**MICHAEL OKPARA UNIVERSITY OF AGRICULTURE UMUDIKE**

**COLLEGE OF ENGINEERING AND ENGINEERING TECHNOLOGY**

****

**COLLEGE HANDBOOK**

**2023**

TABLE OF CONTENTS

|  |  |  |
| --- | --- | --- |
| S/N | TITLE | PAGE |
|  | Preface | 3 |
| 1 | Introduction | 4 - 8 |
| 2 | Admission Structures of the College | 9 - 12 |
| 3 | Admission Requirements | 13 - 14 |
| 4 | Registration Requirements | 15 – 19 |
| 5 | General Courses taken by all Engineering Students | 20 – 41 |
| 6 | Matriculation | 42 |
| 7 | Residency of Study | 42 – 45 |
| 8 | Academic Concerns | 46 – 48 |
| 9 | Undergraduate/Postgraduate Examinations | 49 – 51 |
| 10 | Examination Offences and Misconducts | 52 – 53 |
| 11 | Graduation Requirements | 54 – 56 |
| 12 | Department of Agricultural and Bioresources Engineering | 57 – 62 |
| 13 | Department of Chemical Engineering | 63 – 67 |
| 14 | Department of Civil Engineering | 68 – 71 |
| 15 | Department of Computer Engineering | 72 – 75 |
| 16 | Department of Electrical and Electronic Engineering | 76 – 79 |
| 17 | Department of Mechanical Engineering | 80 – 84 |
| 18 | College Library | 85 |
| 19 | College Committees | 86 |
| 20 | General Information | 87 |
| 21 | Guidelines for Presentation of Seminar for Postgraduate | 88 |

**PREFACE**

This handbook is tailored to equip both the undergraduate and postgraduate students of CEET with adequate information to guide them throughout their programme in Michael Okpara University of Agriculture Umudike. By understanding the contents of this book, almost every question that could arise in the course of their programme would be answered.

The University is an ordered community, and order is the distinguishing feature of a civil society – which the university exemplifies. There is no room for anarchy. Hence, no student should suffer in silence, and at the same time, nobody should take the laws into their hands. This handbook guides the students on the regulations of his/her programme, and how to seek redress for any infractions to their rights and privileges by staff or fellow students. The student is also guided to the basic code of conduct in the University, what represents an offence, and the penalty associated with each offence.

The College is expanding, and recently, the University Senate approved the establishment of the Mechatronics Engineering Department. This means that new students would be admitted the programme very soon. So this Handbook will be updated as the need arises.

It is with Joy then, that I recommend this handbook to you, and warmly welcome you to the College of Engineering and Engineering Technology, the pacesetters of the University.

Engr Prof I. E. Ahaneku fniae, fnse

Dean

1. **INTRODUCTION**

The establishment of specialized Universities of Agriculture in Nigeria is a milestone in its educational and developmental history. Michael Okpara University of Agriculture, Umudike, was established in May 1993 with the central mandate and mission of imparting agricultural education, scientifically and practically. It is also undertaking applied research and such extension services to assist national self-sufficiency in food production, catalyzing sustainable rural development. However, it must be noted that the University has been mandated to go beyond the offer of Agriculture courses only.

**1.1 History of the College**

It became clear that the Michael Okpara University of Agriculture’s mission, Umudike, could not be adequately achieved, neither could agriculture be successfully developed nor meaningfully utilized in the industrialization and sustenance of the nation without an accompanying Engineering and Technology component. Thus, in the 2001/2002 academic session, the College of Engineering and Engineering Technology (CEET) came into existence with the establishment of the department of Agricultural Engineering, followed in quick succession by the Department of Civil Engineering, Mechanical Engineering as well as Electrical and Electronic Engineering in the 2002/2003 academic session. Computer Engineering

started in the 2004/2005, while Chemical Engineering was established in the 2010/2011 academic session. These Departments run 5-year degree programmes, leading to the Bachelor of Engineering (B. Eng) degree award. Engineering converts scientific knowledge and ideas of inventors into practical devices, machines, and structures. In practical terms. Engineering is the art of designing, building, and maintaining devices, machines, and structures fundamental to human existence and providing man with the ability to conquer his environment and make progress towards living both in terms of facilities and economy. Engineering and Technology are interwoven, and they always literally go hand in hand in their pursuit of human progress, with science as their source of inspiration. It can be said that the technological development of any nation is determined to a great extent by the size, quality, motivation, and orientation of its science and engineering workforce.

The broad fields of Engineering, Science, and Technology comprise many specialized professions. In Engineering, many different branches have been developed. Some of them offered by the College include; Agricultural and Bioresources Engineering, Computer Engineering, Civil Engineering, Electrical and Electronics Engineering, Mechanical Engineering and Chemical Engineering with a vision for expansion in the nearest future.

The Michael Okpara University of Agriculture, Umudike, to contribute her quota towards the national technological and economic needs, decided to establish a College of Engineering and Engineering Technology to train graduates. These graduates will be proficient in applying scientific principles to develop necessary technological tools (machines, skill, and techniques) for the essential provision of the nation’s needs in particular and human society in general. To attain this goal, the various departments in the College embark on programmes involving workshops, training and industrial training schemes intended to expose them to the methods and processes used in the manufacture, testing, operation, and maintenance of modern Engineering systems. The industrial exposure in intended to allow the graduates to see what goes on in research, development, design, manufacture, installation, operation maintenance, and commercial work to be better placed to choose their career option. The College also strives to provide updated tools for analysis and adaptation through teaching, research, hands-on – practical training, and seminars.

Dr. O. Onuba started the College of Engineering and Engineering Technology as the Acting Dean (2001/2008). The current Deans is Prof. I. E. Ahaneku.

**1.2 Philosophy**

Contribute to enhancing the capacity to build the human capacity development that will make the country Nigeria relevant in the Engineering world.

**1.3 Mission**

Training by employing modern technologies to provide cutting-edge solutions to immediate environmental problems and the world at large.

**1.4 Vision**

Achieving excellence in Engineering and meeting the standard of any Engineering graduates in first-class Universities in the world.

**1.5 Objectives**

The College of Engineering and Engineering Technology is to train engineers who will;

1. Be well-grounded in basic sciences and Engineering
2. Have a good grasp of the essential and utility knowledge.
3. Have considerable practical skills for tackling real-life engineering problems, especially in their areas of specialization.
4. Have a thorough understanding of experimental and practical applications of relevant theoretical Engineering principles.

**1.6 Core Values**

Excellence, Integrity and Truth, Commitment and Diligence, Respect, Fairness and Justice.

**1.7 Knowledge Attribute Profile**

The curriculums of the various Programmes of the College are designed to encompass the knowledge profile as summarised in the table 1.1:

***Table 1.1: Knowledge Attribute Profile***

|  |  |
| --- | --- |
| **S/No.** | **Attribute** |
| K1  | A systematic, theory-based understanding of the **natural sciences** applicable to the discipline and awareness of relevant **social sciences** |
| K2 | Conceptually-based **mathematics**, numerical analysis, data analysis, statistics and formal aspects of computer and information science to support detailed analysis and modelling applicable to the discipline |
| K3  | A systematic, theory-based formulation of **engineering fundamentals** required in the engineering discipline |
| K4 | Engineering **specialist knowledge** that provides theoretical frameworks and bodies of knowledge for the accepted practice areas in the engineering discipline; much is at the forefront of the discipline |
| K5 | Knowledge, including efficient resource use, environmental impacts, whole-life cost, re-use of resources, net zero carbon, and similar concepts, that supports **engineering design and operations** in a practice area. |
| K6 | Knowledge of **engineering practice** (technology) in the practice areas in the engineering discipline |
| K7 | **Knowledge of** the role of engineering in society and identified issues in engineering practice in the discipline, such as the professional responsibility of an engineer to public safety and sustainable development\* |
| K8 | Engagement with selected knowledge in the current **research literature** of the discipline, awareness of the power of critical thinking and creative approaches to evaluate emerging issues |
| K9 | **Ethics, inclusive behaviour and conduct**. Knowledge of professional ethics, responsibilities, and norms of engineering practice. Awareness of the need for diversity by reason of ethnicity, gender, age, physical ability etc. with mutual understanding and respect, and of inclusive attitudes |

The UN Sustainable Development Goals (UN-SDG) informed the development of these knowledge profiles, and were adapted from the COREN Engineering Accreditation Committtee.

**1.8 Definition of Complex Problem Solving**

The range of complex problem solving which the graduate of the programme must be capable of is defined as follows in Table 1.2:

***Table 1.2: Range of Complex Problem Solving***

|  |  |
| --- | --- |
| **Attribute** | **Complex Engineering Problems** have characteristic P1 and some or all of P2 to P7: |
| Depth of Knowledge Required | P1: Cannot be resolved without in-depth engineering knowledge at the level of one or more of K3, K4, K5, K6 or K8 which allows a fundamentals-based, first principles analytical approach |
| Range of conflicting requirements | P2: Involve wide-ranging and/or conflicting technical, nontechnical issues (such as ethical, sustainability, legal, political, economic, societal) and consideration of future requirements |
| Depth of analysis required | P3: Have no obvious solution and require abstract thinking, creativity and originality in analysis to formulate suitable models |
| Familiarity of issues | P4: Involve infrequently encountered issues or novel problems |
| Extent of applicable codes | P5: Address problems not encompassed by standards and codes of practice for professional engineering |
| Extent of stakeholder involvement and conflicting requirements | P6: Involve collaboration across engineering disciplines, other fields, and/or diverse groups of stakeholders with widely varying needs |
| Interdependence  | P7: Address high level problems with many components or sub-problems that may require a systems approach |

**1.9 Definition of Complex Engineering Activities**

The range of complex engineering activities is defined in Table 2.5. Complex engineering activities refer to activities or projects that have some or all the characteristics of Table 1.3.

***Table 1.3: Range of Complex Engineering Activities***

|  |  |
| --- | --- |
| **Attribute** | **Complex Activities** |
| Preamble  | **Complex activities** mean (*engineering*) activities or projects that have some or all of the following characteristics: |
| Range of resources  | A1: Involve the use of diverse resources including people, data and information, natural, financial and physical resources and appropriate technologies including analytical and/or design software |
| Level of interactions  | A2: Require optimal resolution of interactions between wide-ranging and/or conflicting technical, non-technical, and engineering issues |
| Innovation  | A3: Involve creative use of engineering principles, innovative solutions for a conscious purpose, and research-based knowledge |
| Consequences to society and the environment | A4: Have significant consequences in a range of contexts, characterized by difficulty of prediction and mitigation |
| Familiarity  | A5: Can extend beyond previous experiences by applying principles-based app |

1. **ADMINISTRATIVE STRUCTURE OF THE COLLEGE**

The College of Engineering and Engineering Technology (CEET) comprises six (6) Departments; Agricultural and Bioresources Engineering. Chemical Engineering. Civil Engineering, Computer Engineering, Electrical and Electronic Engineering, and Mechanical Engineering.

The College Board Members elect the Dean, the administrative and academic head of the College, with election results taken to the Senate for ratification.

The College Board also elects a Deputy Dean to assist the Dean in the day-to-day running of the College. The College and Office who the University posts serve as Secretary to the College Board, is responsible to the Dean of the College for the day-to-day running of the College. The organogram showing College of Engineering and Engineering Technology’s administrative structure is presented in Fig. 1.

Vice Chancellor

 Dean

College Officer

 Deputy Dean

College Board

 HOD

Administrative Staff

Technologist

Academic Staff

**Figure 1: Organogram of the Administrative Structure of CEET**

**2.1 College Board of Examiners**

The College Board of Examiners is composed of the Dean of the College and other academic staff in the College in the Chairman and Chief Examiner.

The College Board of Examiners shall:

i. consider the marks and results as recommended by the Departmental Board of Examiners

ii. Make recommendations to the Senate on the award of degrees, diplomas, and certificates in the case of final year examination.

iii. Make recommendations to Senate on the award of distinctions and prizes

iv. Submit to the Senate a critical appraisal of the examinations, with recommendations for improvement in the future.

**2.2 Decision-making Processes and General Administration in the College**

The College holds its regular College Board meetings following the requirements of the Senate. Major policies affecting staff and students and their welfare are discussed extensively before they are adopted. Also, at the beginning of each session, the Dean nominates members into various committees that assist in the College’s running. The committees help to get staff involved in the general administration of the College. Some of the committees and their responsibilities are;

1. **College Postgraduate Committee-** comprises all full-time academic staff of the College who holds lecture 1 and above and has a terminal degree of Ph.D. The Dean is the Chairman of the Committee. The committee advises and makes a recommendation to the Postgraduate Board regarding admission and registration of students, the field of study, theses and dissertation titles, the appointment of external examiners and many other functions as may be assigned to it the Board of Postgraduate School.
2. **Examination Committee-** The Committee consists, of the College Examination Officer and Department Examination Officers. In keeping with the university academic calendar the Examination and Time Table Committee is duly responsible for the organization, supervision, and general conduct of examination.
3. **SIWES Coordinator-** The academic staff charged with arranging placement of 4th-year students on the Students Industrial Work Experience Scheme (SIWES) programme. He collects the students’ log books at the end of each session and long with the Departmental/University SIWES Office to work out the grade for each participating student.
4. **SWEP Coordinator –** The academic staff is charge with arranging the Students’ Work Experience Programme (SWEP) during the long vacation for 200 and 300 level students. SWEP lasts for eight weeks during the long vacation. He collects the students’ logbook at the end of the programme and works out the grade for each participating student.
5. **NUESA Staff Adviser-** The academic staff is charge with guiding the undergraduate students on academic issues and their association as the umbrella body of other Departmental associations. He links the students and the Dean, organizes activities such as Engineering week, educational excursion/visit to local industries, etc.

**Programmes Offered by the College**

The College of Engineering Technology, Michael Okpara University of Agriculture, Umudike, operates unique academic programmes in Engineering that are carefully planned to meet the manpower requirements for an Engineering and/or agricultural revolution. Indeed, this College’s programs are woven into the overall mandate and mission of the University taken into consideration all necessary criteria, indicators, and peculiarities of the specialized nature of a University of Agriculture.

There are six (6) departments under this College which include:

1. Agricultural and Bio-resources Engineering
2. Chemical Engineering
3. Civil Engineering
4. Computer Engineering
5. Electrical/Electronic Engineering
6. Mechanical Engineering

The College of Engineering and Engineering Technology, as the name implies offers the following degree programmes.

1. Bachelor of Engineering (BEng)
2. Postgraduate Diploma (PGD)
3. Master of Engineering (MEng)
4. Doctor of Philosophy (PhD)

 It is pertinent to mention that the University Senate has given approval for the establishment of Mechatronic Engineering Department, and very soon new students would be admitted into the B.Eng. Degree Programme.

**2.3 Principal Officers and Staff of the Dean’s Office**

Table 1 and 2 lists the principal officers of the college and the staff of the Dean’s office

Table 1: Principal Officers of the College

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S/N** | **Name** | **Department** | **Position** | **Phone Number** | **Email Address** |
| 1 | Prof. I. E. Ahaneku | Dean’s Office | Dean/Chairman, College Board | 08035726641 | ahaneku.isiguzo@mouau.edu.ng |
| 2 | Dr. K. C. Onyelowe | Civil Engineering | Deputy Dean | 08039547350 | konyelowe@mouau.edu.ng |
| 3 | Dr. O. Oduma | Agricultural and Bioresources Engineering | Ag. Head of Department | 08038845074 | odumaoke@gmail.com |
| 4 | Dr. O. E. Oke | Chemical Engineering | Ag. Head of Department | 08034622727 | solaemmanuel1@gmail.com |
| 5 | Dr. B. U. Ngene | Civil Engineering  | Ag. Head of Department | 08033385454 | ngene.ben@mouau.edu.ng |
| 6 | Dr. Aru Eze Okereke | Computer Engineering | Ag. Head of Department | 08062179049 | aru.eze@mouau.edu.ng |
| 7 | Dr. I. K. Onwuka | Electrical/Electronic Engineering  | Ag. Head of Department | 08060168333 | onwuka.ifeanyichukwu@mouau.edu.ng |
| 8 | Dr. I. F. Ikechukwu | Mechanical Engineering | Ag. Head of Department | 08032464878 | @mouau.edu.ng  |

**Table 2: Staff of Dean’s Office**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S/N** | **Name** | **Email Address** | **Position** | **Phone Number** |
| 1 | Prof. I. E. Ahaneku | ahaneku.isiguzo@mouau.edu.ng | 08035726641 | Dean/Chairman, College Board |
| 2 | Dr. K. C. Onyelowe | konyelowe@mouau.edu.ng | 08039547350 | Deputy Dean |
| 3 | Mrs. Mariagoreti Obiageri lroegbu | iroegbuoby5@gmail.co | 08060831738 | Deputy Registrar/College Officer |
| 4 |  |  |  |  |
| 5 |  |  |  |  |
| 6 | Mrs. Lilian Chimela | lilinchiemela2@gmail.com  | 08065190416 | Administrative Officer |
| 7 |  |  |  |  |
| 8 |  |  |  |  |
| 9 | Mrs. Emilia Nwogu | nwaoguemilia38@gmail.com | 07032589777 | Clerical Officer |

1. **ADMISSION REQUIREMENTS**

The College of Engineering and Engineering Technology offer undergraduates programmes leading to an award of the Bachelor of Engineering (BEng) degree. The College also offers a Postgraduate programme. The entry requirements into the various programme are as follows:

**3.1 Undergraduate Programme**

**3.1.1 UTME Entry Requirements**

i. The admission requirements for UTME candidates into the course is a minimum of five (5) Ordinary Level credit passes in West African Senior Secondary School Certificate (WASC) or General Certificate of Education (GCE) or National Examination Council Ordinary Level (NECO) in not more than two sittings. The credits must be obtained in English language, Mathematics, Physics, and Chemistry.

ii. A pass in JAMB that meets the Departmental cut-off mark determined by the University

iii. The candidate must not be below 16 years of age.

**3.2.1 Direct Entry**

Direct Entry admission is based on a combination of “O” Level results with the following qualifications:

a) G.C.E (A/Level) or HSC (Passes in 3 papers – Physics, Chemistry, and Mathematics)

b) ND (Upper Credit)

c) HND (Upper Credit)

Candidates with qualifications as in (a) above may be admitted into the 200 level, and those with the qualifications in (c) may be admitted into the 300 level. All must meet the basic minimum requirement of 5 “O” level credit passes in relevant subjects as specified in (I) above.

**3.1.3 Admission by Transfer**

The University may admit on transfer a student undergoing an undergraduate degree programme in another recognized University provided such a student meets the minimum admission requirements of this University and is seeking transfer to a programme similar to the one he is transferring from. Students seeking transfer into the University must possess a minimum CGPA of 3.50.

The University shall conduct a security check on prospective transfer students. The transfer application shall be made on the approved application form obtainable from the Registrar’s office on payment of the stipulated application fee approved by the Senate.

**3.2 Postgraduate Programmes**

To be eligible for admission to the university’s Postgraduate program, the candidate must have the essential UME requirement. English language and Mathematics at credit level are compulsory for all postgraduate students irrespective of the fields of studies. Plus three relevant courses at credits level specific to the student’s field of study at basic UME.

**3.2.1 Postgraduate Diploma (PGD)**

To be eligible for admission to the PGD programme, the candidate must be holders of Pass or Third Class honours (Bachelor degree) in a relevant discipline from any recognized University or holders of Higher National Diploma (HND) Upper Credit or Distinction level in a relevant discipline. For unclassified HND Certificates, a CGPA of 3.50 (5.00-point scale) and 3.00(4.00-point scale) or 60-70% shall be taken as equivalent to Upper Credit.

**3.2.2 Master of Engineering (MEng)**

To be eligible for admission to the Master’s degree programme, candidates must:

1. Be graduates of Michael Okpara University of Agriculture, Umudike, or other University in Nigeria recognized by the Senate and shall have obtained a First degree with at least a Second Class hounurs 3.00 on 5.00 scale or 2.5 on 4.00 scale.
2. Possession of first degree with Third Class honours from a recognized University and at least 3.50 at postgraduate diploma in a relevant field or
3. Possess HND with a least lower credit (3.50) plus at least a lower credit at postgraduate diploma (3.50) in a relevant field from a recognized institution or
4. Any other certificate or qualification that may be acceptable to Senate.

**3.2.3 Doctor of Philosophy (Ph.D.)**

To be eligible for admission to the Doctor of philosophy (Ph.D.) programme, a candidate must have obtained a Master’s degree which includes course work and research from the University or its equivalent from any other University recognized by the Senate in relevant disciplines, with a CGPA of a least 4.00 on a 5.00-point scale or 2.50 on a 4.00-point scale or 60%.

1. **REGISTRATION REQUIREMENT**

All students (Undergraduate and Postgraduate) must register their courses in their various Departments at the beginning of each semester. Late registration is not entertained. However, in exceptional cases, the Registrar may permit late registration. The student shall pay a late registration fee as stipulated by Senate, provided that no student will be registered later than three weeks from commencement of lectures for the semester. A student who misses one semester can register for course for the next semester, provided such courses do not have pre-requisites, and he/she must also satisfy the required credit load for the semester.

**4.1** **Undergraduate Registration**

**4.1.1 Minimum and Maximum Credit Load per Semester**

The student shall carry the minimum semester credit unit load of 15 units and a maximum of 24 units approved by the Senate for the courses mapped out in his/her programme.

**4.1.2 Excess Credit Load**

Application for excess credit should come within the Add/Drop Registration period. Such applications must be duly processed through the College Board should be directed to the Senate for approval.

**Table 3: Excess Credit Load**

**CGPA Permissible Excess Credit Load per Semester**

3.50 and above 3

3.09-3.49 2

2.00-2.99 1

Below 2.00 0

**4.1.3 Spill –Over Registration**

Spillover students who have less than six credits units outstanding may register just that number of credits units. In such cases, the 15-credit unit minimum requirement would not apply.

**4.1.4 Waiver**

Spillover students who have no outstanding courses in a semester may apply for a waiver of such a semester. However, Senate may also grant waivers following certification reconciliation of previous results of the students.

**4.1.5 Adding and Dropping of Courses**

Students who wish to drop courses must complete the approved forms obtainable from the Dean’s Offices through the College Officer. Typically, adding/dropping courses may not be allowed later than four weeks from lectures’ commencement.

**4.1.6 Course Code**

i. ENG General Engineering

ii. GSS General Studies

iii. GNT Entrepreneurial Studies

iv. ABE Agricultural and Bioresources Engineering

v. CHE Chemical Engineering

vi. CSE Computer Engineering

vii. ECE Civil Engineering

viii. EEE Electrical/Electronic Engineering

ix EME Mechanical Engineering

**4.1.7 Numerical Codes**

This is a three (3) digits code followed by a letter code. The numerical code is represents the year of study, the serial number, and semester, ENG 221 means General Engineering course at 200 level being offered during the second semester.

**4.1.8 Course Enrolment Typology**

There are various categories of course depending on their role in the workload. They are categorized as

1. **Compulsory-**Course specified by the University or College or Department which the students shall take and pass to graduate.
2. **Required Ancillary-** Compulsory courses in the student’s main or related area of study specified by the College of Department which student must take from another Department and pass to graduate.
3. **Foundational-**Courses common which all students in the same College will take. This is to provide a sound background in the general principle and methodology relating to the disciplines in the College.
4. **Major –**Compulsory courses in the student’s main area of study
5. **Elective-** A course specified by the Department from which list a student could choose to make up the required minimum number of credits for the degree’s award.
6. **Pre-requisite**-A course must be taken and passed before taking other specified courses.
7. **Concurrent-** The specified course that must be taken within the same semester.
8. **General Studies –** This is a compulsory course to be taken by all students in the University irrespective of their programme of study

**4.1.9 Course System and Course Unit(s)**

The course system breaks the workload into courses units. One course unit is defined as series of 15 hours of lectures/tutorials or 45 hours of practicals, workshops, or studio work. A course may be by lectures only or a combination of lectures and practical.

**4.1.10 Designation of Courses**

Courses are designated by a 3-letter prefix and a 3-digit number. The prefix indicates the department/programme that hosts the course, while the first digit of the number indicates the level (year), the second digit indicates the semester (odd numbers indicate first semester while even number indicate second semester), the third digit identifies the course.

200 Level (Year Two) 201-299

300 Level (Year Three) 401-499

400 Level (Year Four) 501-599

500 Level (Year Five) 601-699

**4.1.11 Course Workload for Students:** Full-time students, shall generally be required to register for a minimum of 15 depending on the course of study and 24 credits units during each academic semester. Any student who wishes to register for less than the minimum or more than the maximum shall, with clearly stated reasons, seek the Senate’s permission through the College Board.

**4.2 Postgraduate Registration**

**4.2.1 General Information**

i. On admission, fresh postgraduate students shall register properly using approved forms obtained from the Postgraduate School within a specified period.

ii. Postgraduate programme may commence either in the first or second semester, depending on Department provisions. A student must obtain his/her Department approval for beginning in the second semester and pay the acceptance fee and school fees within three weeks of the first semester.

iii. Admission lapses if admitted students fail to register fully for the programme before the end of the first semester

iv. Students shall not register for more than one postgraduate programme of the University at any one time.

v. A candidate may register for full-time or part-time.

vi. A postgraduate student on part-time study may on application through his/her supervisory committee and on the department’s postgraduate committee’s recommendation, be granted a change of status from part-time to full-time status or vice versa.

(b) **Renewal of Registration**

A postgraduate student shall renew his/her registration within the specified period at the beginning of each semester by paying the prescribed fees and registering for courses, projects, or both. Any student who fails to register in any semester without approval from the postgraduate school shall be deemed to have withdrawn from the programme

(c) **Late Registration**

i. After a specified period of registration, students shall be required to pay a late registration fee as determined by the Senate to register

ii. A student who fails to complete the late registration requirement prescribed in (i) above shall pay an additional late registration.

 However, the student may be allowed to register course if he/she will not meet the required minimum 75% attendance at the lecture.

(d) **Withdrawal of Registration**

A complete registration student may withdrawal his/her registration without penalty within the first week of the semester. The student who withdrawals after the first week of the semester but not later than six weeks after the beginning of the semester+ shall lose 80% of the tuition fee; after that, he/she will not be qualified for any fund.

(e) **Deferment of Admission**

A student can defer his/her admission after full payment of fees and screening

Exercise. The period of deferment shall not exceed one academic session. The student shall not be refunded any fees paid if he/she fails to register after the deferred sessions.

Application for deferment shall be made through the Department and the Dean of the College to the PG school, which shall consider and recommend Senate.

(f) **Temporary Withdrawal**

A postgraduate student may, on application to the postgraduate school and with the full concurrence of his/her supervisory committee and the Department Postgraduate Committee, be granted a temporary withdrawal from his/her programme for a period not exceeding one academic session. During this period, the student cannot use the University facilities and is exempted from all fees. At the expiration of the period, the student applies to the postgraduate school for re-admission. The period of temporary withdrawal shall not be counted as part of the duration of the programme.

(g) **Study List**

Following registration of fresh postgraduate students. Heads of Department on the supervisory committees shall file with the postgraduate school a list containing all the courses each student is expected to do in the entire programme, including any remedial course and course for which credits can be transferred from master’s degree (for PhD. Students) based on the student’s transcripts. These courses are listed in the prospectus.

(h) **Adding/Dropping of Courses**

A postgraduate student may add or drop courses from their list of registered courses in the semesters. Such changes shall be made within three weeks of lectures in each semester.

(i) **Change of Mode of Study**

The student who requires change from part –time to full-time or vice versa must be a fully registered student with a matriculation number.

**4.2.2 Designations of Postgraduate Courses**

 PGD 701-799

 MEng 801-899

 PhD 901-999

1. **GENERAL COURSE TAKEN BY ALL ENGINEERING STUDENTS 100 LEVEL**

**First Semester**

**Table 3: 1st Semester 100 Level**

|  |  |  |  |
| --- | --- | --- | --- |
| **S/N** | **Course Code** | **Course Titles** | **Credit Units** |
| L | T | P | U |
| 1 | ENG 111 | Introduction of Engineering  | 1 | 0 | 0 | 1 |
| 2 | MTH 112 | Elementary Mathematics 1 | 2 | 2 | 0 | 3 |
| 3 | PHY 111 | General Physics 1 | 2 | 0 | 0 | 2 |
| 4 | PHY 112 | Elementary Physics 1 | 2 | 0 | 0 | 2 |
| 5 | PHY 117 | General Physics Laboratory 1 | 0 | 0 | 3 | 1 |
| 6 | CHM 113 | General Chemistry 1 | 2 | 2 | 3 | 4 |
| 7 | CHM 114 | Practical Chemistry 1 | 0 | 0 | 3 | 1 |
| 8 | GSS 111 | Use of English 1 | 1 | 0 | 0 | 1 |
| 9 | GSS 112 | Nigerian History 1 | 2 | 0 | 0 | 2 |
| 10 | GSS 114 | Elementary French 1 | 1 | 0 | 0 | 1 |
| 11 | GSS 115 | Basic German 1 | 1 | 0 | 0 | 1 |
| 12 | GSS 116 | Use of English | 1 | 0 | 0 | 1 |
| 13 | UGC 111 | Farm Practice 1 | 0 | 0 | 3 | 1 |
|  |  | **Total**  | 15 | 4 | 12 | 20 |

**Second Semester**

**Table 4: 2nd Semester 100 Level**

|  |  |  |  |
| --- | --- | --- | --- |
| **S/N** | **Course Code** | **Course Titles** | **Credit Units** |
| L | T | P | U |
| 1 | ENG 121 | Computer Application and Information  | 1 | 0 | 3 |  2 |
| 2 | MTH 122 | Elementary Mathematics II | 2 | 2 | 0 | 3 |
| 3 | MTH 123 | Introduction to Vectors | 2 | 2 | 0 | 3 |
| 4 | PHY 121 | General Physics II | 2 | 0 | 0 | 2 |
| 5 | PHY 122 | Elementary Physics II | 2 | 0 | 0 | 2 |
| 6 | PHY 127 | Physics Laboratory II | 0 | 0 | 3 | 1 |
| 7 | CHM 121 | General Chemistry II | 2 | 2 | 0 | 0 |
| 8 | CHM 124 | Practical Chemistry I | 0 | 0 | 3 | 1 |
| 9 | GSS 121 | Use of English II | 1 | 0 | 0 | 1 |
| 10 | GSS 124 | Elementary French II | 1 | 0 | 0 | 1 |
| 11 | GSS 125 | Basic German II | 1 | 0 | 0 | 1 |
| 12 | GSS 126 | Social Sciences  | 2 | 0 | 0 | 2 |
|  |  | **Total**  | **17** | **4** | **9** | **22** |

**Table 5: First Semester 200 Level**

|  |  |  |  |
| --- | --- | --- | --- |
| **S/N** | **Course Code** | **Course Titles** | **Credit Units** |
| L | T | P | U |
| 1 | ENG 211 | Engineering Thermodynamics I | 2 | 2 | 0 | 3 |
| 2 | ENG 212 | Workshop Technology/Practice | 0 | 0 | 6 | 2 |
| 03 | ENG 213 | Basic Electrical Engineering | 0 | 0 | 3 | 2 |
| 4 | ENG 214 | Engineering Drawing I | 0 | 0 | 6 | 2 |
| 5 | ENG 215 | Engineering Mechanics | 2 | 0 | 3 | 2 |
| 6 | ENG 211 | Mathematical Methods I | 2 | 2 | 0 | 3 |
| 7 | EME 214 | Linear Algebra | 2 | 2 | 0 | 2 |
| 8 | GSS 217 | Philosophy and Logic | 2 | 0 | 0 | 2 |
| 9 | GSS 212 | Peace and Conflict Resolution | 2 | 0 | 0 | 2 |
|  |  | **Total**  | **12** | **6** | **18** | **22** |

**Second Semester**

**Table 6: Second Semester 200 Level**

|  |  |  |  |
| --- | --- | --- | --- |
| **S/N** | **Course Code** | **Course Titles** | **Credit Units** |
| L | T | P | U |
| 1 | ENG 221 | Strength of Material I  | 2 | 0 | 0 | 2 |
| 2 | ENG 222 | Engineering Drawing II | 0 | 0 | 6 | 2 |
| 3 | ENG 223 | Computer Programming | 2 | 0 | 3 | 3 |
| 4 | ENG 224 | Material Science | 2 | 0 | 0 | 2 |
| 5 | ENG 225 | Fluid Mechanics I | 2 | 0 | 0 | 2 |
| 6 | ENG 226 | Engineer in Society | 2 | 0 | 0 | 2 |
| 7 | EME 229 | Fluid Mechanics Laboratory | 2 | 0 | 3 | 2 |
| 8 | EME 220 | Material Science Laboratory | 2 | 0 | 2 | 2 |
| 9 | MTH 221 | Mathematical Methods II | 2 | 2 | 0 | 3 |
| 10 | STA 224 | Statistics for Physical Sciences and Engineering | 2 | 2 | 0 | 3 |
| 11 | GNT 221 | Introduction to Entrepreneurship  | 2 | 0 | 0 | 2 |
| 12 | ENG 200 | Student’s Work Experience Programme (SWEP I) | 0 | 0 | 6 | 1 |
|  |  | **Total**  | **18** | **4** | **18** | **23** |

**Table 7: First Semester 300 Level**

|  |  |  |  |
| --- | --- | --- | --- |
| **S/N** | **Course Code** | **Course Titles** | **Credit Units** |
| L | T | P | U |
| 1 | ENG 311 | Engineering Economics | 2 | 0 | 0 | 2 |
| 2 | ENG 313 | Engineering Analysis | 2 | 2 | 0 | 3 |
| 3 | GNT 311 | Business Development and Management | 2 | 0 | 0 | 2 |

**Table 8: Second Semester 300 Level**

|  |  |  |  |
| --- | --- | --- | --- |
| **S/N** | **Course Code** | **Course Titles** | **Credit Units** |
| L | T | P | U |
| 1 | ENG 326 | Technical Report Writing and Presentation  | 2 | 2 | 0 | 3 |
| 2 | ENG 300 | Student’s Work Experience Programme (SWEP II) |  | 0 | 6 | 1 |

**Table 9: First Semester 400 Level**

|  |  |  |  |
| --- | --- | --- | --- |
| **S/N** | **Course Code** | **Course Titles** | **Credit Units** |
| L | T | P | U |
| 1 | ENG 418 | Computation Methods in Engineering | 2 | 2 | 0 | 3 |
| 2 | GNT 3411 | Practicum  | 0 | 0 | 6 | 2 |

**Table 10: Second Semester 400 Level**

|  |  |  |  |
| --- | --- | --- | --- |
| **S/N** | **Course Code** | **Course Titles** | **Credit Units** |
| L | T | P | U |
| 1 | ENG 400 | Student’s Industrial Work Experience  |  |  | 40 | 15 |

**5.1 Course Listing**

Table 3 – 10 lists semester by semester, all the general courses taken by engineering students at the undergraduate level.

**5.2 Course Descriptions**

The courses listed in tables 3-10 are have the following descriptions

100 level courses

**CHM 113 GENERAL CHEMISTRY 1 (3 CREDITS)**

Basic principles of matter and energy from the chemist’s point of view, atomic theory and molecular structure, stoichiometry, the periodic classification of the elements, atomic structure, chemical bonding, properties of gases, solids, liquids and solutions, chemical equilibrium, ionic equilibrium chemical thermodynamics, electrochemistry and chemical kinetics (includes laboratory sessions)

**CHM 114 PRACTICAL CHEMISTRY 1 (1 CREDIT)**

Laboratory exercise drawn from CHM 113

**CHM 121 GENERAL CHEMISTRY II (3 CREDITS)**

Application of the principles of chemical and physical change to the study of the behavior of matter and in the interactions between matters. Course contents include the chemistry of representatives’ elements and their common compounds with emphasis, on the gradation of their properties – brief chemistry of the first series of transition elements, general principles of extraction of mental; introductory nuclear chemistry (includes lab sessions).

**CHM 124 PRACTICAL CHEMISTRY II (1 CREDIT)**

Theory and practice of simple volumetric and qualitative and analysis, simple organic preparations, functional groups’ reactions, and physics determinations.

**MTH 111 GENERAL MATHEMATICS I (3 CREDITS)**

Indices, logarithms, and surds. Quadratic functions, equations, and inequalities, permutation, and combinations, Matrices and determinants.

Application to the solution of systems of the equation in almost three unknowns. Trigonometric identities, addition, and factor formula. General solutions to trigonometric equations such as aCosA+bSinB=c Coordinate Geometry: The distance between two points, the mid-point formula, gradient of a line joining two points, equation of a straight line, Parallel and perpendicular lines, division of a line in a given ratio. Equation of a circle in a Cartesian coordinate, tangents’ of a circle.

**MTH 112 ELEMENTARY MATHEMATICS (3 CREDITS)**

Elementary set theory: subsets, union, intersection, compliments, Venn diagrams. Real numbers, integers, rational and irrational numbers; mathematical induction, real sequences, and series; theory of quadratic equations, binomial theorem,. Complex numbers; algebra of complex numbers, the Argand Diagram. De Moivre’s theorem, nth roots of unity Circular measure, trigonometric functions of angles, trigonometric identities, addition, and facto formulae. General solution of trigonometric equations such as aCos + bSin = c. Matrices; Introduction to matrices. Elementary operations on matrices determination of at most 3x3 matrices.

**MTH 122 ELEMENTARY MATHEMATIC II (3 CREDITS)**

Function: concept and notation Polynomial and rational functions, trigonometric, exponential, and logarithmic functions. Limit and the idea of continuity. The derivative as the limit of the rate of change. Differentiation of algebraic, trigonometric, exponential, and logarithmic functions. Techniques of differentiation. Application to curve sketching, maxima, and minima, etc., integration as the inverse of differentiation. Definite and integrals. Methods of integration (substitution, partial fraction, parts) Application to geometry and mechanics.

**MTH 123 INTRODUCTION TO VECTORS (2 CREDITS)**

Equations of straight lines, circles, eclipse, parabola, and hyperbola. Tangents and normal. Vector, laws of vector algebra. Reproduction of vectors in 1-3 dimension. Components and direction cosines. Addition of vectors and multiplication of a vector by a scalar. Scalar and vector products of two vectors, triple products, vector equation of a straight line and plane.

**MTH 211 MATHEMATICAL METHODS I (3 CREDITS)**

Learning Outcomes

1. Analyse the series and tests for convergence of infinite sequences
2. Describe lines and planes using relevant equations
3. Apply matrices in the solution of linear algebraic equations
4. Solve complex problems on product, gradient, divergence, and curl of vectors

Course Content

Series and tests for convergence if infinite sequences and series of numbers. Equation of lines and planes. Matrices determinants, eigen values and eigen functions, matrix solution of linear algebraic equations, dot and cross product of vectors, triple products, vector functions, the gradient, divergence and curl. Vector spaces. Linear dependence and independence (Wronskians and Jacobians). Computer solution of matrices.

**MTH 214 LINEAR ALGEBRA I (2 CREDITS)**

Learning Outcomes

1. Describe vector spaces over real fields
2. Determine linear independence, basis, and dimensions of equations
3. Discuss and be able to solve complex problems in linear transformations
4. Solve problems related to the algebra of matrices and apply it to the solution of systems of linear equations

**Course Content**

Vector spaces over the real field. Subspaces. Linear independence, basis and dimension. Change of basis. Linear transformations and their representation by matrices. Range, null space and rank. Singular and non-singular transformations. Algebra of matrices. Systems of linear equations.

**CHM 212 PHYSICAL CHEMISTRY II (2 CREDITS)**

Kinetic theory of gases: Behaviour of Real gases; the Law of Thermodynamic; Entropy and free energy; reaction to phase equilibria; Reaction rates; Reaction laws; Mechanism and theories of elementary processes, Photochemical reactions; Basic electrochemistry.

**MTH 221 MATHEMATICAL METHODS II (3 CREDITS)**

Learning Outcomes

1. Describe physical systems using ordinary differential equations (ODEs).
2. Explain the practical importance of solving ODEs, solution methods, and analytically solve a wide range of ODEs, including linear constant coefficient types.
3. Numerically solve differential equations using MATLAB and other emerging applications.
4. Apply the concept and consequences of analyticity and the Cauchy-Riemann equations and of results on harmonic and entire functions of complex variables, as well as the theory of conformal mapping to solve problems from various fields of engineering.

Course Content

Review of differentiation and integration methods. Derivation of equations from physics, chemistry, biology, geometry etc. Ordinary differential equations. Applications of first order differential equations. Second order linear equations. Linear dependence and independence. Solutions of second order linear differential equations by method of undetermined coefficients and variation of parameters. Simple Laplace transformation. Solution of initial-value problems by Laplace transform method. Computer solution of selected engineering problems. Excel package.

Double and triple integrals with applications, vector integration and vector integral theorems: divergence, Green’s and Stoke’s theorems and applications. Functions of more than one variable. Extermination of functions of many variables.

###### **STA 224 STATISTICS FOR PHYSICAL SCIENCE & ENGINEERS (3 CREDITS)**

Learning Outcomes

1. Apply the principles of Binomial Theorem in the solution of Engineering problems.
2. Identify the correct application of the poisson, geometric and hyper-geometric distributions.
3. Analyse data using Normal and Chi-square.

Course Content

Distributions: Binomial, Poisson, Geometric and Hyper-geometric. Continuous probability distributions: Normal, chi-square (x) and F.

**GNT 221 INTRODUCTION TO ENTREPRENEURIAL STUDIES (2 CREDITS)**

Basic Engineering Business Settings: Review of engineering business activities. Introduction to the organizational structure of manufacturing organization. Entrepreneurship and new venture a creation:- Evolution of industrial, domestic, and commercial products to meet society’s needs. Drawing, Bill of Quantities. Identification of Materials-material location, quantity, quality and handling requirements, specification. Quality control and measurement. Cost estimation and marketing of products: market/Product mix, market research, and market strategy. Group technology task.

**GSS 217 PHILOSOPHY AND LOGIC (2 CREDITS)**

Learning Outcomes

1. Identify the main branches of philosophy & the centrality of logic in philosophical discourse
2. Think critically and assess arguments in texts, conversations and day-to-day discussions
3. Develop the capacity to extrapolate and deploy expertise in logic to other areas of knowledge
4. Guide his or her actions, using the knowledge and expertise acquired in philosophy and logic

Course Content

An overview of philosophy. Definition and uses of philosophy. Philosophy and common sense; philosophy and myth; philosophy and religion; philosophy and science – empiricism. Metaphysics, ethics, epistemology, logic, existentialism.

**PHY III GENERAL PHYSICS 1 (MECHANICS AND PROPERTIES OF MATTERS) (2 CREDITS)**

The relevance of physics to Agriculture, fundamental and Derived Units, Dimensions, Vectors, addition and subtraction of vectors. Resolution of vector, scalar, and vector products. Equilibrium the principle of moments, the centre of gravity, and its application in agriculture. Kinematics; displacement velocity and acceleration. Projectile motion, circular motion, simple Harmonic motion. Dynamics: Newton’s laws of mechanics, Elastic and inelastic collision modulus of elasticity; statics friction, inertia, a moment of inertia, and torque, properties of matter, Archimedes principle, fluid pressure, blood pressure.

**PHY 112 ELEMENTARY PHYSICS 1 (2 CREDITS)**

Space and Time, units and dimensions, frames of reference, Kinematics, Fundamental laws of mechanics, statics and dynamics, work and energy. Conservation laws, Galilean Invariance, Universal gravitation, retinal dynamics, and angular momentum. Molecular treatment of properties of matter, elasticity, Hooke’s law, Young’s shear, and bulk moduli, Hydrostatics, pressure, buoyancy, Archimedes’ principle, hydro-dynamics streamlines, Bernoulli and continuity equations, turbulence, Reynolds’s Number, laminar flow.

**PHY 117 GENERAL PHYSICS LABORATORY I (1 CREDIT)**

Learning Outcomes

1. Conduct measurements of some physical quantities
2. Make observations of events, collect and tabulate data
3. Identify and evaluate some common experimental errors
4. Plot graphs, and draw conclusions from numerical and graphical analysis of data

Course Content

Relevance of physics to agriculture, fundamental and derived Credits, dimensions, vectors; addition & subtractions of vectors, resolution of vectors, scalar & vector products. Equilibrium, the principle of moments, centre of gravity and its application in agriculture, kinematics displacement, velocity and acceleration, projectile motion, circular motion, simple harmonic motion. Dynamics; elasticity; statics, friction, inertia, moment of inertia and torque, properties of matter, Archimedes principle fluid pressure, blood pressure.

**PHY 121 GENERAL PHYSICS II (2 CREDITS)**

Learning Outcomes

1. Be able to use relevant equations to describe the behaviour of waves
2. To understand Light and Sound as waves
3. Understand the principles of electric and magnetic fields
4. Understand the Faraday’s law of Electromagnetic Induction

Course Content

Waves: Dynamics of waves. The wave equation, characteristics of waves, stationary waves. Light waves and its characteristics. Imaging, sound wave. Doppler effects. The converging lens. Refraction at plane surfaces. Electricity; electrostatic force. Coulomb’s law, electric field and electric potential. Ohm’s law, Alternating current, Magnetism; magnetic effects of currents. Permanent magnetism, Ferro-magnetism. Faraday’s laws of induction. The potentiometer and the white stone bridge. Concept of heat. Temperature and thermometers.

**PHY 122 ELEMENTARY PHYSICS II (2 CREDITS)**

Learning Outcomes

1. Be able to solve problems related to electrostatic fields
2. Identify the behaviour of materials used in electricity (Conductors, and dielectrics)
3. To understand the applications of the Maxwell’s equations
4. To know the applications of the Wave theory

Course Content

Electrostatics, conductors and currents; dielectrics, magnetic field and induction; Maxwell’s equations; Electromagnetic oscillations and waves; applications.

**PHY 127 PHYSICS LABORATORY II (1 CREDIT)**

Learning Outcomes

1. Conduct measurements of some physical quantities
2. Make observations of events, collect and tabulate data, and plot graphs
3. Draw conclusions from numerical and graphical analysis of data
4. Prepare and present practical reports

Course Content

This introductory course emphasizes quantitative measurements, the treatment of measurement errors and graphical analysis. A variety of experimental techniques will be employed. The experiments include studies of meters, the oscilloscope, mechanical systems, electrical and mechanical resonant systems, light, heat, viscosity.

**GSS 111 USE OF ENGLISH I (1 CREDITS)**

Learning Outcomes

1. Identify possible sound patterns in English Language
2. Classify word formation processes
3. Demonstrate an appreciable level of the art of public speaking and listening
4. Write simple and technical reports.

Course Content

Listening comprehension: note taking during lectures, note taking from audio-visual equipment, concentration signals and cues as aids to listening comprehension. Phonetics. The use of the Library and Basic Research Methods: Types of Libraries, forms of Library services, cataloguing and book classification schemes, process of data collection/analysis, research writing, process and technique, documentation, references, notes and bibliography, abbreviations in research writing, the finished research report. Reading comprehension: the outline note, summary writing, genre and techniques of reading comprehension: scanning, skimming, intensive/extensive reading, word/text attack skills, SQ3R techniques, varieties of English and Levels of Usage, vocabulary development: word choice and usage denotation and connotation. Term paper writing and submission.

**GSS 112 NIGERIAN HISTORY (2 CREDITS)**

Learning Outcomes

1. Understand the cultures of the peoples of Nigeria
2. Understand the political institutions in Nigeria
3. Understand the Economic Institutions in Nigeria
4. Understand the environment and health practices in Nigeria

Course Content

The concept of culture, pre-colonial cultures and languages of Nigeria. Principles of kinship. Descent and marriage in Nigerian cultures. Nigerian economic institutions, Nigerian political institutions. Education and development in Nigeria. Religion in Nigerian culture. Culture, environment and health practices in Nigeria.

**GSS 114 : ELEMENTARY FRENCH I (1 CREDIT)**

Learning Outcomes

1. Understand the French language and its development around the world
2. French greetings
3. Personal Introduction
4. Understanding common French in daily usage

Course Content

Introduction : au pays La France et à la language francaise. Developement de la langue à travers le monde. La Francophonie et les habitants des pays. Pourquoi le francais au Nigeria. La contribution de la France dans le développement de l’Agriculture, de la Science et de la Technologie. Les salutations quotidiennes et usuelles. Preséntation de soi et d’autrui : nom, profession, adresse, et nationalité etc. Les professions dans le secteur agricole. Le personnel de l’université. Identification des gens et des objets communs. Les nombres car dinaux et ordinaux. S’orienter : trouver son chemin dans le campus. Interrogation et negation a base des verbes les plus usages chaque jour.

**GSS 115 BASIC GERMAN I (1 CREDIT)**

Learning Outcomes

1. Pronunciation of Alphabets
2. Understand the use of definite and indefinite articles
3. Be able to conjugate verbs into present, perfect, future tense, etc
4. Know numbers

Course Content

Pronunciation of alphabet (A, B, C, D, E, etc) vowels (A, E, I, O, U), Diphthongs (ai, ei, ou, eu, oi, ui) and consonants (b, c, d,). Differentiation of verbs int: Starke, schwache, and Hilfsverb. Conjugation of verbs into presens, Imperfekt, Plusquamperfekt, Futur I, Futur II. Declination of nouns (substantiv); Pronouns (Wir, Ich, du, sie, er, es, 1hr, Sie). The usə of definite and indefinite articles – der, die, das, ein, eine, and their declinations. The use of betimmte and umbestimte Numerale, as well as Adjective and its comparison. Use of capital leters and its importance.

Alltag usages-days of the week, season of the year, timing, the months. The use of Negation –nicht. Interrogation-weiche, was, warum, wer; Hilfsverbs- sein, haben.

**GSS 116 USE OF LIBRARY**

History of libraries, Library, and education. Types of libraries. Study skills, type of Library materials; using Library resources including e-learning, e-materials, etc. understanding Library catalogues and classification, copyright and its implications. Database resources. Bibliographic citations and referencing. Plagiarism.

**GSS 121 USE OF ENGLISH II (BASIC GRAMMAR & VARIETIES OF WRITING) (2 CREDITS)**

Learning Outcomes

1. Understand the elements of a sentence, types and varieties
2. Understand the rules of sentence construction
3. Apply devices of coherence/logical connectors in paragraphs
4. Know the different types of writing

Course Content

Each student is required to study a recommended novel.

Basic Grammar: Sentence elements, sentence types and varieties, punctuation and capitalization, abbreviation in sentence construction, homonyms, synonyms, antonyms and acronyms, error identification and correction.

Writing Skills and varieties of writing: the paragraph – devices of coherence/logical connectors, types of writing – narration, description, exposition, and argumentation.

**GSS 124 ELEMENTARY FRENCH II (1 CREDIT)**

Learning Outcomes

1. Be able to describe specific dates and times
2. Be able to describe self and others
3. Know and be able to use some possessive adjectives
4. Be able to describe places

Course Content

Les jours de la semaine, les mois de l’anneé, la date. Description physiques et psychologiques de soi et des autres personnes Quelle heure est-il ? Description de la vie et des activities quotidiennes ; interrogation et negation. L’alphabet francsais et l’orthographe, introduction à la dictée. Les adjectives possessifs, Le corps humain. A l’hôpital. En ville : à la poste, au marché, à lagare, à la biblionthéque etc. Les autres moyens de transport. La famille, les vétements et les couleurs.

**GSS 125 BASIC GERMAN II (1 CREDIT)**

Learning Outcomes

1. Be able to define sentences
2. Be able to understand the forms of German sentences
3. Understand the basic rules of verb conjugation
4. Make simple sentences

Course Content

Saiziehre (Sentence Construction): definition of sentences, art and form of German sentences, Das Saizghid. Use of Surfix and Prefix; Use of big and small letters in sentences; Conjugation of verbs.

**GSS 126 SOCIAL SCIENCE (2 CREDITS)**

Learning Outcomes

1. To have a global perspective on economics, institutions and developments
2. To understand the basics of trade development in Nigeria
3. Possess a firm grasp of the state and structure of economics in ECOWAS
4. Hold an opinion about Nigeria and the economic cooperation in Africa (ECA)

Course Content

A global perspective of economics, institutions and developments. The law of scarcity and the technological choices open to any society. Trade development with special reference to trade in primary products, imports substitution and export possibilities in Nigeria and Third World countries; Nigeria’s balance of payments and commercial policies. Economic integration or unions. State and structure of economics of ECOWAS countries. Nigerian and ECOWAS; prospects for industrialization, trade; fiscal and monetary policies for accelerated industrialization. Nigeria and the Economic Co-operation in Africa (ECA).

**ENG 111 INTRODUCTION TO ENGINEERING (1 CREDIT)**

Learning Outcomes

1. Students should understand the history and evolutions in Engineering
2. Students should understand the role of Engineers in Nation building
3. Understand Safety and Risk analysis in Engineering
4. Understand the human activities, and how they affect the environment

Course Content

Engineering and Technology: Man – his origin and nature; man and his economic environment; scientific methodology; science and technology in the society and service of man. Renewable and non-renewable resources; Man and his energy resources. Environmental effects of chemicals, plastics, textiles, wastes and other materials. Chemical and radio-chemical hazards. Introduction to the various areas of science and technology. Engineer in society: History of Engineering and technology; Safety in Engineering and Introduction to Risk Analysis. The Role of Engineers in nation building. Invited lecturers form professionals.

# **ENG 121 COMPUTER APPLICATIONS AND INFORMATION TECHNOLOGY (2 CREDITS)**

Learning Outcomes

1. Students should be able to understand the use of data processing applications like Excel and Power point
2. Understand the use and application of some Computer software for solving mathematical problems
3. Become familiar with the principles of Information Technology, Network and Securities

Synopsis

Computer Application Overview: Data Processing Application and Computations involving Microsoft Excel (Spread sheet), Power point etc. Introduction to Computer Simulation Software: Use of Computer Software for solving mathematical problems. Management Information Systems and Networks: Information Technology, Network and Securities etc.

**SECOND YEAR**

**ENG 211 THERMODYNAMICS I (3 CREDITS)**

Learning Outcomes

1. Distinguish heat transfer by conduction, convection and radiation, and calculate the amount of heat energy transferred
2. Apply the first law of thermodynamics for closed systems and construct conservation of mass and energy equations
3. Evaluate thermodynamic applications using second law of thermodynamics
4. Calculate thermal efficiency and coefficient of performance for heat engine, refrigerators and heat pumps

Course Content

Thermodynamic properties, energy relations and conservation. Paths and processes. Cycle analysis, reversibility. The first law and second law of thermodynamics, entropy. Irreversibility and availability. Air-standard cycles, power and efficiencies. The steady state flow equation (Bernouli Equation) and application. Masses. Elements of vibrated systems. Force and motion relationship in constrained mechanisms.

**ENG 212 WORKSHOP TECHNOLOGY/PRACTICE (2 CREDITS)**

Learning Outcomes

1. Master workshop and industrial safety practices, accident prevention and ergonomics
2. Acquire proficiency in the use of engineering measuring instruments
3. Develop capacity in different metal cutting, shaping, and joining methods
4. Develop capacity in different wood cutting, shaping, and joining methods
5. Understand the use of conventions and colour coding in electrical engineering

Course Content

Industrial safety: safety code of conduct and safety consciousness. Survey of common sources of accidents in the work place. Accident prevention and control. Use of engineering measuring instruments: Callipers, gauges. Sheet metal work-layout and Blacksmithing hand tool, cutting, shaping, welding, brazing, soldering, bolting and reverting and working principles. Joints and fastenings: Woodwork: Basic woodworking principle and tools. Types of joints, processing of timber. Introduction to Industrial bolting and riveting. Safety: survey of sources of common accidents, accident prevention and control. Introduction to machine shop: lathe work: shaping, milling and grinding, Electrical workshop practice: convention and application of colour, codes for cables, resistors, etc and signs. Use of simple electrical tools, machines, etc. Measurement and marking: for Uniformity, circulatory, concentricity, etc.

**ENG 213 BASIC ELECTRICAL ENGINEERING (3 CREDITS)**

Learning Outcomes

1. Discuss the fundamental concepts of electricity
2. Solve problems related to electric and magnetic fields and circuits
3. State, explain and apply the basic DC circuit theorems
4. Solve complex problems related to Power in AC circuits

Course Content

SI System of unit, E.S. and F.M. Fields: Electric field intensity, potential and potential Difference, magnetic field intensity, flux and flux density, Magnetic circuits, inductors. DC circuit Analysis: Kirchoff’s Law, Mesh and Nodal Equations, Superposition Theorem. Thevenins Theorem, Norton’s Theorem, Maximum power transfer, transients (RL and RC) circuits.

Maximum RMS and average values of waveforms. Inductive and capacitive reactance. Power in ac circuits, use of complex algebra in the solution of circuit, Resonance. Three Phase AC System: Three phase balanced system, Delta/Star connections, line and phase voltages and currents.

**ENG 214 ENGINEERING DRAWING I (2 CREDITS)**

Learning Outcomes

1. Apply mastery of the use of projections to prepare detailed working drawing of objects and designs
2. Develop skills in parametric design to aid their ability to see design in the optimal specification of materials and systems to meet needs
3. Be able to analyse and optimize designs on the basis of strength and material minimization
4. Be able to translate their thoughts and excitements to produce shop drawings for multi-physical, multidisciplinary design

Course Content

Drawing instruments and the use of graphic tools. Introduction to drawing, measuring, lettering and dimensioning of objects in various views/positions. Engineering geometry. Projections: lines, planes and simple solids. Fundamentals of orthographic projection, first and third angle orthogonal projections, isometric projections. Graphs, charts and presentation of data and results.

Pictorial/freehand sketching. Graphical calculus and Applications.

**ENG 215 ENGINEERING MECHANICS (3 CREDITS)**

Learning Outcomes

1. Explain the fundamental principles of applied mechanics, particularly equilibrium analysis, friction, kinematics and momentum
2. Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, mathematics and applied mechanics
3. Synthesize Newtonian Physics with static analysis to determine the complete load impact on all components of a given structure with a load
4. Apply engineering design principles to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors

Course Content

Statics: laws of statics; system of forces and their properties; friction, free body diagrams, equilibrium conditions, vector equations and vector diagrams, simple problems. Particle dynamics: translational motion and rotational motion, general planar motion, kinematics of plane motion. Laws of motion, Newton’s law, kinetics of particles, momentum and energy methods. Kinetics of rigid bodies: two dimensional motions of rigid bodies, energy and momentum. Mass and mechanisms. Static and dynamic forced analysis.

**ENG 221 STRENGTH OF MATERIALS I (2 CREDITS)**

Learning Outcomes

1. Recognise a structural system that is stable and in equilibrium.
2. Determine the stress-strain relation for single and composite members based on Hooke's law, and estimate the stresses and strains in single and composite members due to temperature changes.
3. Evaluate the distribution of shear forces and bending moments in beams with distributed and concentrated loads
4. Use Mohr's circle to evaluate the normal and shear stresses in a multi-dimensional stress system and transformation of these stresses into strains
5. Evaluate the stresses and strains due to torsion on circular members and determine the buckling loads of columns under various fixity conditions at the ends

Course Content

Introduction to stress and strain; some simple states of stress and strain; stresses; relationship between loading, shearing forces and bending moment; composite shafts and tensional strain energy. Deflection of beams, Macaulay’s method, area moment method, Maxwell’s reciprocal rule, built-in and continuous beam in various loading situations; Complex stress and strain, Mohr’s stress circle, principal stress and strain, electric constant and volumetric strain; St. Venant’s theory; stress in composite materials, bending of plates; membranes. Stresses; stresses in thin cylinders and spheres; thermal stresses; stresses in rivets, joints, etc. use of strain gauge and other measuring devices.

**ENG 222 ENGINEERING DRAWING II (2 CREDITS)**

Learning Outcomes

1. Apply mastery of the use of projections to prepare detailed working drawing of objects and designs.
2. Develop skills in parametric design to aid their ability to see design in the optimal specification of materials and systems to meet needs.
3. Be able to analyze and optimize designs on the basis of strength and material minimization.
4. Be able to translate their thoughts and excitements to produce shop drawings for multi-physical, multidisciplinary design.

Course Content

Projection of lines and laminae; auxiliary views and mixed projection. Preparation of detailed working drawings for production; semi-detailed drawings, conventional presentation methods. Assembly drawing of machines, devices and installation layout; itemization and part-listing. Drawing office practice and reprographics. Connections in Engineering Drawing. Introduction to IS code of drawing. Conics and engineering curves – ellipse, parabola, hyperbola, cycloid, trochoid, involutes. Projection of planes and solids (cube, prison, pyramid, cylinder, core and sphere.

**ENG 223 COMPUTER PROGRAMMING (3 CREDITS)**

Learning Outcomes

1. Describe and apply computing, software engineering knowledge, best practices, and standards appropriate for complex engineering software systems.
2. Discuss algorithm flow charts and pseudo codes.
3. Develop capacity in computer programming in Fortran, Matlab, C++, or later versions.
4. Develop proficiency in coding and use of compilers to solve simple engineering analysis problems.

Course Content

Computer, computing and engineering, algorithms flow chart and pseudo code. Computer languages, programming in FORTRAN, Matlab, C++ or later versions. Debugging techniques. Computer code security. Laboratory: hands-on experience on computers through the use of ‘Compilers to run programs’ and to solve simple analysis problems in fluid, thermodynamics, heat transfer and electrical systems.

**ENG 224 MATERIALS SCIENCE (2 CREDITS)**

Learning Outcomes

1. Discuss atomic molecular structures and defects in crystals, conductors, and insulators
2. Discuss the principles of heat treatment and mechanical testing
3. Describe corrosion and corrosion control techniques
4. Describe the properties of electrical materials

Course Content

Atomic and Molecular Structures, Crystals. Metallic States. Defects in Crystals, Conductors, Semi-conductors and Insulators. Alloy theory – application to industrial alloys steel in particular. Engineering Properties – their control. Hot and cold working, heat treatment, etc. Principles of mechanical testing, impact test, tensile test, hardness tests, fatigue tests, creep test and non-destructive tests. Fracture. Corrosion and corrosion control. Equilibrium and rate reaction. Non-metallic materials – glass, rubber, concrete, plastics, wood and ceramic materials. Electrical properties. Magnetic materials: properties and characteristics. Domain theory, magnetostatics, anisotropy, losses, permanent magnets, transformers, cores. Electric materials: Liquid, solid and organic dielectrics polymers: properties/characteristics, inorganic materials, piezoelectric and ferro-electric materials, composite structures, conductors, superconductors and insulators. Reaction and Phase Equilibrant; Reaction rate, Rate laws Mechanisms, and elementary processes theories:- Photochemical reactions Basic Electrochemistry.

**ENG 225 FLUID MECHANICS I (3 CREDITS)**

Learning Outcomes

1. Explain the properties of fluids.
2. Determine forces in static fluids and fluids in motion, and whether a floating body will be stable.
3. Perform calculations based on principles of mass, momentum and energy conservation.
4. Perform calculations based on principles of mass, momentum and energy conservation.
5. Perform dimensional analysis and simple fluid modelling problems, and specify the type and capacity of pumps and turbines for engineering applications.

Course Content

Definition of a fluid and fluid properties. Statics of fluid systems, pressure in a static fluid, momentary forces on planes and curved surfaces. Kinematics of fluid motion, streamlines, velocity, acceleration, rotation and circulation.

Buoyancy and floatation, stability of floating and submerged bodies. Types of flow, continuity equation, energy equation, momentum equation, fluid resistance, laminar and turbulent flow in fluids, flow in closed conduits boundary layer concepts. The Euler and Bernoulli equations. Differential analysis. Fluid measurements; pressure, velocity and flow rates. Hydraulics of pipe flow; hydraulic and energy grade lines, pipes in series, parallel pipes, branching pipes, network of pipes, deterioration of pipes. Unsteady flow conduits, water hammer purge control. ………

###### **ENG 226: ENGINEER IN SOCIETY (1 CREDIT)**

Learning Outcomes

1. Differentiate between science, engineering and technology, and relate them to innovation.
2. Identify and distinguish between the relevant professional bodies in engineering, and the different engineering cadres.
3. Categorise the goals of global/sustainable development goals (SDG)
4. Identify and evaluate safety and risk in engineering practice.

Course Content

Philosophy of science. History of Engineering and Technology. Safety in Engineering and Introduction to Risk Analysis. The Role of Engineers in Nation Building. Invited Lectures from professionals.

**THIRD YEAR**

**ENG 311 ENGINEERING ECONOMICS (2 CREDITS)**

Learning Outcomes

1. Identify the factors of production.
2. Discuss the effects of supply and demand on prices, and price elasticity..
3. Discuss money, taxation, budget and international trade.
4. Acquire proficiency in cost analysis

Course Content

Basic Concepts. Factors of production. Supply and demand. Price elasticity analysis. Household behaviour theories. Business organization. Production, the market, income employment – classical, non-classical, and Keynesian approaches. Money, expenditure, taxation, budget, International trade. Cost analysis: fixed and variable costs, capital cost, cost recovery factor, depreciation and breakeven analysis.

**ENG 313 ENGINEERING ANALYSIS I (3 CREDITS)**

Learning Outcomes

1. Solve second order differential equations.
2. Solve partial differential equations and linear integral equations.
3. Relate integral transforms to solution of differential and integral equations, and explain and apply interpolation formulas.
4. Apply Runge-Kutta and other similar methods in solving ODE and PDEs.

Course Content

Complex derivatives and analytical functions. Bilinear transformation, conformal mapping, contour integration, Cauchy’s integral theory, residue theorem, applications and Riemans surfaces. Special functions, Bessels equation, fourier series and lengendre functions. Simultaneous differential equations with constant coefficients; Laplace transforms methods. Linear second order differential equations with constant and variable coefficients. Classification of second order partial differential equations:- Laplace, wave & diffusion equations, initials and boundary value problems, separation of variables, similarity solutions. Solution of equations by iteration. Newton-Raphson Method; errors. Numerical differentiation and integration, Simpson’s rule. Introduction to interpolation and curve fittings. Statistical Analysis; Regression and correlation – large sampling theory, Test Hypothesis and Quality Control. Introduction to system modeling/simulation.

###### **ENG 326: TECHNICAL REPORT WRITING AND PRESENTATION (1 CREDIT)**

Learning Outcomes

1. Discuss the principles of effective communication and the professional use of English Language.
2. Identify the types of technical writing.
3. Describe the component parts of a typical project report.
4. Proper presentation of tables and figures in a project report.

Course Contents

Principles of effective communication. Professional use of the English Language. Principles of technical writing. Types of technical report/ Technical Articles. Oral presentation of technical ideas.

**FOURTH YEAR**

###### **ENG 418: COMPUTATIONAL METHODS IN ENGINEERING (3 CREDITS)**

Learning Outcomes

1. Improve in their knowledge and application of polynomials and their zeros and relate to system stability.
2. Describe the principles and applications of different numerical methods.
3. Discuss the various numerical methods applicable to Engineering problems.
4. Explain the meaning and further enhance the essence of the eigenvalue problem.
5. Apply the principles of computational methods to the solution of Engineering Problems.
6. Appreciate the various methods of solution of linear equations.

Course Content

Polynomials and their zeros: methods of bisection, Bairstow synthetic division and lahmer. Divert methods for the solution of linear equations. Convergence: interpolation and differentiation method in numerical integration Newton coates formulae and finite difference methods. The eigenvalue problem solution of ordinary differential equations. Methods of Taylor, Euler, Predictor – corrector and runge-Kutta.

**ENG 400 STUDENTS INDUSTRIAL WORK EXPERIENCE SCHEME (15 CREDITS)**

**GNT 411 PRACTICUM (2 CREDITS)**

Engagement in various trades (skills) at practical levels-laid out in three groups.

1. **MATRICULATION**
2. **Undergraduate** – All fresh students must matriculate at a formal ceremony organized by the University. The matriculation ceremony is scheduled for a date after the students’ registration and communicated to them appropriately. Every matriculating student shall take the matriculating oath and sign the register.
3. **Postgraduate –** All postgraduate students except graduates of MOUAU shall be required to matriculate as a requirement for graduation.
4. **RESIDENCY OF STUDY**

**7.1** Undergraduate Program

**7.1.1** Semester System

The University operates the semester system. An academic year is divided into two semesters of fifteen weeks each. Students shall register for approved courses each semester and be examined in them at the end of the semester. The allowed program duration, also known as the student’s residency is shown in Table 11.

**7.1.2 Change of Degree Programme**

Students cannot change their degree programmes until a full academic year is completed in the University. Application for change of degree programme could be made on the official application form obtainable from the Registrar’s office. The Registrar may convey approval for the change of degree programme on the Department and Colleges’ concurrent agreement following Senate approval.

**7.2 Postgraduate Programme**

To satisfy the minimum residency of MOUAU, every postgraduate student must attend a minimum of seventy five percent (75%) lectures and complete the prescribed courses and research project, theses/dissertation amounting to at least ten and not more than 15 credit unit for full time and 8 to 10 units per part-time semester. See Table 12 for the residency duration for postgraduate programme.

**Table 11: Duration of Study**

|  |  |  |  |
| --- | --- | --- | --- |
| **S/N** | **Mode of Admission** | **Minimum Year** | **Maximum Year** |
| 123 | Candidates admitted into 100 levelDirect entry candidates admitted into 200 level Direct entry candidates into 300 level | 543 | 865 |

**Table 12: Duration of Postgraduate Programme**

|  |  |  |
| --- | --- | --- |
| **Programme** | **Minimum Semester** | **Maximum Semester** |
|  **Postgraduate Diploma (PGD)**  |
| **Full-time** |  **2** | **4** |
| **Part-time** |  **4** | **6** |
|  **Masters of Engineering (MEng)** |
| **Full-time** |  **2** |  **5** |
| **Part-time** |  **3** |  **8** |
|  **Doctor of Philosophy (Ph.D.)** |
| **Full-time** |  **3** |  **6** |
| **Part-time** |  **4** |  **10** |

First-class Degree candidates shall require a minimum of six (6) semesters for full-time and ten (10) for part-time.

Senate may extend a student’s programme by not more than one semester for full-time students and two (2) for a part-time student. The candidate shall write an application for extension, stating the reason(s), duly endorsed by the student’s supervisory committee for a Ph.D student and the supervisor for MEng students. The Head Department shall meet the Postgraduate School on behalf of the student after signing and present the student’s request. The Postgraduate School Board shall after discuss the student request, shall recommend it to Senate for approval.

**7.2.2 Course Work Requirements**

All postgraduate programmes of MOUAU shall usually be based on course work and partly on research/project.

**7.2.3 Workload for Postgraduate Programme**

a. A unit of workload consists of one-hour lectures per week for 15 weeks.

b. The minimum workload for postgraduate students at MOUAU shall be as follows.

i. **Postgraduate diploma**- Minimum: 28 credits Units; 15 credits units for core courses, nine credits units for an elective, and four credits units for projects.

ii. **Masters degree-**Minimum: 30 credits units, namely, 22 credit units for core courses, General courses, two units Seminar, six credits units for elective courses, and Theses 6 units.

iii. **Doctoral Degree –**Minimum 24 credit units. 12 core courses, and 12 credit units for dissertation (including those course transferred from Masters that will not be more than six credits units.

**7.2.4 Transfer of Credits**

A maximum of 6 credits units earned in course taken from master degrees shall be transferable to a Doctoral programme in the same or related field of study as determined by the student’s supervisory committee and as approved by the departmental postgraduate committee and Board of the postgraduate school. Courses for which credit may be transferred shall be core courses in the student’s field of specialization, and a grade shall be not lower than a B grade.

**7.3 Standard of Scholarship**

a. Only course in which a student has earned a grade of at least a C shall be counted in satisfying the graduation requirements for any postgraduate programme.

b. The following minimum of the requirement shall apply for a student to return in status and the award of postgraduate diploma and higher degrees:

**7.3 Postgraduate Diploma**

1. A student shall be required to earn a CGPA of 3.00 for 700 level courses taken to remain a status. A CGPA of 2.5 is also needed for a student to graduate.

2. A student who obtains less than a ‘C’ in any courses shall be granted permission once to re-take the written examination. If he fails to score at least ‘C’ in the re-sit examination, he/she shall have failed and will have the PGD programmes terminated by the Senate on the postgraduate School’s recommendation.

3. Any student whose CGPA fails below 2.5 in any semester shall withdraw from the programme

4. A student shall submit a satisfactory project.

**7.5 Masters Degree**

1. A student shall be required to earn a CGPA of 3.50 for all 800 level courses taken to remain in status. A CGPA of 3.00 is also required for a student to graduate. A CGPA less than 3.49 shall earn a terminal Master’s degree.

2. Below the above standard (i.e 2.50-2.99), a student shall be given one session to attain minimum standard or withdraw from the programme. The student shall register the fail courses but attain University minimum units for the semester.

3 Any student whose CGPA falls 2.5 in any semester shall withdraw from the programme

4. A student shall submit a satisfactory thesis.

**7.6 Doctoral Degree:**

1. A student shall be required to earn a CGPA of 4.00 to remain in status and graduate.

2. Below the above standard (i.e., 2.50-3.99), a student shall be given one session attain the minimum standard or withdraw from the programme.

3. Any student whose CGPA falls below 2.50 in any semester shall withdraw from the programme.

4. A student shall submit a satisfactory dissertation.

**7.7 Areas of Specialization**

a. Each postgraduate student shall have a significant or minor area of specialization.

b. A postgraduate major in the academic area is the specialization approved by Senate for the various Departments in which the student chooses to qualify for a graduate degree. Upon completing a graduate degree, the degree awarded and the major area is listed on the student’s transcript.

c. The minor may be the same or different department or an academic area available only as a minor.

d. Additional courses, designated as electives, may be taken by a postgraduate student at the discretion of his/her supervisory committee.

e. At least 50% of a postgraduate student’s course work shall be in the major area, at least 25% in the minor area, and the remaining shall be made up of elective.

1. **Academic Concerns**

The University has set out procedure for handling students’ academic grievances and are listed in the academic regulations section of the Students’ handbook, which each student is entitled to a copy. Students’ academic grievances are usually handled by the student’s academic adviser, the Head of Department, and the Student’s Affairs division unit. Appropriate recommendations are forwarded to the University Senate, if necessary, through the College Board.

**8.1 Students’ Academic Advising**

All academic are involved in academic advising. Each set of students is assigned an academic staff as an adviser by the Head of Department. Student advising is done through the academic advisers appointed by the Department for each student’s level of the Department. Some of the functions of the academic adviser include:

1. Ensuring effective enrolment of the students during registration.
2. Checking the academic load of the students with regards to the number of credit unit to be carried per session.
3. Making sure that the students duly observe the regulations of the academic department and the University.
4. Assists students on cases of adding and dropping courses.
5. Keeping regular office hours for the students to consult with him/her.
6. Making essential academic appraisal of the students’ works
7. Consulting with the Dean of Student Affairs office where the student has any psychological problems.

**8.2 Academic Atmosphere**

To encourage the pursuit of academic excellence, the College:

1. Maintain formal classroom lectures, laboratory practical and assignment.
2. Insist on an oral project defense for appropriate students
3. Encourage exhibition of students’ design work during the yearly engineering week.
4. Encourage seminars by students
5. Ensure that the College library is open to students during office hours.

The academic standard is also maintained through strict adherence to Senate-approved academic regulations governing various courses, which include insistence of internal and external moderation of examinations. Efforts are consistently made to ensure that facilities needed for the effective delivery of courses are always available.

Attendance at classes, practicals, laboratories, and examinations is compulsory. The College/Department shall keep proper records of attendance. No student will be allowed to write any examination unless he is registered correctly in the course being examined. He must also attain seventy-five (75%) percent attendance at the lectures/practicals/laboratories to qualify for the examination.

**8.3 Academic Withdrawal (Probation)**

Any student whose Cumulative Grade Point Average (CGPA) is below 1.00 at the end of any academic year shall be placed on probation for one academic year. He should take the failed courses and any other courses from other related disciplines. Suppose at the end of the period of probation the student still fails to make the required CGPA. In that case, he/she shall be required to withdrawal from the university for one academic year, after which he/she may apply for readmission into any other programme. If no department accepts him/her, he/she would be asked to withdraw finally from the University. The readmission is not automatic since approval would be based on the decision of the University Senate.

**8.4 Temporary Voluntary Withdrawal**

Any student who wishes to withdraw temporarily from the University shall notify the Registrar in writing through his/her Head of Department and Dean of the College.

**8.5 Permanent Withdrawal**

Any student who wishes to withdraw temporarily from the University shall notify the Registrar in writing through his/her Head of Department and Dean of the College giving the reason(s) for his/her withdrawal and the effective date. The withdrawal becomes effective after approval by the University Senate.

**8.6 Withdrawal on Health Grounds**

A student may request withdraw or be asked to withdraw from the University for ill-health certified by the Director of Health Services of the University. Such a student should write through his/her HOD and Dean to the Registrar. Students may withdraw from the University only after completing one year of study in the University except for health reasons.

**8.7 Re-Admission into the University**

Any student who withdraws from the University may apply to the Registrar through his/her Head of Department and Dean of the College for readmission within a period not exceeding one academic year from the date the withdrawal was approved by the Senate, provided that a student expelled from the University shall not be readmitted or offered fresh admission into the University.

**8.8 UNRULY BEHAVIOR**

The lecturer shall require any student whose behavior interferes with the smooth conduct and delivery of instruction in a class, laboratory, or lecture hall/room to withdraw from such a course. The student’s refusal shall be regarded as misconduct and reported to this Vice Chancellor through the Dean of College for further action.

1. **UNDERGRADUATE\POSTGRADUATE EXAMINATIONS**

**9.1 ELIGIBILITY TO SIT UNIVERSITY EXAMINATION**

i. Examinations for all years of study shall be conducted at the end of the semester in which the courses are taught.

ii. A student shall not be eligible for any University examination unless he has satisfied the requirements for registration of courses and attending lectures and practicals

iii. No student shall be notified of his examination result if the Registrar, on the advice of the Bursar, confirms that the student is indebted to the University.

iv. The Vice Chancellor, who shall report to the Senate at its next meeting for ratification, may disallow a student from taking any University examinations on disciplinary grounds.

**9.2 INABILITY TO SIT FOR EXAMINATIONS**

 i. Any student who is unable to sit for any an examination on account of proven ii-health certified by the Doctor, University Health Service, or for any other reason which must be convincingly acceptable to the University Senate when presented, may apply to the Chairman of Senate through HOD/Dean of his department and College respectively, for permission to rewrite the exam at the next available opportunity.

 ii. The Dean shall forward the student’s application to the Registrar with specific recommendations, based on the authenticity or otherwise of the student’s reason, after consultations with the Departmental and College Boards, respectively.

 iii. Typically, the application for absence from examination by any student shall be made before the examination date. This is not possible. The student shall apply for the Head of his/her Department not later than two weeks after the examination, with an advance copy forwarded to the Registrar.

 iv. The Registrar shall present any student’s application for absence from examination received by him to the Senate.

 v. Candidates whose cases are approved by the University Senate shall, however, be required to take the examination at the next available opportunity in the appropriate semester. Candidates who fail to present themselves for any University examinations without recourse to (i) – (v) above shall be deemed to have failed that examination. This is without prejudice to the right of any student’s application to Senate as provided for in (i) above.

**9.3 REVIEW OF SCRIPT OF AGGRIEVED STUDENTS**

 i. Any student who feels he/she is unfairly graded in a University examination shall petition the Chairman of Senate through the Head of Department and Dean of College. The Chairman of Senate shall formally refer the petition to the College offering the course for a review. The College shall adopt the following procedure in the review process.

 ii. Photocopy of the answer script for review, with every comment by the original marker removed, shall be forwarded for review as follows:

1. Final year semester examination script : to one external examiner
2. Non-final year semester examination scripts: two internal examiners
3. For no-final year semester examinations, the result arrived at the College Board review shall suffice. For the final year semester examinations, the College Board’s recommendations shall be forwarded to the Senate for ratification.

iii. Such a student applying for the review of their scripts shall pay a charge.

 iv. In all cases, the original marker of the script(s) shall not participate in the

 script review(s).

 v. The time limit to be allowed any aggrieved student to apply for the review

 of his script(s).

**9.4 POSTGRADUATE EXAMINATIONS**

 **GENERAL INSTRUCTIONS**

1. Examinations shall be conducted for postgraduate students in all the courses registered at the end of every semester.
2. It is the Department’s responsibility to organize and supervise examinations with the Head of the Department as the chief examiner.
3. Only students registered for a course shall be allow to sit for an examination. Such a student must have satisfied the University and Departmental requirements regarding attendance at lectures, the performance of assignments, and payment of all required fees. It shall be the responsibility of a student to ensure that he/she is duly registered for the appropriate courses and to ascertain dates, time, and places of examinations for the courses which he/she registered.
4. A student shall not be admitted into an examination room 30 minutes after the commencement of the examination. Under normal examine within the allocated time.
5. No student shall be excused from taking the whole or part of any examination except on presentation of medical report and certificate by the Director of the University Medical Centre. Such a student is unfit to take the examination. Application for absence from an examination and request to examination at the next available opportunity shall be before the examination date and later than two weeks after the examination. This should be submitted to the Postgraduate School through the Head of Department. Thereafter, the Postgraduate School shall consider all the evidence presented, including oral evidence, and make a recommendation to Senate for the final decision.
6. A student who registers for a course and fails to present him/herself for examination in it, without acceptable reason(s) shall earn a grade of F for it.
7. Marks and grades for all courses shall be considered in the first instant by the Department Postgraduate Committee, which shall forward approved results to the Dean Postgraduate School. Examination results shall be submitted in an approved format, usually under confidential cover.
8. No student shall be informed of the result of any examination by an individual until Senate has approved it. After approval, the postgraduate School shall officially communicate the results together with each student’s statue to them.
9. Official transcripts of student’s result shall be the postgraduate school secretary and countersigned by the Dean of the postgraduate school.
10. For all postgraduate course work, the minimum pass score shall be 50% (grade C); continuous assessment shall constitute 30% of each course’s examination.
11. **EXAMINATION OFFENCES AND MISCONDUCT**

**10.1 EXAMINATION OFFENCES**

These shall include:

1. Disobedience to the invigilators during an examination
2. Failure to adhere to time requirements during an examination
3. Involvement in any act capable of disturbing the smooth conduct of an examination
4. Any act capable of disturbing the smooth conduct of an examination shall result in a penalty as may be determined by the appropriate authority of the University

**10.2 EXAMINATION MISCONDUCT**

Sanctions for Examination Misconduct and other Related Offences as approved by the Senate of Michael Okpara University of Agriculture, Umudike at her 134th regular meeting held on May 11, 2011 are listed in Table 13.

Table 13: List of Examination Offences and Applicable Sanctions

|  |  |  |
| --- | --- | --- |
| **S/N** | **Offence/Misconduct** | **Sanction** |
| 1. | Communication with any Student in any manner, receiving assistance or giving assistance to another student(s) during examination. | Rustication for two (2) semesters; expulsion at repeat of same offence/misconduct. |
| 2. | Impersonation in an examination | Expulsion for the impersonator and the impersonated |
| 3. | Copying or reading from another student’s answer script during an examination or opening one’s script or material for another student to read or copy. | Rustication for two (2) semesters; expulsion at repeat of same offence/misconduct |
| 4. | Bringing into the examination hall/room any unauthorized materials such as books, notes, papers, devices, phones, manuscripts. | Expulsion from the University |
| 5. | Involvement in leaking examination question papers or any form of unauthorized handling of examination questions. | Expulsion |
| 6. | Forging, altering or presenting medical report in order to obtain deferment of an examination or any other benefit | The culprit will face the Student Disciplinary Committee. |
| 7. | Lobbying for examination grades by whatever means  | The culprit will face the Student Disciplinary Committee. |
| 8. | Involvement in any other form of cheating or other acts intended to confer undue advantage on the student. | Rustication for two (2) semesters; expulsion at repeat of same offence/misconduct. |
| 9. | Aiding, abetting or covering examination misconduct by any student. | Rustication for two (2) semesters; expulsion at repeat of same offence/misconduct. |
| 10. | Refusal to make a written statement or sign any of the materials to be used as exhibits in support of an examination misconduct. | Expulsion |
| 11. | Refusal to appear before an examination misconduct or malpractice Committee/Panel | Expulsion |
| 12. | Smuggling of examination question paper out of the examination hall/room while the examination is in progress | Expulsion |
| 13. | Refusal to hand over suspected/incriminating materials  | Expulsion |
| 14. | Destruction of suspected/incriminating materials | Expulsion |
| 15. | Failure to return in answer script after an examination  | Rustication for two (2) semesters; expulsion at repeat of same offence/misconduct. |
| 16. | Writing before the order to begin or after the student has been ordered to stop writing. | The Supervisor shall deduct 10 marks from the student’s work. |

**11.0** **GRADUATION REQUIREMENTS**

**11.1 UNDERGRADUATE GRADING SYSTEM AND REQUIREMENTS FOR GRADUATION**

Each student shall be required to obtain at least a final cumulative grade point average of 1.50 to qualify for graduation. The student must, also, receive a passing grade in all major, required ancillary, general studies, and elective courses registered, and satisfy the required minimum aggregate credit units of his/her programme. To graduate, students must with a minimum score of D in all coursed taken in addition to the presentation of a satisfactory project. Students’ final examination also involves an oral examination to assess their projects.

The approved examination scores and their grades are as indicated in Table 5. A student is deemed to pass an examination if he/she scores a grade of D or above. A student who does not take an examination in a course that he/she duly registered for without reason acceptable to the Senate shall earn an ‘F’ grade the course.

Table 14: Grading System

|  |  |  |  |
| --- | --- | --- | --- |
| **Marks** | **Letter Grade** | **Grade Point** | **Description** |
| **70-100** | **A** | **5.00** |  **Excellent** |
| **60-69** | **B** | **4.00** |  **Very Good** |
| **50-59** | **C** | **3.00** |  **Good** |
| **45-49** | **D** | **2.00** |  **Pass** |
| **0-44** | **F** | **0.00** |  **Fail** |

**11.1.1 Classification of Degree**

**Classification of Degree is based Cumulative Grade Point Average (CGPA) system**

**Table 15: Classification of Degree**

|  |  |
| --- | --- |
| **CGPA** | **CLASS OF DEGREE** |
| 4.50 – 5.00 | First Class |
| 3.50 – 4.49 | 2nd Class Upper |
| 2.40 – 3.49 | 2nd Class Lower |
| 1.50 – 2.39 | 3rd Class |
| 0.00 – 1.49 | Fail  |

**11.2 Postgraduate Graduation Requirement**

a) To quality for the Postgraduate Diploma award, a candidate must have been credited with at least 64 units of compulsory courses that include the project report.

b) All courses shall be graded out of a maximum of 100, and the pass mark shall be 50 marks

 Marks shall be assigned an appropriate letter grade and their equivalent grade point follows:

Table 16: Postgraduate Score Grading

|  |  |  |
| --- | --- | --- |
|  **SCORE** | **GRADE** | **GRADE POINT** |
|  |  |  |
| 70 and above | A | 5 |
| 60 – 69 | B | 4 |
| 50 – 59 | C | 3 |
| 45 – 49 | D | 2 |
| 0 – 44.9 | E | 0 |

**11.2.1 Postgraduate Diploma Cumulative Grade Point Average**

|  |  |
| --- | --- |
|  |  |
| 4.5 – 5.0-point |  Distinction  |
| 3.5 – 4.49 point2.5 – 3.49 point | Upper CreditLower Credit |
| 1.5 – 2.49-point |  Pass  |

 To obtain the MEng degree, a candidate must satisfy the following conditions:

1. Obtain a grade of not less than a “C” in Continuous Assessment and examination of the taught courses at the end of each semester.
2. Submit and defend a Dissertation that must carry the candidate’s original work and results, and show a substantial contribution to knowledge.
3. Successfully defend the Dissertation and score a grade not lower than a “C”.

Meet other relevant conditions application to the award of High Degree as prescribed by the Postgraduate School of the Michael University of Agriculture, Umudike.

To obtain the Ph.D., a candidate must satisfy the following conditions:

1. Obtain a grade of not less than a “B” in Continuous Assessment and examination of the taught courses at the end of each semester.
2. Present and pass (obtaining a grade, not lower than a “B”) in the research seminars.
3. Submit and defend a Dissertation that must carry the candidate’s original work and results, and show a substantial contribution to knowledge.
4. Successfully defend the Dissertation and score a grade not lower than a “B”.

Meet other relevant conditions applicable to the award of Higher Degree as prescribed by the postgraduate School of the Michael Okpara University of Agriculture, Umudike.

1. **Grade Point Average (GPA):** This is the average weighted grade point obtained in all the courses taken in a session. The grade point average is obtained by multiplying the grade point attained in each course by the number of credit units assigned to that course, the summation of these, and division of the sum of the total grade points obtained by the total number of credit units for the session, GPA shall be calculated to at least two places of decimal.
2. **Cumulative Grade Point Average (CGPA):** This is an up-to-date mean of the student’s grade points in a programme of study. It is obtained by multiplying the grade points by the respective credit units for all the semesters (or sessions), summating these, and dividing the total sum by the total number of credit units for all courses registered by the student. The CGPA shall be calculate to two places of decimal.
3. **Probating:** Probation is a status granted to a student whose academic performance falls below an acceptable standard. Consequently, a student whose CGPA is below 1.0 at the end of any year of study shall earn a probating period for one academic session. In the probation year, the student shall register for only failed courses.
4. **Expulsion:** A student shall be expelled from the university due to gross misconduct, examinations misconduct, or any other offenses as determined by the laws and regulations of the University after such a student might have been allowed to defend him/herself. Such students shall not be readmitted by the laws and regulations of the University into the University.
5. **Withdrawals:** A student whose CGPA is below 1.0 at the end of a particular period of probation shall be asked to withdraw from the programme of study. However, the student may allow to change to other degree programmes within the University.

**12.0 DEPARTMENT OF AGRICULTURE AND BIO-RESOURCES ENGINEERING**

**12.1 Undergraduate Programme**

This department runs a 5-year degree programme leading to the award of the Bachelor Engineering (BEng) degree as well as the following programmes;

1. Post Graduate Diploma (PGD)
2. Master of Engineering (MEng)
3. Doctor of Philosophy (Ph.D.)

**12.1.1 Objectives of the Department**

The objectives of the Department of Agricultural and Bioresources Engineering include:

1. To train engineers who are conversant with the application of scientific and engineering principles to agricultural mechanization and food production, processing, preservation storage, soil and water resources development, and management.
2. Enabling the attainment, in the shortest possible time, of self-sufficiency in the production of basic food through applying engineering techniques and improving the quality of rural life, etc.

**12.1.2 Scope of the Programme**

The study of Agricultural and Bio-resources engineering can be specialized in the following options: namely, Soil and Water Conservation Engineering. Farm Power and Machinery Engineering. Farm Structure and Environmental Control Engineering as well as Agricultural Processing, Storage and Food Engineering. Agricultural and Bio-resources Engineering combines all these options to produce broadly trained graduates versatile for professional jobs in both public and private sectors. Agricultural and Bio-resources Engineering adds a biotechnology dimension to Engineering technology by studying and understanding the principle of crop and livestock production and the strength and properties of soils, plant and animal materials, and possible energy generations from biomaterials. Like any other engineering field, Agricultural and Bio-resources Engineering education must have a strong physical – science base, with particular attention to physics, chemistry, mathematics. It is requires an understanding of engineering science, particularly in the areas of materials, fluid and head flow, computations, and mechanisms

**12.1.3. Admission Requirements**

Same as prescribed by the College

**12.1.4 Graduation Requirement for Bachelor of Engineering (BEng) programme**

Same as prescribed by the College

**12.2 Postgraduate Programme**

**12.2.1 Philosophy of the Programme**

The Programme aims to apply engineering principles and technology to contribute to self-sufficiency in food and fiber production and environmental control through teaching, research, and extension.

1. **Objectives of the Programme**

The objectives of the programme, among other things, include:

1. To help students acquire in-depth knowledge of the basic principles of engineering and agricultural resources.
2. To help students develop students’ capacity to conceptualize, synthesize and communicate knowledge of technologies that will contribute to the well-being of humanity.
3. To help students develop their ingenuity using specialized techniques in solving technical –problems.
4. **Scope of the Programme**

The scope of the programme covers all areas of Agricultural and Bio-resources Engineering which include courses on-farm power unit, irrigation drainage, erosion control and utilization of water resources, agricultural, food and bioprocessing, storage, packing and handling, farm structures, livestock, and plant environments, electrical and solar energy utilization, information and computer technologies in agriculture and aquaculture and forestry leading to the award of post-graduate Diploma (PGD), Master of Engineering (MEng) and Doctor of Philosophy (Ph.D) degree in four specialized areas of Agricultural and Bio-resources Engineering.

1. **Areas of Specialization**
2. Power and Machinery Engineering
3. Processing and Storage and Food Engineering
4. Soil and Water Conservation Engineering
5. Farm Structures and Environmental Control Engineering

**12.2.2 Post Graduate Diploma (PGD)**

Department of Agricultural and Bio-resources engineering runs a postgraduate diploma programme which involves course work and a project report. The project report shall be assessed and graded at the end of the programme.

1. **Entry Requirements**

Same as prescribed by the College

1. **Duration of Study**

According to COREN Specification, the PGD programme in Agricultural Engineering and Bio-resources shall run a regular programme in four semesters of course work and project work with no specialization.

**12.2.3** **Master of Engineering (MEng)**

The MEng programme involves course work, thesis research, and a final oral examination in defense of the thesis research.

**Entry Requirements.**

Same as prescribed by the College

**12.2.4 Doctoral Degree (Ph.D.)**

The Ph.D. programme involves course and comprehensive research work

**Entry Requirements**

Same as prescribed by the College

Table 17: Academic Staff of Agricultural and Bioresources Engineering (ABE) Department

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| S/N | Full Names | Qualifications | Area of Specialization | Email | Telephone | Rank |
| 1 | Engr Dr Okechukwu Oduma | B.Eng, M.Eng, PhD. | Farm Power and Machinery | odumaoke@gmail.com | 08038845074 | Associate Professor/ HOD |
| 2 | Prof V. I. O. Ndirika | B.Eng M.Eng PhD | Post-Harvest Engineering | vndirika@yahoo.com | 08035929353 | Professor |
| 3 | Prof K. J. Simonyan | B.Eng M.Eng PhD | Post-Harvest, Renewable and Bioenergy Engineering | Simonyan.kayode@mouau.edu.ng | 07036915162 | Professor |
| 4 | Prof I. E. Ahaneku | B.Eng M.Eng PhD | Soil and Water Engineering | drahaneku@yahoo.com | 08035726641 | Professor |
| 5 | Prof A. B. Eke | B.Eng M.Eng PhD | Postharvest Engineering | akafav@yahoo.com | 08051280994 | Professor |
| 6 | Prof U. N. Onwuka | M.Sc PhD | Food Engineering | unonwuka@yahoo.com | 08035374051 | Professor |
| 7 | Prof J. C. Adama | B.Eng M.Eng PhD | Farm Power and Machinery | adama@yahoo.com | 08039146246 | Professor |
| 8 | Prof M. C. Ndukwu | B.Eng M.Eng PhD | Bioprocess and Food Engineering | Ndukwumcu@mouau.edu.ng | 08032132924 | Professor |
| 9 | Prof J. U. Etoamihe | B.Eng M.Eng PhD | Food Engineering, Farm Process and Machinery | jetos@yahoo.co.uk | 08035855530 | Professor |
| 10 | Dr E. C. Ugwu | B.Eng M.Eng PhD | Soil and Water Engineering | eugwu01qub.ac.uk | 08036321433 | Senior Lecturer |
| 11 | Engr C. U. Orji | B.Sc M.Sc | Processing/Farm power and machinery | Samgra1@yahoo.com | 08023513603 | Lecturer 1 |
| 12 | Engr Dr C.C. Emeka-Chris | B.Eng M.Eng PhD | Soil and Water Engineering | Cemekachris1@gmail.com | 08036707103 | Senior Lecturer |
| 13 | Engr Dr A. O. Igbozulike | B.Eng M.Eng PhD | Processing and Storage | Igbozulike.augustine@mouau.edu.ng | 08037523665 | Senior Lecturer |
| 14 | Engr F. O. Pearse | B.Eng M.Eng | Soil and Water Engineering | femovampearse@yahoo.com | 08037979564 | Lecturer 1 |
| 15 | Engr Dr O. O. Onu | B.Eng M.Eng PhD | Processing, Storage, and Food Engineering | trippleonu@gmail.com | 08067250538 | Lecturer 1 |
| 16 | Engr Dr A. C. Onyenwoke | B.Eng M.Eng PhD | Processing, Storage, and Food Engineering | magidaaus@yahoo.com | 08068089373 | Lecturer 1 |
| 17 | Engr Dr J. C. Ehiem | B.Eng M.Eng PhD | Bioprocess and Storage Engineering | Chinaka71@yahoo.com | 07037907689 | Lecturer 1 |
| 18 | Engr Dr P. Ehimogue | B.Eng M.Eng PhD | Soil and water Engineering | pehiomogue@yahoo.com | 08136446795 | Lecturer 1 |
| 19 | Engr S. O. Babalola | M.Eng PhD | Farm Structures and Environmental/ Soil and Water | Wumiq4@yahoo.com | 07080194642 | Lecturer 1 |
| 20 | Engr Dr F. N. Orji | B.Eng M.Eng PhD | Soil and Water | Nkemdirim.orji@mouau.edu.ng | 08036462168 | Lecturer 1 |
| 21 | Engr C. Edeh | B.Eng M.Eng | Soil and Water | Edeh.chidinma@mouau.edu.ng | 08022770767 | Lecturer 1 |
| 22 | Engr I. Okosa | B.Eng M.Eng | Soil and Water | okosain@gmail.com | 08068491443 | Lecturer II |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S/N** | **Full Names** | **Qualifications** | **Area of Specialization**  | **Email Address** | **Telephone** | **Rank**  |
| 1 | Mr. Francis Okechukwu Nkwazema | HND | Soil and Water Engineering | nkwazemafrank@yahoo.com | 07065644671 | Principal Technologist 1 |
| 2 | Mr. Osemedua Okafor-yadi | HND | Farm Power and Machinery | osseyza@yahoo.com | 08028224659 | Principal Technologist 11 |
| 3 | Mrs. Nkechi Nancy Amanze | HND | Soil and Water Engineering | liftedone@yahoo.com | 08038738604 | Principal Technologist 11 |
| 4 | Edeth Joseph Antigha | B.Eng.MEng | Soil and Water Engineering | josephdonjoe2018@gmail.com | 08133448654 | Technologist 1 |
| 5 | Mr. Cyprian Diricha | B.Eng  | Farm Power and Machinery  | cydinoha@yahoo.com | 07039619308 | Engineer 1 |
| 6 | Engr. Paul Tosin | B.Eng.MEng | Food Engineering  | Ptosin106@gmail.com | 07039240664 | Engineer 1 |
| 7 | Unachukwu Joseph Ogonnaya | B.Eng | Soil and Water Engineering | unachujwogona@yahoo.com | 08034491938 | Engineer 11 |

Table 18: Technical Staff of ABE

**13. DEPARTMENT OF CHEMICAL ENGINEERING**

**13.1 Bachelor of Engineering (BEng) Programme**

The Department of Chemistry Engineering runs a five-year (5) year degree programme leading to the Bachelor of Engineering award (BEng.) Degree

**13.2 Aims and Objectives**

The aim of establishing the Department of Chemical Engineering is to bridge the gap between research in academic and the industry. There are so many challenges facing the industry, and the technical know-how to meet the challenges is paramount. We are out to provide the technological know-how and to chart the course for an industrial revolution. The objective of this Department is not only to train students for conventional jobs also to adequately equip students for the real world outside the University for them to be real innovators, inventors, and entrepreneurs.

**13.3 Mission and Vision**

The Department and Chemical Engineering’s mission. MOUAU is to produce world-class Chemical Engineers who will be solution providers in their respective organizations.

Our vision is to establish strong collaborations with universities within the country and the Western World to exchange our research findings and thereby propagate the name of our great University, MOUAU.

**13.4 Admission Requirements**

The admission requirement is the same as prescribed by the College

**13.5 Postgraduate programmes**

**13.5.1 PGD**

**(a) Admission Requirements**

 Same as prescribed by the College

**(b) Degree Requirements**

Same as prescribed by the College

**13.5.2 MEng**

**(a) Admission Requirements**

Same as prescribed by the College

**(b) Degree Requirements**

Same as prescribed by the College

**13.5.3 Doctor of Philosophy (Ph.D.) Programme**

 **Admission Requirements**

 Same as prescribed by the College

 **Graduation Degree Requirements**

Same as prescribed by the College

**13.6 Areas of Specialization**

(i) Environmental Engineering

(ii) Process and Products Development

(iii) Petrochemical Engineering

(iv) Biochemical Engineering

(v) Bioploymer Engineering

(vi) Process System Engineering

Table 19: Academic Staff of Chemical Engineering (ABE) Department

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S/N** | **Full Names** | **Qualification** | **Area of specialization** | **Email Address** | **Telephone** | **Rank** |
| 1 | Dr. Oke Emmanuel Olusola | B.Tech, M.Tech, Ph.D | Process Systems Engineering (Processing Modeling, Simulation process Design and Economics). | Soleemmanuel1@gmail.com  | 08034625727 | Associate Professor |
| 2 | Dr. Okolo Benard Ibezim  | B.Eng, M.Eng, Ph.D | Absorption, Coagulation, Flocculation, Environmental Pollution. | curonkolo@yahoo.com  | 07032363899 | Associate Professor |
| 3 | Dr. Nnaji Patrick Chukwudi | B.Eng, M.Eng, Ph.D | Environmental Engineering, Kinetics/Mass Transfer, Waste Water Treatment and Management. | nnaji\_cat@yahoo.com pc.nnaji@mouau.edu.ng  | 08038679175 | Associate Professor |
| 4 | Dr. Adeyi Oladayo | B.Tech, M.Sc, Ph.D | Process Systems Engineering, Food Emulsion Technology, Process Synthesis and Economics. | adeyioladayo350@gmail.com  | 07069197748 | Senior Lecturer |
| 5 | Dr. O John Adebayo | B.Sc, PG.D, M.Sc, Ph.D | Separation Process Technology (Extraction), Sustainable Separation Process (Simulation and Scale-up), Thermophysical Properties | jalolorin@gmail.com  | 07035666707 | Senior Lecturer |
| 6 | Ugwuodo Chijioke B | B.Eng, M.Eng | Process Design, Renewable and Non-renewable Energy | boncee78@gmail.com  | 08037156199 | Senior Lecturer |
| 7 | Anike Ephraim Nnaemeka | B.Eng, M.Eng | Renewable Energy, Catalysis and Process Engineering | anike.ephraim@mouau.edu.g  | 08034833363 | Senior Lecturer |
| 8 | Ugwu Boniface Ifeanyi | B.Eng, M.Eng | Bioenergy (Biodiesel catalysis) and Thermodynamics | bona | 08036239133 | Lecturer 1 |
| 9 | Kenenchi Nwosu-Obieogu  | B.Eng, M.Eng | Bioprocess Engineering | kenenwosuobie@gmail.com  | 08037998008 | Senior Lecturer |
| 10 | Tochukwu Apugo-Nwosu | B.Eng, M.Eng | Simulation and Process Engineering | apugonwosu@mouau.edu.ng  | 08036813717 | Lecturer 1 |
| 11 | Engr F. O. Aguele | B.Eng M.Sc | Polymer, Composites, and Biomaterials | aguelefelix@yahoo.com | 08035996885 | Lecturer 1 |
| 12 | Engr Dr C. M. Agu | B.Eng M.Eng Ph.D | Modeling and Optimization of the extraction process, Renewable Energy | edueta@yahoo.com | 07067197157 | Lecturer 1 |
| 13 | Engr Dr C. N. Ude | B.Eng M.Eng Ph.D | Biofuels, Adsorption, Corrosion, and Crystallization | Calyjoe4real@gmail.com | 08039353264 | Lecturer 1 |
| 14 | Engr Dr G. O. Okoronkwo | B.Eng M.Eng Ph.D | Polymer, Composites, and Hybrids | Ogeorgeonyeka:gmail.com | 08063791192 | Lecturer 1 |
| 15 | Engr. G. W. Dzarma | B.Eng M.Eng | Flow Assurance, Oil and Gas Exploration, and Processing | Dzarma.goziya@mouau.edu.ng | 08069121746 | Lecturer II |
| 16 | Engr C. N. Oguanobi | B.Eng M.Eng | Adsorption | oguanobinonso@gmail.com | 08039548859 | Assistant Research Fellow |
| 17 | Engr N. K. Akatobi | B.Eng M.Sc | Adsorption, Environmental Engineering and Management | Noble.kelechi@yahoo.com | 08033362283 | Research Assistant |

**Table 20: Technical Staff of Chemical Engineering Department**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Full Names** | **Qualification**  | **Area of Specialization**  | **E-mail Address** | **Telephone**  | **Rank**  |
| **Ohabuike Okechukwu Gabriel** | **B.Eng** | **Environmental Engineering** | **okwy2k3@yahoo.com** | **08059009147** | **Senior Technologist 1** |
| **Ige Olutimi** | **HND** | **Renewable Entry** | **timmyige96@gmail.com** | **08033836034** | **Senior Technologist 11** |
| **Nwankwo Magnus** | **ND B. Eng** | **Petroleum and Natural Gas Processing S.L.T** | **nwankwomagnus32@gmail.com** | **08035195668** | **Engineer 1** |
| **Egwu-Kelechi Mercy C.** | **HND** | **Processing Engineering** | **mc4real4ever92@gmail.com** | **08030603297** | **Higher Technical Officer**  |
| **Anyakudo Uzoma C.** | **HND** | **Petrochemical Processing/Reservoir**  | **uzomaa@yahoo.com** | **08060965860** | **Higher Technical Officer**  |
| **Ogueri Obinna O.** | **B.Eng** |  | **lightbearer@gmail.com** | **08037985365** | **Engineer 1** |

**14. DEPARTMENT OF CIVIL ENGINEERING**

**14.1 Bachelor of Engineering (BEng) Programme**

The Department of Civil Engineering runs a 5-year degree programme leading to the award of Bachelor Engineering (BEng) degree.

**14.2 Goals and Objectives**

The programe’s general aims and objectives are to produce Civil Engineering with competence to meet national needs and aspirations of industrial development, thus bringing about technological emancipation. The training is aimed at not creating white-collar sit-in-office professional but confident, self-reliant field engineers who will not only plan, design, construct and maintain civil engineering projects but also would be problem solvers and not liabilities to their employers. They will not just be self-employed but will be employers of labor. The program aims to provide the students with sufficient academic background, entrepreneurial skill, and practical training to confront the challenges of our developing economy.

**14.3 Scope of the Programme**

The scope of the Civil Engineering programme derives from the definition by the Royal Charter of the Institution of Civil Engineers, London in 1828 as “the art of directing the great source of power in nature for the use and convenience of man. “It can be defined as the planning, design, construction, and maintenance of fixed structures and ground facilities for industries, transportation, use and control of water or occupancy. It involves analysis, planning, and design of significant public works such as transportation systems, water supply systems, pollution control systems, bridges, and dams to improve our environment. Also, it guarantees a future for the public. The uniqueness of the programme is in the extensive, basic training given to students in the sciences, mathematics, and workshop practice, and exposure through SIWES to industries and real-life construction work. Most importantly, qualified and experienced professionals are steadily assembled to ensure proper grounding of the studies in the core courses such as hydraulics, structural design, highway design, soil mechanics, foundation engineering, project management, etc. The interdisciplinary connection of civil engineering with applied sciences and other branches of Engineering is one main reason for the continued widening of Civil Engineering’s scope.

**14.4 Admission Requirements**

Same as prescribed by the College

**14.5 Graduation Degree Requirements**

Same as prescribed by the College

Table 21: Academic Staff of Civil Engineering Department

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| S/N | Name | Qualification | Specialization | Email | Phone | Rank |
| 1 | Engr. Dr U. B. Ngene | B.Eng M.Eng Ph.D | Structures | Ngene.ben@mouau.edu.ng | 08033385454 | Associate Professor/HOD |
| 2 | Engr Dr E. M. Mbadike | B.Eng M.Eng Ph.D | Structures | elvismbadike@yahoo.com | 08138804020 | Professor |
| 3 | Engr. Dr G. Ezeokpube | B.Eng M.Eng Ph.D | Structures | engrgreg@yahoo.com | 0803746228 | Professor |
| 4 | Engr Dr J. I. Obianyo | B.Eng M.Eng Ph.D | Water Resources Engineering | jiobianyo@gmail.com | 07031337247 | Associate Professor |
| 5 | Engr Dr N. U. Okonkwo | B.Eng M.Eng Ph.D | Geotechnical Engineering | ugochukwuokonkwo@gmail.com | 07033993341 | Associate Professor |
| 6 | Engr Dr K. C. Onyelowe | B.Eng M.Eng Ph.D | Geotechnical Engineering | konyelowe@mouau.edu.ng | 08039547350 | Associate Professor |
| 7 | Engr Dr E. E. Arinze | B.Eng M.Eng Ph.D | Geotechnical/Geo-Environmental Engineering | emmanuelarinze@mouau.edu.ng | 08030903791 | Senior Lecturer |
| 8 | Engr Dr O.A. Ubachukwu | B.Eng M.Eng Ph.D | Structures and Material Engineering | obiubachukwu@yahoo.com | 08035014452 | Senior Lecturer |
| 9 | Engr Dr O. C. Ikpemo | B.Eng M.Eng Ph.D | Water Resources, Soil and Environmental Engineering | ikpemooc@gmail.com | 08033975158 | Senior Lecturer |
| 10 | Engr Dr O. H. Ozioko | B.Eng M.Eng Ph.D | Structures | Ho.ozioko@mouau.edu.ng | 08034933579 | Senior Lecturer |
| 11 | Engr. I. M. Jideofo | B.Eng M.Eng | Structures | ifymgi@yahoo.com | 08034933579 | Lecturer 1 |
| 12 | Engr N. I. Nwakpuda | B.Eng M.Eng | Construction Management | suplusanat@yahoo.com | 08033401201 | Lecturer 1 |
| 13 | Engr. E. V. Ohazurike | B.Eng M.Eng | Water Resources Engineering | Emeka.ohazurike@yahoo.com | 08068441191 | Lecturer 1 |
| 14 | Engr. H. Ugwuanyi | B.Eng M.Eng | Highway Engineering | henrykene@yahoo.com | 08064350200 | Lecturer 1 |
| 15 | Engr. D. C. Akoma | B.Eng M.Eng |  |  |  | Assistant Lecturer |
| 16 | Engr. U. I. Iro | B.Eng M.Eng | Civil Structures | uzoarmstrong@gmail.com | 07015057289 | Assistant Lecturer |
| 17 | Engr. C. NwaDavid | B.Eng | Structures |  | 07063031871 | Graduate Assistant |
| 18 | Engr. J. Obimba-Wogu | B.Eng M.Eng | Geotechnical/Geo-Environmental Engineering |  | 08166242459 | Graduate Assistant |
| 19 | Engr. I. B. Ugorji | B.Eng | Geotechnical/Geo-Environmental Engineering |  | 08139268269 | Graduate Assistant |
| 20 | Engr. C. E. Ekeoma | B.Eng | Geotechnical/Geo-Environmental Engineering |  | 08167048999 | Graduate Assistant |
| 21 | Engr. I. L. Nwobia | B.Eng | Water Resources Engineering |  | 07063867357 | Graduate Assistant |

Table 22: Technical Staff of Civil Engineering Department

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| S/N | Name | Qualification | Specialization | Email | Phone | Rank |
| 1 | Engr Solomon Eboh | ND, HND, PGD, M.Eng | Civil Engineering | solomoneboh@yahoo.com | 08034537009 | Principal Technologist |
| 2 | Mr J. C. Okpara | ND, HND | Civil Engineering |  | 08037638652 | Senior Technologist |
| 3 | Engr. E. A. Uko-Egwuonwu | ND, HND | Civil Engineering | niauko@yahoo.com | 08031358949 | Technologist I |
| 4 | Engr. C. C. Ekedo | B.Eng | Civil Engineering | Ekedochinomso31@gmail.com | 08038061200 | Engineer I |
| 5 | Mr. D. Y. Eze | ND, HND | Civil Engineering | ezedavidy@gmail.com | 08037361334 | Technologist I |
| 6 | Charles Ogbonnaya | ND, HND | Civil Engineering |  | 08035652787 | Senior Technologist |
| 7 | Ejike V. Otti | ND | Civil Engineering | victorejike@gmail.com | 08034744266 | Higher Technical Officer |
| 8 | Engr. C. C. Ejike | ND, HND, PGD | Civil Engineering |  | 07039265354 | Technologist |
| 9 | Engr. I. Ije | B.Eng, M.Eng | Civil Engineering | Innonoble4@gmail.com | 07068657374 | Engineer |
| 10 | Mr. I. K. Eleazu | NABTEB Diploma | Civil Engineering |  | 08162926107 | Lab Supervisor |
| 11 | J. O. Iheoma | SSCE | Civil Engineering | ogesmoth@gmail.com | 08137271334 | Lab Supervisor |

**15. DEPARTMENT OF COMPUTER ENGINEERING**

**15.1 Bachelor of Engineering (BEng) Programme**

The Department offer a five (5) year programme for the Bachelor of Engineering (BEng) honours Degree in Computer Engineering.

**15.1.1 Aims and Objectives**

The Department’s aim and objectives are in line with those of the college, and these are geared towards the realization of national needs and aspirations, Graduates from Computer Engineering Department are expected, among other things, too.

1. Be job creator in their areas of specialization in particular and in the Computer Engineering discipline in general.
2. Design and construct systems and components primarily in their areas of specialization.
3. Supervise the installation, commissioning, and maintenance of computer engineering systems and components.
4. Design, develop and produce innovative products and techniques for industrial growth.
5. Independently undertake research activities in various areas of specialization.

**15.1.2 Admission Requirements**

The same as prescribed by the College

**15.1.3 Graduation Degree Requirements**

Same as defined by the College

**15.2 Post Graduate Programme**

**15.2.1 Areas of Specialization**

The MEng programmes would be available in the following areas:

1. Computer (Hardware) Engineering
2. Software & Systems Engineering
3. Information Communication Technology
4. Information Management System

**15.2.2 Admission Requirements**

**Postgraduate Diploma**

Same as prescribed by the College

**MEng Programme**

Same as defined by the College

**Ph.D. Programme**

Same as defined by the College

Table 23: Academic Staff of Computer Engineering Department

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| S/N | Name | Qualification | Specialization | Email | Phone | Rank |
| 1 | Engr. Dr. O. E. Aru | PhD, M.Eng, B.Eng | Computer Engineering | arueze@mouau.edu.ng | 08062179049 | Associate Professor/HOD |
| 2 | Engr. Prof C. Ihekweaba | PhD, M.Eng, B.Eng | Robotic and Data Communication | Ihekweaba.gozie@mouau.edu.ng | 08037143173 | Professor |
| 3 | Engr. Dr I. U. Nnochiri | PhD, M.Eng, B.Eng | Computer Network Communication | Nnochiri.ifeoma@mouau.edu.ng | 08035049249 | Associate Professor |
| 4 | Engr. Dr. T. T. Chiagunye | PhD, M.Eng, B.Eng | Electronic and Computer Engineering | Theodore.tochukwu@mouau.edu.ng | 08032377980 | Associate Professor |
| 5 | Engr. Dr. S. F. Ilo | PhD, M.Eng, B.Eng | Computer Network Communication Control | Sf.ilo@mouau.edu.ng | 08174691591 | Senior Lecturer |
| 6 | Engr. P. C. Aguodoh | M.Eng, B.Eng | Communication Engineering | Aguodoh.patrick@mouau.edu.ng | 07037739942 | Lecturer 1 |
| 7 | Engr. Dr. H. U. Udeani | PhD, M.Eng, B.Eng | Communication Engineering | Udeani.henrietta@mouau.edu.ng | 08037844784 | Lecturer 1 |
| 8 | Engr. K. C. Nwachukwu-Nwokeafor | M.Eng, B.Eng | Electronics and Computer Networks | Nwachukwu.nkenneth@mouau.edu.ng | 08034311016 | Lecturer 1 |
| 9 | Engr. A. T. Obidiwe | M.Eng, B.Eng | Communication Engineering | Obidiwe.tochukwu@mouau.edu.ng | 08062697367 | Lecturer 1 |
| 10 | Engr. U. E. Ogenyi | M.Eng, B.Eng | Computer Controlled Systems | Ogenyi.uchee@mouau.edu.ng | 08068571260 | Lecturer II |
| 11 | Engr Dr C. M. E. Ezeh | PhD, M.Eng, B.Eng | Software Engineering | Ezeh.chinenye@mouau.edu.ng | 08069409372 | Lecturer II |
| 12 | Engr. C. C. Ede | M.Eng, B.Eng | Software Engineering | Ede.cyril@mouau.edu.ng | 08066576058 | Lecturer II |
| 13 | Engr. C. R. Ngwu | M.Eng, B.Eng | Systems Engineering | Ngwu.chinyere@mouau.edu.ng | 07039073466 | Lecturer II |
| 14 | Engr. C. N. Umesi | M.Eng, B.Eng | Software and Systems engineering | Umesi.cosmosumesi@gmail.com | 08036736825 | Lecturer II |
| 15 | Engr. C. C. Amadi | M.Eng, B.Eng | Hardware/Networks | amadichristopher@mouau.edu.ng | 08035418985 | Lecturer II |
| 16 | Engr. K. C. Adimora | M.Eng, B.Eng | Software and System Engineering | kyrimanjero@gmail.com | 08060479425 | Lecturer II |
| 17 | U. Q. Oleh | M.Eng, B.Eng | Computer Engineering | Oleh.ugonna@mouau.edu.ng | 08133420000 | Lecturer II |
| 18 | O. D. Ogobuchi | B.Eng | Computer Engineering | Okey.ogobuchi@mouau.edu.ng | 07038640358 | Graduate Assistant |
| 19 | E. Ajaero | B.Eng | Computer Engineering | Ajaero.emmanuel@mouau.edu.ng | 07030982027 | Graduate Assistant |
| 20 | S. U. Attah | B.Eng | Computer Engineering | Attah.samuel@mouau.edu.ng | 07066102688 | Graduate Asistant |

**Table 24: Technology Staff of Computer Engineering Department**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S/N** | **Names** | **Qualifications** | **Specialization** | **Phone Number** | **Email Address** | **Rank** |
| 1 | Clement Emenike Ifenkwe | HND | Electronics/Hardware Maintenance  | 08062060216 | clementifenkwe@gmail.com | Principal Technologist I |
| 2 | Madu Chukwunyere Nnamaka  | HND | Electronic Telecommunication  | 07032167603 | nnamaka@gmail.com | Principal Technologist II |
| 3 | Chukwuemeka Akomas | HND | Communication/Hardware Maintenance  | 08034236784 | Akomas.c@yahoo.com | Principal Technologist II |
| 4 | Chukwuemeka Ogbonna Owora | HND | Software Engineering | 08069361144 | oworachukwuemeka@mouau.edu.ngurchstar@yahoo.com | Principal Technologist II |
| 5 | Patrick Ezenwa Ogbuehi | HND | Communication & Network | 07037249274 | bowzybrown@yahoo.com | Principal Technologist II |
| 6 | Daniel Chidi Agada | HND | Hardware Maintenance/Digital System Design | 08037764752 | chidilife@yahoo.com | Principal Technologist II |
| 7 | Nwanneka Okikechi Buoro | HND | Hardware Maintenance  | 08039207982 |  | Principal Technologist II |
| 8 | Christopher Chukwunenye Ilonwa | BEng | Network & Software Installation  | 08035769653 | Nenyecity1@yahoo.com | Senior System Engineer |
| 9 | Chidiebere Ukoha | BEng | Electronics/Hardware Maintenance  | 08063386698 | ukohachido@yahoo.com | Senior System Engineer |
| 10 | Wilson Chukwuemeka Ahiara | BEng | Electronics/Hardware Maintenance  | 08039207982 | widaton@yahoo.com | Senior System Engineer/Analyst/Programme |
| 11 | Nnamdi Henry Ifeanyi | BEng | Information Communication Technology and Networking Engineering  | 07030377912 | nnamdihenry@mouau.edu.ng | Engineer I |
| 12 | Prince Nnamdi Okenwa | ND | Hardware Maintenance | 08067445001 | okenwaprincen@gmail.com | Principal Technical Officer  |

**16. DEPARTMENT OF ELECTRICAL & ELECTRONIC ENGINEERING**

**16.1 Bachelor of Engineering (BEng) Programme**

The Department of Electrical & Electronic Engineering runs a five years programme leading to the Bachelor of Engineering (BEng) degree award.

**16.1.2. Objectives of the Department**

The Department objectives are geared towards the realization of national need and aspirations, graduates from the department are expected, among other things

1. Be job creator in their areas of specialization (Electrical & Electronic Engineering discipline).
2. Design and construct systems and components primarily in their areas of specialization.
3. Supervise the installation, commissioning, and maintenance of Electrical & Electronic Engineering systems and components.
4. Design, develop and produce innovative products and techniques for industrial growth in Nigeria.
5. Adapt and adopt indigenous technology to solve the Electrical & Electronic Engineering and Technology problems of the nation.
	* 1. **Admission Requirements**

Same as prescribed by the College

**16.1.4 Admission Requirements**

**16.1.5 Philosophy Programme**

The Department of Electrical & Electronic Engineering’s postgraduate programe is designed to contribute to the advancement of Electrical and Electronic Engineering knowledge, skill and practice through the offering of advanced courses, carrying out cutting-edge research, and disseminating research findings to fellow Electrical and Electronic Engineers throughout the world.

**16.1.6. Objectives of the Programme**

The Postgraduate programme aims to produce proficient higher degree holders the two main areas of specialization in Electrical and Electronic Engineering: Electronics and Communication Engineering (ECE) and Power Systems and Electrical Machines (PSEM).

The successful postgraduate students would have acquired advanced knowledge, skill and research techniques to be professionally competent and capable of contribution new ideas and improved methods to the teaching and practice of Electrical and Electronic Engineering.

The Postgraduate Diploma progamme (PGD) is designed to update candidates knowledge to meet the challenges posed by the Electrical industry. The training aims to improve efficiency and inspire and equip the candidate who desires to pursue further studies in Electrical and Electronic Engineering.

**16.1.7 Scope of the Programme**

The programm’s scope covers all rears of Electrical and Electronic Engineering but specifically on Electronic and Communication Engineering (ECE) and Power Systems and Electrical Machines (PSEM). There is no area of specialization for the PGD programme according to COREN specialization. However, candidates for MEng. and Ph.D. programs can specialize in any of the sites mentioned above.

* 1. **Postgraduate Programme**

**16.2.1 Postgraduate Diploma (PGD)**

The Department of Electrical and Electronic Engineering runs a postgraduate diploma programme that involves course work of not less than 60 credit units to be examined in written papers and a project report. The project report shall be assessed and graded at the end of the programme.

1. **Entry Requirements for PGD Programme**

 Same as prescribed by the College

1. **Duration of Study**

The PGD programme in Electrical and Electronic Engineering is offered in four semesters of course work and project work with no specialization according to COREN specializations.

**16.2.2 Master of Engineering (MEng)**

The MEng programme involves course work, thesis research, and final oral examination in defense of the thesis research.

**Entry Requirements for MEng**

Same as prescribed by the College

* + 1. **Doctoral Degree (Ph.D)**

The Ph.D. programme involves comprehensive research work to be presented in a thesis.

**Entry Requirements for PGD Programme**

Same as prescribed by the College

**Table 25: Academic Staff of Electrical Electronics Engineering Department**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S/N** | **Full Names** | **Qualifications** | **Area of Specialization** | **Email Address** | **Phone Number** | **Rank** |
| 1 | Engr. Ifeanyichukwu Kalu Onwuka | BEng, MEng, Ph.D | Electric Machines and Drives | onwuka.ifeanyichukwu@mouau.edu.ng  | 08060168333 | Senior Lecturer HOD |
| 2 | Engr. Prof. Ogbonnaya Inya Okoro | BEng, MEng, Ph.D | Electrical Power and Machines | olokoro@hotmail.com | 08037751492 | Professor |
| 3 | Engr. Dr. Lawrence Idemudia Oborkhale | BEng, MEng, Ph.D | Telecommunications Engineering | oborkhale.lawrence@mouau.edu.ng  | 07065964065 | Associate Professor |
| 4 | Engr. Dr. Patrick Ifeanyi Obi | BEng, MEng, Ph.D | Electrical Power and Machines | patndyobi@gmail.com | 08037202765 | Associate Professor |
| 5 | Engr. Dr. Aniagboso John Onah | BEng, MEng, Ph.D | Electrical Power and Machines | aniagbosonah@yahoo.com | 08030592574 | Associate Professor |
| 6 | Engr. Dr. Ekirkere Umoren Udoh | BEng, MEng, Ph.D | Electronic and Communication  | thoughtumoren@gmail.com | 08067549547 | Associate Professor |
| 7 | Engr. Dr. Christopher Kalu Okoro | BEng, MEng, Ph.D | Control of Drives and Electronics | okorochristopher@mouau.edu.ng | 08063147501 | Senior Lecturer |
| 8 | Engr. Dr. Chukwuemeka Chijioke Awah | BEng, MEng, Ph.D | Machines and Power  | awah.chukwuemeka@mouau.edu.ng | 08034221305 | Senior Lecturer  |
| 9 | Engr. Gerald Chidozie Diyoke | BEng, MEng, | Power Electronic Devices | geralddiyoke@mouau.edu.ng | 08032886906 | Senior Lecturer  |
| 10 | Dr. Akwuruoha C. N. | BEng, MEng, Ph.D | Electronic Communication |  | 08038239518 | Senior Lecturer  |
| 11 | Engr. Chukwuma Anayo Okeke | BEng, MEng | Electronic Communication  | chukwumaokeke@yahoo.com | 08035445525 | Lecturer I |
| 12 | Engr. Anthony Okezie Nwaorgu | BEng, MEng | Power Systems and Electronics | nwaorguokeze@yahoo.com | 08037862390 | Lecturer I |
| 13 | Engr. Oputa Osita | BEng, MEng | Electrical Power and Machines | connectosita@gmail.com | 08035400477 | Lecturer I |
| 14 | Engr. Agwu Ekwe Ogbonnaya | BEng, MEng | Electronic Communication | ogbonnaekwe@gmail.com | 08109678739 | Lecturer I |
| 15 | Engr. Omosun Yerima | BEng, MEng | Communication Engineering | omosun.yerima@mouau.edu.com | 08066190965 | Lecturer I |
| 16 | Ukoima Kelvin | BEng, MEng | Power Control and Devices | kelvin.ukoima@mouau.edu.ng | 08122774919 | Lecturer I |
| 17 | Chibuisi Iroegbu | BEng, MEng | Electronic Communication | elderchibuisi29@gmail.com | 08039347603 | Lecturer I |
| 18 | Emmanuel Chiweta Abunike | BEng, MEng | Electrical Power and Machines | abunikeweta@gmail.com | 08068066667 | Lecturer I |
| 19 | Victor Ndubuisi Irokwe | BEng, MEng | Electrical Power and Machines | Irons.ndu@gmail.com | 08067490588 | Lecturer I |
| 20 | A. E. Amako | BEng, MEng | Electrical Power and System Machines | ejikeamako@yahoo.com | 080564762299 | Lecturer II |
| 21 | Engr. Canice C. Enebe | BEng, MEng | Communication Engineering | Enebe.canice@mouau.edu.ng | 07030760629 | Lecturer II |

**Table 26: Technical Staff of Electrical/Electronic Engineering Department**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S/N** | **Full Names** | **Qualifications** | **Area of Specialization** | **Email Address** | **Phone Number** | **Rank**  |
| 1 | Ebenezer Adeniyi Ayaji | HND, PGD, BEng, MEng | Electronics | ebeny2k3@yahoo.com | 08060227514 | Chief Technologist |
| 2 | Richard Ubadire Obasi | HND, PGD, M.Eng | Power and Machine | ubadire1963@gmail.com | 08064003663 | Chief Technologist |
| 3 | Ayodele Anthony Olatunji | HND, PGD, BSc. | Electronics and Telecommunications | tony4joy@yahoo.com | 08034620193 | Principal Technical Officer I |
| 4 | Amaefule Okezie Ikwunagu | HND | Power and Machine | okezieikwunagu@gmail.com | 08035386353 | Senior Technical Officer |
| 5 | Raphael Chuks Okere | B.Eng | Power Systems Engineering | okereraphael@mouau.edu.ng | 08038750529 | Senior Technologist |
| 6 | Ifeanyi Kenneth Nwaji | PGD, HND, PGD | Power and Machines, Electrical and Electronics | inwaji7@gmail.com | 08064100240 |  Principal Technologist |
| 7 | Jeffrey Obulor Matthew | Btech | Power Systems | matthewjeffry@mouau.edu.ng | 08065215592 | Engineering I |
| 8 | Ogbonnaya Obasi | HND | Power Machines | obasi.ogbonnaya@mouau.edu.ng | 08036091501 | Technologist  |
| 9 | Kingsley Onyeka Odo | BEng | Electronics and Communication  | odokingsley@mouau.edu.ng | 08034893976 | Engineering I |
| 10 | Nwachukwu, James  | HND | Electronics  | awzyo1@yahoo.com | 08034001045 | Senior Technologist |
| 11 | Chukwu Joshua Nebo | ND, HND | Power and Machines |  | 08067191770 | Higher Technical Officer  |
| 12 | Idam Emmanuel Ogbonna | HND | Power Systems Engineering | emmytechid70@gmail.com | 08139090110 | Technologist  |

**17. DEPARTMENT OF MECHANICAL ENGINEERING**

**17.1 Bachelor of Engineering (BEng) Programme**

The Department of Mechanical Engineering offers a five (5) year programme leading to a Bachelor of Engineering (BEng) degree

**17.2 Objectives of the Department**

The specific objectives of the Department programme are to develop highly trained Mechanical Engineers who can properly:

1. Design and make components, machines, equipment, and system with local raw material towards global applications.
2. Install and maintain engineering systems so that they can perform optimally in our local environments.
3. Be self-reliant and enhance employment opportunities.
4. Provide adequate leadership, guidance, and supervision of complex engineering projects.

**17.3 Admission Requirements**

Same as prescribed by the College

**17.4 Graduation Requirements**

Same as defined by the College

**17.5 Postgraduate programme**

The Department of Mechanical Engineering runs a unique Postgraduate programme at the Postgraduate Diploma (PGD) and Master’s Degree level. The program involves course work and a project report, with possible specialization in any of the following four areas:

1. Design and Production Technology
2. Materials Technology and Mechanics
3. Energy and Power Technology
4. Industrial and System Engineering

However, there is no area of specialization for candidates at the Postgraduate Diploma level according to COREN specialization.

**17.5.1 Postgraduate Diploma Programme**

**i. Philosophy of the PGD Programme**

Same as defined by the College

ii. **Objectives of the PGD Programme**

On completion of the programme, the PGD graduate will be able to:

1. Actively participate in the analysis and design of any Mechanical Engineering infrastructural facility.
2. Plan, organize, control, and coordinate the execution of Mechanical Engineering projects.
3. Lead in studies to produce technical and feasibility report on engineering projects.

**iii. Entry Requirements for PGD Programme**

Same as prescribed by the College

**17.5.2 Master of Engineering (MEng)**

The MEng programme involves course work, thesis research, and a final oral examination in defense of the thesis research.

**Entry Requirements for MEng**

1. Same as prescribed by the College

**Table 27: Academic Staff of Mechanical Engineering Department**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S/N** | **Full Names** | **Qualifications** | **Area of Specialization** | **Email Address** | **Phone Number** | **Rank**  |
| 1 | Engr. Dr. Henry Chukwuma Kadurumba | BEng. MSc. Ph.D | Industrial and Production Engineering | kadurumbaChukwuma@mouau.edu.ngkaduruchuma@gmail.com | 08039128244 | Senior Lecturer/HOD |
| 2 | Prof. Anthony Iheanyichukwu Obi | BEng. MEng. Ph.D | Design and Production Engineering  | toniobi2002@yahoo.co.ukobi.anthony@mouau.edu.ng | 08037032524 | Professor  |
| 3 | Engr. Prof. Anthony Iheanyichuklwu Obi | BEng. MEng. Ph.D | Industrial and Engineering Management  | jikeobodo@gmail.com | 08037517839 | Professor  |
| 4 | Engr. Prof. Bethrand Nduka Nwankwojike | BEng. MEng. Ph.D | Energy and Power Technology | ugwu.hyginus@mouau.edu.ng | 08064245409 | Professor  |
| 5 | Engr. Dr. Hyginus Ubabuike Ugwu | BEng. MEng. Ph.D | Manufacturing System Analysis Engineering | julianpb29@yahoo.com | 08153284600 | Associate Professor |
| 6 | Engr. Dr. Maureen Awele Allen | BEng. MEng. Ph.D | Materials and Metallurgical Engineering | allenmaureen69@gmail.com | 08039527587 | Associate Professor |
| 7 | Engr. Dr. John Chijioke Edeh | BEng. MEng. Ph.D | Design and Production Engineering | edehjohn@mouau.edu.ng | 08037722746 | Associate Professor |
| 8 | Engr. Dr. Dilibe Ifeanyi Ntunde | BEng. MEng. Ph.D | Energy and Power Engineering | dilintunde@yahoo.com | 07068801171 | Senior Lecture  |
| 9 | Rev. Fr. Engr. Cyril Anosike Amaghionyeodiwe | BEng. MEng. Ph.D | Industrial and Systems Engineering | amaghicyril@yahoo.com | 07065797773 | Senior Lecture  |
| 10 | Engr. Dr. Chukwunonso Nweze Nwogu | BEng. MEng. Ph.D | Automated Design and Manufacturing Engineering | cn.nwogu@mouau.edu.ng | 07038654182 | Senior Lecture  |
| 11 | Engr. Dr. Matthew Imagwuike Ibeh | BEng. MEng. Ph.D | Industrial and Systems Engineering | matthewibeh@gmail.com | 08035689600 | Lecture I |
| 12 | Engr. Cyprian Chukwuma Ugoamadi | BEng. MEng.  | Design and Production Engineering | chukwumaugoamadi@gmail.com | 08037453786 | Lecture I |
| 13 | Engr. Nelson Obinna Ubani | BEng. MEng.  | Mechanical Production Engineering | grantnelson2015@gmail.com | 08062624421 | Lecture I |
| 14 | Engr. Obuora Anozie Okoye | BEng. MEng.  | Design and Production Engineering  | Obuora-okoye@mouau.edu.ng | 08025479785 | Lecture I |
| 18 | Engr. Johnson Eze Igwe | BEng. MEng.  | Energy and Power Technology | igwejohnson@mouau.edu.ng | 08039330484 | Lecture I |
| 19 | Engr. Daniel Chigaeduzom Nnadi | BEng. MEng.  | Industrial and Systems Engineering | engnnadi@gmail.com | 080387478820 | Lecture I |
| 20 | Engr. Onyedikachi Franklin Oti | BEng. MEng.  | Design and Production Engineering  |  | 08036651660 | Lecture I |
| 21 | Engr. Edgar Omodare Iyasele | BEng. MEng.  | Materials and Metallurgical Engineering | coiyaseke@mouau.edu.ng | 08135359955 | Lecture I |
| 22 | Engr. Chukwuebie Soler Agu | BEng. MEng.  | Energy and Power Technology | jebileagu@yahoo.com | 08163172229 | Lecture I |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 23 | Engr. Mrs. Ijeoma Francisca | BEng. MEng. | Industrial and Systems Engineering | Ijeiyke17@gmail.com | 08032464878 | Lecture I |
| 24 | Engr. Onwuka Osinachi Stanley | BEng. MEng. | Design and Production Engineering | So.osinachi@mouau.edu.ng | 07032682838 | Lecture II |
| 25 | Engr. Ekene Clifford Igboayaka | BEng. MEng. | Industrial and Systems Engineering | igboayaka.ekene@mouau.edu.ngchisaemekaclifford@gmail.com | 08068221446 | Lecture II |
| 26 | Engr. Dr. Onyemaechi Metfford Chima | BEng. MEng. Ph.D  | Materials Engineering  |  | 08039305458 | Lecture II |
| 27 | Engr. Okoro Chibuzo | BEng. MEng. PGDE | Energy and Power Technology |  | 08030894483 | Lecture II |
| 28 | Simeon Bright Ikechukwu | BEng.  | Industrial and Systems Engineering | simbright@yahoo.com | 07064668366 | Lecture II |
| 29 | Clifford Omonini | BEng.  | Industrial and Systems Engineering | omoniniclifford@mouau.edu.com | 08151395681 | Lecture II |

**Table 28: Technical Staff of Mechanical Engineering Department**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S/N** | **Full Names** | **Qualifications** | **Area of Specialization** | **Email Address** | **Phone Number** | **Rank**  |
| 1 | Ugochukwu Okenwa | HND, PGD | Design and Production Engineering  | okegosike@gmail.com | 07035256288 | Chief Technologist |
| 2 | Nkemakolam Godwin Orji | HND, PGD, M.Eng | Design and Production Engineering  | godwinakolamorjiyahoo.com | 07034283377 | Principal Technologist I |
| 3 | Chinonyerem Emmanuel Chilaka | HND, PGD, M.Eng | Design and Production Engineering  | engrchilaka@gmail.com | 08032707209 | Principal Technologist I |
| 4 | Kenneth Ndubuisi Ujoatuonu | HND, PGD | Energy Refrigerator/Air Conditioning  | kenujo@yahoo.com | 08033829605 | Principal Technologist I |
| 5 | Uduma Inya Okoro | HND, PGD, M.Eng | Energy | uduma.inya@yahoo.com | 08033953316 | Principal Technologist I |
| 6 | Vivian Chinwe Anyaegbunam | BEng, PGD | Materials and Metallurgy | anyaegbuchinwe@gmail.com | 08033586609 | Principal Technologist I |
| 7 | Nwankwo Samuel Emeka | HND | Mechanical Engineering Production | Samuel1486emeka@gmail.com | 08094175450 | Higher Technical Officer  |
| 8 | Michael Ekwueme Donard | WAEC | Technical Foreman |  | 08068884831 | Artisan/Craftman Machinist  |
| 9 | Chinwenwa Miriam Obilor  | WAEC | Laboratory Assistant  | miriandelphine@gmail.com | 08142461449 | Laboratory Assistant  |
| 10 | Basil Henry Nwigwe | WAEC | Laboratory Assistant  | henrynwaigwe@mouau.edu.ng | 08130775962 | Laboratory Assistant  |
| 11 | Ijeoma Monica Okezie | WAEC | Laboratory Assistant  | ijeomamonicaokezieambless@gmail.com | 08138998820 | Laboratory Assistant  |

**18. College library**

The College has a library which is an arm of the Central Library. The information resources in the College library include Engineering textbooks. Journals, Conference proceedings, and Reference materials. It is of utmost importance that as a freshman, you are sufficiently guided in the library’s us so that your stay on campus will be meaningful and rewarding.

**Membership:** Students and staff of the College

**Registration:** Eligible members will be issued with a library card after completing the necessary forms at the main library’s circulation desk.

**18.1 Loans Entitlement**

i. Senior members of staff and postgraduate students are entitled to borrow a maximum of three books for one month renewable for the same period

ii. Students and Junior staff of the college are entitled to borrow a maximum of two books for two weeks renewable for the same period.

**18.2 Basic Rules**

i. Library users are to present their library I.D card before entering the library

ii. Readers must return all library materials before leaving Umudike for Annual leave, semester vacation, sabbatical/study leaves

iii. Fines will be charged for books not returned on the date due.

iv. Phones should be switched off, or put-on vibration as anyone who receives or make calls in the library will be fined and phone confiscated for some time

v. All readers leaving the library would be checked

vi. Readers are required to be quiet in and around the library

vii. Food and beverages are not permitted in the library

**19 College Committees**

The standing committees and other adhoc committee aim to ease the College’s

administration and for the participation of all members of staff to contribute their

quota to the development and well-being of the College.

1. College Postgraduate Committee
2. Awards/recognition Committee
3. Consultancy Committee
4. Collaboration/Linkages Committee
5. Students Ethics and Discipline Committee
6. Induction Committee
7. Examination Committee
8. Students Industrial Work Experience Scheme (SIWES) Committee
9. Students Work Experience Programme (SWEP) Committee

10.CEET Conference Committee

11. Prof U. G. N. Anazodo Memorial Lecture Committee

12. Journal Indexing Committee

13. Revenue Generation Committee

14. Infrastructural Development Committee

15. Training/Seminar/Workshop Committee

16. Environmental Committee

17. Equipment/Facilities Maintenance Committee

18. Research Committee

19. NUESA Committee

**20. GENERAL INFORMATION**

1. The University may deny any student who is indebted to its facilities which shall include all forms of academic instruction and supervision, the library, residential accommodation, the laboratories, the farms, etc, and such student shall not be allowed to register for courses in the University.

2. All cases of disturbance of peace such as fighting on campus, assaulting staff, sexual assault, etc. would be brought to the Students’ Discipline Committee and proven cases. Breaking of bonds into unauthorized places shall attract the expulsion of the students from the University. Rape and other extreme cases of sexual deviation shall attract removal from the University.

3. Cognizant of the Federal Government’s concern over secret cults on campus, secret cults by whatever names they are known are banned in the University.

1. Any student who is indicted for cult membership or interest will be expelled from the University.
2. Any student who intimidates, bullies, or manhandles a fellow student in an attempt to force him/her to join cult activities or for any other reason will be expelled from the University.
3. The Security Agents are given a free hand to arrest any suspected cult member.

**21 GUIDELINES FOR PRESENTATION OF M.ENG THESIS AND Ph.D DISSERTATIONS**

The process of presentation of MEng Thesis and Ph.D. dissertation in the following guidelines for uniformity:

1. Students shall be assigned the required number of supervisors as deemed necessary by the Department
2. There shall be a proposal, progress, seminars, and internal defense to the satisfaction of the respective Department
3. The Departmental panel’s corrections must be effected by the candidate and approved by the Head of the Department before the external examination.
4. The following shall constitute the content of the Thesis/Dissertation to the satisfaction of the College Postgraduate committee for the thesis/dissertation to be approved for submission to Postgraduate School.
5. A Concise and properly defined title
6. The objectives shall reflect the title of the Thesis
7. The reviewed literature must reveal the deficiency resulting in the topic
8. The methodology shall be well structured and easily reproducible
9. The results shall be precise and interpretation should be such as to establish the set objectives
10. The conclusion shall achieve the objectives and show the contribution to knowledge in the area.