3) is a pre-approved faculty guided final research project for graduating students in SBE. Faculty from the students' major will supervise and guide a student to successfully complete an approved research project. The final product will be expected to employ all the research skill and analytical tools covered in the Research Methods course (QBA 411). The student will defend the final research project before his/her peers and faculty of SBE. **Prerequisites: QBA 411 and fourth year standing.**

QBA 465 Business Analytics and IT (3) introduces information technology, data analysis and decision support or decision science as essential components of today's business organization. Nowadays, organizations use information systems to manage data and operations, analyze data, and support operational decision making. This course provides students with the knowledge and skills needed for the converging fields of business analytics and information technology.

Prerequisites: CIE 111 and at least third year standing

SOFTWARE ENGINEERING

Introduction to Software Engineering (3)

This course introduces students to the ever-growing field of Software Engineering. Students will learn the principles of software engineering by working in a team through a real-life software development project. As a result, students will develop an understanding of why there has and continues to be a crisis in the software development field and the need to apply engineering principles to software development. Software is inherently complex and the development of industrial strength software which will support some critical functions of a business or organization requires a different approach and different tools. Software practitioners understand that for such development projects, the scale of the problem increases drastically and that frequent changes are constant. The adoption of a rigorous engineering discipline coupled with strong method/process support should improve quality in the delivered software and productivity of the development teams. **Prerequisites: CIE 231 and CSC 202.**

SEN 306 Object Oriented Software Construction

(3) This course covers the basic concepts, principles and notations of object oriented analysis and design (OOAD). Special emphasis will be placed on critical issues for consideration in modern software development such as software quality and corresponding concepts, principles and best practices for addressing both functional and non-functional requirements of the software system in its architecture. The topics covered in this course include specifications, abstraction techniques including typing, access control, inheritance, polymorphism, genericity and design patterns, frameworks and architectures. Students

will also learn the proper engineering use of techniques such as information hiding, classes, objects, inheritance, design by contract, exception handling, event-based systems, and concurrency. **Prerequisite: SEN 301.**

SEN 312 User Interface Design and HCI (3)

This course is about interaction design and how to develop high-quality user interfaces for interactive systems and encouraging students to pay greater attention user experience design issues. Generally, the user interface relates to how the user faces the system that they usually have a direct contact and interact with to conduct activities. User interaction relates to the user experience, focusing on the orchestration of the interaction between people and interactive devices of many types - from computers to mobile communications devices to appliances. You will be introduced to the principles, guidelines, and theories needed to develop high-quality user interface (UI) and user experience (UX) designs that users can understand, predict, and control. As you will be able to design interactive systems that are enjoyable to use, that do useful things, and that enhance the lives of the people who use them. **Prerequisite: SEN 301.**

SEN 321 Formal Methods in Software Engineering

(3) This course includes a review of mathematical foundations for formal methods. The topics covered in this course include formal languages and techniques for specification and design, including specifying syntax using grammars and finite state machines, analysis and verification of specifications and designs, use of assertions and proofs, automated program and design transformation. **Prerequisite: SEN 301.**

SEN 400 Professional Ethics (3) This course develops student understanding about historical, social, ethical and professional issues related to the discipline of computing. This course identifies the sources for information and opinion about professionalism and ethics. Students evaluate at access ethical and professional computing case studies. This course introduces the student to ethical, moral issues and their responsibilities. **Prerequisite: Junior standing.**

SEN 405 Software Requirements Analysis and Specification (3) This course covers techniques for discovering and eliciting requirements and notations and models for representing requirements. Topics will include: analysis and validation techniques, specifying and measuring external qualities such as performance, reliability, availability, safety, security, specifying and analyzing requirements for various types of systems such as embedded systems, consumer systems, web-based systems, business systems, systems for scientists and other engineers and resolving feature interactions. **Prerequisite: SEN 301.**

SEN 408 Software Project Management (3) This course covers project planning, cost estimation, and scheduling. The topics covered in this course also include project management tools, factors influencing productivity and success, productivity metrics, analysis of options and risks, planning for change, management of expectations, release and configuration management, software process standards and process implementation, software contracts and intellectual property, and approaches to maintenance and long term software development. This course will involve case studies of real industrial projects. **Prerequisite: SEN 405.**

SEN 415 Software Quality Assurance and Testing Quality (3) This course will examine fundamental software testing and quality assurance as well as related program analysis techniques. In particular, the important phases of testing will be reviewed, emphasizing the significance of each phase when testing different types of software. The course will also include concepts such as test generation, test oracles, test coverage, regression testing, mutation testing, program analysis (e.g., program-flow and data-flow analysis), and test prioritization. **Prerequisite: SEN 301.**

SEN 416 Software Design and Architecture (3) Software architecture has become an area of intense research in the software engineering community. A number of architecture modeling notations and support tools, as well as new architectural styles, have emerged. The focus of architecture-based software development is shifted from lines-of-code to coarser-grained building blocks and their overall interconnection structure. Explicit focus on architecture has shown tremendous potential to improve the current state-of-the-art in software development and alleviate many of its problems. The goal of this course is to introduce students to common software architecture, design patterns, scenarios for quality attribute parts, and small architectural patterns. **Prerequisite: SEN 306.**

SEN 469 Software Testing: Verification and Validation (3) This course looks at testing techniques and principles: defects vs. failures, equivalence classes, and boundary testing. This course also covers types of defects, black box vs. structural testing and testing strategies, unit testing, integration testing, profiling, test driven development, state-based testing, configuration testing, compatibility testing, and web site testing, alpha, beta, and acceptance testing. In addition, coverage criteria, test instrumentation and tools, developing test plans, managing the testing process, problem reporting, tracking, and analysis are also covered in this course. **Prerequisite: SEN 301.**

SEN 470 Engineering Economics (3) Engineering Economics are about making decisions related to software engineering in a business context. Success of any software engineering project is partly dependent on effective business management. Software engineering economics provides a way to examine the attributes of software and software processes in a systematic way that relates them to economic measures. These can be weighted and analyzed when making decisions within the scope of a software engineering project and its organization. The essence of software engineering economics is aligning software technical decisions with the business goals of the organization. This course examines the key aspects of software engineering economics, including life cycle economics; risk and uncertainty; economic analysis methods and practical considerations, which tie concept and theory to contemporary software economic realities. **Prerequisite: ECO 101.**

SEN 474 Principles of Distributed and Concurrent Software Systems (3) This course is concerned with aspects of computation beyond sequential programs. Concurrency occurs naturally in most real-world applications and is also strongly suggested by any modern computer architecture. This course introduces all basic mechanisms to analyse, design, and manage single computer as well as distributed applications. **Prerequisite: SEN 301.**

SEN 478 Engineering of Software Sub Systems (3) This course presents a detailed and in- depth analysis of design and construction software with an emphasis on design patterns and refactoring. This course also presents an introduction to formal approaches to design and includes the analysis of designs based on internal quality criteria, performance and maintainability improvement, reverse engineering, and disciplined approaches to design change. **Prerequisite: SEN 301.**

SEN 490 Software Engineering Capstone Project (3) This course involves the development of a significant software system, employing knowledge gained from courses throughout the program. It includes development of requirements, design, implementation and quality assurance. Students may follow any suitable process model, must pay attention to quality issues, and must manage the project themselves, following all appropriate project management techniques. Success of the project is determined in large part by whether students have adequately solved their customer's problem. **Prerequisite: fourth year standing.**

SEN 493 Students Industrial Work Experience (SIWES) (1) is an internship field experience that abides by SIWES requirement. Internship prepares students for industrial work situations. SEN 493 is

to be completed over two summers - Summer A and Summer B - May-August. Students are expected to complete a daily log-book during their internship experience and upon completion of internship, a written report must be submitted. Internship supervisors are expected to conduct site visitation. **Prerequisite: minimum 3rd year standing.**

SOCIOLOGY

SOC 101 Introduction to Sociology (3) Introduction to the fundamental questions, concepts, theories, and general principles of sociological thought. Inquiries into culture, socialization, norms, power relations, social institutions, and group interaction. Illustrates how human action transforms society, and how social and cultural forces constrain human actions. **Prerequisite: none**

SOC 288: Criminology (3) What causes a person to commit murder? How does one become a terrorist? How close to becoming a criminal are you? What goes on in the mind of a criminal? What makes the quiet boy/girl in school become a mass-murderer? Can you become a suicide bomber? Need answers? This course provides answers to the study of crime, violence, and terrorism. Criminology is primarily concerned with understanding the causes of crime and we will visit some of the most influential explanations for criminal behavior. As social context shapes general beliefs, it also shapes beliefs about crime; we will consider how different explanations have emerged at different times and how society contributes to explanations of crime and criminality. To develop credible explanations for crime, criminal behavior, and terrorism, we must understand the nature of crime and examine a

range of criminal activity. **Prerequisite: none**

SOC 301 Classical Sociological Theories (3) This course introduces some of the “classical” theoretical traditions that have guided sociological thought. The course explores the cultural, social, economic, political, intellectual and biographical contexts within which they developed. It also offers a sense of the historical forces that gave shape to sociological theory and their later impact. The works of classical sociological theorists as Auguste Comte, Karl Marx, Herbert Spencer, Emile Durkheim, Max Weber, Georg Simmel, Vilfredo Pareto among others are explored. In this course students will learn, in an engaging way, how to understand the internal logic of sociological theories and how they apply to real life social processes. Students will also learn how to write analytically, drawing on classical sociological theories. **Prerequisite: SOC 101.**

SOC 390-1 Social Sciences Research Methods (3) The logic, design, and use of social research will be studied during this course. Major emphasis is on social research techniques and procedures, the relationship between theory and research, the selection and use of quantitative data analysis techniques. The structure and use of qualitative techniques are also examined. This course is designed to introduce the student to social science research methodology. In our approach to methodology, we will focus on the context and significance of methodological issues and problems, as well as on the content. To know and understand what methodology is, its purpose, and why it is utilized, will greatly facilitate our understanding of its practical applications in understanding group and institutional behaviors. Importantly, social science research methods are, on average, best approached by examining methodological approaches, critical discussions,

and constructive activities. The student will be introduced to methodological issues and problems in social science research, data analysis, and proposal/report generation. Through extensive reading, discussions, and written assignments on selected problems and issues in research methodology, this course is designed to familiarize and enhance student's knowledge of methods in the social sciences. **Prerequisites: SOC 101 and STA101 or QBA 101.**

STATISTICS

STA 101 Introduction to Statistics (3) offers a general introduction to statistical methods and applications with illustrations from business, economics and sciences; it prepares students for further quantitative courses. **Prerequisite: MAT 110 or higher - (NOT allowed for anyone who has attempted (Pass or Fail) STA 301).**

STA 301 Probability and Statistics (3) covers the fundamentals concepts of probability; including properties of expectation, the law of large numbers, the central limit theorem, and the application of these ideas in statistical inference. Estimation and hypothesis testing inferential frameworks will be comprehensively covered in theory and application. The linear regression model is introduced, inference for model parameters and model validation are studied. **Prerequisites: minimum C grade in both MAT 210 (formerly MAT 121) or higher and STA 101.**

STA 303 Non-Parametric Statistics (3) introduces students to the theory and methods of non-parametric statistical inference, including categorical data and goodness of fit, application of rank-order statistics, sign statistics, the empirical distribution function and runs to commonly

occurring data structures. **Prerequisites: STA 101 and MAT 210 or higher.**

STA 304 Quantitative Methods in the Social Sciences (3) introduces students to elements of statistics specifically applicable to social science research, including decision theory and related experimental evidence, maximum likelihood, logic, normal, probit, and ordered probit regression models, panel data models with random effects, omitted variable bias and random assignment, and incidental parameters and conditional likelihood. **Prerequisites: STA 101 MAT 210 or higher.**

STA 305 Biostatistics (3) presents the basic mathematical methods that can be applied to biological and scientific data in order to organize, test, and interpret them, and reviews probability theory, and, at an introductory level, parametric and non-parametric biostatistics, the fundamentals of experimental design, and how optimality theory can be used to generate biological questions. **Prerequisites: STA 101 and MAT 210 or higher.**

STA 310 Operations Research (3) includes programming and the application of linear programming as well as non-linear programming, probabilistic models, decision theory and games, inventory models, and queuing theory. **Prerequisites: STA 301 and MAT 210 or higher.**

SYSTEMS ENGINEERING

SYE 304 Operational Methods I (2) Fourier series: periodic functions; Dirichlet conditions; odd and even functions; half-range Fourier sine and cosine series. Parseval's identity. Differentiation and integration of Fourier series. Boundary values problems. The Laplace transform and applications

excluding the use of inversion integral and convolution theorem). **Prerequisite:** 3rd yr. standing

SYE 305 Mathematical Modelling for AI Systems (3) Introduction to Artificial Intelligence (AI); Fundamentals of artificial reasoning and expert systems, Mathematical basis of AI. Introduction to MATLAB software; introduction to neural networks; elements of conventional AI search techniques; Cantor set search techniques. **Prerequisite:** MAT 312

SYE 322 Special Analytical Techniques (3) Fuzzy set and logic Graph theory: Methods of fractiles; Genetic and evolutionary algorithms such as ant-colony algorithm etc. **Prerequisite:** 3rd yr. standing

SYE 301 Operations Research I (3) Introduction to operations research. Linear programming models. Primal and dual problems; graphical solutions, simplex method; post optimality analysis; special algorithms, transshipment and assignment problems. Maximal flow, shortest route, minimum spanning tree; travelling salesman problems. **Prerequisite:** 3rd yr. standing

SYE 303 Elements of Game Theory (2) Games, strategy and saddle points. Minimax theorem. Methods of solving games. Two person, zero-sum games. Utility Theory. Non co-operation two person games. The axioms of Nash. Three strategy games. Infinite games. Games of timing. **Prerequisite:** 3rd yr. standing

SYE 311 Engineering Material & the Environment (1) The influence and impact of the environment on engineering materials and its properties. Degradation of engineering materials and their impact on the environment. International Standards relating to the environmental (ISO

14000). Waste generation and handling. Environmental safety and engineering materials. Waste management and recycling. Reycling technology and its economy. The role of generic engineering in the sourcing of new engineering materials. Current developments in engineering materials (Library/research) – Metals & Alloys. Polymers & Rubber, Ceramic & Glasses and Composites. Visit to at least a manufacturing/processing plant involved in any two of the four major groups of engineering materials (submit a report on plant and its environment) Environmental impact assessment in Nigeria and its effect on the Nigerian environment. Economic relevant of flue gas (e.g in the production of Carbon dioxide). **Prerequisite:** GEC 224

SYE 302 Operations Research II (3) Integer programming; dynamic programming; non-linear programming algorithms; direct search, gradient method, separable programming, complex optimisation method. Sequential unconstrained maximisation algorithm (SUMT). **Prerequisite:** SYE 301

SYE 312 Rigid Body Dynamics (3) Review of particles dynamics – the three dimensional projectile (as an illustration of moving axes). Motion in general electromagnetic field. Rigid body dynamics. Key theorems. Moments and products of inertia. The inertial tensor. Angular velocity and angular momentum. Systems of particles and rigid bodies. Rate of change of angular momentum and moment of the rate of change of momentum. Rolling. Motion under no forces. Motion of spins and gyrostats. Leguerree's and applications. **Prerequisite:** 3rd yr. standing

SYE 306 Mathematical Models of Chemical Eng. System (3) **Prerequisite:** SYE 305

SYE 404 Operational Methods II (3) Complex function theory: Elementary functions, complex integration. Cauchy's theorem. Cauchy's integral formula. Taylor and Laurent series. Residual Calculus and applications. Convolution theorem and Bromwich integral; Multiplication theorem. Inverse transforms. Properties and applications. Multiple Fourier transforms. **Prerequisite: SYE 304**

SYE 493 Students Industrial Work Experience (SIWES) (6) is an internship field experience that abides by SIWES requirement. Internship prepares students for industrial work situations. Students are expected to complete a daily log-book during their internship experience and upon completion of internship, a written report must be submitted. Internship supervisors are expected to conduct site visitation. It is recommended that internship is completed over one semester in the fourth year. **Prerequisite: minimum 3rd year standing.**

SYE 521 Mechanics of Robotics System (3) Numerical methods for the kinematics inversion of several manipulators. The handling of redundancies and singularities. Kinematics and dynamics of parallel manipulators Manipulator performance evaluation and optimisation; multi-fingered hand grasping and manipulation, robot compliant and constrained motion. Obstacle avoidance. **Prerequisite: SYE 312**

SYE 403 Systems Simulation (3) Discrete event simulation. Examples in different production and service systems. Principles and computer languages e.g GPSS/H, SIMAN, e.t.c. and Pro Model Analysis of Simulation data. **Prerequisite: SYE 305**

SYE 590 Senior Design Project (3) The project work is to be completed in this second phase. Each

student is to submit a proper written report (bound 3 hardcopies, and a soft copy). The project is presented and defended at a seminar. **Prerequisite: 5th yr. standing**

SYE 513 Engineering System Analysis (2) Fundamental concepts: Dynamic system variables. Fundamental postulates of systems analysis. The concept of information, signal and feedback. System model representation. Relationship between model system variables. Formulation of equations for dynamical model networks. Analytical solution of system equations. Solution of free and forced response of linear systems. **Prerequisite: SYE 403**

SYE 514 Automated Reasoning (2) Representing and reasoning with knowledge. The case for logics. Introduction to logic-programming. PROLOG, LISP. Introduction to some AI applications of logic programming. Expert systems and their implementation. Planning. Natural language processing. Machine learning. **Prerequisite: 5th year standing**

SYE 515 Systems Reliability & Maintainability (2) Deterministic reliability. Arrhenius model. Failure mechanisms, screening. Statistical reliability: operational reliability, quantities, derived quantities. Failure distributions: negative exponential, Normal, Lognormal, Weibull and Gamma distributions. Life distribution measurements. Reliability models. Non-maintained systems. Maintained systems. Evaluation methods. **Prerequisite: 3rd yr. standing**

SYE 516 Facility Planning (2) Basic theory of facility location. Facility layout and material handling systems design with emphasis on application in a wide variety of industries. Design principles and analytical solution procedures presented with

emphasis on modern practice including comprised approaches. **Prerequisite:** 5th yr. standing

SYE 525 Physics and Technology of Semiconductor Devices (3) Characteristics of semiconductor switches. Power conversion from AC to DC, DC to DC, DC to AC, AC to AC. Applications of SCR and other thyristor devices: motor control, control of drives, heating and lighting. Mechanical relays, solid state relays and stepping motors. **Prerequisite:** PHY 132/206

SYE 527 Control of Robots and Human Arms (3) Robot actuation and arm design. Identification of actuator and joint dynamics. Kinetics calibration and inertial parameter estimation. Model-based control for position and force. Human operator dynamics and teleoperation. **Prerequisite:** 5th yr. standing

TELECOMMUNICATIONS

TEL 200: Analogue Electronic Circuit (3) Review of single-stage transistor amplifiers using BJTs and EETs Equivalent circuit and calculation of current gain, voltage gain, power gain, input and output impedance. Operational Amplifiers: Parameters and applications. Feedback, Broadband and narrowed band amplifies. Power amplifiers. Voltage and current stabilizing circuit. Voltage amplifiers, multi storage amplifier. Using BJTs and FETs. **Prerequisite:** none

TEL 202 Introduction to Telecommunications Engineering (3) covers the history of telecommunication right from its inception in Alexander Graham Bell's laboratory to today's emerging technologies and the regulation of the telecommunications industry. The Network

(public switched telephone network (PSTN)); The Switching Technology (which include types of end-office switching and their evolution); The Transmission Media (copper wire, coaxial cable, fiber and radio); The Transmission Technology [frequency division multiplexing (FDM) and time division multiplexing (TDM)]; The Broadband Access and Service (PDH, SONET/SDH, ATM and ADSL); The Wireless [cellular (AMPS, CDMA, GSM (2G, 3G, 4G.....,) and satellite)]. **Prerequisite:** MAT 210. (formerly TEL 301)

TEL 203: Digital Electronics Circuit (3) Number Systems and Codes. Logic Gate Simplification of Logic expressions using Boolean Algebra. Simplification of Logic expressions using Karnaugh Method. Design combinational circuit. Flip-Flops. Application of Flip-Flops in the design of counters, registers and timers. Switching and Waves shipping circuit. Generation of non sinusoidal signal (multi vibrators). Introduction to ADC and DAC. Design of Logic Gates (Diode, DTL, TTL, ECL etc). **Prerequisite:** TEL 200. (formerly TEL 251)

TEL 300 Fundamentals of Wireless Communications (3) covers the fundamental of wireless communications. The module includes: the Wireless Transmission (radio frequencies, signals, antennas, signal propagation, MIMO, multiplexing, modulation, spread spectrum); The Wireless LAN (basic technology, Bluetooth, HIPER LAN, IEEE 802.11); The Medium Access (SDMA, FDMA, TDMA, CDMA, CSMA/CA); the Wireless Telecommunication Systems [Cellular Systems (2G, 2.5G, 2.75G, 3G, 3.5G, 4G, and the next generations...)]. A basic cellular system, Frequency reuse, Roaming, Hand-off strategies, Co-channel interference; the Satellite Communications.

Prerequisite: TEL 202 or CIE 333. (formerly TEL 310)

TEL 302: Digital Communications System (3). Block Diagram of digital communication system sampling theorem, Shannon theorem and applications in digital communication system. Advantages of digital signals. Noise in digital system. Filtering and equalisation. Digital modulation techniques: FSK, ASK, QPSK, M-PSK, QAM, etc. Error detection and correction techniques. Encoders/Decoders. Applications of digital communication system: Satellite communication, telephoning microwave, wireless communication, optical communication, Broadband. Communication. Internet Technology.
Prerequisite: none

TEL 303: RF/Microwave System Design (3)
The aim of this course is to cover the fundamentals and the key aspect of design and applications of microwave radio, microwave components, microwave engineering, microwave frequencies and uses; microwave transmission in transmission lines and wave guides, microwave circuits; impedance transformation and matching, microwave circuits; passive microwave devices, resonant and filter circuits, active microwave devices such as RF Power Amplifiers (RPFA), Low Noise Amplifier (LNA); and semiconductor devices for microwave generation. Antennae: definitions of elementary parameters related to radiation patterns; dipole and aperture antennae and the related design parameters; introduction to antennae arrays. Radiowave propagation: propagation in the ionosphere, troposphere and in stratified media; principles of scatter propagation; applications in general broadcast, television and satellite communication systems. Radar systems nature of radar and radar equations; composition

of a radar system; application of different types of radars. **Prerequisite: TEL 300. (formerly TEL 360)**

TEL 304 Feedback and Control Systems (3)
Introduction: definition, examples of control systems. Open-loop and closed-loop control systems. Review of Laplace and inverse Laplace transforms. System modelling: Signal flow graph, block diagram. Transfer function. Poles and zeros. Block diagram reduction using signal flow graph and block diagram reduction techniques. Mechanical, electrical and electromechanical systems. First and second order models, higher order models. Definitions of transient response parameters. Analysis of second-order system as prototype. Routh-Hurwitz stability criterion. Classification of systems based on steady-state characteristics, steady-state error coefficient. Definition of Root locus, Properties of root locus, sketching of root locus plots. Effect of open-loop zeros and poles. Root locus design concepts. Frequency response analysis and design: Bode diagram, Polar plot, Nichols plot. Nyquist stability criterion: non-mathematical description of Nyquist criterion, interpretation of stability. Relative stability - Gain and phase margins. Closed-loop frequency response analysis - M and N contours, Nichols chart. Compensation techniques: lag, lead and lag-lead compensation, PD, PI and PID controllers. Cascade compensation based on root-locus method. Introduction to Feedback compensation. Computer-aided design and analysis of control system. **Prerequisite: none**

TEL 305: Circuit Theory (3)
Laplace and Fourier transforms, application of Laplace transformation to transient analysis of RLC circuits, transfer function concepts, reliability of transfer functions, Foster and Cauer's methods of Synthesis, 2-port network synthesis, active filters. Approximation to non-linear characteristic

analysis and synthesis of non-linear resistive circuits, harmonic analysis of non-linear dynamic circuits, applications of computers in the analysis of linear and non-linear circuits. **Prerequisite: none**

TEL 306: Electrical Machines (3)

Review of electromechanical energy conversion, rotating magnetic fields, performance and methods of speed control of DC machines, induction motors, linear induction motors, circle diagrams, power transformers, parallel operation of 3-phase transformers. **Prerequisite: third year standing.**

TEL 307: Power Electronics and Devices (3)

Switching characteristics of diodes, transistors, thyristors etc. analysis of diode circuit with reactive loads, analysis of circuits using transistors as switches, power control circuits, ACDC converters, characteristics of switching transformers, power semi-conductor device protection, examples of power electronic circuits, solar devices.

Prerequisite: fourth year standing.

TEL 399 Summer Training (3)

Students will be conducting a practical project in rapport with their area of specialization. Projects include voice over IP system installation, service based architecture building, satellite system installation. **Prerequisite: third year standing.**

TEL 400 Senior Design Project / Capstone (3)

This is a senior year project that each student undertakes in an area of communications. The area of study is chosen with guidance from a communications faculty member who will be the primary supervisor of the student's project. At the completion of the project, the student produces a thesis and also the student will be given the

opportunity to defend the subject. **Prerequisite: fourth year standing (formerly TEL 490)**

TEL 401: Digital Signal Processing (3)

Introduction: Advantages of digital over analogue signal processing, problems of digitization, overview of application of DSP, basic elements of DSP system. Digital Processing of analogue signals: Sampling of analogue signals, sampling theorem, aliasing, quantization, noise, and coding, types and selection of ADC/DAC, Sigma-delta ADC. Analytical tools: z-transform, properties, transfer function, inverse z-transform, z-plane poles and zeros, analysis of linear time-invariant in z-domain, system stability. Discrete Fourier Analysis: Discrete Fourier Transform and properties, inverse DFT, truncated Fourier transform, windowing, FFT algorithms. Discrete Time Signals & systems: Discrete time sequences (signals), classification and determination of discrete time system, discrete time i/o description (difference equation), solution of difference equations, convolution, correlation, impulse response. Digital Filters: Definition and types. FIR filters: Transfer function, characteristics, applications, design methods, Gibb's effect and elimination, fir filter realisation. IIR filter: Transfer function, characteristics, applications, overview of analogue filter design techniques, design methods- conversion from analogue to digital filter design techniques, IIR filter realization. Structure of Discrete Time System: Block diagram representation of constant coefficient difference equations, IIR and FIR systems and their basic structures, stability of discrete time systems. Software implementation of DSP algorithms. DSP Microprocessors: Architecture, fixed point vs floating point DSP, Finite word length effects. DSP chips: interfacing and programming. Practical application of DSP in audio, and video. **Prerequisite: none.**

TEL 404: Measurements and Instrumentation (3)

General Instrumentation, Basic Meter in DC measurement. Basic meter in AC measurements; rectifier voltmeter, electro-dynamometer and Wattmeter, instrument transformers; DC and AC bridges and their applications; general form of AC bridge universal impedance bridge; Electronic instruments for the measurement of voltage, current resistance and other circuit parameter, electronic voltmeters, AC voltmeters using rectifiers, electronic multimeter, digital voltmeters; oscilloscope: vertical deflection system, horizontal deflection system, probes, sampling CRO, Instruments for generating and analyzing waveforms; square-wave and pulse generator, signal generators, function generators, wave analysers, Electronic counters and their applications: time base circuitry, universal counter measurement modes; Analog and digital data acquisition systems: tape recorders, D/A and A/D conversions, sample and hold circuits.

Prerequisite: none.

TEL 405: Optical Communication System (3)

Optical transmitting devices, LEDs optical receivers, optical fibres/types, features, joining, coupling/deep space communication system/capacity, reliability economy/application of PCM and A DPCM concepts. **Prerequisite: none**

TEL 406: Electrical Power Systems (3) Introduction to power systems and sources of electric energy, structure of electric system, load characteristics, electric energy transmission and distribution, line impedance, representation and per unit systems, relationship between currents and voltage; regulation of voltage, transmitted power and losses; construction of overhead lines and underground cables; power system equipment: standard and safety. **Prerequisite: MAT 210 & PHY 131 or PHY205**

TEL 407: LAN Administration and Network Security (3)

Protocols: Introduction to network protocol. Seven Layer ISO-OSI standard protocols and network architecture. Transport protocols, session services protocols, and other protocol. **Local Area Networks:** medium access control techniques – Ethernet, token bus and token ring; LAN standards; fibre distributed data interface, metropolitan area network. **Peer-to-peer, Client Server.** Client-Server Requirements: GUI design standards, interface independence, platform independence, transaction processing, connectivity, reliability, backup and recovery mechanisms. **Information Network Software:** Features and benefits of major recovery mechanisms. **Information Network Software:** features and benefits of major Network Operating Systems. **Network OS:** (e.g. Novell NetWare, UNIX/LINUX, OS/2 & WindowsNT). **TCP/IP and Network OS.** **INTERNET:** Definition, architecture, services, Internet addressing. Internet protocol, IPv4, IPv6. Internet programming, Intranet. System administration, and security issues. **Network Security:** Introduction: Understand principles of network security: cryptography and its many uses beyond “confidentiality”, authentication, message integrity. Overview of computer security, attacks and services, control of hardware software. Usage. Intruders, Viruses and Worms: Intrusion techniques. Nontechnical attacks. Password protection and its vulnerability. Nature of viruses. Malicious programs. Types of viruses. Antivirus approaches. Security in practice: firewalls and intrusion detection systems security in application, transport, network, link layers. **Prerequisite: TEL 202 & CIE 333. (formerly TEL 472, TEL 351 & TEL 361)**

TEL 493 (SITC) Internship (3) is an internship field experience that abides by SIWES requirement. Internship prepares students for industrial work situations. TEL 493 is to be completed over one summer - **Prerequisite: minimum 3rd year standing.**

TEL 493 (SOE) Students Industrial Work Experience (SIWES) (6) is an internship field experience that abides by SIWES requirement. Internship prepares students for industrial work situations. Students are expected to complete a daily log-book during their internship experience and upon completion of internship, a written report must be submitted. Internship supervisors are expected to conduct site visitation. It is recommended that internship is completed over one semester in the fourth year. **Prerequisite: minimum 3rd year standing.**

TEL 527: Fundamentals of Wireless Communications (3) covers the fundamental of wireless communications. The module includes: The Wireless Transmission (radio frequencies, signals, antennas, signal propagation, MIMO, multiplexing, modulation, spread spectrum); The Wireless LAN (basic technology, Bluetooth, HIPER LAN, IEEE 802.11); The Medium Access (SDMA, FDMA, TDMA, CDMA, CSMA/CA); The Wireless Telecommunication Systems [Cellular Systems (2G, 2.5G, 2.75G, 3G, 3.5G, 4G, and the next generations...)] A basic cellular system, Frequency reuse, Roaming, Hand-off strategies, Co-channel interference; The Satellite Communications. **Prerequisite: TEL 401.**

TEL 590: Senior Design Project / Capstone (3) Each student undertakes in an area of communications. The area of study is chosen with guidance from a communications faculty member

who will be the primary supervisor of the student's project. At the completion of the project, the student produces a thesis and also the student will be given the opportunity to defend the subject. **Prerequisite: 5th Year Standing**

WRITING

WRI 100 Introduction to Composition (0)

Is designed to provide preparation for composition courses WRI 101 and WRI 102. The focus of the course will be on helping students develop competency in English grammar and reading comprehension; vocabulary building will also be emphasized. This course will not count towards overall graduating credits for any degree program. Placement in this class will be based on a placement test to be administered before the first day of classes. Students who perform exceptionally well in the placement test will be exempted from taking this course. This course may be replaced with a learning enhanced lab which covers similar material while students are enrolled in WRI 101. **Prerequisite: placement test result.**

WRI 101 Composition I (3) focuses on the developing effective written communication ability, critical reading skills, and analysis in several major forms of writing. **Prerequisite: WRI 100 or University placement test.**

WRI 102 Composition II (3) focuses on the continued development of writing, critical reading, and analysis, and includes argumentative and research-based writing. **Prerequisite: WRI 101 .**

WRI 300 Writing in the Disciplines (3) provides experience in writing, editing and preparing reports and papers and other documents suitable

for presentation and appropriate for the student's discipline. **Prerequisite: WRI 102.**

WRI 320 Introduction to Creative Writing (3) provides an opportunity for students to develop their creative talents by participating in a writing workshop. This course may be repeated once for additional credit. **Prerequisite: WRI 102.**

WRI 321 Preparation of Written and Oral Reports (3) provides the opportunity for students to develop skills in writing business documents such as resumes, correspondence, memoranda, short and long reports, and proposals necessary to communicate effectively in the business world. Students also practice oral presentation skills essential to business professionals. **Prerequisites: WRI 102.**

WRI 424 Creative Writing Non-Fiction (3) explores a number of creative nonfiction forms, including personal essay, biography and autobiography, criticism, and creative analysis. Students will write several short essays and one long essay, and discuss the work of outside authors and fellow students in a workshop format. **Prerequisite: WRI 320.**

WRI 492 Independent Study in Writing (1-6) provides an opportunity for the student to work independently on a writing project with the tutorial assistance of a member of the writing faculty. **Prerequisites: CGPA of 2.0 or higher and min. third year standing.**

AUN FACULTY

Adams, Victoria F. (2014)

Assistant Professor of Applied Chemical Engineering
BEng(Hons), Federal University of Technology, Yola; MSc, Engineering, University of the Witwatersrand, Johannesburg, South Africa; PhD in Applied Chemistry, University of Johannesburg, Johannesburg, South Africa.

Adetoro, David Oluwadare (2017)

Assistant Professor of Law
LLB(Hons), Ife, Nigeria; LLM, Lagos, Nigeria; LLM Energy Law and Policy, Dundee, Scotland; PhD in Competition/Antitrust policy and Natural Resources (oil, gas and electricity), University of Glasgow, Scotland UK; Barrister-at-Law, Nigeria.

Agboola, Bolade (2011)

Associate Professor of Petroleum Chemistry
BSc, Chemistry, University of Ibadan; MSc, Chemistry, University of Ibadan; PhD in Chemistry, Rhodes University, Grahamstown, South Africa.

Ahmadu, Mohammed Lawal (2017)

Interim Dean, School of Law and Professor of Law
LLB(Hons), Jos, Nigeria; LLM Commercial/Corporate, Lagos, Nigeria; LLM, Law in Development), Warwick, UK; ACIS (UK); GCTT, South Pacific; PhD, South Pacific; Barrister-at-Law, Nigeria.

Ahmed, Khalid Yusuf (2018)

Instructor of Accounting
BSc, Accounting, American University of Nigeria; MSc, International Business Management (Finance), Heriot-Watt University, Dubai, United Arab Emirates.

Ajayi, Osho O. (2008)

Assistant Professor of Mathematics & Statistics
BSc, Statistics; MSc, Statistics University of Ibadan; PhD in Statistics University of Glasgow, Scotland, UK.

Ajibesin, Abel (2008)

Interim Dean, School of Engineering and Assistant Professor of Computer Science and Electrical Engineering
NCE, St. Andrews College of Education; Certificate in Project Management, University of Cape Town, South Africa; BSc,(First Class Hons), Computer Science, Ogun State University, Nigeria; PostGradDipS, MathSc, Stellenbosch University/AIMS, South Africa; MSc, Electrical Engineering, University of Cape Town, South Africa; PhD in Computer Science, Modibbo Adama University of Technology, Nigeria; PhD in Electrical Engineering, University of Cape Town, South Africa.

Akanno, Samuel N. (2011)

Instructor of Accounting and Business Law
BSc, Accounting, California State University, Los Angeles; MSc, Accounting, California State University, Los Angeles; JD (Corporate Law), Atlanta's John Marshall Law School, Georgia, USA. PhD in Business Administration (in view). American University of Nigeria, Adamawa.

Akinkunmi, Abiodun Mustapha (2018)

Associate Professor of Finance
BSc. General Studies Electrical Engineering and Computer Science; MS Computer Science, New York Institute of Technology, Old Westbury, NY, USA; MA Economics, Fordham University, Bronx, NY, USA; PhD in Economics, Fordham University, Bronx, NY, USA; MA Economics, Fordham University, Bronx, NY, USA.

Akpan, Emilienne Idorenyin (2010)

Instructor of Modern Languages
Interim Director of Writing Center
BA (Licence), Lettres Bilingues, Université de Yaoundé, Cameroon; Certificate in English Language, Literature and French Translation, Centre for Overseas Student Programmes, University of East Anglia, England; PGDM., Mass Communications, MA, Mass Communications, University of Uyo, Akwa Ibom, Nigeria; Certificat de Stage, Centre International d'Études Pédagogiques, Université d'Été, Nantes, France.

Attahir, Baba Yusuf (2017)

Dean, School of Business and Entrepreneurship and Professor of Management.
B.Sc, Management, University of Maiduguri, Nigeria; MSc, Management and Technology, University of Wales Institute of Science and Technology; Ph.D., University of Sussex UK.

Alzouma, Gado (2006)

Professor of Sociology and Anthropology
BA (Licence), Ethnology; MA (Maîtrise), Ethnology, University of Bordeaux II, France; PhD, Anthropology, Southern Illinois University, Carbondale, USA.

Anadozie, Chioma (2006)

Instructor of Information Technology
BSc, Computer Science, Nnamdi Azikiwe University Awka; MBA, Federal University of Technology, Yola; MICS, American University of Nigeria; PhD in Information System (ABD) American University of Nigeria, Yola.

Behrouz, Aslani (2017)

Associate Professor of IT & Computing
Diploma, Civil Engineering, Ecole Polytechnique Federale de Lausanne-Switzerland; MSc, Management Science (previously Industrial Engineering) Stanford University, CA., USA; MA, Economics, Stanford University, CA., USA; PhD in Management Science (previously Industrial Engineering), Stanford University, CA., USA.

Biyasa, Abraham (2012)

Instructor of Physics
BTech, Physics, Federal University of Technology, Yola; MSc, Energy Physics, Modibbo Adama University of Technology, Yola, Nigeria.

Che, Ferdinand (2013)

Assistant Professor of Systems Engineering, Entrepreneurship & IT
BSc, Electronics Engineering with Medical Electronics, University of Kent at Canterbury, UK; MSc, Diagnostic Imaging, Oxford University, UK; MBA, Tuck School of Business at Dartmouth, NH, USA; PhD in Image Analysis and Computer Vision, University of Kent,

Canterbury, UK; Post-Doctoral Bridge to Business Administration, Walden University, USA.

Che, Jennifer (2013)

Instructor of Ecology and Conservative Biology BSc(Hons) University of East Anglia, Norwich UK; MSc, Conservation Biology, University of Kent, Canterbury, England.

Danpullo, Benjamin Chessed (2018)

Instructor of Law
LLB. University of Maiduguri, Nigeria; LLM University of Jos, Nigeria; Barrister-at-Law, Nigeria

Diop, Boubacar Boris (2016)

Assistant Professor of English
PGD, MA, Journalism, University of Dakar, Senegal.

Dodo, Fardeen (2013)

Instructor of Entrepreneurship
BSc, Agriculture, Bayero University, Nigeria; MSc, Renewable Energy and Enterprise Management, Newcastle University, England.

Eke, Ikechukwu (2014)

Instructor of Communications
BA, Mass Communication, Ebonyi State University, Abakaliki; MA, Communication and Language Arts, University of Ibadan, Nigeria.

Fay, Patrick (2014)

Interim Dean, School of Arts and Sciences and Associate Professor of Political Science
B.A., B.Ph. Mental and Moral Philosophy, 1970; Basic Certificate in Systems Analysis, 1978; Diploma in Computers in Education, 1979; Diploma in Administrative Science, 1979;

Master of Public Administration., 1981; Certified Diploma in Accounting and Finance, 1993; M.Sc.(Econ.) in Policy Studies, 1996 ; M.A. European Union Law, 2001; Diploma in Politics and Government, 2004; Doctorate in Governance, 2008; License in Theology, 2011; B.Sc. (Open) in Management, Politics, Environment, Law & Introduction to Diabetes, 2012; Postgraduate Diploma in Diplomatic Studies, 2014.

Fokam, Jean-Marcel (2007)

Assistant Professor of Mathematics
BA, Mathematics, Maîtrise University of Yaoundé, Cameroon; MA, Mathematics, University of Cape Town, South Africa; PhD, Mathematics, University of Texas, USA.

Fonkam, Mathias (2006)

Dean, School of Information Technology and Computing, and Associate Professor of Computing B.Sc, Computer System; M.Sc, Systems Engineering; Ph.D, Computer Science, Cardiff University, Wales.

Francis, Sicy (2011)

Instructor of Economics
BA, Economics, University of Kerala, India; BEd Economics Devi Ahilya University, Indore, India; LLB Criminal Law, University of Kerala, India; PGD, Psychology and Counseling, University of Kerala, India; MA, Economics, University of Kerala, India.

Gbara, Loveday (2009)

Assistant Professor of International and Comparative Politics
BSc, Business Administration; MA, Public Administration, Minnesota State University; PhD in Political Science, Washington State University, Pullman, USA.

Habibu, Sani Usman (2017)

Instructor of Law
LLB, Common & Islamic Law, University of Maiduguri; LLM, Law and Technology, Tilburg University, Netherlands; Barrister-at-Law, Nigeria.

Hansen, William (2005)

Assistant Professor of International and Comparative Politics
BA, Summa Cum Laude, Political Science, University of Maryland- College Park, USA; MA, African Politics, University of London, , School of Oriental & African Studies, UK; Graduate Diploma in German Language and Culture, Karl Marx University of Leipzig, Leipzig, Germany.

Hussaini, Abubakar Sadiq (2014)

Assistant Professor of Telecommunications Engineering & IT; Advisor, Department of Telecommunications Engineering
MSc, Radio Frequency Communication Engineering; PhD in Telecommunications, University of Bradford, UK.

Imade, Lucky Osagie (2008)

Associate Professor of International and Comparative Politics
BA, International Relations, Shaw University; MA; PhD in International Affairs and Development, Clark Atlanta University, USA.

Isine Ibang (2016)

Visiting Instructor of Journalism
BA, Communications Arts, MA, Mass Communication, University of Uyo, Nigeria.

Jacob, Jacob Udo-Udo (2013)

Assistant Professor of Journalism (Multimedia/Digital)
BA, University of Uyo, Nigeria; MA, University of Lancaster, UK; PhD in Communication Studies, University of Leeds, UK.

James, Adewale (2010)

Assistant Professor of Mathematics
BSc, Mathematics, Ahmadu Bello University; MSc, Mathematics; PostGradDip, Computer, University of Ilorin; PostGradDip, Education, Usman Danfodio University Sokoto, Nigeria; PhD in Mathematics, Modibbo Adama University of Technology, Yola, Nigeria.

Jahng, Wan Jin (2012)

Associate Professor of Organic and Petroleum Chemistry
BSc Agricultural Chemistry, Korea University; MSc, Organic Chemistry, Korea University; PhD in Organic Chemistry, University of Nebraska-Lincoln, USA.

Cleron Jean-Paul(2016)

Assistant Professor, Information System (System Dynamics)
BA, Economics, University of Paris Sarbonne; MA, Econometrics, University of Paris Sarbonne; PhD in Economics University of Paris Sarbonne, France.(1975)

Joseph, Ifeoma (2013)

Instructor of Petroleum Chemistry
BEng (Hons), Chemical Engineering, Federal University of Technology Yola; MSc, Advanced Chemical Engineering, University of Manchester, England.

Kah Jainaba (2017)

Associate Professor of Management and Entrepreneurship
 Bachelor of Commerce, Accounting, St. Mary's University, Halifax, Nova Scotia, Canada; MSc, Development Economics, Dalhousie University, Halifax, Nova Scotia, Canada; PhD in Urban Planning and Policy Development, Rutgers - The State University of New Jersey, USA.

Kah M. O. Muhammadou (2017)

Vice President for Academic Affairs & Provost
 BS, MS, Ph.D, Stevens Institute of Technology, USA; Master of Science in Finance (Financial Engineering), George Washington University, Washington, DC; Postgraduate Diploma (DipSI) in Strategy and Innovation, University of Oxford's Said Business School; Doctor of Science (Honoris Causa) by the UTG in 2016.

Khan, Wasiq (2014)

Assistant Professor of Economics
 BA, Political and Social Thought, University of Virginia, USA; MA, International Political Economy, The University of Texas at Austin, USA; PhD in Labor Economics, American University, Washington D.C., USA.

Last, Moyo (2018)

Assistant Professor of Media Studies
 MA University of Zimbabwe, Harare; PhD, University of Wales, UK.

Leonard, John (2011)

Professor of Economics
 BSc, Oregon State University; MA, Oregon State University; MA, University of California, Santa Barbara; PhD, University of California, Santa Barbara, USA.

Lofkrantz, Jennifer (2017)

Associate Professor of World History

BA(Hons Simon Fraser University, British Columbia, Canada; MA African History, Queen's University Canada; PhD African History, York University, Canada.

Mbah, Chris (2015)

Professor of Marketing
 BBA, Management, MBA (International Business), Sul Ross State University, USA; Post-Graduate Certificate (International Business); DBA (International Business) Argosy University, Sarasota, USA.

Mike, Jennifer Heaven (2018)

Assistant Professor of Law
 Diploma-in-Law, LLB, University of Jos; LLM (International Trade and Maritime Law) London Metropolitan University; PhD, University of Exeter; Barrister-at-law, Nigeria; UK Solicitors Regulation Authority's (SRA) Qualified Lawyers Transfer Scheme (In progress).

Mousa, Abdul Amin (2011)

Assistant Professor of Communications and Multimedia Design
 BA, Fourah Bay College, Diploma in Cultural Studies, University of Sierra Leone; MFA, University of Maryland, USA.

Mugambi, Hannah M. (2008)

Assistant Professor of English and Literature
 BA, English Language, University of Nairobi, Kenya; MSc, Applied Linguistics, University of Edinburgh; PhD, Language Literacy and Culture, University of Maryland, Baltimore County, USA.

Nche, Charles (2012)

Assistant Professor of Computer Engineering & IT; Advisor, Department of Computer Engineering
 B.Sc., University College Cardiff; MSc, PhD, Electronic and Electrical Engineering,

Loughborough University of Technology,
England, UK.

Ndoni, Eribe Doreen (2018)

Assistant Professor of Law
Diploma – Institute of Chartered Secretaries
and Administrators, United Kingdom; Solicitor
England and Wales- Law Society of England and
Wales; LLB, River State University of Science
and Technology, Nigeria; LLM, University of
Barcelona, Spain; LLM, PhD, University of
Dundee, United Kingdom; Barrister-at-law,
Nigeria.

Nicholas, Emmanuel (2011)

Instructor of Telecommunications Engineering
& IT; Advisor, Department of
Telecommunications Engineering
MSc, Telecommunications and Wireless
Systems, American University of Nigeria, Yola,
Nigeria.

Nsang, Augustine (2011)

Assistant Professor of Computer Science
BSc, University of Keele; MSc, University of
Bristol; PhD, Computer Science, University of
Cincinnati, Ohio, USA.

Nwokoma, Anele (2007)

Instructor of Information Systems
BSc, University of Louisiana; MBA, Granby State
University, USA.

Ogundapo, Olusegun (2010)

Assistant Professor of Electrical & Electronic
Engineering & IT; Advisor, Department of
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BEng, Federal University of Technology, Yola;
MSc, Electrical Engineering, Ahmadu Bello
University, Zaria, Nigeria; B.Eng, Electrical &
Electronics Engineering, Federal University of

Technology, Yola now Modibbo Adama
University of Technology, Yola, Nigeria.

Okeke, Malachi Ifeanyi (2018)

Assistant Professor of Natural and
Environmental Sciences
M. Phil, University of Tromso, Norway; PhD,
University of Tromso, Norway.

Okoro, Linus (2009)

Associate Professor of Petroleum Chemistry
BSc, (Hons), Federal University of Technology
Owerri; MSc, University of Ibadan, Nigeria; MSc,
Braunschweig University of Technology; PhD,
Dortmund University of Technology, Germany.

Olanike, Sekinat Adelakun (2016)

Instructor of Law
LLB, Olabisi Onabanjo University, Nigeria; LLM;
MLIS; University of Ibadan, Oyo, Nigeria;
Barrister-at-Law, Nigeria.

Olumoh, Jamiu S. (2009)

Assistant Professor of Statistics
BSc, Statistics; MSc, Statistics;
PhD in Statistics, University of Ilorin, Kwara,
Nigeria.

Omuya, Moses Bolade (2017)

Assistant Professor of Mathematics
BSc, Education; MSc; PhD in Mathematics,
University of Ilorin, Kwara, Nigeria.

Ononiwu, Chidi (2016)

Assistant Professor Information System
BEng,(Hons), Second Class Upper Division,
Electronics and Computer Engineering, Federal
University of Technology Owerri, Nigeria; MBA,
Business Enterprise Systems, Victoria Business
School, Victoria University Melbourne,
Australia; PostGradCert, Management
Information Systems Research, University of
Waikato Business School, Hamilton, New
Zealand; PhD in Information System, University
of Cape Town, (2015), South Africa.

Osuagwu, Linus (2008)

Professor of Marketing
BSc Technology, Management Technology,
Federal University of Technology, Imo Nigeria;
MSc; PhD in Business
Administration/Marketing, University of Lagos,
Lagos, Nigeria.

Potluri, Rajasekhara (2016)

Associate Professor of Marketing/Management
MBA Marketing, MCom Banking, Andhra
University Visakhapatnam AP, India; MPhil,
HRM; PhD in Management/Marketing, Shivaji
University, Kolhapur, Maharashtra, India.

Purvis, Mohammed Tristan (2012)

Assistant Professor of Language & Literature
PhD in Language and Literature, Indiana
University, Bloomington, USA.

Quaye, Ago KwashiMacGranaky (2006)

Associate Professor of Information Systems and
Information Technology
BComm; MBA, Concordia University; PhD in
Information Systems, University of South
Carolina, USA.

Raimi, Lukman (2017)

Assistant Professor of Entrepreneurship
BSc, Economics, Obafemi Awolowo University,
Nigeria; MSc Economics, University of Lagos;
MSc, Industrial Relations & Personnel
Management, University of Lagos; PhD in
Entrepreneurship & CSR, De Montfort
University Leicester, UK.

Raji, Hayatu (2010)

Assistant Professor of Natural and
Environmental Sciences
BSc(Hons), Human Anatomy, University of
Maiduguri, Maiduguri, Nigeria; MSc,
Biochemistry (Genetic Manipulation and
Molecular Cell Biology), University of Sussex;
D.Phil. in Biochemistry (Yeast Genetics and
Molecular Biology), University of Sussex; Post-
Doctoral Research, University of Oxford,
England.

Rashit, Sandip (2018)

Assistant Professor of Computer Engineering &
IT

Reed, Brian (2010)

Associate Professor of English Literature and
Language BA, cum laude, Pacific Lutheran
University; MA, Atlanta University; PhD,
University of Washington, USA.

Ritchard Tamba M'Bayo (2007-2013; 2018)

Professor of Mass Communication
PhD, MA Howard University, Washington, DC.

Salu T. George (2016)

Assistant Professor of Computer Science
PhD in Computer System, Magadh University of India, (2009), India.

Sagna, Mahamadou Lamine (2018)

Associate Professor International and Comparative Politics
MA, Universite Lyon II
Lyon, France; MBA, Ecole de commerce 3A
Lyon, France; PhD, University de caen, caen, France

Shallsuku, Phillip (2018)

Professor of Petroleum Chemistry
MSc, Chemical Engineering specializing in Polymer Technology; PhD in Physical/Polymer Chemistry, Moscow Institute of Polymer Chemistry and Textile Technology, Russia.

Sherifat Abiodun Isiaka (2017)

Assistant Professor of Accounting
BSc, Botany, University of Ibadan, Oyo, Nigeria;
MA, Economics, The State University of New York, NY, US; MBA, Finance, University of Houston, Texas, USA; PhD Management in Accounting, Wilfrid Laurier University, Ontario, Canada.

Suleiman, Amu Suleiman (2018)

Instructor of Communication & Multimedia Design
BA Mass (Comm), Bayero University, Kano; MA Applied Communication, Coventry University, England; PhD (In-Progress) Communication and Politics, East-Anglia University, Norwich, England.

Uche, Obioma U. (2012)

Assistant Professor of Petroleum Chemistry

BSc, University of California, Berkeley, California; MA; PhD, Princeton University, New Jersey, USA.

Ukata, Agatha (2010)

Assistant Professor of English and Literature
BA, (Hons) MA, University of Calabar; PhD, University of Witwatersrand, Johannesburg, South Africa.

Ukpe, Emmanuel (2008)

Instructor of Information Systems
BSc, Cayman Islands; MBA, Southeastern University; MSc, Strayer University USA; MSc. Information and Telecommunication Systems, Johns Hopkins University, Maryland, USA.

Umejei, Emeka Lucky (2018)

Assistant Professor of Journalism & Media Studies
MA, Rhodes University Grahamstown, South Africa; PhD, University of Witwaterand, Johannesburg, South Africa.

Ushakov, Pavel (2010)

Associate Professor of Philosophy and Theology
MSc, Geography, Altai State University; PhD in Philosophy, Academy of Culture and Arts, Kemerovo, Russia.

Tesunbi, Samuel (2019)

Associate Professor of Advertising and Public Relations
BSc, MS, West Virginia University; PhD, Howard University

Uzodinma, Ifeatu U. (2013)

Instructor of Entrepreneurship & Finance
BA, Economics, American University of Nigeria; MSc, Finance and Investment, University of Durham, England; MBA, American University of

Nigeria, Yola, Nigeria, PhD (in view) American University of Nigeria, Adamawa, Nigeria.

Vedishchev, Alexey (2014)

Instructor of Information Systems Development
MSc, Altai State Technical University, Barnaul,
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Vincent-Tyndall, Jennifer (2009)

Associate Professor of Natural and
Environmental Sciences
BSc(Hons), Biochemistry, University of Sussex;
MSc, Medical Biochemistry, Brunel University;
PhD in Immunology & Infectious Diseases,
Liverpool School of Tropical Medicine,
University of Liverpool, England, UK.

Yaduma, Natina (2015)

Assistant Professor of Economics
BSc, Economics, University of Maiduguri,
Maiduguri, Nigeria; MSc, Economics; PhD in
Economics, The University of Manchester,
England, UK.

Yusuf, Hassan (2013)

Assistant Professor of Management, B.Sc.
Business Administration, ABU; MBA BUK; PhD
Management Studies, Usman Danfodiyo
University, Nigeria.

STUDENT CODE OF CONDUCT

Preamble

The central commitment of the American University of Nigeria (AUN) is to develop thoughtful and responsible human beings with the highest moral and ethical standards, within the context of a very diverse yet collaborative academic environment. This commitment is founded on the following core values of the University: Tolerance and understanding among national, ethnic, and religious groups; Freedom of Expression; Non-discrimination in the admission and employment processes with regard to gender, age, religion, nationality, ethnicity, physical ability, political affiliation, or personal relationships. Excellence and integrity are the core principles that guide us.

This Student Code of Conduct is designed to benefit and assist the AUN community in forming the highest standards of ethics and morals among its students population and it is not in any way designed to either conform or conflict with any civil or criminal justice system of Nigeria. It is designed to foster the University's commitment to excellence and equity, while affirming the shared values that make community life possible. Students with alleged violations of the Student Conduct Code should contact the Office of judicial affairs to receive further information on disciplinary procedures.

I. Authority for Student Discipline

Ultimate authority for all University policies is vested in the Board of Trustees of the American University of Nigeria. Nonacademic disciplinary authority has been delegated by the President to the Dean of Students to implement student conduct policies and take all necessary and appropriate action(s) to protect the safety and well-being of all members of the American University of Nigeria community.

In practice, the resolution of nonacademic disciplinary cases may involve an array of the University administrators, committees of students, staff, and faculty. Such resolutions or decisions are forwarded to the Dean of Students as recommendations. Students are expected to assume positions of responsibility in the University judicial system in order to contribute their skills and insights to the resolution of disciplinary cases. The University reserves the right to amend this Student Conduct Code at any time according to the established procedures.

II. Responsibilities and Rights

- A. Every student has a duty to read, understand and abide by the rules and regulations of the University. Ignorance of a rule or regulation will not be an acceptable defense. Students accused of disciplinary violations are entitled to the following procedural protections:
1. To be informed of the charges against them;
 2. To request an informal resolution of the case;
 3. To be allowed reasonable time to prepare a defense;
 4. To hear and respond to evidence upon which a charge is based;
 5. To call relevant witnesses and question the witnesses who testify in Code violation proceedings;
 6. To be assured of confidentiality according to the terms of the University policy on confidentiality;

7. To request that any person conducting a disciplinary conference, or serving as a Conduct Council member or Hearing Administrator, be disqualified on the grounds of personal bias;
8. To be provided with an opportunity to review these rights before any disciplinary conference or hearing;
9. To be considered not responsible for the charges until found responsible by a preponderance of evidence; and
10. To have reasonable access to the case file prior to and during the disciplinary conference or hearing.

III. Jurisdiction

The Student Code of Conduct is the University's policy for nonacademic conduct offenses and applies to all students, student groups, and student organizations at AUN.

The University retains jurisdiction over alleged infractions that occur during a student's matriculation or attendance at the University, including Fall, Spring, and Summer breaks and periods of leave of absence from the University. Therefore, a hearing may be scheduled after a student has completed a program, withdrawn, or graduated from the University.

Generally, the University will take disciplinary action for on-campus infractions of the Code. However, the University may take disciplinary action for off-campus infractions of the Code, when a student's behavior threatens or endangers the safety and well-being of the University community; when a student is the subject of a violation of local, state, or federal law; or when, in the judgment of the University officials, a student's alleged misconduct has a negative effect on the University's pursuit of its mission or on the well being of the greater community.

IV. Violations of Laws and Regulations of the University

Students may be accountable both to civil authorities and to the University for acts that constitute violations of law and of this Code. The University reserves the right to initiate disciplinary proceedings where the conduct of the student is unbecoming of a fit and proper person worthy of the University's degree recommendation.

V. Definitions

A. *"Aggravated violation"*—a violation that resulted, or could have resulted, in significant damage to persons or property or which otherwise posed a substantial threat to the stability and continuance of normal University, or University-sponsored, activities.

B. *"Consent"*—words, or acts of conduct, indicating a freely given agreement to have sexual intercourse or to participate in sexual activities. Sexual contact will be considered -without consent,|| if no clear consent, verbal or nonverbal, is given; if inflicted through force, threat of force, or coercion; or if inflicted upon a person who is unconscious or who otherwise reasonably appears to be without the mental or physical capacity to consent.

C. *"Disciplinary Conference"*—a forum in which a hearing officer meets with a student to adjudicate an alleged violation of the Code.

- D. *“Disciplinary Hearing*—a forum in which a panel of the Conduct Council meets with a student to adjudicate an alleged violation of the Code.
- E. *“Disorderly*—conduct which a reasonable person under similar circumstances should be expected to know would disturb the peace.
- F. *“Group*—persons who are associated with each other, but who have not complied with University requirements for recognition as an organization.
- G. *“Harassment*— a form of discrimination consisting of physical or verbal behavior that:
- (i) is directed at an individual because of the individual’s age, ancestry, color, disability or handicap,
national origin, race, religious creed, sex, sexual orientation, gender identity or other status;
and
 - (ii) is sufficiently severe or pervasive so as to substantially interfere with the individual’s employment,
education or access to University programs, activities and opportunities.
- H. *-Hearing Administrator* – a staff member who conducts disciplinary hearings as set Fourth in section XV of this Code.
- I. *“Hearing Officer* — a staff member who conducts disciplinary conferences as set Fourth in Sections XIV of this Code.
- J. *“Jurisdiction* - the ability to hear and decide a case.
- K. *“Institution”* and *“University*— American University of Nigeria and all of its undergraduate and graduate departments and programs.
- L. *“Organization*—an association of persons that has met University requirements for formal recognition.
- M. *“Preponderance of evidence*—a measure of proof that a reasonable person would accept as -more likely than not|| that a fact is true or an incident occurred.
- N. *-Sexual violence*—any act of sexual intercourse or sexual penetration of any orifice of the body with a body part or other object that takes place against a person’s will or without consent or that is accompanied by coercion or the threat of bodily harm. [Also see -consent||]
- O. *“Reckless*—conduct which a reasonable person under similar circumstances should be expected to know would create a substantial risk of harm to person(s) or property or which would otherwise be likely to result in interference with normal University or University sponsored activities.

P. *“Relevant”—*related to the charges at hand. Relevant information may be excluded by a hearing officer or administrator during a disciplinary conference or hearing if it is unfairly prejudicial.

Q. *“Sexual harassment”—*unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature when: submission to such conduct is made explicitly or implicitly a term or condition of a person’s employment or academic advancement; submission to or rejection of such conduct by a person is used as the basis for employment decisions or academic decisions affecting such a person; or such conduct has the purpose or effect of unreasonably interfering with a person’s work or academic performance or creating an intimidating, hostile, or offensive working or academic environment. [Also see Sexual Discrimination and Harassment Policy]

R. *“Stalking”—*repeated and unwanted contact directed at any person, including contact by electronic means or by proxy, or the credible threat of repeated contact with the intent to place a reasonable person in fear for his or her safety or the safety of his or her family or close acquaintances.

S. *“University Premises”—*buildings and grounds owned, leased, operated, controlled, or supervised by the University.

T. *–University Sponsored Activity—*any activity, on or off University premises, that is specifically initiated or supervised by the University.

U. *“Weapon”—*firearms, fireworks, explosives, metal knuckles, knives, or any other instrument designed, used or intended to be used to inflict injury to person or property.

V. *“No Contest”—*where the respondent neither admits nor disputes charges. Serving as an alternative to pleading guilty or not guilty.

VI. Prohibited Conduct

This Code is not written with the specificity of a criminal statute, nor is it intended to cover every instance of potentially prohibited conduct. American University of Nigeria expects its students, wherever they are, to adhere to high standards of honor and good citizenship and to conduct themselves in a responsible manner that brings credit to themselves and the University.

Attempting to commit; aiding, abetting or inciting others to engage in any prohibited conduct is punishable under this Code and may be considered as serious as engaging in the violation itself. Retaliating against anyone who reports an alleged violation of the Code, a witness or participant in any Code proceeding or investigation is also prohibited.

The following misconduct is subject to disciplinary action:

A. *Physical Abuse/Endangerment of a Person:* Includes but is not limited to physical assault causing bodily injury or harm, conduct which threatens or endangers the health or safety of any person(s), facilitating or participating in any mental or physical activity that creates a reasonable apprehension of harm.

B. Sexual Misconduct: Prostitution, engaging in lewd or indecent conduct and all forms of nonconsensual sexual activity including sexual violence; and sexual abuse such as unwanted sexual touching or fondling.

C. Harassment or Stalking: See “Definitions” section above.

D. Weapons: Using, possessing, distributing or manufacturing a material or device offensive or likely to be used to cause injury to another. No person shall possess, use or carry any weapon, ammunition or explosive unless specifically authorized by the University.

E. Safety Hazards: Unless explicitly authorized by the University any possession, use, carrying, manufacturing and/or distribution of fireworks on University property is forbidden. Tampering/interfering with fire or other safety equipment or setting unauthorized fires is also prohibited.

F. Property Offences: Stealing of property or services; knowingly possessing stolen property; willful or reckless destruction or defacement of property of the University or members of the University community;

G. Unauthorized Entry or Use: Entry, attempt to enter, or remaining without authority or permission in any University office, residence hall room, University sponsored event, or University premises; unauthorized use/abuse of University computer equipment, networks, systems, services, corporate name, logo, or symbols.

H. Alcohol/Drugs/Substance Abuse: Violation of University policies pertaining to substance abuse, use, possession, manufacturing, sale or distribution of any controlled substance, alcohol, illegal drug and/or illegal drug paraphernalia. It is also a violation for a student to be in the presence of any person(s) engaging in substance abuse, use of illegal drugs or alcohol on University premises contrary to established policies.

I. Providing False Information: Knowingly providing false statements about a Code violation or during a University investigation/proceeding; intentionally providing or causing to be initiated any false report, warning, or threat of fire, explosion, or other emergency.

J. Fraud/Forgery: In University matters not covered by the Academic Integrity Code – dishonesty; misrepresentation; fraud; forgery; or knowingly using false information, documents, or instruments of identification. This includes but is not limited to falsifying residence hall contracts, stealing another’s identity, forging a permit and misuse of official forms and meal tickets.

K. Disrupting University Activities: Intentionally or recklessly interfering with normal University or University sponsored activities, including but not limited to studying, teaching (including class sessions or office hours), research, University administration; or fire, police, or emergency services.

L. Unruly Conduct: Disorderly conduct including participating in a riot or interfering with the rights of others.

M. Failure to Comply: Willfully failing to comply with the directions of University officials, including public safety personnel or housing staff members who act in performance of their duties; violating the terms of any disciplinary sanction imposed in accordance with this Code.

N. Violations of University Regulations: Violation of other published nonacademic University regulations or policies including but not limited to gambling or gaming unbecoming of a University student; policies related to discrimination and discriminatory harassment, computer use, the residence halls, hazing, bullying, unauthorized use of vehicles, littering, and amplification of sound.

O. Violations of Law: Violation of local, state, or federal law that substantially affects the University's mission or interest.

VII. Standards of Classroom Behavior

Primary responsibility for managing the classroom environment rests with the faculty. Students who engage in any prohibited or unlawful acts that result in disruption of a class may be directed by the faculty member to leave the class for the remainder of the class period. Longer suspensions from class or dismissal on disciplinary grounds for prohibited conduct under section VI of this Code may include interim suspension, as set Fourth in Section IX. All other violations under section VI of this Code must be preceded by a disciplinary conference or hearing, as set Fourth in Sections XIV and XV of this Code.

Academic dishonesty allegations are processed in accordance with procedures set Fourth in the Academic Integrity Code. Students could be subject to both the Student Code of Conduct and the Academic Integrity Code in cases where there is a combination of alleged violations of academic and nonacademic regulations. Where there is any conflicts whether procedurally or otherwise, the Director of Judicial Affairs will put up a recommendation to both the DSA and Academic VP or those in charge.

VIII. Student Groups and Organizations

Student groups and organizations may be charged with violations of this Code, as described below:

A. A student group or organization and its officers or members may be held collectively and individually responsible when violations of this Code by those associated with the group or organization have received the consent or encouragement of the group or organization or of the group's or organization's leaders or officers.

B. The officers or leaders or any identifiable spokesperson for a student group or organization may be ordered by the Dean of Students to take appropriate action designed to prevent or end violations of this Code by the group or organization. Failure to make reasonable efforts to comply with the Dean's order shall be considered a violation of this Code, both by the officers, leaders, or spokespersons for the group or organization and by the group or organization itself.

C. Sanctions for group or organization misconduct may include revocation or denial of registration or recognition, as well as other appropriate sanctions.

D. Student organizations, may appoint panels or boards to mediate disputes and enforce association bylaws. Decisions or recommendations by such panels or boards do not constitute official action by the University.

IX. Interim Suspension

The Dean of Students or his/her designee may suspend a student from the University for an interim period pending disciplinary or criminal proceedings or a proceeding investigation or medical evaluation regarding the behavior relevant to such proceedings. The interim suspension will be effective immediately without prior notice whenever there is evidence that continued presence of the student at the University poses a substantial and immediate threat to him or herself, to others, or to the stability and continuance of normal University functions. Interim suspension excludes students from University premises and other privileges or activities. A student suspended on an interim basis could be given a prompt opportunity to appear personally before the Dean of Students or designee in order to discuss the following issues only:

- (a) the reliability of the information concerning the student's conduct, including the matter of identity;
- (b) whether the conduct and surrounding circumstances reasonably indicate that the continued presence of the student on University premises poses a substantial and immediate threat to him or herself, to others, or to the stability and continuance of normal University functions.

X. Conduct Council

The Conduct Council will consist of students, faculty, and staff: students to be chosen by the Student Government Association; faculty to be chosen by the Faculty Senate or academic VP/Provost, and staff to be chosen by the Residence Hall Association or staff council. In addition, students, faculty, and staff may apply to become members of the Conduct Council by contacting their respective constituent units. The Dean of Students or his/her designee is responsible for training and providing administrative support to the Council. Among other duties, members of the Conduct Council will sit on hearing panels designed to resolve allegations referred for a hearing in accordance with Section XV of this Code.

A. The Conduct Council shall comprise of five (5) persons: one (1) student, two (2) faculty members, and two (2) staff members.

B. At the request of the Dean of Students or his/her designee, an *ad hoc* hearing panel of the Conduct Council may be established (selected from the existing Conduct Council or *bona fide* members of the AUN community) whenever a five-person hearing panel cannot be constituted, or is otherwise unable to hear a case. An *ad hoc* Conduct Council hearing panel may be composed of a minimum of three persons: one (1) faculty member, one (1) student member, and one (1) staff member of the Conduct Council (or *bona fide* members of the AUN community.)

C. The Conduct Council, or its *ad hoc* equivalent, shall have the power to render a decision by a simple majority, and the Chair or the Hearing Administrator, following reasonable deliberations, shall, on behalf of the panel, pronounce appropriate sanctions (sentence) as prescribed, or set Fourth in the —Offences and Sanctions Guidelines in certain circumstance, the Director of Judicial affairs or designee shall break a tie where such exist.

D. Members of the Conduct Council who are charged with any violation of this Code, other University policies, or a criminal offense may be temporarily suspended from their positions by the Dean of Students while charges against them are pending. Members found responsible for any such violation or offense may be disqualified from any further participation in the University discipline system. Additional grounds and procedures for removal may be established by the Dean of Students.

XI. Advisors

At their own discretion, complainants and respondents may be advised by an AUN student, faculty, or staff member. The role of advisors is limited to consultation. While advisors may be present at disciplinary conferences or hearings, they may not address hearing bodies, speak in disciplinary proceedings, or question witnesses. Because the purpose of this disciplinary process is to provide a fair review of alleged violations of this Code rather than a formal legal proceeding, participation of persons acting as legal counsel is not permitted

XII. Standards of Due Process

Students who may be subject to dismissal, suspension, or removal from the University housing will be referred to the Director of Judicial Affairs and will be responsible for their off-campus necessities including ticket back home. The Director, in consultation with the Dean of Students, may determine the case at first instance or refer it to a disciplinary hearing, as specified in Section XV of this Code. Students who may be subject to lesser sanctions for nonacademic misconduct will be referred to a disciplinary conference, as set Fourth in Section XIV of this Code. Formal rules of evidence will not be applied, nor will deviations from prescribed procedures necessarily invalidate a decision, unless significant prejudice to a student respondent or the University may result.

XIII. Procedures for Case Resolution

A. Mediation is encouraged as an alternative means to resolve some disciplinary cases. The Dean of Students will determine if mediation is appropriate. The Dean, at his or her discretion, may decline to process a complaint until the parties in a nonacademic misconduct case make a reasonable attempt to achieve a mediated settlement. To be binding in a disciplinary case, any mediated settlement must be approved by the Dean of Students. If mediation fails, the case will be forwarded for a disciplinary conference.

B. Any AUN student, faculty, or staff member may refer a student, student group, or organization suspected of violating this Code to the Director of Judicial Affairs. Those referring cases are normally expected to serve as the complainant and to present relevant evidence in hearings or disciplinary conferences. The complainant may request the assistance of an advisor, as set Fourth in Section XI of this Code. A written complaint must be filed with the Director of Judicial Affairs within 15 days

(excluding weekends, official University holidays, Fall and Spring breaks) of the occurrence or discovery of the alleged infraction(s). Complainants filing cases after the 15- day filing period may request in writing an extension of the filing period from the Director of Judicial Affairs. Requests for waivers of the filing period may be made up to one major semester (Fall or Spring) after the date of discovery of the alleged incident. In such cases, the Director will evaluate whether a reasonable person might be justified in filing after the 15-day period due to the nature of the charges alleged. The deadline for filing a case will also be extended if there is an alleged violation of the University's discrimination and discriminatory harassment policy, sexual discrimination and harassment policy, whistleblower policy, or a Conduct Code violation involving rape, sexual assault, or stalking. In such cases, the complainant will have one semester from the date of discovery within which to file a complaint as set Fourth in this Student Code of Conduct.

C. The Director of Judicial Affairs will conduct a preliminary review to determine whether the alleged misconduct, if proved, might result in dismissal, suspension, or removal from University housing. Students, who may be subject to removal from University housing, suspension, or dismissal, will have their case determined by the Director of Judicial Affairs who will then make recommendation to the Dean of Students, unless the Director refers the case to a Conduct Council panel. Students who are unlikely to be subject to removal from University housing, suspension, or dismissal will be referred to a disciplinary conference or a disciplinary hearing with a hearing officer (either the Director of Judicial Affairs or his/her designee), as set Fourth in Section XIV of this Code.

D. Students referred for a disciplinary hearing by the Director of Judicial Affairs may elect to have their cases resolved in a disciplinary conference in accordance with Section XIV of this Code. Such an election must be in writing, affirming that the student is aware a hearing is being waived. The full range of sanctions may be imposed, including removal from the University housing, suspension, or dismissal from the University. Both the findings and the sanctions determined by the hearing officer will be regarded as recommendations to the President or his/her designee in the case of removal from University housing, suspension, or dismissal.

E. Hearing panel members, complainants, and respondents will have the right to question relevant witnesses who testify at disciplinary hearings.

F. The University may withhold awarding a diploma or degree otherwise earned until the completion of the process as set Fourth in this Code, including the completion of all sanctions imposed, if any. Withholding of a diploma or degree means the withholding of a diploma or degree otherwise earned for a defined period of time or until the completion of assigned sanctions.

XIV. Procedures for Disciplinary Conferences (Minor offences)

Students accused of nonacademic offenses that will likely result in penalties less than removal from the University housing, suspension, or dismissal could be subject to a disciplinary conference with a hearing officer. The Director of Judicial Affairs or designee will serve as the hearing officer and conduct the disciplinary conference. Any party may challenge a hearing officer on the ground of personal bias. The hearing officer may be disqualified by the Dean of Students.

The hearing officer will make inquiries into evidence if necessary to ensure a just outcome of the case. Respondents who fail to appear after proper notice will be deemed to have pled no contest to the charges pending against them. Nonetheless, the complainant will be required to file a case that meets the standard of a preponderance of evidence.

In complex cases, the Director of Judicial Affairs, at his or her discretion, may refer the case to a disciplinary conference board. Such Conference board members, as opposed to the Conduct Council, will be selected by the Dean of Students. The board will consist of one hearing officer and two Conduct Council members, including at least one student.

Decisions of the disciplinary conference board are determined by majority vote and are final. The Dean of Students will review all disciplinary conference decisions to ensure their procedural integrity and consistency with the outcomes of prior disciplinary cases. In cases of minor violations where the Dean of Students serves as the hearing officer, the President or his/her designee will conduct the review.

The following procedural protections are provided to respondents in disciplinary conferences:

A. written notice of the specific charges at least three business days prior to the scheduled conference with additional time at the discretion of the Director of Judicial Affairs;

B. reasonable access to the case file prior to and during the conference; C. an opportunity to respond to the evidence;

D. a right to be accompanied by an advisor, as provided in Section XI of this Code

XV. Procedures for Disciplinary Hearings (Major offences)

The Director of Judicial Affairs will consult the Dean of Students before deciding any disciplinary hearing case or referring such case to a Conduct Council panel.

In cases before the Conduct Council:

A. The Dean of Students or designee may participate in hearing panel deliberations and discussions of the Conduct Council but cannot vote. The Council Chair is responsible for final decisions on all procedural issues and may modify hearing procedures, if necessary, to ensure a fair and expedient administration of the hearing.

B. The Director of Judicial Affairs shall serve respondents notice of the hearing date and the specific charges against them at least five business days in advance of the hearing. Respondents will be accorded reasonable access to the case file, which will be retained in the office of the Director of Judicial Affairs.

C. Respondents who fail to appear after proper notice will be deemed to have pled no contest to the charges pending against them. Nonetheless, the complainant will be required to present a case that meets the standard of a preponderance of evidence.

D. All hearings are closed to the public. The Director of Judicial may allow certain required persons to attend a hearing.

E. The hearing administrator will exercise control over the proceedings to avoid needless consumption of time and to achieve orderly completion of the hearing. Any person -including the respondent- who disrupts a hearing may be excluded by the hearing administrator.

F. The University will make audio recordings of hearings. A transcript of the hearing will be provided, upon written request by the respondent, who must pay for the cost of the transcript service.

G. Any party may challenge a panel member or the hearing administrator on the grounds of personal bias. Hearing panel members may be disqualified by the hearing administrator. A hearing administrator may be disqualified by a majority vote of the members of the hearing panel. Votes will be taken by secret ballot.

H. Witnesses will be asked to affirm that their testimony is truthful and may be subject to charges of violating this Code by intentionally providing false information to the University.

I. Witnesses, other than the complainant and the respondent, will be excluded from the hearing except when providing testimony to the hearing panel. All parties, the witnesses, and the public will be excluded during panel deliberations, which will not be recorded or transcribed.

J. The charges against the respondent must be established by a preponderance of evidence.

K. Formal rules of evidence will not be applicable in disciplinary proceedings conducted pursuant to this Code. The hearing administrator will abide by the rules of confidentiality and privilege, but will admit all other matters into evidence which are relevant. The respondent may challenge the relevance of evidence. Irrelevant or unduly repetitious evidence may be excluded by the hearing administrator.

L. Complainants and respondents will be accorded an opportunity to ask relevant questions of witnesses who testify at the hearing.

M. Affidavits will be admitted into evidence only if signed by the affiant and witnessed by the Dean of Students or his/her designee.

N. A determination of responsibility will be followed by a supplemental proceeding in which either party may submit relevant evidence or make relevant statements concerning the appropriate sanction to be imposed. The past disciplinary record of the respondent will be supplied to the panel only during the supplementary proceeding.

O. Any determination of responsibility by majority vote of the hearing panel will be supported by written findings, which will be placed in the case file and made available to the student respondent before a final decision is rendered by the Dean of Students.

P. All members of the conduct council are bound by confidentiality before hearings and after the proceedings

XVI. Sanctions

Significant mitigating or aggravating factors will be considered when sanctions are imposed, including the present demeanor and past disciplinary record of the offender, the nature of the offense, and the severity of any damage, injury, or harm resulting from it. Repeated or aggravated violations of any part of this Code may also result in relocation or removal from University housing, suspension, or dismissal. Sanctions which may be imposed in accordance with this Code include, but are not limited to:

A. *"Apology Letter"* – a written admission of guilt requesting forgiveness from the complainant or offended party. A copy of the letter will be kept in the case file.

B. *"Warning"*—notice, oral or written, that continuation or repetition of prohibited conduct may be cause for additional disciplinary action.

C. *"Censure"*—a written reprimand for violation of specified regulations, including a warning that continuation or repetition of prohibited conduct may be cause for additional disciplinary action.

D. *"Alcohol/Drug/Substance Abuse Education Program"* – requirement to complete a University or University approved education program on alcohol/drug/substance abuse. Students sanctioned under this heading will be required to pay for all attendant costs.

E. *"Disciplinary Probation"*—status assigned for a designated period of time, during which any other violation of the Code may result in removal from University housing, suspension, or dismissal from the University. Students on disciplinary probation may not hold or run for any elected or appointed positions. Additional conditions appropriate to the violation may be imposed.

F. *"Restitution"*—repayment of the direct cost to the University for damages resulting from a violation of this Code.

G. *"Relocation in University Housing"*—administrative reassignment to a different residence hall and/or room.

H. *"Removal from University Housing"*—denial of housing privileges.

I. *"Suspension"*—exclusion from University premises and other privileges or activities for a specified period as set Fourth in the suspension notice. This action will be permanently recorded on the student's academic transcript.

J. *"Expulsion"*—permanent termination of student status and exclusion from University premises, privileges, and activities. This action will be permanently recorded on the student's academic transcript.

K. *“Revocation of Degree”*— rescinding a student’s degree awarded by the University.

L. *“Other Sanctions”*—other sanctions may be imposed instead of or in addition to those specified in sections (A) through (K) of this section. Service or research projects may be assigned.

Sanctions by the code of conduct council are to be considered as recommendations to the Dean of Students and are not final.

XVII. Appeals

First instance disciplinary hearing decisions of the Conduct Council are appealable to the appeal board while disciplinary conference decisions are to the Dean of Students who may refer the appeal to the Conduct Council. All appeals shall be in keeping with the following provisions:

A. The appeals to the appeal board/panel must be in writing and delivered to judicial affairs to be processed for the appeal board’s hearing within seven business days after the notice of removal from the University housing, suspension, or dismissal is delivered to the address on record for the student in the Office of the Registrar.

B. Appeals will be reviewed by an appellate board of the Conduct Council to determine their viability. The appellate board will consist of one student, one faculty member, and one staff member selected from the Conduct Council. In appeal cases from Conduct Council decisions the appellate panel will be constituted of members who did not serve on the original hearing panel. The appellate board will meet as soon as possible after the appeal is received.

C. The appellate panel will determine viability based on whether there is new information that significantly alters the finding of fact, evidence of prejudicial deprivation of rights or improper procedure, or excessive sanctions. Only when deemed viable will the appeal be forwarded to the Conduct Council or the Dean of Students, as the case may be, for review. Decisions of the appellate board about the viability of the appeal are determined by majority vote and are final.

D. The appellate panel may deny the request for appeal and affirm the original findings or grant the request for appeal and forward its recommendations to the Dean of Students or his/her designee.

Appeals are not meant to provide a second hearing of the case. All appeals will be decided based on the report filed by the hearing officer and the appellate board, the respondent’s written statement, and any written response or memoranda prepared by University officials. All written materials considered by the appellate board and the Dean of Students or his/her designee will be subject to inspection by the respondent. The respondent may request an opportunity to discuss the written materials in person with the Dean or his/her designee. Appeal decisions rendered by the Conduct Council or the Dean of Students or his/her designee are final.

F. The following standards will apply when appeals are deemed viable:

1. Sanctions may be reduced only if found to be substantially disproportionate to the offense.

2. Cases may be remanded for rehearing only if:

- (a) The rights deprived, specified procedural errors or errors in interpretation of the University regulations were so substantial as to deny the student a fair hearing; or
- (b) New and significant evidence becomes available that could not have been discovered by a properly diligent student before or during the original hearing.

G. The imposition of sanctions will be deferred while an appeal is pending, unless, in the discretion of the Dean of Students or his/her designee, the continued presence of the student in the residence halls or on the campus poses a substantial threat to him or herself, to others, or to the stability and continuance of normal University functions.

XVIII. Disciplinary Records

Except as noted below, disciplinary records are maintained by Office of the Judicial Affairs for seven years from the date of the letter providing notice of final disciplinary action. Records for a student who is suspended, dismissed, or who withdraws with a disciplinary case pending are maintained indefinitely. Evidence collected for cases shall also form part of disciplinary records. The university reserves the right to confiscate any student item(s) that is/are associated with a reported matter for investigation/hearing/any cogent concern. Such item(s) may be kept in the custody to the Office of Judicial Affairs indefinitely.

ANNEX 1:

Residence Halls Regulations

These are implementing regulations, based on AUN's Student Conduct Code, and are incorporated as an addendum to that document. Violations of these regulations may result in referral to Dorm council for reviews and appropriate action and to the Dean of Students for approval and sanctions. The residence halls include the halls and any areas contiguous to the halls. Engaging in prohibited conduct may be a violation of both the Student Conduct Code and the residence hall regulations.

Responsibility for Damage

Residents will be held responsible for damage to residence hall buildings or furniture and will be billed for repair or replacement where they have caused damage in their own rooms or in common areas. In the event of willful damage to the common areas located in the immediate vicinity of a student's room, or to the furnishings or facilities located therein, if the willful perpetrators of such damage cannot be identified, all resident students served by that common area may be assessed for repair or replacement costs.

Responsibility for Guests

Residents will be held responsible for the behavior of their guests and any other persons in their residence hall rooms, pertaining to the regulations for conduct at AUN, and may be charged in lieu of the guest or visitor with violating the respective sections of these policies.

The following conduct is expressly prohibited: I. Related to Residence Hall Security

1. To enter any residence hall without showing proper access identification to a housing staff member, or upon the request of a staff member.
2. For any visitor not escorted by a resident of that hall to fail to leave the building upon the request of any housing or University staff member.
3. For any visitor to pass the front desk and enter the building without an escort by either a resident of that hall, or a housing or University staff member.
4. To escort or permit entrance to any nonresident of a residence hall who is not known to the student or for whom the student does not assume responsibility as a guest.
5. To prop open outside doors or exit ways without the permission of a housing staff member.
6. To use any marked fire exit except during a fire alarm.
7. To block any fire door or fire exit.
9. To duplicate any room key or access card.
10. To fail to return a spare key within 10 minutes of signing it out at the front desk.
11. To fail to return room keys upon vacating a room.
12. To go behind the reception desk in any residence hall without authorization from the resident director.
13. To enter or exit the residence hall through a window when no emergency is present.
14. To enter restricted areas including, but not limited to, building roofs.

II. Related to Fire Codes

1. To set any fire within the buildings or areas contiguous to the buildings.
2. To use any halogen lamp, broiler oven, electric coffee maker, popcorn popper, microwave oven, hotplate, open burner, or electric water heating device in student rooms, on carpeted floors, in hallways, or other non-designated areas.
3. To cook indoors with charcoal or any open flame device.
4. To possess or burn any candle or incense indoors.
5. To keep any refrigerator with an electrical requirement exceeding seven (7) amps or its equivalent.
6. To fail to immediately evacuate the buildings properly when a fire alarm has sounded or to reenter any building during a fire alarm before receiving permission from a housing or Office of Security staff member.
7. To tamper with fire equipment, or to carry or remove fire extinguishers from their mounts or storage boxes except in case of a fire.
8. To pull or activate any fire alarm when no fire is present, or to falsely report any fire or other emergency.
9. To use electrical lights and appliances totaling more than 850 watts in a student room at any one time.
10. To disconnect, sound, or otherwise tamper with any smoke detector.
11. To run electrical wires beneath any rug or carpet.
12. To smoke anywhere other than in areas where smoking is permitted. Smoking is prohibited in all public areas.

III. Related to Property

1. To remove furniture from any common area without authorization of housing staff.
2. To keep any unauthorized student furniture designated for other areas in student rooms.
3. To keep waterbeds in student rooms.
4. To keep any pet, except fish, in student rooms
5. To remove any wall-mounted furniture.
6. To mark or deface any surface (e.g., door, wall, carpet).
7. To mark, deface, steal, harbor, or damage any property belonging to the University, any hall, resident, or commercial vendor (such as vending machines, video games, washing machines, dryers, or telephone equipment).

IV. Other Prohibited Conduct.

1. To engage in any disorderly conduct or to interfere with the rights of other students in their academic pursuits. This specifically and especially pertains to other residents' rights to an environment conducive to study and to sleep.
2. To engage in sports activity within the residence halls.
3. To engage in sports activity or to create excessive noise within 50 feet of any residence hall.
4. To shout or to otherwise create disturbances from any residence hall window or entrance.
5. To create excessive noise by any means. This will include playing loudspeakers through room windows at any time and noise audible outside a student room or in public areas, especially,

but not limited to after 11 p.m. Sunday through Thursday, or past 1 a.m. on weekends. These times are considered quiet hours.

6. To drop or throw any object or any liquid from windows.
7. To keep dangerous materials, including but not limited to, firearms, air or CO2-powered weapons, fireworks, and dangerous weapons.
8. To sell, distribute, use, or possess any illegal drug or drug paraphernalia in the residence halls.
9. To knowingly and voluntarily be in the possession of any illegal drug(s) or drug paraphernalia in the University premises.
10. To violate University policies pertaining to the sale, distribution, use, or possession of alcohol in the residence halls.
11. To refuse to follow a directive from a housing staff member when acting in the performance of his or her duties.
12. To solicit, canvass, post, or distribute any materials within the residence halls without the approval of the resident director or to violate University or residence hall posting policies.
13. To have an overnight guest without the roommate(s)'s written consent; overnight guest(s) of the opposite sex are prohibited in segregated dorms.
14. To have a guest visit in the residence halls for longer than a one (1) day period. Repeated visits by guests over extended periods may be considered unauthorized occupancy of a room by the guest. The University reserves the right to prohibit repeated, extended visits.
15. Violations shall be handled by the Director of Judicial Affairs or his/her designee

ANNEX 2:

UNIVERSITY CODES, POLICIES, AND GUIDELINES:

Acquired Immune Deficiency Syndrome (AIDS) Policy and Guideline

It is the policy of the American University of Nigeria to provide equal treatment to (and not to discriminate against) persons who have contracted the AIDS virus or AIDS-related conditions. Further, the University policy does not allow discrimination based on the perception that a person has one of the above, or the perception that he or she is more likely than other members of the general population to contract one of the above due to his or her membership in a protected class identified as being at high risk, or due to an individual's responsibility for a person in one of the above categories.

The University has a moral commitment to its employees and students, and intends to show compassion and understanding toward individuals with HIV, AIDS Related Complex (ARC), or AIDS.

The term –HIV as used in this policy refers to all three (3) preceding conditions.

Definition: The Human Immunodeficiency Virus (HIV) is a fragile virus that will live outside the human body for only a short time. The virus is transmitted through the direct exchange of body fluids. This exchange may occur during intimate sexual relations, through contaminated blood or blood products, or through the sharing of contaminated needles. No cases of AIDS have been reported from exposure through casual contact.

The following policies shall apply:

1. Students, faculty and staff with HIV will be allowed equal access to the University facilities or campus activities, including participation in academic, social, athletic, and cultural programs.
2. Students with HIV will have equal opportunity to obtain residential housing or special room assignments.
3. There will be no discrimination toward faculty and staff members with HIV in terms of employment at the University.
4. There will be no discrimination toward persons with HIV regarding admission to the University.
5. Faculty and staff members with HIV will be allowed to use sick leave and short-term and long-term disability on a basis equal to that of any person with a medical illness.
6. Confidentiality will be strictly maintained for anyone who receives testing or counseling by the Student Clinic. No information will be released to any other physician, health clinic, insurance company, or hospital without the written consent of the individual involved. Since AIDS is not spread through casual contact, the University is under no obligation to inform students or employees that a person has AIDS or a related illness.
7. The University will comply with all federal, state, and local laws and regulations protecting the confidentiality of medical and educational records. No employee or student of the University

may respond to requests for release of confidential information without prior consultation with the University counsel.

8. No information concerning a diagnosis or complaint can be provided to faculty, staff, students, parents, or the media without the prior express written consent of the individual.
9. The University will offer educational and informational programs to inform the community of the realities of AIDS:
 - a. The AUN Student Health Clinic has responsibility to address AIDS issues for the University community.
 - b. Students who have tested positive for HIV, and those concerned that they may be infected with HIV, are strongly encouraged to contact the Student Health Clinic. Confidential testing and counseling are provided by the Student Health Clinic. For those testing positive for HIV, personnel at the Student Health Clinic are available to discuss resources and provide assistance and referrals. Faculty and staff with HIV may also request confidential counseling from the Faculty and Staff Assistance Program. Further interpretation of these guidelines will be made on a case-by-case basis by the President or Provost or Vice-President of Finance and Treasurer in consultation with medical and the University counsel.

Amplified Sound Policy

Sound levels in the University buildings and amplification at outdoor events employing public address systems, loudspeakers, bullhorns, or musical amplifiers will be regulated by the following guidelines:

1. Sound emanating from the University buildings, residence halls, and outside facilities must not interfere with regular functioning of the University or the welfare of residential neighbors. The Department of Campus Security will respond to sound level complaints. If an unacceptable sound level persists, Campus Security will terminate the offending activity and may refer the case to the Office of the Dean of Students.
2. Amplification of sound during the University's normal working hours (i.e. class hours, the University-scheduled study days, final exam periods, special testing sessions, special University events, or during the hours of worship or sound amplification affecting the greater campus community (i.e. amplified events outdoors) is prohibited. Exceptions may be granted in certain areas of campus from 11:00 a.m.–2:00 p.m., Monday through Friday.

Exceptions to this general guideline will be made only by special permission arranged through the Office of the Dean of Students. Special consideration will be given to any academic or administrative programs in the vicinity of a proposed event. If special permission is granted, a sound level agreement will be negotiated. Violation of the agreement will result in immediate cancellation of the event by Campus Security. The case may be referred to the Office of the Dean of Students.

3. Sound amplification for a University-sponsored event affecting the greater campus community will be permitted under the following conditions:

A. Outdoor events using amplification will be coordinated by staff of the Office of the Dean of Students who will exercise professional judgment in determining the suitability of proposed entertainment for an outdoor campus site.

B. Events employing amplified sound will conclude no later than 9:00 p.m. (11:00 p.m. on Friday and Saturday nights).

C. During the event, University staff will measure the sound level along campus boundaries.

The Department of Campus Security will respond to complaints by contacting the person in charge of the event. If the Department of Campus Security receives additional complaints, the event will be cancelled and the case may be referred to the Dean of Students.

Computer Use and Copyright Policy

All AUN faculty, staff, and registered students are given computing and network access privileges (user profile). Each person is assigned a computer account code (user ID or user name) that provides access to University computing resources and systems for instructional, research, and administrative purposes. Access to these resources is a privilege, not a right. Resources include networks, laboratory systems, residence hall systems, library systems, faculty and staff office systems, and software licensed by the University or its agents for use on University systems.

Because the entire AUN community relies upon these systems to use and store important and confidential data, including software and computer programs, it is morally wrong and strictly prohibited for individuals to access or attempt to access or view any account, file, and/or software for which they do not have specific authorization. Also, it is prohibited to disrupt, delay, endanger, or expose someone's work or University operations.

Prohibited actions include, but are not limited to, the following:

- providing computer access to unauthorized persons (e.g., by loaning your account to someone else or disclosing someone's password to a third party);
- disrupting access to a computer system, network, or files (e.g., by crashing a public system; releasing viruses; attempting to learn or alter someone's password; tying up computer resources, printers or operating systems; or using computer systems for illegal activities);
- accessing or changing someone's files without permission;
- downloading or uploading unauthorized copyrighted materials;

- using e-mail or messaging services to harass or intimidate another person (e.g., by broadcasting unsolicited messages, repeatedly sending unwanted mail, or using another individual's name or user name); and the American University of Nigeria computing accounts are provided to assist in University and University-related work only. No commercial activity is permitted unless approved in advance and in writing by Information Technology.

Violations and Sanctions

Violations of this policy will be adjudicated by appropriate University processes and may result in the following sanctions:

- Temporary or permanent loss of access privileges;
- University judicial sanctions as prescribed by student, faculty, or staff behavioral codes, including dismissal or termination from the University;
- Remedial education;
- Monetary reimbursement to the University or other appropriate sources;
- Prosecution under applicable civil or criminal laws (violations of local, state and federal law may be referred to the appropriate authorities).

The University will take any action that in its sole discretion is necessary to investigate and address violations of this policy, including temporarily or permanently terminating computer use privileges pending the outcome of an investigation or a finding that this policy has been violated.

Network Security

In order to provide secure electronic communications, the University must protect the physical and logical integrity of its networks, systems, data, and software. Some potential security threats include unauthorized intrusions, malicious misuse, and inadvertent compromise.

Each account is assigned to a single individual, who is responsible for all computer usage under that account. Any attempt to circumvent or subvert system or network security measures is prohibited. In the event of alleged or detected prohibited activities, the University will pursue the owner of the account. Individual passwords should be kept secret and changed periodically to prevent unauthorized access. Students must promptly report any suspicious illegal or unethical usage or activities executed via the AUN network to Judicial Affairs whether as an act committed by oneself or by another individual(s).

Privacy

As a matter of course, University IT staff does not look into private, individual accounts and data. However, the University reserves the right to view or scan any file, email, data or software stored on University systems or transmitted over University networks. This will be done periodically to verify that software and hardware are working correctly, to look for particular kinds of data or software (such as computer viruses), or to audit the use of University resources. Policy violations discovered in this process will be acted upon.

Electronic mail and messages sent through computer networks, including the Internet, may not be confidential while in transit or on the destination computer system. Any data on University computing

systems may be copied to backup devices periodically. IT will make reasonable efforts to maintain confidentiality, but individuals may wish to encrypt their data. If encryption software is used, the individual is responsible for it.

Traffic Policies

All students are required to adhere to all traffic regulations on AUN campus. These are AUN, local, state, and federal regulations.

- A. Student campus driving is a privilege, not a right. As such, only documented Third Year and graduating Fourth Year have the driving privilege. Driving privilege on University grounds is limited to duly registered vehicles.
- B. Authorized vehicle operators on University grounds must carry a valid driver licence, current vehicle insurance, and a valid AUN student ID. Violator may receive a monetary fine, or a written warning. Repeat violators shall lose their driving privilege immediately and may be handed to the police for further actions.
- C. Authorized vehicle operators involved in driving accidents resulting from reckless driving may, apart from losing their driving privilege, may be handed over to the police for further action.

ACADEMIC INTEGRITY CODE

Preamble

The central commitment of the American University of Nigeria (AUN) is to develop thoughtful and responsible human beings with the highest moral and ethical standards, within the context of a very diverse yet collaborative academic environment. This commitment is founded on the following core values of the University: Tolerance and understanding among national, ethnic, and religious groups; Freedom of Expression; Non-discrimination in the admission and employment processes with regard to gender, age, religion, nationality, ethnicity, physical ability, political affiliation, or personal relationships. Excellence and integrity are the core principles that guide us.

This Academic Integrity Code is designed to benefit and assist the AUN community in forming the highest standards of ethics and morals among its members. It is designed to foster the University's commitment to excellence and equity, while affirming the shared values that make community life possible. Students with alleged violations of the Academic Integrity Code should contact the Office of the Dean of their respective program to receive further information on disciplinary procedures.

I. Authority for Academic Integrity

Ultimate authority for all University policies is vested in the Board of Trustees of the American University of Nigeria. Academic disciplinary authority has been delegated by the President to the Academic Vice-President.

Primary responsibility for ensuring academic honesty rests with the faculty. In practice, the resolution of academic integrity cases may involve an array of the University administrators, committees of students, staff, and faculty. Students are expected to assume positions of responsibility in the University judicial system in order to contribute their skills and insights to the resolution of academic integrity cases. The University reserves the right to amend this Academic Integrity Code at any time according to the established procedures.

II. Responsibilities and Rights

A. Every student has a duty to read, understand and abide by the rules and regulations of the University. Ignorance of a rule or regulation will not be an acceptable defense. Students accused of Academic Integrity Code violations are entitled to the following procedural protections:

1. To be informed of the charges against them;
2. To request an informal resolution of the case;
3. To be allowed reasonable time to prepare a defense;
4. To hear and respond to evidence upon which a charge is based;
5. To call relevant witnesses and question the witnesses who testify in Code violation proceedings;
6. To be assured of confidentiality according to the terms of the University policy on confidentiality;
7. To request that any person conducting an integrity session, or serving as an Integrity Council member be disqualified on the grounds of personal bias;
8. To be provided with an opportunity to review these rights before any integrity session or hearing;

9. To be considered not responsible for the charges until found responsible by a preponderance of evidence; and
10. To have reasonable access to the case file prior to and during the integrity session or hearing.

III. Jurisdiction

The Academic Integrity Code (–Integrity CodeII) is the University’s policy for academic integrity offenses and applies to all students, student groups, and student organizations at AUN.

The University retains jurisdiction over alleged infractions that occur during a student’s matriculation or attendance at the University, including Fall, Spring, and Summer breaks and periods of leave of absence from the University. Therefore, a hearing may be scheduled after a student has completed a program, withdrawn, or graduated from the University.

Generally, the University’s jurisdiction is invoked where the alleged violation relates to any academic endeavor administered, in whole or in part, by AUN, including but not limited to examinations, research papers, projects, internships, study abroad programs and other credit bearing activities or programs. Nothing in this section shall construe the University’s jurisdiction to take action when, in the judgment of the University officials, a student’s alleged misconduct has a negative effect on the University’s pursuit of its mission or on the well being of the greater community.

IV. Academic Integrity Code Infractions

This Integrity Code is not written with the specificity of a criminal statute, nor is it intended to cover every instance of potentially prohibited conduct. American University of Nigeria expects its students, wherever they are, to adhere to high standards of honor and good citizenship and to conduct themselves in a responsible manner that brings credit to themselves and the University.

Attempting to commit; aiding, abetting or inciting others to engage in any prohibited conduct is punishable under this Integrity Code and may be considered as serious as engaging in the violation itself. Retaliating against anyone who reports an alleged violation of the Integrity Code, a witness or participant in any Integrity Code proceeding or investigation is also prohibited and shall be dealt with accordingly.

The following misconduct shall violate the Academic Integrity Code:

- A. *Plagiarism* – submitting the academic work of another as one’s own. Plagiarism includes but is not limited to fabricating citations, downloading from the internet, cutting and pasting information, using another’s idea/words without proper attribution; and fabricating any professional source or work as one’s own.
- B. *Copying* – copying an unsuspecting person’s work or collaborative/complicit copying; unauthorized passing of answers or notes during an exam; prohibited discussion of exam questions or answers.
- C. *Cheating* – using cheat sheets of any kind, pre-programming a device or loading prohibited material, or using text books or reference materials during a closed book examination.

- D. Unauthorized Submission of Previous Work* – submitting a paper, lab work or any other assignment that was previously submitted without authorization from the faculty member.
- E. Altering* – changing one’s own or another’s academic work/results in order to deceive or gain undue credit.
- F. Unauthorized Exam Possession/Purchase/Distribution/Sale/removal* – any possession, purchase, delivery, removal, distribution or sale of any academic material(s) without the faculty member’s permission or approval from designated office or person.
- G. Passing off* – Sitting in place of another to take a test or engage in any academic project or exercise or causing another person to do so on one’s behalf.
- H. Facilitating Academic Dishonesty* – causing, aiding or abetting academic dishonesty by another.
- I. Other Academic Misconduct* - this covers any other form of academic misconduct not contemplated in (A) – (H) above.

V. Procedures For Academic Dishonesty Cases Before The Faculty

- A. Whenever academic dishonesty is suspected, the faculty member will conduct preliminary investigations and will, if circumstances permit, give the student an opportunity to explain the conduct forming the basis of the allegation.
- B. If a preponderance of the evidence shows that the student violated this Integrity Code; the faculty member shall formally charge the student using the Academic Infraction Form. The Form will state the particulars of the charge, the evidence forming the basis of the charge and the sanction imposed. The faculty member will review the duly filled Academic Infraction Form with the student who has the option to:
 1. Accept the charge and the sanction;
 2. Accept the charge but not the sanction imposed; or
 3. Deny the charge.
- C. The faculty member may allow up to 5 business days (excluding University approved holidays and weekends) for the student to sign and return the Academic Infraction Form. If there are no extenuating circumstances, a student who does not sign and return the Academic Infraction Form by the specified deadline will be deemed to have accepted each charge and sanction imposed.
- D. If the student accepts the charges and the sanction the case is closed and the sanction takes effect immediately. The faculty member will notify all relevant parties including the Dean, the Registrar and the Academic Advising Department, by sending them a copy of the Academic Infraction Form.
- E. Where there is a dispute as to the charges or sanction imposed, the faculty member will refer the case to the Chair of the Academic Integrity Council which shall hear the case in accordance with the procedures under Section VI below.

- F. Faculty members may only impose academic sanctions for violations of the Academic Integrity Code. Cases that warrant disciplinary sanctions must be referred to the Academic Integrity Council under Section VI of the Integrity Code for final determination.

VI. The Academic Integrity Council

Any member of the AUN community may refer an alleged violation of the Integrity Code to the Academic Integrity Council (Integrity Council). The Integrity Council will consist of faculty and students: eight (8) faculty members chosen by the Faculty Senate or by the Provost/VP Academic; and one (1) students to be chosen by the Student Government Association. Once selected, members of the Academic Integrity Council will choose their Chair by a simple majority vote. The Academic Vice-President or his/her designee is responsible for training and providing administrative support to the Integrity Council. Among other duties, members of the Integrity Council will sit on integrity panel and adjudicate cases of first instance or alleged violations referred for a hearing in accordance with Section V of this Integrity Code. The Chair is the primary contact person for the Academic Integrity Council and will be responsible for general management of Integrity Council affairs including selecting members of integrity panels.

A. An integrity panel shall comprise of five (5) persons: four (4) faculty members and one (1) student. If possible, each School/College at AUN shall have at least one (1) faculty representative in the integrity panel. An Integrity Administrator shall be elected by a simple majority vote by members of the integrity panel. Whenever the Chair of the Academic Integrity Council sits on an integrity panel, he/she will serve as the Integrity Administrator. The Integrity Administrator is responsible for conducting the hearing and ensuring proper procedure is followed in the adjudication of cases before the integrity panel.

B. The Academic Vice-President or designee may establish an *ad hoc* integrity panel (selected from the existing Academic Integrity Council or *bona fide* members of the AUN community) whenever a five-person integrity panel cannot be constituted, or is otherwise unable to hear a case. An *ad hoc* Conduct Council hearing panel will be composed of a minimum of three persons: two (2) faculty members, and one (1) student member (or *bona fide* members of the AUN community.)

C. The Integrity Council, or its *ad hoc* equivalent, shall have the power to render a decision by a simple majority, and the Integrity Administrator, following reasonable deliberations, shall, on behalf of the panel, pronounce appropriate sanctions (sentence) as prescribed, or set Fourth in the -Offences and Sanctions Guidelines||

D. Members of the Integrity Council who are charged with any violation of this Integrity Code, other University policies, or a criminal offense may be temporarily suspended from their positions by the Academic Vice-President while charges against them are pending. Members found responsible for any such violation or offense may be disqualified from any further participation in the University disciplinary system. The Academic Vice-President may establish additional grounds and procedures for removal.

VII. Procedures for Integrity Panel Hearings

Any person accused of an academic offense that will likely result in sanctions such as assignment of F* grade, suspension or dismissal is subject to an integrity panel hearing before an Integrity Administrator. In all other cases brought by a member of the AUN community directly to the Academic Integrity Council; the Chair of the Council may, in his/her discretion, decide to constitute an integrity panel to determine the case, or he/she may decide to refer the case to the relevant faculty member for adjudication. In making this decision, the Chair shall give deference to the fact that faculty members acting in their capacity as teachers are well positioned to educate on matters of academic integrity based on the unique relationship between the faculty member and the student. Cases referred to the faculty member shall follow the procedures set Fourth in Section V of this Integrity Code. In cases before an integrity panel, the following procedures will apply:

- A. The student shall have the right to at least five (5) business days (excluding holidays and weekends) notice of the hearing.
- B. The student shall have the right to appear before the integrity panel to contest the charges and/or to provide additional relevant information.
- C. The student will have the right to an advisor; to examine relevant portions of the case file; to take notes; and to confront witnesses or respond to evidence presented.
- D. The student may waive his or her right to attend the hearing. In this case the integrity panel will rely on the written record, including submissions by the student, to reach a conclusion.
- E. The faculty member shall have the right to appear before the integrity panel to discuss the charge.
- F. The panel shall determine the case based on a preponderance of the evidence.
- G. If the panel determines that academic misconduct has occurred; the student's previous violation(s) of the Academic Integrity Code may be used in deciding the appropriate sanction only. A student's prior record will under no circumstances be used to determine guilt in a case of alleged academic dishonesty.
- H. The integrity panel may:
 - i. Affirm the charges and academic sanction proposed by the faculty member;
 - ii. Impose a new/different sanction; or
 - iii. Dismiss the case if there is insufficient evidence to support the charge.
- I. A written copy of the integrity panel's decision shall be given to the student and faculty member.
- II.
- J. The results of any integrity panel hearing shall be reported by the Integrity Administrator to the Chair of the Academic Integrity Council who will, in turn, notify the Academic Vice-President, Dean, Registrar, Department of Academic Advising and other relevant parties.

VIII. Appeals

Decisions of the Academic Integrity Council are appealable by either party (faculty member or student) to the Academic Vice-President. All appeals shall be in keeping with the following provisions:

- A. The appeal must be in writing and delivered to the Chair of the Academic Integrity Council within five (5) business days after the decision of the integrity panel is delivered to the address on record for the student in the Office of the Registrar.
- B. Appeals will be reviewed by an appellate board of the Academic Integrity Council to determine their viability. The appellate board will consist of at least three (3) but no more than five (5) members selected by the Chair from the Academic Integrity Council. The appellate panel will be constituted of members who did not serve on the original integrity panel. The appellate board will meet as soon as possible after the appeal is received.
- C. The appellate panel will determine viability based on whether there is:
 - i. new information that significantly alters the finding of fact;
 - ii. evidence of prejudicial deprivation of rights or improper procedure;
 - iii. Or a clear indication that the sanction(s) imposed is excessive.

Only when deemed viable will the appeal be forwarded to the Academic Vice-President or his/her designee for review. Decisions of the appellate panel about the viability of the appeal are determined by majority vote and are final.

- D. The appellate panel may deny the request for appeal and affirm the original findings or grant the request for appeal and forward its recommendations to the Academic Vice-President or his/her designee.

Appeals are not meant to provide a second hearing of the case. All appeals will be decided based solely on the case record which includes but is not limited to any reports filed by the faculty member, Integrity Administrator or appellate panel; the respondent's written statement; and any written response or memoranda prepared in the process of an academic integrity investigation or proceeding. All written materials considered by the appellate panel and the Academic Vice-President or his/her designee would be subject to inspection by the parties to the appeal. Nothing in this section shall prevent the Academic Vice-President or designee from discussing the written materials in person with the parties. Appeal decisions rendered by the Academic Vice-President or his/her designee are final.

- F. The following standards will apply when appeals are deemed viable:

- i. Sanctions may be reduced only if found to be substantially disproportionate to the offense.
- ii. Cases may be remanded for rehearing only if:
 - (a) The rights deprived, specified procedural errors or errors in interpretation of the University regulations were so substantial as to deny the student a fair hearing; or

(b) New and significant evidence becomes available that could not have been discovered by a properly diligent person before or during the original hearing.

G. The imposition of sanctions will be deferred while an appeal is pending, unless the Academic Vice-President or his/her designee determines that the circumstances require immediate enforcement of the sanction(s).

The University reserves the right to confiscate any student item(s) that is/are associated with a reported matter for investigation/hearing/any cogent concern.

IX. Sanctions

Significant mitigating or aggravating factors will be considered when sanctions are imposed, including the present demeanor and past disciplinary record of the offender; and the nature and severity of the offense. Sanctions, which may be imposed in accordance with this Integrity Code include, but are not limited to:

- A. *"Apology Letter"* – a written admission of guilt requesting forgiveness from the complainant or offended party. A copy of the letter will be kept in the case file.
- B. *"Warning"*—notice, oral or written, that continuation or repetition of prohibited conduct may be cause for additional disciplinary action.
- C. *"Censure"*—a written reprimand for violation of specified regulations, including a warning that continuation or repetition of prohibited conduct may be cause for additional disciplinary action.
- D. *"Grade Modification"* – includes reduced grade in the specific assignment to reduced grade in the course, entering an F (failing) grade for the specific assignment or entire course without a transcript notation of academic dishonesty.
- E. *"F* Grade"* – assignment of an F grade with a transcript notation that the failure is due to academic dishonesty. This sanction should be reserved for severe violations and can only be imposed by the Academic Integrity Council and/or the Academic Vice-President.
- F. *"Academic Probation"*—status assigned for a designated period of time, during which the student is required to abide by specified academic conditions and failure to do so may result in more severe sanctions being imposed.
- G. *"Document Review and/or Reflection Paper"*— the student may be required to review academic literature and write a research or reflection paper in order to compel exploration of a particular topic.

H. *"Suspension"*—exclusion from University premises and other privileges or activities for a specified period as set Fourth in the suspension notice. This action will be permanently recorded on the student's academic transcript.

I. *"Expulsion"*—permanent termination of student status and exclusion from University premises, privileges, and activities. This action will be permanently recorded on the student's academic transcript.

J. *"Revocation of Degree"*— rescinding a student's degree awarded by the University.

K. *"Other Sanctions"*—other sanctions may be imposed instead of or in addition to those specified in sections (A) through (J) of this section.

There shall be a comprehensive sanctioning guideline for code matters at all times. The responsibility for this shall rest on the judicial affairs office.

X. Record Keeping

The Office of the Judicial Affairs is responsible for central record keeping in academic integrity cases. The Registrar will only disclose such records in accordance with University regulations and policies on confidentiality and notification of third parties.

Code of Conduct allegations are processed in accordance with procedures set fourth in the Conduct Code. Students could be subject to both the Student Code of Conduct and the Academic Integrity Code in cases where there is a combination of alleged violations of academic and nonacademic regulations. Where there is/are any combinations of allegations (conduct and academic integrity) or conflicts whether procedurally or otherwise, the Director of Judicial Affairs will put up a recommendation to both the DSA and Academic VP or those in charge.

Appendix B

AUN SEXUAL HARASSMENT POLICY

Applicability:

This policy applies to all students, student bodies and organizations of the American University of Nigeria.

1. Introduction:

The American University of Nigeria is committed to providing students with an environment where they can pursue their studies without being sexually harassed. Sexual harassment of or by any member of the University community against a student(s) is unacceptable and will not be tolerated.

i. Purpose:

The purpose of this policy is defined as follows: unsolicited sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature constitute sexual harassment when: 1) submission to or rejection of such conduct is made either explicitly or implicitly a term or condition of an individual's employment or academic work; or 2) submission to or rejection of such conduct by an individual is used as the basis for employment or academic decisions affecting such individual; or 3) such conduct has the purpose or effect of unreasonably interfering with an individual's performance or creating an intimidating, hostile or sexually offensive working or academic environment. Examples of sexual harassment include, but are not limited to the following:

- a. Repeated unwanted sexual flirtations, advances or propositions;
- b. Continued or repeated verbal abuse or innuendo of a sexual nature;
- c. Uninvited physical contact such as touching, hugging, patting, brushing, or pinching;
- d. Verbal comments of a sexual nature about an individual's body or sexual terms used to describe and individual;
- e. Display of pictures, posters or cartoons that a reasonable person would find offensive or sexually suggestive;
- f. Continued or repeated jokes, language, epithets or remarks of a sexual nature;
- g. Prolonged staring or leering;
- h. making obscene gestures or suggestive or insulting sounds;
- i. Demand for sexual favors accompanied by an implied or overt threat concerning an individual's employment or academic status or promises of preferential treatment;
- j. Incident exposure etc.

ii. Procedure:

In determining whether an alleged incident constitutes sexual harassment, the judicial affairs office will look at the totality of the circumstances, such as the nature of the sexual advances and the context in which the alleged incidents occurred. The final decision regarding a suitable penalty will be made from the finding of fact on a case-by-case basis and from any record of previous sexual harassment by the Respondent.

The University recognizes that it has a responsibility to provide a procedure for rapid and equitable resolution of all sexual harassment complaints. In many instances, resolution can be reached without the need for formal measures. The goal in all instances is to ensure that inappropriate and offensive behavior

is stopped. To assist Complainants in resolving sexual harassment complaints, the University has established both informal and formal procedures, and has identified a well-trained cadre of individuals, "Complaint Handlers", the judicial personnel as "complaint handler" who can advise parties of appropriate options and procedures. Hearing procedure shall be conducted by the code of conduct council in its usual manner of all conduct matter but with due diligence to the totality of the circumstances of the case at hand.

2. Informal Resolution

In some circumstances informal resolution of a complaint prior to or instead of initiating the formal process may be more satisfactory than directly proceeding to a formal grievance. Informal resolution options include, but are not limited to, self-help; consultation and action at the department level; or mediation through the judicial affairs office.

3. Formal Resolution (Filing A Formal Grievance)

Complainants who are dissatisfied with or do not wish to utilize informal resolution should consult directly with the judicial affairs office to determine the appropriateness of filing a formal grievance. Although informal resolution attempts are not required prior to filing a formal grievance, they are nonetheless encouraged. Any individual who chooses to file a formal sexual harassment grievance may do so immediately following the incident giving rise to the complaint, or following efforts to reach an informal settlement.

i. Confidentiality

All parties involved in any aspect of this process will act at all times to preserve the confidentiality of these proceedings. Information will be shared with those individuals who have a legitimate and operational need to be informed, and to the extent that it is necessary to maintain the effectiveness of this process. Individuals found to have violated the confidentiality of this process may be subject to disciplinary proceedings consistent with the appropriate AUN policy.

ii. Deadlines

A Complainant has till graduation following an incident to initiate a complaint under this policy and procedures unless he or she can show good reason for having that deadline waived. Complainants or affected students and persons are advised to report any incident immediately. Requests for exceptions to the filing deadline must be made in writing to the director judicial affairs who will render a decision in writing following his or her review of the request. In some instances, particularly when a pattern of behavior is the subject of the complaint, supporting evidence may include reports of behavior that occurred outside of the twelve month filing deadline. Such evidence is not subject to the exception requirement. Failure to meet any of the deadlines stipulated in this procedure will not result in a decision by default or prevent the process from continuing. After the Complainant or accused student graduates, the University may not have jurisdiction to adjudicate such complaints except otherwise as determined by Judicial Affairs.

iii. Requirements for Participation and Withdrawals

If a Respondent fails to answer a charge or to participate in this process, the judicial affairs director will submit the case for adjudication at the conduct council. Failure to respond to a claim or to appear at a hearing will be considered a breach of responsibility and could result in disciplinary action. Furthermore, a Respondent will not prevent this process from proceeding by his or her silence or absence; failure to appear may result in the hearing proceeding solely on the basis of the Complainant's testimony and evidence. None of the above actions should be construed to impinge upon the right of the University to initiate or continue a claim in spite of a request to withdraw when, in the opinion of the Dean of Students, the allegations are sufficiently egregious to merit further action on the part of the University. The alleged victim will be relied upon to serve as a witness under these circumstances.

iv. Retaliation

No individual shall be retaliated or discriminated against for participating in these procedures. Any act of retaliation directed against person(s) participating in these procedures is illegal. Complaints of retaliation should be addressed to the director judicial affairs who will determine the appropriate action.

In no event will it be filed greater than twelve months following the incident which gave rise to the complaint unless otherwise. Staff from the judicial affairs office will initially meet with the Complainant to assess the complaint, including the appropriateness of the complaint being filed under this Policy and Procedures. The judicial affairs office will then advise the Complainant of appropriate next steps.

Appendix C

ZERO TOLERANCE POLICY AGAINST ALCOHOL AND ILLICIT DRUGS ON AUN CAMPUS

Applicability:

This policy applies to all students, student bodies and organizations of the American University of Nigeria, Yola, Adamawa State and particularly, students at the undergraduate level and should be enforced in all departments, divisions, schools, colleges, units, faculty, staff, residential areas, and any external entity and/or individual serving alcohol on University Property.

I. Introduction:

The purpose of this policy is to clarify and inform students of the AUN's position on alcohol and illicit drugs, and the procedure when the policy is violated. The University recognizes that alcohol use can adversely impact its most important concerns: Academic excellence, student development, health and safety of the campus community at large. The success of this policy is premised on the belief that each person has a role in responding to this issue. It is also the belief that substance abuse is a solvable problem which must be addressed systematically, fairly, and with due process.

II. Purpose:

The purpose of this policy is to provide a vehicle for accomplishing the following:

1. Promote a healthy environment for students.
2. Maximize the opportunities for academic excellence and student development.
3. Discourage the use, sale, distribution or transfer of alcohol and illicit drugs, and the impression of the presence of alcohol and illicit drugs on the AUN campus.
4. Demonstrate the University's commitment to provide early intervention, counseling, and referral services to each student of the campus community.

III. Definitions:

- a. "Alcohol" means any alcoholic beverages which are beer, wine, liquor, spirits, hard cider and related substances.
- b. Illicit drugs means: drugs that are not legally permitted or authorized, unlicensed; unlawful drugs.
- c. "AUN" means the American University of Nigeria, Yola and in includes all its subsidiaries.
- d. "Event" means a conference, fundraising event, where meals are served, meetings or any other gathering (formal or informal) on University Property. If the Event occurs off University Property (including private residences) and any part of the cost of the Event is paid using University funds it is an Event as defined herein.
- e. "Licensed Premise" means a specific location where the sale and service of alcohol for consumption on the location has been authorized under law. The only licensed place at AUN currently is: AUN Club.

- f. “Sale of Alcohol or Illicit Drugs” means that alcohol or drugs is/are served or delivered for value.
- g. “University Property” means any property owned, leased, licensed or otherwise under the control of the American University of Nigeria, AUN.

IV. General Rules and Principles:

- 1) AUN operates a zero tolerance to alcohol and illicit drugs. All students are personally responsible for their behavior, and all students should consider themselves responsible for the safety of themselves and all fellow students as regards to alcohol consumption or drug use outside the AUN property or associated event locations.
- 2) Students, student organizations or associations violating campus alcohol rules will be sanctioned under this policy, with sanctions ranging from fines to expulsion.
- 3) This zero tolerance Policy is based on a philosophy of shared governance between AUN and students regarding use, possession, sale and distribution of alcohol or illicit drugs on campus.
 - a. Serving alcohol at the AUN Club by either AUN staff, faculty or visitors, or service at other locations where alcohol can be sold shall be forbidden to all AUN students except post graduate students of AUN and non AUN students.
 - b. Self-service of alcohol is prohibited. Students attending the event shall not pour their own alcohol or be given direct access to coolers, kegs, bottles or containers containing alcohol neither are students expected to drink, possess, keep or hold all such empty containers of alcohol or illicit drugs.
 - c. AUN Club staff, when in doubt regarding serving alcohol to any customer who may be perceived as an AUN student, will ask for an AUN Student ID card to verify the customer’s identity. This is the extent of the responsibility by club staff. However, club staff are expected to exhibit good sense of judgment in this respect.
 - d. AUN undergraduate students cannot become AUN Club Members unless they are part of a family membership that is obtained by a full time employed faculty or staff member.
- 4) It is also a violation of University policy for anyone to be under the influence of alcohol on the campus or at a University-related activity off campus. Anyone violating these policies is subject to disciplinary action ranging from warning to expulsion.
- 5) This zero tolerance policy prohibits any AUN student except post graduate students from drinking alcohol and makes it illegal to buy alcohol for, or serve alcohol to, any student. AUN will not sell, serve or provide alcoholic beverages to any student. AUN is a dry campus and it adheres to all federal enactment and local laws in this respect.
- 6) Student health and safety is a primary concern in cases of possible alcohol intoxication or alcohol-related injury. If a student on campus becomes endangered by alcohol use, students should contact the AUN Clinic, the duty of which is to provide medical assistance, not to report violations of policy. Reporting violation can be done afterwards. In these situations, AUN is most concerned that students who need care receive medical attention.

- 7) Other intoxicating substances, local brewed drinks which are intoxicating, grain alcohol of any type are prohibited from campus at all times.
- 8) Every impression of alcohol whether empty bottles, container of alcoholic drinks and substances associated with alcohol are not permitted on campus. Student who own, harbor, possessed or store these items shall be subjected to investigation and if found wanting dealt with judicially.
- 9) AUN students are equally prohibited from taking, serving, selling or storing any kind of mixed drinks made from or with alcohol are prohibited in AUN and all AUN property,
- 10) Retaliating against anyone who reports an alleged violation of this policy, a witness or participant in any proceedings or investigation is also prohibited and shall be concerned a major misconduct which shall be dealt with decisively.

VI Illicit Drug Use and Drug misuse:

- 1) Unlawful possession of illicit drugs e.g. marijuana, heroin, amphetamine etc.
- 2) Drug paraphernalia used with illicit drugs or possession of such paraphernalia.
- 3) Unauthorized possession of a hypodermic syringe or needle, or any instrument adapted for the administration of controlled substances by injection.
- 4) Unlawful sale/consumption/possession/distribution/manufacture of illicit drugs or controlled drugs.
- 5) Being in the place where any of the above is committed.

Extension:

1. If any existing AUN, department, school, or unit policy or practice conflicts with this policy, this policy shall take precedence.
2. Any applicable federal, state or local laws shall take precedence over this policy in the event of any conflict.

Appendix D

THE AUN SUSTAINABILITY PROGRAM

AUN offers its students a myriad of opportunities to support its campus-wide commitment to environmental sustainability. The university's program of sustainability – which includes student activities, academic programs, campus management, **Sustainability driven researches and incubated initiatives, Project implementation and management from donor funds, community outreach , green construction , exhibitions and conferences** – reflects its mandate to be Africa's development university.

Background: As a development university, we place special emphasis on promoting economic expansion that alleviates poverty, increases education, improves government, and uplifts peoples who might otherwise be left behind. Over the last few decades, the concept of development has been expanded to address the broader objective of sustainable development, which includes not just expanded economic opportunity, but also environmental protection and social equity.

As defined in the 1987 Brundtland Commission Report *Our Common Future*, sustainable development is

...development that meets the needs of the present without compromising the ability of future generations to meet their own needs

As a development University, AUN unequivocally embraces the sustainability component of sustainable development. We define sustainability as a planning process and operating condition that continually reduces our University's dependence on finite resources such as fossil fuels, that avoids wasteful usage of potentially renewable resources such as water and food, and that minimizes environmental damages from pollution and waste. We include in our definition of sustainability the progressive elimination of limitations and barriers to a just and equitable society. Finally, we emphasize the importance not just of continuously reducing any adverse environmental impacts but also of increasing the environment benefits of our presence in the community, extending those exported environmental and social benefits as widely as possible.

Our goal at AUN is to integrate the concept of sustainability into our curriculum, management, operations, facilities, and community engagement. Evidence of the University's commitment to sustainability includes:

- A new hotel and conference center with insulation (rare in West Africa) and biodigestion for processing sanitary waste into fertilizer
- Installation of energy efficient lighting
- An enterprise-driven recycling program that fosters entrepreneurship in the local community.
- A permaculture-based landscape that minimizes water use, provides wildlife habitat, and strives to protect the school from the effects of advancing desertification
- Commissioning of the Robert Pastor Library and E Learning Center to be Nigeria's premier e-library, delivering and storing knowledge with digital technologies rather than paper books and journals.
- A new Administration Building with 100% solar energy
- Two Nature Trails

- Research into sustainable agriculture, water distribution on campus, Medical waste disposal practices, Nature trail Woody plant diversity and composition including the local cultivation and processing of biofuels using *Jatropha* and other oil-bearing crops
 - Recycling and management of the campus waste
1. Implementing and managing donor funds from ExxonMobil , UNHCR and Swiss Development Corporation for environmental protection based projects which is pivotal to grants and projects currently ongoing in the University.

More initiative can be found in our Sustainability Reports under the AUN's website <http://www.americanuniversitynigeria.org/about/dev/sustainability/themes>

Integration: AUN's approach to sustainability is much more than a series of piecemeal improvements; rather, sustainability is advanced through a systematic program of planning and action such as outlined in the 2012 inaugural edition of the University's Sustainability Management System (SMS). AUN's SMS institutionalizes the University's commitment to sustainable development by establishing a framework that extends into all aspects of the University's scholarship, operations, and management, and that carries forward in time from one administration to the next.

The objectives of this SMS program plan are as follows:

- To set Fourth for review, comment, and consensus a framework and process that will insure the integration of sustainability into University planning and decision making
- To communicate Management's commitment to sustainability as an overarching value and element of continuous improvement
- To explain to all participating parties how the sustainability management system is organized and implemented in university planning and management
- To create an instrument that generates information for AUN to report to its stakeholders relative to the goals the University has set for itself and its progress toward achieving those goals.
- To provide a framework for internal and external reviewers to evaluate the University's adherence to its own system and progress toward its self-imposed sustainability objectives.

Student Opportunities: The Office of Sustainability is the primary agent to engage students in environmental opportunities both on and off campus. The Office works closely with STARS, Student Teams Advocating Regional Sustainability. The STARS Environmental Club undertakes campus projects such as installing a wetlands treatment bed and vegetated bioswales abate pollution, plant environmentally desirable plants around campus, develop the nature trails, and pick up litter. The Club's parties and parades to promote energy and water conservation and raise community awareness of environmental issues are always fun and popular.

Environment-minded students also serve the community through AUN's Community Development (CDV) courses and through important research such as how to make biofuels, recycling plastic into potholes, and improve the efficiency of dining and waste operations.

AUN's objective is for every student to get direct experience helping the environment, to better serve the interests of this generation...and many to come.

Undergraduate course (General Education) that teaches Sustainability: Students are introduced

to current environmental problems worldwide with a strong focus on Nigeria's environmental problems as well as offering solutions (NES 101 - Introduction to Environmental Sustainability). The course is both theoretical and practical. The course acts as a bridge between the academy and the Office of Sustainability.

Appendix E

LEARNING MANAGEMENT SYSTEMS: THE CANVAS EXPERIENCE

Canvas LMS (<http://canvas2.aun.edu.ng>) is considered to be one of the best e-Learning platforms. Canvas provides some exceptional Web 2.0 elements. This platform is capable of conveying information instinctively. Instructors and students can navigate through the site with ease. The site is well designed and this gives it an edge in the Moodle VS Canvas debate.

Canvas makes it possible for students to integrate their course accounts with various social media networks such as Facebook and Twitter. Instructors can easily create assignments from various locations on the site. The platform analyzes the information automatically and delegates it to the appropriate course calendar and grade category.

Students can monitor their performance in the various assignments and classes they enroll for. They can also engage in discussions with other users. It comes with a grade book that students can use to check their individual assignment grades and overall performance. The platform also allows students to check how an improvement in a certain course can affect their overall grade.

It is easy to connect an account on the platform to various email addresses, social media profiles, and phone numbers. This makes it possible to access your account from different sites

User profiles are highly customizable: one may add bio, photo, create e-Portfolio, adjust email notifications, manage personal file storage, etc.

CENTERS AT AUN

The Atiku Center For Leadership, Entrepreneurship & Development

The Atiku Centre for Leadership, Entrepreneurship & Development (AC-LEAD) hosts all development initiatives of the University. Located on the ground floor of the digital library, the Center was created in 2014. AC-LEAD takes charge of proposals for and sourcing of funds to implement development-oriented projects that have been designed within the University by faculty members and or students or in response to donor requests for proposals.

The Center provides a one-stop shop for all development initiatives utilizing our local knowledge and global expertise to study problems, develop solutions, and productize the implementation of the solutions in the form of projects. A major role of the center is to serve as a learning resource where students undertake research and experience hands-on project management while earning an income as work-study students. The Center also provides expert advice and technical support to faculty members intending to apply for research grants.

The Center is respected within the development community in Nigeria for its local solutions to local problems, cost-effective project implementation, and effective project management. This is possible due to its comparative advantage of access to high-quality faculty and progressive students and top-class university infrastructure, systems and structures that complement donor funds as we implement projects.

THE ATIKU CENTER FOR LEADERSHIP, ENTREPRENEURSHIP & DEVELOPMENT WAS ESTABLISHED TO SUPPORT AUN'S MISSION AS A DEVELOPMENT UNIVERSITY. ALL COMMUNITY SERVICE VOLUNTEER ACTIVITIES AND REQUIRED COMMUNITY DEVELOPMENT (CDV) COURSES ARE COORDINATED THROUGH THE ATIKU CENTER. IN ADDITION, THE ATIKU CENTER SUPPORTS THE FOLLOWING PROJECTS: THE ADAMAWA PEACE INITIATIVE, THE GRAND ALLIANCE, JAMB AND WAEC TUTORING, PEACE THROUGH SPORTS, POVERTY STOPLIGHT, RAGS TO RICHES, STELLAR (STUDENTS EMPOWERED THROUGH LANGUAGE LITERACY & ARITHMETIC), STEM (SCIENCE, TECHNOLOGY, ENGINEERING & MATH), AND WASTE TO WEALTH.

Besides to identifying and coordinating development projects, a principal role of the Center is that of applied research and grant writing to support the Center and University's activities. The Atiku Center's mission is to publish reports and books on a regular basis and make all data gathered for the region and country available to the community.

The African Center For Ict Innovation & Training

African Centre for ICT Innovation and Training (ACIT) is an establishment with a vision of deploying and applying the latest IT trends and technologies to equip and improve the quality of its host community and the workforce of Adamawa State and the entire nation. The ACIT became operational on March 15, 2006, in Yola, Nigeria. It was funded by a grant from the MacArthur Foundation and individual donors. Our Vision is to employ the latest in IT resources and technologies for capacity building through IT and

related training in the AUN host community and its environment in line with the AUN strategic plan of being a development university.

ACIT mission is to be a dynamic agent of change, enhancing human capacity development with focus on Information Technology in the local setting of Northeast Nigeria. It will create awareness on the relevance of ICT and other knowledge-based skills and provide its trainees with the tools to increase productivity in the workplace and community. Since inception, the Center has trained more than 5,000 individuals in IT career courses, including scholarship programs for secondary schools and the ACIT own community outreach program.

- **CISLab – COMMUNITY & INDUSTRY SYSTEMS LABORATORY**

The Community & Industry Systems Laboratory, established in the Fall of 2010, is envisioned as an incubation spot to foster collaborations and joint innovations between academics and researchers in SITC (and AUN at large) on the one hand and professionals in the emerging software industry in Nigeria. The initial funding for the laboratory to support this effort came from Quanteq Technology Solutions in Abuja. Incubation is seen broadly to encompass elaboration and clarification of ideas on projects to actual development of software systems. Special emphasis is put in the use of open source software to evolve systems that can be widely employed in the community, the country, and sub-Sahara Africa. Such joint collaborations bring fresh ideas, technologies, and techniques to solving problems. Even more importantly they provide excellent learning and skills acquisition opportunities for all participants, especially our software engineering students who are expected to be industry-ready on graduation. A joint effort between SITC (School of IT & Computing) and SBE (School of Business & Entrepreneurship) to establish an IT Business Incubator will build on the ongoing work in CISLab.

Appendix G

'OFFICES' AT AUN STUDENT AFFAIRS

THROUGH INVOLVEMENT IN RESIDENCE LIFE, STUDENT ACTIVITIES, LEADERSHIP DEVELOPMENT EXPERIENCES, ATHLETICS, STUDENT GOVERNANCE, AND MANY OTHER EXTRA-CURRICULAR PROGRAMS AND ACTIVITIES, STUDENTS WILL FIND MANY OPPORTUNITIES TO ENHANCE THEMSELVES AND PREPARE TO MAKE SIGNIFICANT CONTRIBUTIONS BOTH IN NIGERIA AND WORLDWIDE.

Office of the Dean of Students

This office is responsible for providing students with impartial, independent and confidential support regarding policies and procedures.

Student Activities & Engagement

Programs to support the leadership and organizational development of students are provided at this office.

Athletics

AUN provides a wide range of opportunities for students to participate in competitive and recreational sporting events.

Career Services

This unit provides students with information and assistance regarding which majors to choose.

Judicial Affairs

This office is responsible for the facilitation of the Student Code of Conduct.

Community Service and Service Learning

These aspects focus on experiences that connect students to local communities.

Office of Residence Life

This Office is responsible for the management of all residential facilities on the campus.

Housing Assignments and Card Services

All students are assigned housing and provided with an official ID card.

Study Abroad

AUN sponsors semester abroad programs and short-term international experiences for students who have interest in international study.

Health and Wellness

AUN has a health Center to provide healthcare and on the main campus.

Campus Safety & Security

The security staff provides 24-hour coverage for the entire campus community and off-campus facilities.

Religious Life

AUN is committed to freedom of religious expression and respect for diverse religious traditions.

Office Of Technology Support

The Office of Technology & Digital Support (OTS) is led by the Interim Chief Information Officer (CIO) of the university. It oversees key central Information Technology (IT) and Information Systems (IS), builds a robust network infrastructure that provides for the university's core operations of teaching, research, administration and community service. OTS also serves as the stronghold for the development of truly IT-driven supports of learning that enables academic, industry-standard and administrative functions.

In the 21st century, technology has become a major business enabler. AUN's state-of-the-art Internet infrastructure comprises a 24/7 wireless network across the entire university complex, with fiber cables connecting its major buildings. At OTDS, with some of the smartest, most engaging, and dedicated professionals helping the university community in the use of technology to achieve the University's goals.

OTDS supports all applications deployed at the University be they the Enterprise Resource Planning (ERP) app or the Learning Management Systems (LMS). Working with the School of Information Technology and Computing, OTDS offers students the perfect work-study environment in areas like Wireless & Telecommunications. It also has a professional and certification training center on an impressive structure in the Yola South metropolis, operated by competent instructors. The training programs start from the basic ICT of Operating Systems, creating emails and navigating the Internet and extend to teaching students basic computer and mobile phone repairs in IT Essentials. The complete course catalog includes the entire suite of Cisco Networking Academy courses, Microsoft certifications, Oracle, and PMI's Project Management Professional (PMP). Our Metropolitan Area Network (MAN) spans over 25 kilometers across the twin cities of Yola and Jimeta, extending into 30 residential and industrial complexes. The system users range from beginners, who get to use the computer for the first time at AUN, to experienced users. Our staff have the experience to deal with all levels of users. We support all applications deployed at the University.

To support the university's development mission, with the leading ICT infrastructure, OTDS trains enrollees for Industrial Training/Students Industrial Work Experience Scheme (IT/SIWES) from various tertiary institutions in Nigeria and in Africa to acquire skills in ICT. The Office for Technology & Digital Support has four departments:

- The Department of Information Technology (DIT) led by a Director and charged with the responsibility for planning, designing, deployment, support and maintenance of IT infrastructure and all other devices and peripherals used in the University.
- The Department of Information Systems (DIS) supervised by a Senior Director and charged with the development and support of the ERP application Learning Management Systems as well as all other applications used in the university
- The Department of Professional & Vocational Development & Auxiliaries (DPVDA) guided by a Director and charged with training as well as managing the business center and the campus store.

- The Department of Digital Services (DDS) led by a Director who is responsible for maintaining and enhancing AUN's digital library and digital learning resources

Office Of Institutional Research & Effectiveness

The Office of Institutional Research & Effectiveness (OIRE) delivers timely reports and analyses to the American University of Nigeria's senior management staff, NUC, and external stakeholders in order to advance the University's mission and foster a culture of continuous improvement and institutional effectiveness.

The OIRE is a quality-driven, team-oriented unit with a mission to collect, warehouse, and disseminate accurate, appropriate, and meaningful information in order to facilitate informed decision making and planning related to admissions, enrollment management, resource allocation, student life, curriculum assessment, staffing, finance, facilities and alumni relations in a way that supports the vision, mission, and strategic goals of the university.

In the course of every student's stay at AUN, they will interact with the OIRE by acting as respondents in the following surveys coordinated by the office.

1. The Freshman Entry Survey

The Freshman Entry Survey is organized for first-year students during the orientation exercise held before the commencement of every semester. The survey is aimed at getting students perception of AUN, their expectations, and the factors that influenced their decision to join AUN. The survey also gives valuable information about AUN's close competitors within and outside Nigeria.

2. Faculty Course Evaluation

The Faculty Course Evaluation is an integral part of the overall academic process of the University. Through this survey, students give feedback on their instructors' teaching based on different criteria and the results are used as a medium through which faculty strengths are reinforced, achievements recognized, weaknesses identified and addressed, and constructive criticism offered with the objective of improving overall teaching and learning process at AUN.

3. Senior Exit Survey

The Senior Exit Survey is organized for seniors during their final semester at AUN. The survey is aimed at capturing data on the satisfaction of the seniors with regard to the quality of education they got at AUN, the frequency with which they explore different learning opportunities at AUN, the extent to which AUN prepared them for graduate school, their careers, everyday life, contribution to society, and readiness for life-long learning. The survey captures data on the contribution of AUN to the seniors' development in the areas of writing, speaking effectively, critical reasoning, general education, and community service.

University Relations Division

The University Relations Division coordinates all relationships, engagements, activities, partnerships and collaborations of American University of Nigeria involving but not limited to investors, donors and sponsors, the media, corporate organizations, parents, alumni, governments, businesses, academic institutions, local and international non-profits, professional associations, unions and groups, diplomatic missions, socio-cultural and religious groups, and the local community. Entrusted with the University's internal and external relations dynamics, the UR division effectively harmonizes all activities, engagements, programs, projects, campaigns and events within and outside the campus, and centralizes speaking roles and responsibilities to ensure fidelity of corporate messaging. University Relations is also charged with harmonizing messages, language and statistics about the institution's core philosophy of Entrepreneurship & Development, academic programs, the unique American-style curriculum, facilities, diversity and quality of faculty, competitive services, available opportunities, as well as AUN's community engagement and service learning approach to higher education. UR is headed by a Vice President and comprises of four Departments:

1. Communication & Publications
2. Public Relations & Marketing
3. University Events & Ceremonies
4. Development & Alumni Relations

Communication & Publications

The Communication & Publications Department generates brand momentum by creating, sustaining and sharing with internal and external audiences, content developed from the numerous academic and other campus engagements of the University and its vibrant community. It serves as a clearing house for all internal and external University publications, digital or in print, including photographs, graphics and publications that are not academic. The Department develops editorial content and manages the technical presentation of the University's internal and external publications. These publications are AUNthisWEEK, the weekly online community news bulletin; The WEEKENDER, the online social notices and events chronicler released every Friday morning; The Stallion Digest, the online per semester digest on campus and co-curricular activities devoted to AUN parents and alumni, and InsideAUN, the printed University newsletter. The Web Unit manages the University's main public-facing website – www.aun.edu.ng. The Department also coordinates the community's lively social media interfaces mainly through the University's official accounts–Snapchat (@iamaunigeria), Instagram ((AUNigeria), Facebook (AUNNigeria), and Twitter (@AUNigeria). To promote AUN's cherished reputation as a premium brand that offers globally competitive education from pre-school to doctoral degrees, the Department proactively ensures the nurturing of a mutually beneficial partnership with the press.

Public Relations & Marketing

PR & Marketing works in close collaboration with all University entities to advance and strengthen the academic reputation and image of AUN among staff, prospective and current students, alumni, parents, partners and other stakeholders. The department ensures a final review of all marketing and promotional materials produced by all academic schools, as well as administrative divisions, departments and units within the University. This is to ensure that all marketing and promotional materials reflect the globally competitive standard of American University of Nigeria. Functions of the PR & Marketing department include but not limited to the following:

- To define the target audiences of the University in order to establish understanding and goodwill between AUN and its internal and external publics.
- To purchase advertising space/time and prepare advertorials as may be required in promoting the University's initiatives, activities, and accomplishments.
- To identify and generate strategic marketing messages with the goal of creating positive appearances in the media in order to enhance the credibility of AUN, which is focused on the core philosophy of Entrepreneurship and Development.
- To provide all kinds of PR protocol advisement and guidance in dealing with all AUN publics at all times.
- To serve as a first point of contact for all visitors to the AUN campus.

University Events & Ceremonies

The Events & Ceremonies Department oversees the planning, coordination, and execution of all major AUN events and ceremonies. It provides support to various University groups in the planning, organizing and delivery of all scheduled and spontaneous activities and programs. In achieving this objective, the office seeks to achieve the highest standard in planning, organizing and delivery of events to support AUN's strategic vision. Some of the major events handled by this office include: The annual Commencement Ceremony and Senior Awards Dinner, both of which hold every May, annual Founder's Day Ceremony, which usually takes place, every November, Fall and Spring Orientation and Pledge Ceremony for new students, etc. Events & Ceremonies is also responsible for the management and allocation of all events venues on campus for utilization by University units, departments and academic schools; as well as to AUN friends and partners wishing to use University facilities to host their public events and ceremonies on campus. In addition, the office sets and enforces the policy regulations and guidelines for events management for all members of the AUN community, in addition to campus space users from the external community. Aside from administering event venues, the office is also responsible for all events facility management and deployment, which includes public address systems, hall decorations, seats and seating arrangements, stages, podiums, food service, and related logistics.

Development & Alumni Relations

The Development & Alumni Relations Department has responsibility for initiating and implementing fundraising proposals and plans capable of generating additional funding and donor income from different sources, to support scholarships, sponsorships and other specific University operations. The office is responsible for establishing an endowment that is powered by networks of friends, foundations, corporate and business interests, partnerships, and AUN alumni. It is also charged with creating strategies and plans for generating individual and corporate gift income, foundational grants, partnerships, sponsorships and a broad range of other goodwill to support the activities, initiatives and programs of American University of Nigeria. The Alumni Relations tier of this office supports the development efforts by seeking to establish and maintain a strong link with AUN graduates, their parents, friends and other supporters of the University through series of activities, events, services and communication on and off-campus. The Alumni Unit engages AUN alumni and seeks to strengthen their connection with the University via alumni volunteers, Alumni-in-Waiting and Mentor-Mentee developmental programs in accordance with the vision and mission of AUN.

Human Resources And Planning

This Office is charged with providing personnel support to all employees, which include staff (teaching and non-teaching; temporary and casual), faculty, work-study students and alumni, NYSC members, interns, consultants, and volunteers. It is also responsible for providing customer service to guests and prospective job applicants.

HR General Contacts

Email: hr.office@aun.edu.ng

Skype: aunhrecruits

Facilities Management

The Facilities Management Unit provides services including electricity, water, air-conditioning, civil, maintenance, environmental, cleaning and waste management to all schools, departments, student residences and housing units within AUN. The department provides support to all activities at the AUN across all the landed property managed by AUN.

UNDERGRADUATE CATALOG REVIEW COMMITTEE

The following were members of the 2018 Undergraduate Catalog Review Committee.

- Ms. Jelena Zivkovic, Chair
Director of Learning Resource Center
- Dr. Charles Nche
Assistant Professor Telecommunications & Wireless Technology
- Dr David Adetoro
Assistant Professor of Law
- Ms. Emilienne Idorenyin Akpan,
Instructor of Modern Languages/Interim Director of the Writing Center
- Dr. Hannah Mugambi
Assistant Professor of English & Literature
- Dr. Hassan Yusuf
Assistant Professor of Management
- Dr. Osho Ajayi
Assistant Professor of Mathematics & Statistics