**BAYERO UNIVERSITY, KANO NIGERIA**

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**DEPARTMENT OF CIVIL ENGINEERING**

**FACULTY OF ENGINEERING**



**UNDERGRADUATE**

**STUDENTS’ HANDBOOK**

**2017/2018 Session**

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**DEPARTMENT OF CIVIL ENGINEERING**

**FACULTY OF ENGINEERING**

**BAYERO UNIVERSITY, KANO-NIGERIA**

**UNDERGRADUATE STUDENTS’ HANDBOOK**

**©Department of Civil Engineering, BUK**

# **BAYERO UNIVERSITY CREST**

****

The Crest and the Star.

**The Crest:** **Jamiatu Bayero bi Kano (Bayero University, Kano)**

(Symbol & Unit of Time)

**The Star:** ***Motto:* WA FAWQA KULLI DHI ‘ILMIN ‘ALIM** **i.e**

(Guiding Light). **“….. but over all Endued with Knowledge is One,**

**the all-knowing” HQ. 12:76.**

**The University Colour. Blue.**

**N/B Transliteration/Translation is from Arabic**

# VISION, MISSION AND CORE VALUES OF THE UNIVERSITY

**VISION**

Bayero University shall be a world-class University in Africa, renowned for its excellence in teaching and research and quality of its products.

**MISSION**

To provide world-class academic and professional training and community service, and to conduct research for the advancement of society, and to produce high quality human resources with entrepreneurial skills for the development of the community, the nation and humanity in general.

**CORE VALUES**

Humility and Sacrifice; Discipline and Commitment; Integration and Internationalization; Professionalism and Good Governance; Innovativeness and Creativity; Excellence and Best Practices.

# OFFICERS AND ESTABLISHMENT

Department of Civil Engineering

Faculty of Engineering

Bayero University, Kano-Nigeria

**Year of Establishment:** 1978

**VICE CHANCELLOR**

Professor Muhammad Yahuza Bello

B. Sc, M. Sc, (BUK), Ph.D., (Arkansas)

**REGISTRAR**

Hajiya Fatima Binta Isiyaku Mohammed

B. A (Ed), MPPA, (BUK), MNI

**DEAN OF FACULTY**

Engr. Dr. Abubakar Baba Aliyu

B. Eng, M. Sc, (BUK), Ph. D., (ATBU), MNSE, Reg. COREN

**HEAD OF DEPARTMENT**

Assoc. Prof. Musa Osiregbhemhe Abdul Mtallib

B. Eng, (Ekpoma), M. Sc (Const. Mat.), M. Sc (Const. Mgt), Ph. D. (ABU), MNSE, Reg. COREN

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# MESSAGE FROM THE DEAN, FACULTY OF ENGINEERING

I welcome you to the Department of Civil Engineering, one of the six Departments in the Faculty of Engineering, Bayero University, Kano-Nigeria. I am proud of the giant strides being made by the Department since its inception in 1978.

This handbook is an important source of information for those desiring to know more about the Department and its programme. I commend the leadership of the Department of Civil Engineering for the production of this handbook. I call upon the students both old and new to be hard working, disciplined and abide by the rules and regulations of the university.

I wish you successful stay in this Faculty and the Department of Civil Engineering.

**Engr. Dr. Abubakar Baba Aliyu,**

*Dean, Faculty of Engineering,*

*Bayero University, Kano-Nigeria*

# MESSAGE FROM THE HEAD, DEPARTMENT OF CIVIL ENGINEERING

First and foremost, you are all welcomed to the Department of Civil Engineering, Bayero University, Kano, Nigeria.

The Department of Civil Engineering is one of the departments in Bayero University, Kano, Nigeria that is blessed with highly qualified and experienced teaching and non-teaching staff. The Department runs both undergraduate and postgraduate programmes. All our staff members will ensure that you enjoy an interesting and worthwhile stay in the University and we look forward to giving you high moral and quality academic training and learning, and good-character personality over the next few years. We are a Department of enthusiastic engineers/researchers, and our research and teaching are tailored to give you the best learning experience.

Students are given course outline and reading list in each course at the beginning of every semester. The staff-student relationship is very cordial. Lecturers are accessible and willing to assist the students. There is a Level Coordinator for every level who is an academic staff appointed by the Department to serve as an adviser to the students in the level. The main responsibility of the Level Coordinator is to ensure that students register the required courses and guide them on credit load.

This Handbook outlines courses and requirements for admission and graduation for the students in Bachelor of Engineering (Civil Engineering). Be free to go to your Level Coordinator, if you have any question. The programme is designed to enable students to develop a variety of theoretical knowledge and practical skills that will satisfy the demands of both the public and private sectors employers within Nigeria and beyond. The student Handbook cannot be exhaustive; therefore, one of its roles is to explain how to obtain more information on any given issue/topic when the need arises. Many of the issues/topics covered will be greatly amplified at the Departmental Orientation Day (DOD). Some issues/topics however will only become relevant as the programme progresses; so it becomes relevant to continuously refer to this Handbook.

Please do avail yourselves of the resources and opportunities available in the Department to grow and develop better. On behalf of the entire staff of the Department, I wish you the best in your studies.

**Assoc. Prof. M.O.A Mtallib**

*Head, Department of Civil Engineering,*

*Bayero University, Kano-Nigeria*

# PREFACE

On behalf of the Vice-Chancellor and Management of Bayero University, Kano, Nigeria as well as Dean of the Faculty of Engineering and the entire staff members of the Department of Civil Engineering, I warmly welcome you to the Department of Civil Engineering in particular and the Bayero University, Kano, Nigeria, in general. Majority of you are from secondary schools. You are starting a new life in a University environment which is very different from the secondary school’s environment. The University environment is different in terms of freedom, lifestyle, and of course. the academic pursuit which is your main reason for being in the University. This Handbook is your roadmap, guiding you and directing you to do what is right and appropriate in the pursuit of your academic objectives.

The Handbook covers a wide range of areas which touch almost all aspects of your study and stay in Bayero University, Kano, Nigeria. The areas covered include: the core values of the University, brief history of the Department; its philosophy, aims and objectives; admission and graduation requirements; academic regulations; the semester system; basic concepts you should be familiar with; lecture attendance requirements; degree classification and academic standing; the all-important examination regulations, examination procedures and discipline; examination and academic misconduct; the various categories of examinations and project/essay related misconduct as well as the appropriate punishments for them; dressing and dress code; and lastly but equally importantly the structure of the Bachelor of Engineering (Civil Engineering).

The core values of the University introduce to you from the onset, the nature of the new environment you find yourself and the rules and regulations governing the operation in the environment. You are required to know them well. The philosophy, aims and objectives of the programme are very clearly spelt out. Admission and graduation requirements are also clearly stated.

You have been admitted to the Department because you fulfilled all the requirements for admission. However, you should know that not even half of the applicants who fulfilled all the admission requirements were admitted due to constraints in facilities. You should, therefore, count yourself lucky to be among those admitted and resolve to make the best use of the opportunity.

With regard to graduation requirements, those of you admitted on the basis of Unified Tertiary Matriculation Examination (UTME) results are required to obtain a minimum of 205 credits before you graduate, while Direct Entry (DE) students must obtain 176 credit units. Furthermore, you must obtain a minimum of CGPA of 1.50, among other requirements. Basic concepts which have direct relevance to you are also spelt out. They include Credit Units (CU), Grade Point Average (GPA), and Cumulative Grade Point Average (CGPA), probation, carry over, withdrawal, spillover, and grading system. They are all fully described in the Handbook. The section on General academic conducts, misconducts and discipline specifies how you are expected to conduct yourself as a student of Bayero University, Kano, Nigeria by displaying an exemplary behaviour in the course of your interaction with members of the University community and by avoiding all forms of misconduct. The all important issues of examination regulations, procedures and discipline as well as examination and academic misconduct are extensively treated for your guidance. You are strongly advised to study them carefully and know them well to avoid unpleasant consequences.

Dressing is another important issue to which your attention is drawn. The type of dress you wear reflects the kind of person you are. The University advises you to always dress decently, examples of which are described. Examples of indecent dressing are also given. They must be avoided. Penalties are also specified for indecent dressing. Finally, the Handbook gives you the insight of the structure of the Bachelor of Engineering (Civil Engineering) which contains the course outline and course description. It is mandatory for you to be very familiar with them.

This Handbook, as pointed out earlier, is produced and distributed to you with the main aim of guiding you and directing you to do what is right and appropriate in the course of your academic pursuit here in Bayero University, Kano, Nigeria. The publication is of great benefit to students, staff members of the Department and all those who seek information about the Department. I urge you to make the maximum use of it. Doing so will ensure that you have a peaceful, pleasant and successful stay in Bayero University, Kano, Nigeria. You should always bear in mind that degree is awarded based on being found worthy in **character** and **learning**.

All of us in the Department wish you a happy and successful stay in Bayero University, Kano, Nigeria. I wish all of you best of luck.

**Assoc. Prof. M.O.A Mtallib**

*Head, Department of Civil Engineering,*

*Bayero University, Kano-Nigeria*

# CHAPTER ONE

# INTRODUCTION

## History of Civil Engineering Department

The Civil Engineering Department was established as an autonomous Department in the Faculty of Technology Bayero University, Kano in the 1980/81 Session. The main objective was to offer opportunity for great breadth of learning whereby Civil Engineers with proven Engineering abilities can be produced for the country.

The first group of Civil Engineering students were admitted into part one during the 1980/81 session after having a successful completion of a two-year pre-technology programme. The Department initially offered a pre-degree programme with the pre-requisite of a two-year pre-degree study until the 1984/85 academic year. From the 1984/85 session, like all other Departments in the Faculty of Technology, the Civil Engineering Department started a 4-year degree programme until the 1990/91 session when the Department started a 5-year degree programme.

The pioneering batch of Civil Engineering Students received the B.Eng. degree award in June, 1985 with one in First Class Honours, two in Second Class Honours (Upper Division) and three in Second Class Honours (Lower Division) degree classifications. Six students who were in Part III (Final year) class of the old 3-year programme completed their B. Eng degree course in June, 1986. Those that were admitted for the levels 100 and 200 of the four-year programme received their degrees in the 1987/88 session while those admitted for the new five-year programme started graduating from the 1994/95 session.

In order to produce intellectual and practical people who can combine their skills to create safe and economic designs which must be environmentally and socially acceptable to the society in which we live, the Department of Civil Engineering ensures that in addition to sound theoretical background, students are thoroughly exposed to extensive and relevant laboratory experimentation and exercises. Their practical skills, developed in the central workshop and the Civil Engineering Laboratories are complemented by a number of work experience programmes. The programmes include an in-house eight weeks Students Work Experience Programme (SWEP) in Level 100, a three months supervised Student Industrial Works Experience Scheme (SIWES I) in Level 300 and a six months supervised Student Industrial Works Experience Scheme (SIWES II) in 400 are conducted in the whole of the second semester of the session. This helps the students to relate academic work with practical industrial realities and capabilities. The overall goal of the Department is to produce Civil Engineers who are relevant to the engineering manpower requirement in the public and private sectors of the economy and who can initiate as well as carry out engineering designs, engage in industrial management and pursue research and development.

The Department is adequately equipped in the following laboratories namely: Material Testing, Public Health Engineering, Soil Mechanics, Structural Engineering, Transportation, Survey and Hydraulics/Hydrology. The Department works in close cooperation with related states and Federal Institutions. This is to get practical inputs to support the students’ course work and equally takes interest in the productivity and performance of students even after graduation.

Post graduate courses leading to Post Graduate Diploma, Master's and Ph. D. degrees started much later. Masters and PGDCE programmes were started in 1999/2000 session while Ph. D. programme started in 2007/2008 session with the staff of the Department only. The Department started admission of external candidates into the Ph. D. programme in 2013/2014 session.

## Philosophy, Aim and Objectives of B. Eng. (Civil) Programme

### Philosophy

To achieve the national goals and objectives of industrialization and self-reliance, the programme is geared towards the development of a thorough practice in training, which includes early broad-based training in general engineering, practical application to engineering processes, adequate training in human and organizational behaviour. Therefore, the general ***philosophy*** of the programme is to produce graduates with high academic standard and adequate practical background for self-employment as well as being of immediate value to industry and the community in general.

### Aim and Objectives of the Programme

The overall aim of the programme is in consonance with the realization of National needs and aspirations vis-à-vis industrial development and technological emancipation. The programme gives the minimum academic standards required to meet these needs and to produce graduates with sufficient academic background and practical experience who would be able to rise to the challenges of a developing economy like ours. Some of the objectives of the programme include producing graduates who will be able:

* To design engineering projects and supervise their construction.
* To design and develop new products and production techniques in industries.
* To install and maintain complex engineering systems so that they can perform optimally in our environment.
* To adapt and adopt exogenous technology in order to solve local engineering problems.
* To be able to exercise original thought, have good professional judgment and be able to take responsibility for the direction of important tasks.
* To be able to manage people, funds, materials, and equipment.
* To improve on indigenous technologies so as to enhance local problem-solving capability.

## Admission requirements of the Programme

The minimum requirement for admission into B. Eng Civil Engineering programme is in accordance with the NUC guidelines.

The main entry point into the programme is the Secondary School Certificate Examination (SSCE) including West African Examination Council (WAEC), National Examination Council (NECO), National Business and Technical Examinations Board (NABTEB) or their equivalence. Candidates must satisfy all the University entry requirements plus passes at credit level in at least five subjects (including English, Mathematics, Physics and Chemistry) obtained at not more than two sittings.

1. **Level 100**

Admission into Level 100 requires, in addition to section 1.3, an acceptable performance in the Unified Tertiary Matriculation Examination (UTME) in the relevant subjects and an acceptable pass in the post-UTME examination organized by the Bayero University Kano. The required subject combination for the UTME is English Language, Mathematics, Physics and Chemistry. Candidates with wrong subject combination at UTME automatically disqualify themselves.

1. **Level 200 (Direct Entry)**

Candidates who apply for direct entry are admitted into Level 200, provided they satisfy the following admission requirements in addition to the requirements in Section 1.3.

1. A National Diploma in Civil Engineering with a minimum of Upper, or
2. Possess the required number of points in the Interim Joint Matriculation Board (IJMB) examination. In this case the required subjects are; Mathematics, Physics and Chemistry.

## Duration of the Programme

The minimum duration of the programme is Five (5) academic sessions for candidates who enter through UTME. Candidates admitted through Direct Entry will spend a minimum of Four (4) academic sessions, provided that they satisfy all the other University requirements.

## Graduation Requirements

All courses in Levels 100 to 400 are compulsory. In the final year (Level 500), students are required to register for all the core courses and at least 6 credits from option courses. However, unlike in the other program of the faculty, a student cannot graduate without passing the 6 credits optional courses in the final year. To be eligible for the award of a B. Eng Civil, a student must pass one of the following depending of mode of entry.

(i) Level 100 (UTME) 205 Credit units

(ii) Level 200 (DE) 175 Credit units

Student must also pass all core courses, the final year project, the 40-weeks industrial training (SWEP and SIWES) and all GSP/EEP courses.

## Minimum graduation requirement (MCR) for Civil Engineering

|  |  |  |
| --- | --- | --- |
| **Component Courses** | **Total Credit Unit** | |
| **Admission through UTME** | **Admission through DE** |
| Core/Cognate | 178 | 148 |
| Industrial Training | 07 | 07 |
| Elective | 06 | 06 |
| General Studies | 10 | 10 |
| Entrepreneurial | 04 | 04 |
| **Total** | **205** | **175** |

# CHAPTER TWO

## LIST OF COURSES AND THEIR DESCRIPTION

## Introduction

All courses for the first year (Level 100) are taken in the Faculty of Engineering, except the Chemistry and Physics practical which are domiciled in the Faculty of Science. In Levels 100 and 200 all Engineering students in the Faculty take the same courses. In the third year (Level 300) the students are separated so as to take courses in their respective degree programmes.

## Course coding

Each course in the Department is identified by a seven-character code of which the first three characters identify the programme e.g. CIV (for Civil Engineering), EGR (for Faculty of Engineering) and GSP and EPP (for University). The last four characters in a course code are numeric. The first digit designates the level (e.g. ‘1’ for level 100, etc.). The second digit designates the credit hours for the course. The last two digits designate the course number. For example, the code CIV3301 represents a Civil engineering course (CIV) for level 300, with 3 credit hours which is serially numbered as 01.

GSP - Common courses offered to all students in the University

EPP - Common courses offered to all students in the University

## List of Courses

The list of courses from level 100 to 500 are shown in Tables 2.1 - 2.5.

### Level 100 Courses

These are offered in the Faculty of Engineering with exception of Chemistry and Physics practical and are common to all students in the Faculty. They are considered to be preparatory courses.

**Table 2.1:** Level 100 Courses

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S/N** | **Course Code** | | **Course Title** | | **Credit Unit** | **Pre-requisite** |
| **FIRST SEMESTER** | | | | | | |
| 1 | CHM1231 | | Inorganic Chemistry | | 2 |  |
| 2 | CHM1241 | | Organic Chemistry | | 2 |  |
| 3 | CSC1201 | | Introduction to Computer Science | | 2 |  |
| 4 | MTH1301 | | Elementary Mathematics I | | 3 |  |
| 5 | STA1311 | | Probability I | | 3 |  |
| 6 | PHY1170 | | Physics Practical I | | 1 |  |
| 7 | PHY1210 | | Mechanics | | 2 |  |
| 8 | PHY1220 | | Electricity and Magnetism | | 2 |  |
| 9 | GSP1201 | | Use of English | | 2 |  |
| **Total Credits** | | | | | **19** |  |
| **SECOND SEMESTER** | | | | | | |
| 1 | | CHM1251 | | Physical Chemistry | 2 |  |
| 2 | | CHM1261 | | Practical Chemistry | 2 |  |
| 3 | | MTH1302 | | Elementary Mathematics II | 3 |  |
| 4 | | MTH1303 | | Elementary Mathematics III | 3 |  |
| 5 | | PHY1180 | | Physics Practical II | 1 |  |
| 6 | | PHY1230 | | Behaviour of Matter | 2 |  |
| 7 | | GSP1202 | | Use of Library, Study Skills and ICT | 2 |  |
| **Total Credits** | | | | | **15** |  |

### Level 200 Courses

All level 200 courses are offered in the Faculty except the GSP which are University courses and are common to all the programmes in the Faculty.

**Table 2.2:** Level 200 Courses

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S/N** | **Course Code** | | **Course Title** | **Credit Unit** | **Pre-requisite** |
| **FIRST SEMESTER** | | | | | |
| 1 | EGR2204 | | Workshop Practice | 2 |  |
| 2 | EGR2205 | | Thermodynamics I | 2 |  |
| 3 | EGR2206 | | Material Science I | 2 |  |
| 4 | EGR2207 | | Principles of Electrical Engineering I | 2 | PHY1220 |
| 5 | EGR2301 | | Engineering Mathematics I | 3 | MTH1301 |
| 6 | EGR2304 | | Laboratory A | 3 |  |
| 7 | EGR2306 | | Applied Mechanics | 3 |  |
| 8 | \*GSP2201 | | Use of English | 2 |  |
| 9 | GSP2204 | | Foundation of Nigerian Culture, Government and Economy | 2 |  |
| 10 | GSP2206 | | Peace Studies and Conflict Resolution | 2 |  |
| **Total Credits** | | | | **21/\*23** |  |
| 1 | | EGR2101 | Engineer in Society I | 1 |  |
| 2 | | EGR2102 | SWEP | 1 |  |
| 3 | | EGR2103 | Experimental Methods and Analysis | 1 |  |
| 4 | | EGR2201 | Fluid Mechanics I | 2 |  |
| 5 | | EGR2202 | Solid Mechanics I | 2 |  |
| 6 | | EGR2203 | Engineering Drawing I | 2 |  |
| 7 | | EGR2208 | Principles of Electrical Engineering II | 2 |  |
| 8 | | EGR2302 | Engineering Mathematics II | 3 |  |
| 9 | | EGR2305 | Laboratory B | 3 |  |
| 10 | | EGR2313 | Computer Programming | 3 | CSC1201 |
| 11 | | \*GSP2202 | Use of Library, Study Skills and ICT | 2 |  |
| 12 | | GSP2205 | Logic and Philosophy | 2 |  |
| **Total Credits** | | | | **22/\*24** |  |

\*For Direct Entry Students only

### Level 300 Courses

**Table 2.3:** Level 300 Courses

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S/N** | **Course Code** | **Course Title** | **Credit Unit** | **Pre-requisite** |
| **FIRST SEMESTER** | | | | |
| 1 | CIV3303 | Fluid Mechanics II | 3 | EGR2201 |
| 2 | CIV3304 | Soil Mechanics | 3 |  |
| 3 | CIV3305 | Laboratory Practical A | 3 |  |
| 4 | CIV3308 | Strength of Materials | 3 | EGR2202 |
| 5 | CIV3309 | Structural Analysis I | 3 |  |
| 6 | CIV3401 | Engineering Geology | 4 |  |
| 7 | CIV3403 | Engineering Survey I | 4 |  |
| 8 | EGR3101 | Engineer in Society II | 1 |  |
| 9 | EGR3301 | Engineering Mathematic III | 3 | EGR2301 |
| **Total Credits** | | | **27** |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **SECOND SEMESTER** | | | | |
| 10 | CIV3301 | Civil Engineering Practice | 3 |  |
| 12 | CIV3302 | Civil Engineering Materials | 3 | EGR2206 |
| 13 | CIV3306 | Laboratory Practical B | 3 |  |
| 14 | CIV3307 | Design of Structural Element I | 3 |  |
| 15 | CIV3402 | Civil Engineering Drawing | 4 | EGR2203 |
| 16 | EGR3102 | Technical Writing and Presentation | 1 |  |
| 17 | EGR3203 | SIWES I | 2 |  |
| 18 | EGR3302 | Computation Techniques | 3 | EGR2302 |
| 19 | EGR3311 | Computer Application | 3 | EGR2313 |
| 20 | EEP3201 | Entrepreneurship and Innovation | 2 |  |
| **Total Credits** | | | **27** |  |

### Level 400 Courses

**Table 2.4:** Level 400 Courses

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S/N** | **Course Code** | **Course Title** | **Credit Unit** | **Pre-requisite** |
| **FIRST SEMESTER** | | | | |
| 1 | CIV4201 | Highway Engineering I | 2 | CIV3403 |
| 2 | CIV4202 | Structural Analysis II | 2 | CIV3309 &  EGR3301 |
| 3 | CIV4203 | Soil Mechanics II | 2 | CIV3304 |
| 4 | CIV4204 | Design of Structural Element II | 2 | CIV3307 |
| 5 | CIV4301 | Laboratory Practical | 3 |  |
| 6 | CIV4302 | Hydraulics/Hydrology | 3 | CIV3303 |
| 7 | CIV4303 | Engineering Surveying II | 3 | CIV3403 |
| 8 | CIV4304 | Civil Engineering Practice | 3 |  |
| 9 | EGR4201 | Engineering Statistics | 2 |  |
| 10 | EPP4201 | Venture Creation and Growth | 2 |  |
| **Total Credits** | | | **24** |  |
| **SECOND SEMESTER** | | | | |
| 11 | EGR4401 | SIWES II | 4 |  |
| **Total Credits** | | | **4** |  |

### Level 500 Courses

**Table 2.5 (a):** Level 500 Courses (Core Courses)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S/N** | **Course Code** | **Course Title** | **Credit Unit** | **Pre-requisite** |
| **FIRST SEMESTER** | | | | |
| 1 | CIV5202 | Public Health Engineering | 2 |  |
| 2 | CIV5310 | Laboratory Practical A | 3 |  |
| 3 | CIV5401 | Construction Management and Economics II | 4 | CIV4304 |
| 4 | CIV5404 | Transportation and Highway Engineering | 4 | CIV4201 |
| 5 | CIV5406 | Structural Analysis III | 4 | CIV4202 &  EGR3302 |
| 6 | Plus 3 credits option course | | 3 |  |
| **Total Credits** | | | **20** |  |
| **SECOND SEMESTER** | | | | |
| 7 | CIV5201 | Construction Management and Economics I | 2 |  |
| 8 | CIV5311 | Laboratory Practical B | 3 |  |
| 9 | CIV5402 | Geotechnical Engineering | 4 | CIV4203 |
| 10 | CIV5403 | Water Resources Engineering | 4 | EGR4201 |
| 11 | CIV5405 | Design of Structural Elements III | 4 | CIV4204 |
| 12 | CIV5601 | Final Year Project | 6 |  |
| 13 | Plus 3 credits option course | | 3 |  |
| **Total Credits** | | | **26** |  |

**Table 2.5 (b):** Level 500 Courses (Option Courses)

|  |  |  |  |
| --- | --- | --- | --- |
| **S/N** | **Course Code** | **Course Title** | **Credit Units** |
| **1. Water Resources and Environmental Engineering** | | | |
| 1 | CIV5301 | Advanced Public Health Engineering | 3 |
| 2 | CIV5302 | Drainage and Irrigation Engineering | 3 |
| **TOTAL CREDITS** | | | **6** |
| **2. Geotechnical Engineering** | | | |
| 3 | CIV5303 | Rock Mechanics | 3 |
| 4 | CIV5304 | Advanced Foundation & Underground Construction | 3 |
| **TOTAL CREDITS** | | | **6** |
| **3. Structural Engineering** | | | |
| 5 | CIV5305 | Prestressed Concrete Design | 3 |
| 6 | CIV5306 | Analysis and Design of Timer Structures | 3 |
| **TOTAL CREDITS** | | | **6** |
| **4. Building/Construction Technology** | | | |
| 7 | CIV5304 | Advanced Foundation & Underground Construction | 3 |
| 8 | CIV5307 | Advanced Construction Technology | 3 |
| **TOTAL CREDITS** | | | **6** |
| **5. Transportation Engineering** | | | |
| 9 | CIV5308 | Rural and Urban Transportation Engineering | 3 |
| 10 | CIV5309 | Advanced Traffic Engineering | 3 |
| **TOTAL CREDITS** | | | **6** |

**Note:** Option courses are offered in 5 areas and a student is expected to choose from any of the areas of specialization.

### Summary of credit unit per level requirements for Civil Engineering

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Level | **First Semester** |  | **Second Semester** | **Total** |
| 100 | 19 |  | 15 | 34 |
| 200 | 21/23\* |  | 22/ 24\* | 43/47\* |
| 300 | 27 |  | 27 | 54 |
| 400 | 24 |  | 4 | 28 |
| 500 | 20 |  | 26 | 46 |
| **Total** | |  | | **205/175\*** |

\*For Direct Entry (DE) students

## Description of Courses

### Level 100 Courses

**CHM1230: Inorganic Chemistry (2 Credits)**

Principles of atomic structure, isotopes, empirical and molecular formulae. Electronic configuration, periodicity and building up of the periodic Table. Hybridization and shapes of simple molecules. Extraction of metals. Comparative chemistry of groups IA, IIA and IVA elements. Preparation, properties, structure and application of some of the selected compounds. Introduction to transition metal chemistry and nuclear chemistry.

**CHM 1240: Organic Chemistry (2 Credits)**

Historical survey of the development and importance of organic chemistry; IUPAC Nomenclature and classification of organic compounds; homologous series; Covalent bonds and hybridization to reflect the tetravalency of carbon in Organic compounds, electronic theory in Organic chemistry. Qualitative and quantitative Organic chemistry, Determination of empirical and molecular formulas; isolation and purification of Organic compounds; saturated hydrocarbons; structural isomerism, properties and reactions of alkanes and cycloalkanes, mention of their chemistry and uses in petroleum; unsaturated hydrocarbons; alkenes; alkynes, cycloalkenes; cis-trans isomerism, simple electrophilic addition reactions, polymerization.

**CHM 1250: Physical Chemistry (2 Credits)**

Principles of atomic structure; Isotopes, empirical and formulae, Nuclear structure, atomic fission and nuclear energy. The electronic structure and arrangement of electrons in atoms. Electronic configuration 1st and 2nd rows of elements. Properties of gases: equation of state, kinetic and molecular theory of gas and Heat capacities of a gas. Equilibrium and Thermodynamics; Thermo-Chemistry, Enthalpy of reactions, bond energies, thermodynamic cycles, Hess’s law Born Herber cycle, the meaning of Ka, K and K LeChatelier’s principle pH, ionic equilibrium, buffers, indicators, solubility product, common ion effect, redox reactions. Electrode potentials, electrolytes and electrolysis. Kinetics: the positions of equilibrium and the rate at which at which is attained. Factors influencing rate of reactions. Introduction to activation and catalysis.

**CHM 1270: Practical Chemistry (2 Credits)**

Laboratory instruction and Experimental products shall be conducted for the candidates from the following subject areas:

**Physical**: Determination of heats of reaction, effect of solute on boiling point of solvents, partition coefficient. Determination of molecular mass by Dumas and VictoMeyer methods. Measurements of rate equation and Activation energy. Other experiments based on the scope of the lectures and as approved by the Department.

**Organic:** Safety precaution instructions, classification of Organic compounds by their solubility’s in common solvents. Qualitative analysis for common elements in Organic compounds. Identification and classification of acids and bases functional groups. Identification of the following: natural function groups; alcohols, aldehydes, ketons, esters, anhydrides and ethers. Acetylotion of aniline as an example of the preparation of solid aniline derivative. An electrophilic addition reaction.

**Inorganic:** Qualitative and quantitative analysis, molarity, concentration and percentage purity.

**CSC1201: Introductory Computer Science (2 Credits)**

History of computers, functional components of computer, characteristics of a computer, problem solving; flow charts, Algorithms. Computer programming. Statements, symbolic names; arrays, subscripts, expressions and control statements. Introduction to **BASIC OR FORTRAN** programming language, computer applications.

**MTH1301: Elementary Mathematics** **I [Algebra & Trigonometry] (3 Credits)**

Elementary set theory: subsets, union, intersection, complements, Venn diagram; Real numbers: algebra of the complex irrational numbers; complex numbers algebra of the complex numbers, the Argand diagram, De Moiver’s theorem, n-th roots; mathematical Induction; real sequences and series; theory of quadratic equations; binomial theorem; circular measure; trigonometric functions of angles of any magnitude, addition and factor formulae.

**MTH1302 Elementary Mathematics** **II [Vectors, Geometry & Dynamics]** **(3 Credits)**

Geometric representation of vectors in 1,2, and 3 dimensions, components, direction cosines, addition, scalar multiplication of vectors, linear independence. Scalar and vector product of vectors. Differentiation and integration of vector functions with respect to scalar variables. Two dimensional co-ordinate geometry: straight lines, circles, parabola, ellipse, hyperbola, tangents, normal. Kinematics of a particle: component of velocity and acceleration of a moving particle in a plane. Force momentum, laws of motion under gravity, projectiles, resisted vertical motion, elastic string, simple pendulum impulse. Impact of two smooth spheres, and of a sphere on a smooth surface.

**MTH1303: Elementary Mathematics III [calculus 1] (3 Credits)**

Function of real variable, graphs, limits and idea of continuity. The derivative, as limit of rate of change. Techniques of differentiation. Extreme curve sketching; integration as an inverse of differential. Methods of integration, Definite integrals. Application to areas, and volumes.

**PHY1210: Mechanics (2 Credits)**

Space and time, frames of reference, units and dimension, kinematics; fundamental laws of mechanics Statics and dynamics; Galilean invariance; universal gravitation; work and energy; rotational dynamics and angular moment; conservation laws.

**PHY1220: Electricity and Magnetism (2 Credits)**

Electrostatics; conductors and currents; dielectrics; magnetic fields and induction; Maxwell’s equations; electromagnetic oscillations and waves; applications;

**PHY1230: Behaviour of matter (2 Credits)**

Molecular treatment of properties of matter elasticity; Hooke’s law; young’s shear and bulk moduli. Hydrodynamics; streamlines, bernooulli and continuity equations, turbulence, streamlines, bermooulli and continuity equations, turbulence; Reynold’s number. Viscosity; laminar flow, Poiseulle’s equation. Surface tension; adhesion, cohesion, capillarity, drops and bubbles, Temperature; the zeroth law of thermodynamics; heat; gas law; laws of thermodynamics; kinetic theory of gases. Applications.

**PHY1170/1180: Physics Practical I/II (1 Credit)**

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, etc. covered in the above physics courses.

**STA1311: Probability I (3 Credits)**

Generation of statistical events from set-theory and combinatorial methods. Elementary principles of probability. Types and distribution of random variables; the binomial, Poision, hypergeometric and normal distributions. Expectations and moment, random variables; probability sampling from table of random numbers; selected applications.

**GSP1201/2201: Use of English (2 Credits)**

**GSP1202/2202: Use of Library, Study Skills and ICT (2 Credits)**

### LEVEL 200 COURSES

**EGR2101: Engineer in society I (1 Credits)**

**Technology in society:** Historical development of modern societies. The growth and efforts of technology including the industrial revolution and the harnessing and exploitation of various energy sources. The role and responsibilities of engineers in society.

**The Engineering Profession:** The evolution of the different branches of engineering. The structure, organization and ethics of the profession. The specific responsibilities of society of the Civil Engineer, the Electrical Engineer and the Mechanical Engineer. Other engineering disciplines and their relationships; Multidisciplinary projects. The contrast between the Engineer and the scientist and the engineering approach to the solution of practical problems. Education and Training of professional Engineers. Professional Institutions.

**Engineering Projects:** The role of engineering activities and industry in the nation’s economy. Introduction to economics, management and law as relating to engineering practice. The planning, construction and operation of engineering projects and facilities.

**Research:** The role of research in Engineering. Sources of research financing and funding. Objectives of engineering research. The role and function of research and development (R & D). Departments in industries.

**NOTES:** Seminars by practicing engineers as well as films on engineering will comprise part of the above lecture course, which will also be supplemented by visits to illustrate the major branches of engineering as far as local opportunities allow.

**EGR2103: Experimental Methods and Analysis (2 Credits)**

**Analysis:** Principles of measurement, standard deviation, Method of least squares and its application. Curve fitting, Theory of errors. Binominal and other distributions, Goodness of fit, Chi-squared test.

**Experimental Methods:** Experimental Methods Displacement and strain measurement. Force and torque measurement. Temperature measurement. First and second order systems. Dynamic response.

**EGR2201: Fluid Mechanics I (2 Credits)**

**Properties of Fluids:** Characteristics of liquids, gases and the “ideal” fluid; viscosity; compressibility; surface tension and capillarity; vapour pressure and solubility of gases. Dimensions and units.

**Static Fluids:** Intensity of pressure and hydrostatic equation: absolute pressure and gauge pressure; measurement of pressure. Forces due to hydrostatic pressure on plane and non-plane surfaces; forces on floating and immersed objects; stability and metacentric height.

**Fluids in Motion:** Definitions: steady, unsteady, uniform and non-uniform flow; velocity distribution and discharge; the concepts of a fluid particle, streamlines and stream tubes, the continuity (conservation of mass) equation. The energy (Bernoulli’s) equation for incompressible steady flow: applications to orifices, nozzles, venture meters, pitot tubes, notches and weirs time of emptying tanks.

**Fluid Friction:** Laminar and turbulent flow, and the experiments of Reynolds. Head loss due to friction in pipes and closed conduits: The Darcy equation and the concept of hydraulic gradient: other losses in pipes appurtenances. Introduction of flow in open channels: The Chezy formula.

**EGR2202: Solid Mechanics I (2 Credits)**

Fundamental of equilibrium. Statical determinancy with reference to pin-jointed frames. Forces analysis of pin-jointed plane and space frames. Shear force and bending moment. Shear force and bending moment diagrams. Relations between load, shear and bending moment. Normal stress and strain. The stress strain relationship. Poission’s ratio. Thin cylinders and spheres. Shear stress. Complementary shear stress. Shear strain. Torsion of shafts of circular section. Bending theory. Deflection of beams. Macaulay’s method. The moment-area method. Simple applications of strain energy to single load systems. Close-coiled helical springs.

**EGR2203: Engineering Drawing I (2 Credits)**

Introduction: the importance of drawing in the engineering process. Standards, units and paper sizes; equipment and drawing instruments; scales, lettering and dimensioning; good draughtsman ship and drawing procedure. Representation of three- dimensional objects: freehand sketching; first and third angle orthographic projections; isometric drawing and projectional representation of hidden detail and sections. Construction and dimensioning of circles and arcs; obliques [cavalier and cainet] drawing; axonometric and perspective projections.

Engineering practice: introduction to the various branches of engineering drawing common engineering terms, conventions, abbreviations and symbols; electrical engineering symbols and circuit diagrams.

**EGR2204: Workshop practice (2 Credits)**

Lectures: Workshop Hazards; Hand processes and bench work; joining and fastening; welding; Hand tools; Measurement Systems and devices; Marking out; sheet metal work; Basic carpentry and joinery; Electrical tools and usage; simple Electrical installation; Cement and concrete preparation; Concrete block making; shuttering and concrete casting; wall building; Introduction to machine tools.

**Practicals:** Marking out and fitting exercise; Manufacture of a simple bolt; construction of a simple amplifier; Exercise in battery maintenance and charging; Cement and concrete preparation and laying. Block making; Column casting; Block and brick wall building.

**EGR2205: Thermodynamics (2 Credits)**

Fundamental Concepts: Introduction to Thermodynamics. The System. Thermodynamic properties. Heat and work. Energy resources. Heat sources and heat sinks. The First Law of Thermodynamics: The cycle. The statement of the first law of thermodynamic. Corollaries of the first law. The non-flow energy equation application of the I to various processes. The Steady Flow Energy Equation: The derivation of the steady flow energy equation from the first Law. Simple applications of the steady flow energy equations. The Second Law of Thermodynamics: Cycle efficiency: Definition of a heat engine. Statements of the Second Law of Thermodynamics. Reversibility. Carnot cycle and other cycles. Corollaries of the Second Law. Properties of Substances: Definition of a pure substance. Phase changes. Relationship between properties. The perfect gas and the semi perfect.

**GSP2201: Use of English (2 Credits)**

**GSP2202: Use of Library, Study Skills and ICT (2 Credits)**

Note: GSP2201/2202 are only offered to DE students

### LEVEL 300 COURSES

**CIV3301: PRINCIPLES OF CONSTRUCTION (3 Credits)**

**PART A** – Introduction to Civil Engineering Procedure

Definition and functions of the Civil Engineering profession. The design and construction teams. Introduction to the Principles of Civil Engineering design. Influence of erection procedure on design. Operation and maintenance of Civil Engineering facilities.

**PART B** - General Considerations in Civil Engineering Works; Site investigation; Site organisation; Temporary works; Earth works; Construction machinery and Equipment.

**PART C** - Elements of Construction; Domestic, industrial and multi-storey buildings; Construction of foundations, floors, walls, staircases, roofs and coverings; Frame and space construction; fire protection. Elements of grid construction; Road works, Subways, Railways, Air fields, Hydraulic and Liquid retaining structures, Dams, Harbours, Docks, Jetties etc.; Dredging and reclamation; Irrigation and River works; Pipelines for water, gas and sewage; Concept of appropriate technology in Civil Engineering.

**CIV3302: CIVIL ENGINEERING MATERIALS (3 Credits)**

**Cement:** Cement manufacture, properties, types and uses, products; Aggregates: sources, types, properties and uses; Admixtures: sources, types, properties and uses;

**Concrete:** Lightweight concrete, Fibre reinforced concrete; Reinforced cement concrete; Pre-stressed concrete; Properties of fresh concrete; Properties of hardened concrete; Strength and failure criteria; Non-destructive testing; Creep and shrinkage; Design of concrete mixes; Quality control; Formwork, Finishes and Durability.

**Ceramic materials:** Clay products, glasses, bricks, manufacture and properties.

**Polymer materials:** Classification of polymers. Manufacture, physical and mechanical properties. Application of polymers in civil engineering works; pipe work, bridge bearing, fluid sealing, vibration isolation, reinforced plastics. Rubbers.

**Bituminous Materials**: Bituminous binders. Manufacture, properties and uses. Viscometers. Penetration index. Bitumen and Asphalt mixes. Workability, strength and durability. Specifications and standard tests. Bituminous material for roads, hydraulic works and flats roofs.

**Steel Technology:** Production, fabrication and properties of steel. Types, Corrosion of steel and its prevention. Tests on steel and qualitycontrol measures.

**CIV3303: FLUID MECHANICS II (3 Credits)**

The momentum equation and forces due to fluid in motion. Application of momentum equation in solution of pipeline problems e.g. force due to change in direction, size etc., thrust blocks, anchorages etc., and open channels. Introduction to boundary layer theory, formation and separation of eddies, skin friction and drag; Dimensional Analysis:Derivation of relationships involving different fluid flow problems using Mathematical models: Raleigh method, Buckingham PI theorems; Applications of dimensional analysis; Hydraulic Machinery; Turbines: Peltot, wheel, Francis, axial flow. Characteristics of turbines, velocity diagrams, power developed, efficiencies. Draft tubes and diffusers. Pumps: Characteristics of reciprocating and rotodynamic pumps, specific speed efficiencies, power, etc.; Flow in Open Channels:Non-uniform flow and unsteady flow in channels e.g. rivers, canals, drainage channels, etc. Design of channels: erodible and non-erodible channels

**C1V3304: SOIL MECHANICS I (3 Credits)**

Classification and properties of engineering soils (Grain size analysis and Atterberg limits); Phase relationships - void ratio, porosity, specific gravity, density and unit weight; Seepage, permeability and groundwater flow; flow nets, Shear strength of soils - the Mohr-Coulomb failure criterion, shear strength tests; Elements of stress analysis (principles of effective stress, stresses at a point in a soil mass, stresses due to self-weight and stresses due, to applied loads; Stresses and Displacements - Influence charts, displacements from the theory.

**CIV3307: DESIGN OF STRUCTURAL ELEMENT I (3 Credits)**

Introduction to reinforced concrete design, Design theories and materials, Analysis of frames for vertical loads; Analysis of frames for horizontal and vertical loads, Analysis of sections in bending; Shear, Bond and Torsion, Deflection and cracking.

**CIV3308:1 STRENGTH OF MATERIALS (3 Credits)**

Advanced topics in Bending moment and Shear force in Beams, Theory of bending of beams. Deflection of beams. Unsymmetrical bending and shear centre. Applications strain energy, Biaxial and state of stress, Transformations of stresses. Mohr’s circles, Springs, Creep, fatigue, fracture and stress concentration, Betti and Maxwell’s theorems, and Castigliano’s theorem.

**CIV3309: STRUCTURAL ANALYSIS I (3 Credits)**

Determinate structures: Simple beam analysis, Bending moment, axial force and shear force diagram. Graphical methods of determining reaction forces and resultant force. Determination of section properties. Analysis of simple frames and arches.

**CIV3401: ENGINEERING GEOLOGY (4 Credits)**

Relevance and importance of Engineering Geology to Civil Engineers, Geology, surface and structure of the earth, Surface processes (weathering, erosion, transportation, deposition and formation of soils). Mineralogy - study of types, character and properties of minerals, Petrography - study of types, character and properties of rocks, Geological structures and mapping, Geophysical techniques, Stratigraphy – time scale, fossils and their importance with special reference to Nigeria. Introduction to the geology of Nigeria. Engineering applications to design and construction of engineering works such as dams, tunnels, excavations, stability of slopes, and occurrence of groundwater.

**CIV3402: CIVIL ENGINEERING DRAWING (4 Credits)**

Geometrical Drawing: The vertical and the horizontal plane, representation of a point and line, determination of the true length of a line, representation of a solid, auxiliary projection of conic sections and common curves; Elements of Architecture: Dimensional awareness, graphic communication and relation to environment. Free hand drawing, form in terms of shade, light and shadows. Orthographic diametric, perspective projections; Building drawings: Block plan, site plan, floor plans, elevations, cross-sections, typical details. Study of specific examples; Structural drawings (steel structures): Representation of steel sections, rivets and bolted connections, welded joints, butt and fillet welds, beam-beam and column-beam connections splicing and column bases; Structural drawings (reinforced cement concrete structures): Introduction to reinforcement bars, end anchorages of reinforcement, U and L hooks, notation and identification of bars on drawings. Detailed reinforcement drawings, sectional views of members and bar scheduling. Specific cases of beams, one-way slabs two-way slabs, columns, staircase, footings and foundation details; Presentation of Road designs and other Civil Engineering Drawings: Layout plans showing proposed road, existing structures; horizontal alignment of the proposed road, drains, location of bridges and railway crossings, horizontal curves; longitudinal section showing datum, the existing ground level, proposed longitudinal profile of the road, vertical curves, drainages, the proposed invert levels of drains and culverts. Cross-sections consisting of the extent of the road reserve, the road pavement, (showing base subgrade, base course and wearing course), drains and culverts, cross-slope and super-elevation: contours, representation of earthwork, cut and fills. Retaining walls; design and uses; Methods of Support (Bearings): Journal, Roller and Ball Bearings - technical representation; Presentation of Water Resources/Environmental Engineering Structures: Sections of earth, gravity, arch-dams; reservoirs, water tanks, pipe-layouts, manholes, septic tank and soakaway pit, sewers.

**CIV3403: ENGINEERING SURVEYING I (4 Credits)**

Introduction to Surveying Instruments; Types, Adjustments and Uses; Theory of Errors; Types, Detection and elimination; Chain Surveying; Compass Surveying; Plan Table Surveying; Levelling: Tacheometric, Trigonometric, Altimetric, Geometric; Theodolite Traversing.

### LEVEL 400 COURSES

**EGR4301: ENGINEERING STATISTIC**

Sampling, frequency tables and their graphs, centre of distribution, spread of distribution, outcomes and their probabilities, conditional probability. Independence and standard deviation. Random variables, Expectation, variance, specific discrete and continuous distributions. Higher dimensional random variables. Multinomial and Bivariate normal probability distributions. Correlation and regression. Law of large numbers and central limit theorem. Sampling and sampling distributions. Test hypothesis and quality control.

**CIV4201: HIGHWAY ENGINEERING**

Highway Location: Classification of highways, Expressways. Design elements; elevated, ground, depressed expressways, weaving ramps; Interchanges: Types, design considerations; Highway economics: Highway Design Elements: Speed, sight distance, horizontal alignment, vertical alignment. Major cross section elements, other intersection elements; Pavements: Types of pavements: flexible pavements, rigid pavements. Structure of pavements. Pavement design methods. Pavement maintenance, highway construction materials.

**CIV4202: STRUCTURAL ANALYSIS II**

Indeterminate Structures: Differences between determinate and indeterminate structures. The test for statical indeterminacy for plane structures. Unstable plane structures. The three moment equation. The method of cross. The use of Mohr’s theorems. Deflection caused by temperature changes. Deflections and general expression for flexibility coefficients. Deflection curves for beams and frames. The Williot-Mohr diagram for truss deflections. Analysis of fixed beams. Beams of variable cross sections. The slope deflection equations. Moment-area method; influence lines.

**CIV4203: SOIL MECHANICS II**

Consolidation theory: consolidation test, compressibility characteristics, coefficient of consolidation; Settlement analysis: settlement of a foundation, immediate settlement, consolidation settlement, stress path; Compaction and Soil Mechanics aspects of highway design; Lateral Earth Pressure and Retaining walls (Rankine and Coulomb’s theory, graphical methods).

**CIV4204: DESIGN OF STRUCTURAL ELEMENTS II**

Introduction to Structural Steel Design: Properties of steel, Tension members; Beams in bending and shear; Deflections; Bearing places for beams; Compression members. Stanchion and column bases; Connections; Composite construction; The continuous beam; Design projects.

**CIV4304: CIVIL ENGINEERING PRACTICE**

Civil Engineering Contracts:Nature and types of civil Engineering works. The nature and form of contracts. Enforcement of contracts. Validity of contract and remedies for Breach of Contract. Civil Engineering Contracts: Types and scope. Contract Documents including reference to appropriate clauses in Civil Engineering conditions of contracts;Civil Engineering Works and Methods of Measurements:Introduction to the development of Civil Engineering codes of measurement, scope of Civil Engineering works, comparison of Civil Engineering and building methods of measurement. General arrangements and contents of Civil Engineering Bills of Quantities. Method related to charges, pricing and measurement of Civil Engineering work including reference to relevant clauses in the CESMM, Preparation of Bills of Quantities. Specification writing;Estimation and Valuation:Estimating and costing of Civil Engineering works: Fixed method and time related costs. Estimating for labour, plant materials and overheads. Valuation for interim certificates and final payments. Introduction to financial control of construction works. Variation and disputes;Construction Machinery and Equipment:Application of various techniques to live Civil Engineering projects: Dams, foundations, bridges, highways, industrial buildings, sewage works, pipeline works, etc.

**CIV4302: HYDRAULICS/HYDROLOGY**

Meteorology:The basic concepts, instrumentation and measurements of physical meteorological parameters viz solar radiation, wind, temperature, sunshine, pressure, rainfall, humidity, weather systems and climate;Hydrology:The hydrological cycle and the water balance equation. Measurement and or estimation of the various components in the cycle i.e. precipitation evapotranspiration, surface runoff, groundwater etc. Surface runoff and subsurface flow; Hydrography Analysis:Components of hydrograph, base flow separation volume of runoff estimation. Concept of unit hydrograph. Rainfall - runoff relationships. Flow in pipes:Pipe network analysis e.g. Hardy Cross. Equivalent pipe, Electric analogue etc. Hydraulic design of pipelines and distribution system, the use of standard design charts and tables e.g Hazen-Williams nomograph, Manning’s Charts, Colebrook White etc.Compressible Flow: The dynamic equations for gradually varied flow and their solution for some common problems. Analysis for flow through hydraulic structures: spillways, weirs, sluices flumes. Energy control wave motion and flow in non-prismatic channels, spatially varied flow.Analysis of Experiments: Hydraulic model laws, hydraulic simulation and model studies. Application of models laws to design a hydraulic structures and system.

**CIV4303: ENGINEERING SURVEYING II**

Geometric: Horizontal Alignment: Simple Curves, Compound Curves, Reverse Curves, Transition Curves. Vertical Alignment: Summit Curves, Sag Curves. Setting-Out Curves: Methods of setting out, Computation of Setting-out data; Photogrammetry in Highway and Engineering Surveying: Triangulation, Minor triangulation, Bridge triangulation; Hydrographic Surveying: Mean sea level, Shore line surveys.

### LEVEL 500 COURSES

**CIV5201: CONSTRUCTION MANAGEMENT AND ECONOMICS**

Organisational /Personnel Management, Work study and production processes; Industrial psychology; Application of computers in Construction Management; Techniques of time and motion studies.

**CIV5202: PUBLIC HEALTH ENGINEERING**

The work of the Sanitary Engineer, water use and water related diseases. Physical, chemical and biological characteristics of water and wastewater quality and pollution control. Water supply, treatment and design. Wastewater collection treatment, disposal and design. Solid waste collection treatment, disposal and design of systems. Appropriate technology of water supply, wastewater treatment, etc., should be highly emphasised. Air pollution and control.

**CIV5401: CONSTRUCTION MANAGEMENT AND ECONOMICS II**

The Management of Environment, Resources Management and Economic Assessments: Material management; purchasing methods. Contracts. Interests formula. Rate of return. Methods of economic valuation. Selection between alternatives. Activity sampling. Cash flow and interim valuations; Site Management and Construction Planning: Project planning and scheduling techniques; bar chart, network analysis; CPM (Critical Path Method); PERT (Project Evaluation and Resources Techniques). Optimisation. Linear Programming as aid to decision-making policies under risk and uncertainties including the use of available computer software; Tendering Evaluation and Contact Administration: The estimating and tendering process within a contractor’s organisation. Planning and estimation. The calculations and decisions in tendering. Post contract administration. Financial management.

**CIV5402: GEOTECHNICAL ENGINEERING**

Types of foundation, Stability of foundations, Bearing capacity of shallow and deep foundation. Stability of slopes (infinite slopes, cuttings, embankment and earth dam stability). Site investigation methods. Methods of ground improvement

Identification, classification and geotechnical properties of tropical soils (special preferences to Nigeria).

**CIV5403: WATER RESOURCES ENGINEERING**

Statistics and probability methods in hydrology: Hydrological forecasting reservoir and flood routing. Design of urban storm drainage. Groundwater hydraulics and groundwater exploration; Hydraulics Structures: Functional design of service and impounding reservoirs. Sedimentation control in reservoirs. The design of earth dams, rock fill dams, concrete dams and associated components, e.g. spillways, stilling basins, outlet works, sluice ways, etc; Water Resources Management: National legislation in water resources. Integrated planning of river basins, economic analysis of water resources projects. Environmental impact of water resources projects: Social, ecological, health aspects.

**CIV5404: TRANSPORTATION AND HIGHWAY ENGINEERING**

Driver vehicle and road characteristics. Curvature, super elevation and side friction. Speed-volume relationships. Factors that reduce capacity. Capacity of intersections with traffic signal control. Capacity of other kinds of intersections. Capacity of interchanges.

Weaving sections. Ramps and their terminals. Highway design, Highway standards design speed, design of cross-sections. Design of grade alignment design. Design of intersections at grade. Channelisation, rotary intersections. Interchange, types and characteristics. Traffic control devices. Freeway and expressway operations. Operation in highways and streets in urban areas. Parking and rest areas. Highway drainage ditches, culverts, bridges, highways and the environment. Highway construction materials. Flexible pavements. Bituminous pavements. Rigid pavements, other types of pavements. Failure of pavement and detailed methods of improvement of defects.

**CIV5405: DESIGN OF STRUCTURAL ELEMENTS II**

Design of Reinforced Concrete Structures: Design of Beam; Design of slabs and stairs; Design of columns and walls; Design of foundations and retaining walls; Design projects.

**CIV5406: STRUCTURAL ANALYSIS III**

Indeterminate Structures: Energy and virtual work method, flexibility method, the method of kani (including side sway of frames), moment distribution (Hardy cross methods), matrix formulation of the stiffness method. Influence lines; Yield line analysis and strip methods for slabs; Introduction to simple plastic theory of bending, collapsed loads. Introduction to structural dynamics.

**CIV5301: ADVANCED PUBLIC HEALTH ENGINEERING**

Introduction: The composition and characteristics of domestic, industrial and agricultural wastewaters and natural waters; advanced laboratory analysis – BOD, DO, metals, non-metals, etc. Water and Wastewater Systems: Theories behind the physical, chemical and biological treatment processes. Unit operations, processes and design: Physical screening, sedimentation, filtration, chemical flocculation, coagulation, precipitation, disinfections, etc. biological – aerobic, anaerobic, oxidation and facultative. Water treatment system: Wastewater treatment systems, stabilisation ponds, trickling filters, activated sludge. Introduction to tertiary treatment: Removal of metals and non-metals NO3, SO4, Mg, Pb, Fe, Ca, etc. water and wastewater treatment model studies. Stream pollution control and effluent standard; effluent re-use; DO, light and heavy pollution. Management of solid wastes; collection, treatment and disposal systems.

**CIV5302 – DRAINAGE AND IRRIGATION ENGINEERING**

Soil-Plant-Water Relations: Physical properties of soil and water; water retention and availability in soils; soil water movement; crop-water relations; salinity; evapotranspiration and crop water requirements. Saturated and unsaturated flow; flow equation and numerical solution of boundary problems in irrigation and drainage; Crop Production: Basic introduction to crop classification; environmental crop physiology and crop agronomy of selected tropical crops; Irrigation: Irrigation need; irrigation methods – furrow, border, ponding, etc; design of surface, sprinkler and trickle irrigation systems; land grading on farm and scheme water requirements; scheduling and managing the distribution of water; design of canals and hydraulic structures. Drainage:Drainage need for both humid and irrigated land; drainage design theories; drain spacing and depth requirements fo0r humid, humid-irrigated and dry irrigated areas; methods and materials; system monitoring, problem soils. Design and installation of surface, sub-surface, pipe and mole and drainage systems; drain maintenance.

**CIV5303: ROCK MECHANICS**

Rock as a foundation and constructional materials, engineering properties of rocks; Types of rocks – rock minerals, classification, description planes of discontinuity, weathering of rocks of defects; Engineering behaviour of rock masses and classification of weathered rocks and rock masses; Improvement of rock engineering properties; Foundation on rocks – bearing capacity – foundation of buildings, industrial structures, roads and railway, tunnels and hydraulic structures; Exploration of rocks, reconnaissance, surface investigations, insitu testing of rocks, geophysical techniques.

**CIV5304: ADVANCED FOUNDATION AND UNDERGROUND CONSTRUCTION**

Foundation Construction: Site preparation, temporary roads, site drainage, site preparation building areas. Deep trench and deep basement excavations. Bulk excavation and rock excavation. Stability of slopes to open excavations. Support of excavation by timbering and sheet piling. Retaining walls and sheet pile design. Shoring and Underpinning: Requirements for shoring and underpinning. Methods of shoring. Methods of underpinning. Tunnelling: Tunnelling in tough, medium-tough and soft rocks. Tunnelling by bores. Shield tunnel. Underground Construction: Culverts and conduits. Deep Foundation Design and Construction: Design of piles, pile load tests. Foundation design for dynamic conditions.

**CIV5305 – PRESTRESSED CONCRETE DESIGN**

Materials, prestressing systems, loss of prestress, analysis and design of sections in bending, shear, bond and bearing. Partial prestress and non-prestress reinforcement. Compression members. Design projects.

**CIV5306 - ANALYSIS AND DESIGN OF TIMER STRUCTURES**

Properties of timber, analysis and design of flexural and compressive members. Axial load and bending connections. Design projects.

**CIV5307 – ADVANCED CONSTRUCTION TECHNOLOGY**

Concrete production, mix design and quality control; Advanced Concrete Technology: Concrete pavements, precast concrete – prestressed concrete, mass concrete – massive construction and underwater concreting. Concreting in extreme weather, cold weather and hot weather; Advanced Construction Plants and Equipment: General consideration, classification of plants and equipment; Characteristics of plants and equipment, performance calculations; Elevated Constructions: Silos, water tanks and bunkers. Formwork and scaffolding; Suspended Floors – Functional requirements of floors. Types of suspended floors; Roof Structures: Functional requirements of roofs, choice of roof structure and types of roof construction; Stairs: Construction of concrete and metal stairs.

**CIV5308: RURAL AND URBAN TRANSPORT PLANNING**

Transportation Systems: Characteristics, survey, analysis and planning; Traffic theory: Trip generation, growth and attraction, highway capacity; Planning theories, factors affecting land use; Environmental planning; Urban and rural traffic; Transportation development and growth in Nigeria and future developments.

**CIV5309: ADVANCED TRAFFIC ENGINEERING**

Traffic Planning: Traffic elements. Urban and rural traffic. Traffic theory; traffic flow and control, highway capacity, volume, level of service, introduction to traffic signal control, parking, traffic signs and markings; traffic safety engineering.

# CHAPTER THREE

## ACADEMIC AND EXAMINATION REGULATIONS

## Introduction

The overall process of assessing a candidate’s performance in a course may consist of a formal written examination, an assessment of coursework, a long essay, project defence or combination of any of the above as appropriate. Except as may be approved by the senate, examinations shall be held at the end of each semester at places specified by the relevant Department subject to any directives given by the senate.

## Registration Procedure and Regulations

The following regulations should be generally observed during registrations:

* 1. Each student must register and pay the appropriate registration fees at the beginning of each session according to the registration process in operation during that session. The registration process includes getting copies of relevant documents signed and submitted to all relevant places as may be advertised by the University, Faculties and Departments.
  2. Returning students must complete the registration process within two weeks from the date registration starts. A returning student who fails to complete the registration process within the two-weeks period approved for registration shall be deemed to be registering late and shall pay a late registration fee as may be prescribed by the University from time to time. Moreover, a returning student who fails to register within four weeks of commencement of the registration exercise shall not be allowed to register. Such a student shall be deemed to have withdrawn, unless he/she provides a reason acceptable to the Senate, in which case he/she can be considered for suspension of studies.
  3. A fresh student must complete the registration process within two weeks of the close of the central registration of new students. Failure to complete the process within this time shall attract late registration fee charges, or forfeiture of the admission. Provosts of Colleges, Deans of Faculties and Heads of Departments shall ensure that the registration process is completed on time, that the process is clearly explained and publicised to the students, and that all staff members involved in the exercise maintain effective office hours so that students could see them without hindrance.
  4. The minimum credit load is 12 per semester and 30 per session, except in exceptional circumstances, such as:

1. Students on industrial/field attachment, internship, teaching practice, etc, where such an exercise lasts for a semester and its credit load is less than 12 and/or where the sessional credit load is less than 30 credits.
2. Spill-over students requiring less than 12 credits in a semester and/or less than 30 credits in a session to graduate.
3. Students with many carry-over courses in one semester.
   1. Where the minimum credit requirement for a programme is more than 30 per session, the minimum credits for students of such a programme shall be that higher number. Thus, each student should workout the exact number of credits to be registered in conjunction with his/her Level Coordinator.
   2. The maximum number of credits a student can register for in any session is the minimum credit requirement for his/her level, plus six. Thus, if the requirement for a Level 100 programme is 34 credits, then the maximum number of credits a Level 100 student of such a programme can register for is 40 (i.e. 34 + 6).
   3. Courses are to be registered for by students sequentially. Thus, a student must register for Level 200 courses before registering for Level 300 courses. Moreover, when registering, a student shall first enter lower level courses (failed, or not taken, earlier) before entering higher level ones.
   4. If a student fails a required course, he/she must register for it as a “carry-over” in all subsequent sessions until the course is cleared, except where prevented by industrial/ field/internship and similar attachments lasting a whole semester.
   5. A student shall not repeat any course that he/she has passed, irrespective of the passing grade.
   6. A student need not register for a failed non-required course, provided the credits requirements for the particular level of the course are satisfied. If the credit requirements are not satisfied, another course may be substituted for a failed non-required course, provided this is in line with departmental and faculty regulations.
   7. A student cannot earn a credit in any course he/she has not duly registered for through the normal registration process, or the Add/Drop process. Thus, if a student sits for an examination for any course for which he/she has not registered, the result of such an examination shall be cancelled.
   8. The results of all the courses registered by a student (except those dropped through the add/drop process) shall be reported. A student who registers for a course but fails to sit for its examination without valid reasons shall be deemed to have failed the course. Thus, a grade of ‘F’ shall be reported for such a student in the course. However, it shall be reported that the student was absent in the examination, so that he/she can be aware of the reason for the failure.
   9. Where the results of a student are corrected after approval by Senate (such as confirming that a student reported absent had sat for the examination), the corrected result shall be reflected in the semester the courses were taken, and the normal approval process shall be followed to get the corrected results approved and recorded in all concerned units.

Note: The procedure and conditions for the add/drop processes are as follows:

1. Interested students shall collect the Drop/Add Form from the Directorate of Examinations, Admissions and Records (DEAR) after paying the appropriate fees at Bursary/designated banks.
2. The student shall discuss the proposed changes with his/her Level Coordinator to ensure that the changes are in order.
3. The changes need the endorsement of all concerned departments and faculties.
4. The changes in registration must be in line with the following: the requirements for minimum and maximum number of credits per semester and session; and regulations of the University, the Faculty, Department and programme.
5. The Drop/Add process (including returning the forms to all relevant units) must be completed within three weeks of the commencement of lectures in the semester.
6. A student can neither add, nor drop, a course when more than 20% of it has been covered.

## Standard of Tests and Examinations

The standard of tests and examinations complies with the Benchmark Minimum Academic Standard (BMAS) of NUC. The grading for courses is based on the continuous assessment (CA) and the final examination. The CA comprises of sets of tests and assignments to assess the current understanding of students as the courses are being taught. Each course is assessed based on CA, and a written examination to be given at the end of the semester in which the course is offered. The ratio of CA to written examination is usually 30-40% CA and 60-70% examination. However, in some courses such as Laboratory practical and Drawings, the ration of CA to written examination is usually 50:50. The minimum pass mark is 45% that is D grade.

The duration of a written examination of an undergraduate course depends on the credit hours. An external moderator will be involved in moderating the examination questions and the sample marking schemes. The manner of the involvement of the external moderator shall be as prescribed under the regulations applicable to the undergraduate Programme.

A student is required to present himself/herself for examination in all the courses for which he/she is registered. In order to be eligible for examination in a particular taught course, a student shall have attended a minimum of 75% of the total periods of formal instructions delivered for the course. An attendance requirement shall be calculated, taking into account all the types of instructions used in the course.

## Grading of Students’ Work

Grading of courses is done by a combination of percentage marks and letter grades translated into a graduated system of Grade Point Equivalent (GPE). For the purpose of determining a student’s standing at the end of every semester, the Grade Point Average (GPA) system is used.

**Table3.1:** Grading system

|  |  |  |
| --- | --- | --- |
| **Score** | **Letter Grade** | **Grade Point** |
| 70-100% | A | 5 |
| 60-69% | B | 4 |
| 50-59% | C | 3 |
| 45-49% | D | 2 |
| 0 – 44% | F | 0 |

Each course is graded out of maximum of 100 marks (made up of continuous assessment and written Examination) and assigned appropriate Grade Point Equivalent as shown in Table 3.1. The Project is graded over 100% without any written examination. The main concepts used in the semester system are: Credit Unit (CU), Grade Points Average (GPA), Cumulative Grade Points Average (CGPA), Probation, Carry-over, Withdrawal, Spill over and Grading System.

### Credit Unit (CU)

Credit Unit (CU) represents the weight assigned to the course, and is recorded in credit hours. One credit is considered as one hour of classroom lecture per week or two hours of laboratory time per week. Thus, CU consists of specified number of student teacher hours/week/semester. For instance, CIV3301 is a level 300 course with 3 hours’ lecture period/week/semester.

### Grade Point (GP)

This involves assigning numerical or alphabetical letter to the scores of students at examinations, reports, projects or papers. Letter systems generally run from A (5 points), to B (4 points), C (3 points), D (2 points), and F (0 point).

### Grade Point Average (GPA)

This refers to the evaluation of students’ performance in any semester. It is the average of weighted grade points earned in the courses offered by a student in a semester. The GPA is calculated as follows:



Where;

TCR = Total Credits Registered in a semester

TPE =Total Points Earned in that semester

**Example:**

The Tables 1 & 2 below show first and second semester results of a level 100 student

**Table 1: First Semester results**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S/N** | **Course Code** | **Course Title** | **Credit Unit Registered** | **Grade** | **Points Earned** |
| 1 | CHM1231 | Inorganic Chemistry | 2 | A | 2 x 5 = 10 |
| 2 | CHM1241 | Organic Chemistry | 2 | B | 2 x 4 = 8 |
| 3 | CSC1201 | Introduction to Computer Science | 2 | C | 2 x 3 = 6 |
| 4 | MTH1301 | Elementary Mathematics I | 3 | D | 3 x 2 = 6 |
| 5 | STA1311 | Probability I | 3 | A | 3 x 5 = 15 |
| 6 | PHY1170 | Physics Practical I | 1 | B | 1 x 4 = 4 |
| 7 | PHY1210 | Mechanics | 2 | F | 2 x 0 = 0 |
| 8 | PHY1220 | Electricity and Magnetism | 2 | B | 2 x 4 = 8 |
| 9 | GSP1201 | Use of English | 2 | C | 2 x 3 = 6 |
| **Total** | | | **TCR = 19** |  | **TPE = 63** |

**Table 2: Second Semester results**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S/N** | **Course Code** | **Course Title** | **Credit Unit Registered** | **Grade** | **Points Earned** |
| 1 | CHM1251 | Physical Chemistry | 2 | C | 2 x 3 = 6 |
| 2 | CHM1261 | Practical Chemistry | 2 | C | 2 x 3 = 6 |
| 3 | MTH1302 | Elementary Mathematics II | 3 | D | 3 x 2 = 6 |
| 4 | MTH1303 | Elementary Mathematics III | 3 | F | 3 x 0 = 0 |
| 5 | PHY1180 | Physics Practical II | 1 | A | 1 x 5 = 5 |
| 6 | PHY1230 | Behaviour of Matter | 2 | B | 2 x 4 = 8 |
| 7 | GSP1202 | Use of Library, Study Skills and ICT | 2 | A | 2 x 5 = 10 |
| **Total** | | | **TCR = 15** |  | **TPE = 41** |

### Cumulative Grade Point Average (CGPA)

The CGPA represents an up to date average (i.e. cumulative) of the GPA earned by the student in at least two semesters. It is an indication of the student’s overall performance at any point in his training at the university. CGPA is attained after two semesters or more in an academic programme. Example: CGPA = (TPE1st semester + TPE 2nd semester) / (TCR1st semester + TCR1st semester) = (63+41) / (19+15) = 4.33.

### Academic Probation

A student who fails to earn a minimum of GPA of 1.50 point at the end of two semesters would be placed on probation for another academic session. Probationary status is removed if a student placed on probation attains a minimum CGPA of 1.50 or above in the following academic session. He will be notified by his level coordinator.

### Incomplete Grading

If a student earns 75% lectures attendance in a course but due to sickness or accident or other acceptable reasons is unable to write the semester examination, he/she should apply for incomplete grading to retain his/her continuous assessment (CA) and be allowed to write the examination for that course at a later date.

### Withdrawal from Studies

Withdrawal from the University shall be recommended by the Faculty Boards of the Senate on any of the following grounds:

1. Failure to register within the time set by Senate for registration.
2. Failure to obtain a CGPA of at least 1.50 after a probation period.
3. A failure rate so great that, at the point of consideration, the student would not be able to graduate within the remaining time available to him/her even if (s)he is to register for, and pass, the maximum number of credits allowed by the regulations in each of the sessions available to him/her. For example, if a student has only a maximum of two sessions to earn 90 credits and she/he can register for only 40 credits per session.
4. Failure to attend classes for a period which exceeds 30 consecutive days except upon approved medical or other grounds.
5. Failure to complete the stated requirements for the award of a degree or diploma within the maximum number of semesters laid down for the programme.
6. Failure to sit for the entire semester examinations without any admissible reason.

### Carry Over (CO)

A student who fails to earn a minimum of 45 marks in a course (continuous assessment and examination) will be asked to carry over (CO) the course to the next available period and get it registered bearing in mind that he/she will be allowed to register a maximum number of credits per semester. Continuous assessment (CA) carries 30 marks while examination carries 70 marks for all conventional course work whereas for practical course, CA carries 60 marks and examination carries 40 marks.

### Spill Over

A student who fails to pass a registered CORE course at the end of approved regular years of programme studies in the University will not graduate. That is, he/she has to spill over for a maximum of four (4) semesters.

## Suspension of Studies

If a student falls sick or suffers an accident after registering for a programme in the University, such a student should apply with relevant medical reports (subject of satisfaction of the Director, University Health Services) to the Dean of his/her faculty through the Head of Department for Suspension of Studiesof a semester or a session (as the case may be) to enable him/her fully recover. However, such request will not be counted within his/her maximum allowable period of stay for a degree.

## Attendance Requirements

Students must attain at least 75% attendance of lectures,tutorial and practical work before being allowed to sit for examination. Students who did not attain **75% attendance** of lectures in any course of the Department will not be allowed to sit for examination.

## Degree Classification

Determination of the class of degree is based on the Cumulative Grade Point Average (CGPA) earned at the end of the programme. The CGPA is used in the determination of the class of degree according to the Table 3.2.

**Table 3.2:** Class of degree and corresponding CGPA

|  |  |
| --- | --- |
| **Class of Degree** | **CGPA** |
| First Class | 4.50 - 5.00 |
| Second Class Upper | 3.50 - 4.49 |
| Second Class Lower | 2.40 - 3.49 |
| Third Class | 1.50 - 2.39 |

## Examination Regulations

The University has drawn examination regulations to clarify the legitimate expectations and corresponding responsibilities of all staff and students. It is intended to ensure that the University’s examinations are organized and conducted in a consistent and professional manner. These regulations apply at all examinations/assessments in the University (including continuous assessment test, tutorials and take home assignments.) Some of the regulations are as follows:

1. Attendance at lectures, practical’s and examinations are compulsory, and anyone who does not attend a lecture, practical and examination at the time and place published in the examination time-table will be deemed to have failed in that part of the assessment.
2. Students who have clashes in examinations based on the time-table should immediately inform their departmental examinations officer before the commencement of the examination. Students who fail to inform the appropriate officers of the University of Likely Clash in examinations shall blame themselves for any difficulty or eventuality that may arise.
3. It will be the responsibility of each student to make sure that he is aware of the final examination time-table. Students are to expect changes of date, time and venue of examination before the examinations start.
4. Each candidate should be at the examination room at least ten (10) minutes before the advertised time of the examination. He is required to supply his own writing and drawing instruments. He is also required to supply any other examination aids of which the provision is prescribed in the rubric of the question paper, and announced to candidates in advance, as being his own responsibility.
5. Candidates for any examination in the university are to conduct themselves properly in and around the examination hall. Deviation from proper conduct may constitute examination misconduct, which are punishable by the university prescribed penalties.
6. A student shall bring his identity document to each examination and display it in a prominent position on his desk.
7. Any book, paper, document, examination aid (except as may be provided for in the rubric of the question paper and announced to the candidates in advance) handbag or briefcase which is brought to the examination room must be deposited at the Invigilator’s desk, or a place designated for the purpose, before the start of the examination. In no circumstances must it be placed on or near any candidate’s writing desk.
8. Each student shall sign in by completing a line on the attendance register – writing his/ her registration number, name, answer booklet number and department and then signing. Students should be advised to note their serial number and attendance register number (in case there are more than one registers) for the ease of signing out.
9. A candidate arriving late shall be admitted up to thirty minutes after the start of the examination, but he shall not be allowed extra time. If he arrives more than thirty (30) minutes late but before one half of the total duration of the examination has elapsed, the Invigilator may at his discretion admit him if he is satisfied that the candidate has good reason for his lateness, and provided that no candidate has already left. No candidate shall be admitted after half the duration of the examination has elapsed. The Invigilator shall report on all those admitted late to the Faculty Examinations Officer who shall inform the Chief Examiner. The Chief Examiner shall recommend to the Board of Examiners whether to accept the student’s paper or not.
10. At the end of the time allotted, each student shall stop writing when instructed to do so and shall gather his scripts together. He/she shall then remain at his desk until all candidate’s scripts have been collected, and he has given permission by the Invigilator to leave. It shall be the candidate’s responsibility to ensure that his answer scripts are collected by a University official in the examination room before he leaves.

## Examination Misconduct and Leakages

Candidates for any examination in the University are to conduct themselves properly in and around the examination halls. Deviations from these proper conducts may constitute examination misconduct which are punishable by the penalties described below.

The vicinity of an examination hall is considered to be part of the examination hall. Thus, any student caught with unauthorized materials or writing in the vicinity of the examination hall (after the student has seen the question paper) shall be treated as if the materials are found on him/her in the examination hall. Similarly, any student caught cheating in any way in students’ hostels or other areas shall be appropriately treated.

Any student of the University who commits an offence punishable in any other institution will be treated as if he/she has committed such an offence in the University, and shall therefore be liable for any appropriate punishment.

Examination misconduct cases discovered during the marking of the examination scripts are also subject to appropriate investigations and further necessary action.

### Procedure for Investigating Examination Misconduct and Leakages

1. If any student is found to be, or is suspected of, infringing the provisions of these Regulations or in any way cheating or disturbing the conduct of an examination, the Invigilator shall take possession of any relevant evidence, fill the relevant form, obtain statement(s) from the student(s) concerned by giving him/her/them the relevant forms to fill and/or make them sign exhibits.
2. A student accused of involvement in examination misconduct shall be allowed to continue with the examinations provided no disturbances are caused. He/She shall sign any exhibits collected from him/her and give his/her own version of events by completing the appropriate form.
3. After the examination, the invigilator shall submit his/her report(s), the form(s) completed by the students and all exhibits and other documents on all examination misconduct cases to the Faculty Examinations Officer.
4. Upon receipt of any case of examination misconduct, the Faculty Examinations Officer shall report to the Dean, who shall set up a committee to investigate the case further.
5. The Faculty Committee on Examinations Misconduct shall invite all students accused of involvement to defend themselves of the accusations. A widely publicized notice on notice-boards which gives the names and registration numbers of the students being invited as well as the date, time and venue of the Committee’s deliberations shall serve as enough evidence of invitation, but invitation letters may also be sent to individual students. Students that fail to honour the first invitation shall be given a second chance.
6. A student accused of involvement in examination misconduct should defend himself before the Faculty Investigative Committee set up by the Dean.
7. After hearing from all concerned, the Committee shall write a comprehensive report on each case brought before it clearly indicating its findings, as to the degree of involvement, or otherwise, of each accused. It shall submit the report together with all relevant documents to the Senate Committee on Examination Misconduct and Leakages.
8. After going through the reports of the Faculty Committees on Examination Misconduct and carrying further investigations (where that becomes necessary), the Senate Committee shall report to Senate recommending the appropriate punishment to any student found to be guilty.
9. A staff member who reports a case of examination misconduct shall not sit on a Faculty or Senate Examination Misconduct Committee when the Committee is considering the case.
10. If the question paper for an examination that is yet to take place is suspected as having been leaked, the Chief Examiner shall immediately:
11. Withdraw the paper and cause another one to be set in its stead, even if this means shifting the examination date and/or time forward;
12. Report the matter to the Dean who shall further direct the Faculty Committee on Examination Misconduct to investigate the case as a matter of urgency.
13. If the question paper for an examination that has already taken place is suspected as having been leaked, the Chief Examiner shall immediately:
14. Report the matter to the Dean who shall further direct the Faculty Committee on Examination Misconduct to investigate the case as a matter of utmost urgency.
15. Report to the Vice-Chancellor who is the Chairman of Senate.
16. If the Faculty Committee confirms that a paper that was already taken has indeed leaked, the Dean shall cause the paper to be cancelled and another one set in its place. The Dean shall brief the Vice-Chancellor about the case.

### Categories of Offences and Punishments

The following are the categories of examination misconduct and leakage offences, as well as the appropriate punishments for the offences.

1. **Category of Offences Punishable by Expulsion from the University**
2. Impersonating another student, or being impersonated by another student at an examination.
3. Exchanging names and/or numbers on answer scripts/sheets.
4. Introduction and use of relevant unauthorized material(s) into the examination hall.
5. Exchange of materials (such as question papers, examination cards) containing jottings which are relevant to the ongoing examination in the examination hall.
6. Theft and/or illegal removal of examination scripts.
7. Any kind of mischief likely to hinder the smooth conduct of the examination. For example causing fire, flooding, or engaging in physical violence.
8. Collaborating with, or copying from, another candidate.
9. Cheating outside the examination hall, such as in toilets, hall of residence, etc.
10. ***Use of mobile phones or any other unauthorized electronic device.***
11. An offence which falls under category B committed by a student who was previously rusticated.
12. Any offence under this category committed by a student of this University in another institution.
13. Destruction of exhibit by candidates.
14. Any other misconduct deemed by the Senate Committee on Examination Misconduct and Senate to warrant expulsion.
15. **Category of Offences Punishable by Rustication**
16. Facilitating/Abetting/Aiding cheating by another candidate.
17. Introduction, but not use, of relevant unauthorized materials to the examination hall.
18. Acts of misconduct (such as speaking/conversation) during the examination which is likely to disrupt the conduct of the examination.
19. ***Bringing mobile phones or any other unauthorized electronic device into the examination hall.***
20. An offence in category C committed by a previously warned or rusticated student.
21. Any offence under this category committed by a student of this University in another institution.
22. Any other misconduct deemed by the Senate Committee on Examination Misconduct and Senate to warrant rustication.
23. **Category of Offences Punishable by Written Warning**
24. Introduction of unauthorized irrelevant materials into the examination hall.
25. Writing on the question paper.
26. Any offence under this category committed by a student of this University in another institution.
27. Any other misconduct deemed by the Senate Committee on Examination Misconduct and Senate to warrant warning.

### Misconducts Related to Projects, Essays, etc.,

Students of the Department of Agricultural and Environmental Engineering and the University as a whole are reminded to strictly adhere to the universally accepted high standards of academic integrity while writing any work related to the programme. Deviations from these high standards may constitute misconducts which are punishable by expulsion, rustication or warning depending on the nature of the misconduct. Some of the offences include the following:

1. **Offences Punishable by Expulsion**
2. Submitting a final year project that was done by someone else.
3. Submitting, as final year project, a work submitted earlier for another purpose (by him/ herself or by others, at the University or somewhere else).
4. Repackaging a whole project as his/her own product.
5. Any other offence related to final year project deemed by the Committee to merit expulsion.
6. **Offences Punishable by Rustication**
7. Substantial plagiarism of the work (s) of others in final year projects.
8. Fabrication or intentional misrepresentation of data, experimental results, analysis, etc used in final year projects.
9. Intentional sabotage of the final year project (or part thereof) of other students.
10. Any other offence related to final year project deemed by the Committee to merit rustication.
11. Any of the offences in categories B. and C. committed by a student in respect of homework, assignment, and other aspects of the continuous assessment of a course would lead to an ‘F’ grade in the course.

## Notification of Examinations Results

1. No results of any examinations will be announced until after they have been approved by SBC or Senate, as the case may be. However, the Chairman of the Senate may give approval in advance for the earlier announcement of results on a provisional basis and subject to Senate approval, to be made in case where special urgency exists.
2. The results of semester examinations for all levels should be released after the approval of the Senate or SBC, as the case may be.
3. Unless otherwise approved in advance by Senate, written statements of first semester results shall not be issued to a student or other unauthorized person.
4. At other times Deans and Heads of Departments may make known to students, either verbally or by posting lists in a public place within the University area, the SBC/ Senate approved summary of the results as well as the letter grades which they have obtained in their courses.
5. After the Senate has approved the results of an examination, a report of each session’s performance (except the final “classified” performance) shall be issued to each student by the Departments. Each report must be signed by the Head of the relevant Department.
6. Transcripts of examinations results shall be signed and stamped by Deans of Faculties and countersigned by the Registrar or his representative and shall be in such form as may be approved from time to time.
7. One copy of a transcript showing grades obtained will be given on request to a candidate on completion of his programme of studies. Such copy of the transcript cannot be used for official purposes, and this shall be so indicated on the copy. Further copies will be issued subsequently, but sent directly to institutions, on request and on payment of a prescribed fee to the University.
8. Certificates of the award of degrees and diploma approved by the Senate shall be sealed with the Common seal of the University and signed by the Vice-Chancellor and the Registrar.
9. Any student accused of involvement in examination misconduct, leakage of question papers or misconduct related to academic writings has a right to fair hearing. Indeed, a number of the proceeding provisions are meant to guarantee that. However, refusal/failure by a student to fill the appropriate form giving his/her own version of events, or to appear before a Faculty Committee should not be viewed as denial of such rights.
10. Any student punished by Senate for involvement in examination misconduct, leakage or other academic misconduct may appeal directly to Senate indicating the grounds of the appeal and attaching any supporting documents. The onus is on the appellant to make a case for Senate to reconsider its earlier decision on him/her.
11. Upon receipt of an appeal from a student punished for involvement in examination misconduct, leakage or other academic misconducts, Senate or its Chairman, shall refer it to the Senate Appeal Committee on Academic Misconduct. The Committee shall consider each appeal on its own merit; depending on the grounds of the appeal and any supporting document provided by the appellant and make appropriate recommendations to Senate.

## Maternity Leave

A female student must submit a medical certificate showing the expected date of delivery not less than six weeks in advance of the date. She can be granted exemption from coursework for a period of 12 weeks, commencing six weeks before the date of delivery the postponement of an examination, until the next scheduled opportunity, will normally be allowed only if the examination occurs within a period beginning six weeks before the expected date of delivery. The board of the examiners may at its discretion extend this period on receipt of a medical statement indicating exceptional circumstances. Exemption from coursework during maternity leaves as above will be permitted only once during a Programme of study. If the expected date of delivery interferes considerably with a semester programme, the department concerned may require the semester’s work to be abandoned and taken up at the next available opportunity.

## Sick-Leave Certificate

1. If a student falls sick while resident in the university campus or in the Kano municipal area, each such leave certificate must be obtained from the university clinic or from the doctor or hospital to which the student is referred from the university clinic. In the latter case, the certificate should be on official headed form, stamped and counter-signed by the Head of Department or the Medical Superintendent in charge of the hospital, as appropriate. Such sick-leave certificate obtained outside the university must be endorsed by the Director of the University Health Services Department.
2. If a student falls sick outside the Kano Municipal Area or is taken in emergency to a hospital in Kano, he/she must similarly obtain his/her certificate from a Medical Officer employed by a University or by a Government Hospital on an official headed form, stamped and counter-signed by the Head of Department or Medical Superintendent in charge of the Hospital, as appropriate.
3. If a student falls sick outside Nigeria, he/she must send without delay an official sick-leave certificate to the Director, University Health Services, who mat at his discretion refer the certificate without authentication to the Nigerian Diplomatic representative in the country concerned, or to any other appropriate body.
4. If a student is granted a sick-leave or maternity leave before the examination and he/she decides to take the examination, the sick-leave or maternity leave shall be withdrawn and he/she will be obliged to take all the examinations.
5. Note that all sick-leave certificates obtained outside the University must be endorsed by the Director, of the University Health Services.

## Submission of Sick-Leave Certificate

1. If the student obtained sick-leave certificate from the university clinic as in (a) above, he/she must present it personally or through a messenger without delay to the Head of his/her Department and obtained an acknowledgment for it.
2. If the certificate is obtained from a doctor to whom he/she is referred in Kano as in (a) above, it must be presented personally or through a messenger without delay to the Director, University Health Services, and obtain an acknowledgment for it.
3. If the certificate is obtained, as in (b) above, it must be sent immediately by a messenger or by a registered post to the Director, the University Health Services and an acknowledgement of the delivery or posting (as appropriate) obtained. If sent by the post, a copy must be retained by the student. Meanwhile, the student must endeavor to notify the Head of Department by the telephone, or by a messenger, stating his/her exact address and the number of the days of sick-leave given.
4. In all cases, the acknowledgement for the delivery or the posting of a certificate, the copy where appropriate, must be retained and produced to the Head of Department if required later.
5. On receipt of a certificate issued by another doctor, the Director of the University Health Services will notify the Head of the student’s Department. The Director may consider it necessary to send a member of the Health Services Staff to verify the student’s condition, and any change of address or condition must be communicated to the Director without delay. A certificate will not be further considered by the Director if the address given is found to be false.

## Suspension of Studies

Registered students are eligible to apply for suspension of studies either on medical grounds or on financial grounds. If a student falls sick or suffers an accident after registering for a programme in the University, such a student should apply with relevant medical reports (subject of satisfaction of the Director, University Health Services) to the Dean of his/her faculty through the Head of Department for Suspension of Studies of a semester or a session (as the case may be) to enable him/her fully recover. However, such request will not be counted within his/her maximum allowable period of stay for a degree.

## Dressing and Dress Code

Dress Code is here defined as any appropriate or formal or informal dress and dressing style in which there is no attempt or will to expose the body’s intimate parts. A dress should have sleeves and extend from the neck to just below the knees. Students of the Department of Agricultural and Environmental Engineering and the University as a whole are required to dress decently at all times. The following types of dresses are prohibited:

1. Transparent dress that highlights or emphasizes the body’s, sensual parts, such as the thighs, breasts, etc.
2. Unbuttoned shirts without a t-shirt or a singlet, or an under wear cloth.
3. Clothes that illustrate, enhance, or depict drugs, alcohol or have offensive and violent messages.
4. Clothes that display weapons or any gang-related illustrations and messages.
5. T-shirts or clothes with obscene captions.
6. Shorts and skimpy dresses e.g. body hugs, show-one-your-chest, and dresses exposing sensitive parts.
7. Tights, shorts and skirts that are above the knees (except for sporting purposes).
8. Wearing of ear-rings by male students.
9. Plaiting or weaving of hair by male students.
10. Wearing of coloured eye glasses, not on medical grounds in the classroom.

### PENALTIES FOR VIOLATION OF THE DRESS CODEE

1. Violators will not be allowed into classrooms, lecture halls, laboratories, and offices of the university.
2. Violators will not be allowed in examination halls.
3. Repeated offenders will face disciplinary action**.**

# CHAPTER FOUR

## IMPORTANT OFFICERS/RESPONSIBILITIES AND THEIR FUNCTIONS

## Head of Department

**Functions:**

1. The Head of Department will, with diligence and had-work, exercise general superintendence over the academic and administrative affairs of the Department.
2. He is to give sound academic and administrative leadership to the Department.
3. He is to encourage democratic participation by members of staff in running the affairs of the Department.
4. He is the financial officer of the Department.

## Departmental Examination Officer

**Functions**:

1. The Departmental Examinations Officer is responsible to attain any meeting concerning examinations and Central Time table Scheduling Committee of the Faculty.
2. In line with the central time table scheduling committee, the Departmental exams officer is responsible for designing examinations time table.
3. To source, secure and manage examinations materials and venues.
4. To supervise the conduct of examinations in the department.
5. To draw the attention of the Head of Department to any problem arising during and after examinations.
6. To arrange and facilitate the exchange of raw marks and scripts among the departments in the Faculty and beyond.
7. To treat any other issue incidental to its duties.

## Departmental Secretary

**Functions:**

1. Responsible for the updating and handling of Departmental records as regards staff, admissions, registration and examination.
2. To serve as Secretary at Departmental meetings including Departmental Board of Examiners (DBE), Departmental Board of Studies (DBS), meeting, Departmental Postgraduate Committee meeting, Departmental Appointment and Promotion Committee (A & PC) and other committees chaired by the Head of Department.
3. To operate the Departmental vote-books on the instruction and approval of the Head of Department.

## Level Coordinator

**Functions:**

1. Every level (100 – SPO II) has an academic staff assigned to it as Level Coordinator.
2. He keeps the files of students in his custody with the registration details of the students.
3. He compiles examination results of the students and submits same to the Departmental Board of Examiners for consideration.
4. He/She issues students with sessional transcripts.
5. He/She generally serves as a student’s counselor on academic and other matters.
6. To treat any other issue incidental to its duties.

## Departmental Boards

1. The Departmental Administration is led by the Head of department (HOD) who is directly answerable to the Dean of the Faculty. The Departmental Administration is run via two (2) Departmental decision making organs; the Departmental Board of Studies and the Departmental Board of Examiners. These departmental decision organs deliberate on issues bothering on departmental affairs, staff and student’s welfare.
2. The departmental board of studies consists of all the senior staff members of the department. The board deliberates on all the non-examination general issues bothering on the running of the department, staff welfare and student’s academic and non-academic matters.
3. The departmental board of examiners on the other hand consists of only the academic staff members of the department. The board deliberates on all examination matters, which include vetting and approval of results, among others. The functions of the board are effectively achieved by assigning specific responsibilities to the academic staff members of the department, such as examination officer, level coordinators, time-table officer, registration officer, SIWES coordinator, etc.
4. The department also has postgraduate Board which consist all members of staff who are PhD holders or reached a rank of lecturer I. This board discuss issues related to postgraduate matters.

## Admissions Committee

**Functions:**

1. To present and defend the departmental admission lists (Undergraduate) at the Faculty Admissions Committee meetings.
2. To coordinate admissions of the department in line with the approved guidelines.
3. To make recommendations on ways of improving admissions exercise at the Faculty.
4. To treat any other issue incidental to its duties.

## Research Committee

**Functions:**

1. To coordinate the activities of various focused research groups.
2. To liaise/work with the University Research Committee in identifying means of funding individual and group research by members of the Department.
3. To establish mutual relationship with various organizations and funding agencies outside the University in furtherance of its functions.
4. To encourage departmental members to develop research proposals, including interdisciplinary and identify sources of funding them.
5. To obtain and disseminate information on research opportunities and sources of funding to the departmental members.
6. To treat any other issue incidental to its duties.

## Seminar Committee

**Functions:**

1. To organize departmental seminars where members are encouraged to develop papers for presentation.
2. To assess and approve papers before presentation and inclusion in the Faculty/Departmental Seminar.
3. To organize seminars and symposia on topical issues in the society.
4. To collaborate with outside institutions/organizations in organizing seminars and conferences (both national and international).
5. To treat any other issues incidental to its duties.

## Database Committee

**Functions:**

1. To compile and prepare an update database for the Department.
2. To periodically be updating the database.
3. To compile and prepare an update of database for all departmental projects and books both in hard and soft copies.
4. To treat any other issue incidental to its duties.

## Accreditation Committee

**Functions**:

1. To prepare for both NUC and COREN accreditation exercises with a view to ensuring 100% compliance.
2. To represent the Department in the Faculty and University accreditation committee activities and present progress report on the level of preparedness to the departmental board.
3. To ensure that the department meets up with major and minor accreditation requirements before the arrival of accreditation teams.
4. To discharge such other incidental duties that might be assigned to it by the Head of Department.

## Quality Assurance and Control Committee (HOD and all Senior Academics)

**Functions:**

1. To watch over the total administration, staff, students and all the activities in the Department.
2. To mentor new/young academics staff.
3. To monitor and assess quality of admission and its process.
4. To monitor and assess quality of lecturers and lectures.
5. To monitor and assess compliance to the approved course contents.
6. To monitor and checkmate moderation of question papers marking schemes marked scripts and moderators.

## Project Evaluation and Prototype Development Committee

**Function:**

1. To identify potentials of undergraduate and postgraduate projects to be considered for prototype development.
2. To be responsible for project prototypes presentation at national exhibitions.
3. To treat any other issue incidental to its duties.

## Farm/Laboratory/Workshop Operation Committee

**Function:**

1. To compile/take an inventory of the machinery available in the department.
2. To take the inventory of the departmental farm size.
3. To recommend measures to be taken to ensure the security of the farm equipment.
4. To retrieve the farm/laboratory equipment borrowed by other department(s).
5. To recommend to the Head of Department for the release of any far machinery/laboratory equipment requested for use outside the department.
6. To ensure proper land allocation to interested staff and others.
7. To ensure proper record of financial transaction during farm operation activities.
8. To ensure proper maintenance for farm/workshop/laboratory operation equipment.
9. To prepare and present a comprehensive report of the farm/workshop/laboratory operations to the Departmental Board of Studies at the end of every session.
10. To treat any other issue incidental to its duties.

## Orientation and Welfare Committee

**Function:**

1. To organize and conduct orientation for both new staff and students.
2. To decide and arrange departmental representations at wedding, condolences, etc as the need arises.
3. To arrange special intervention in cash/kind for staff or students, when the need arises.
4. To treat any other issue incidental to its duties.

## Sports Advisory Committee

**Function:**

1. To advise the department on the sporting activities to be organized or patronized.
2. To fish out talented sports men and women in the department, amongst staff and students, through organized sporting competitions.
3. To develop teams that will represent the department in sporting competitions within and outside the University.
4. To treat any other issue incidental to its duties.

# CHAPTER FIVE

## DEPARTMENTAL STAFF

## Academic Staff/Areas of Specialization

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S/N** | **Name** | **Qualification(s)** | **Area of Specialization** | **Present Rank** |
| 1 | Assoc. Prof. M. O. A. Mtallib | B.Eng., M.Sc., MNSE, MMSN, COREN | Construction Management & Technology | Assoc. Professor/HOD |
| 2 | Prof. M. H. Bichi | B.Eng, M.Eng., PhD, MNSE,MNES, COREN | Water Resources & Environmental Engineering | Professor |
| 3 | Prof. H. M. Alhassan | B.Eng, M.Sc. PhD, MNSE, MNES, MMSN, COREN | Transportation and Highway Engineering | Professor |
| 4 | Prof. O.A.U. Uche | B. Eng, M. Sc, PhD, MNSE, MMSN, COREN | Structures/ Materials | Professor |
| 5 | Assoc. Prof. E. N. Ogork | B. Sc, M.Sc, PhD, MNSE, MMSN | Structures/ Materials | Associate Professor |
| 6 | Assoc. Prof.  S. Dan’azumi | B. Eng, M.Eng, PhD, MNSE, COREN, MIWA | Water Resources & Environmental Engineering | Associate Professor |
| 7 | Assoc. Prof. A. Y. Abdulfatah | B. Eng, M. Eng, PhD, MNSE, COREN, MBGA | Geotechnical Engineering | Associate Professor |
| 8 | Dr. A. Ismail | B. Eng, M. Eng, PhD, MNSE, COREN | Geotechnical Engineering | Senior Lecturer |
| 9 | Dr. K. Mohammed | B. Eng., M.Sc. PhD, MNSE, COREN | Water Resources & Environmental Engineering | Senior Lecturer |
| 10 | Dr. A. Aboshio | B. Eng., M.Eng., PhD, MNSE, COREN | Structures / Materials | Senior Lecturer |
| 11 | Dr. M. Umar | B. Eng., M.Eng., PhD, MNSE, COREN | Geotechnical Engineering | Senior Lecturer |
| 12 | Engr. H. A. Daura | B. Eng, M.Sc, MNSE, COREN | Water Resources & Environmental Engineering | Lecturer I |
| 13 | M. M. Aliyu | B. Eng, M.Sc, MNIB, AMNIM | Construction Management & Technology | Lecturer I |
| 14 | Dr. M. N. Ibrahim | B. Eng, M. Eng., PhD, MNSE, COREN | Transportation and Highway Engineering | Lecturer I |
| 15 | Dr. G. H. Yunusa | B. Eng., M. Eng., PhD, MNSE, COREN | Geotechnical Engineering | Lecturer I |
| 16 | Dr. A. Suleiman | B. Eng., M. Eng., PhD, MNSE, COREN | Transportation and Highway Engineering | Lecturer I |
| 17 | Engr. A. B. Yazid | B. Eng., M. Eng. MNSE, COREN | Water Res. & Environmental Engineering | Lecturer I |
| 18 | Dr. N. M. Babangida | B. Eng. M.Eng., PhD, MNSE, COREN | Water Resources & Environmental Engineering | Lecturer II |
| 19 | Bishir Kado | B. Eng., M. Eng. | Structures / Materials | Lecturer II |
| 20 | Dr. I. U. Salihi | B.Eng.; M. Eng., PhD, MNSE, COREN | Water Resources & Environmental Engineering | Lecturer II |
| 21 | Engr. A. D. Rafindadi | B. Eng., M.Sc., MNSE, COREN | Construction Management & Technology | Lecturer II |
| 22 | S. I. Haruna | B. Eng., M. Sc | Structures / Materials | Lecturer II |
| 23 | Engr. A. Idris | B. Eng., M.Eng., MNSE, COREN | Geotechnical Engineering | Lecturer II |
| 24 | N. Bala | B. Eng., M. Sc | Transportation and Highway Engineering | Lecturer II |
| 25 | Engr. N. Danlami | B. Eng., M.Eng., MNSE, COREN | Transportation and Highway Engineering | Lecturer II |
| 26 | K. A. Ahmad | B. Eng., M.Eng. | Transportation and Highway Engineering | Lecturer II |
| 27 | M. Adamu | B. Eng., M.Eng. | Structures / Materials | Lecturer II |
| 28 | Engr. B. W. Isah | B. Eng., M.Tech., COREN | Geotechnical Engineering | Assistant Lecturer |
| 29 | S. Haruna | B. Eng., M.Tech. | Structures / Materials | Assistant Lecturer |
| 30 | H. M. Sirajo | B. Eng., M. Sc. | Water Resources & Environmental Engineering | Assistant Lecturer |
| 31 | A. M. Gora | B. Eng., M.Eng. | Structures / Materials | Assistant Lecturer |
| 32 | I. Abdulkadir | B. Eng., M.Eng. | Structures / Materials | Assistant Lecturer |
| 33 | Engr. U. T. Abdurrahman | B. Eng., M. Eng., MNSE, COREN | Transportation and Highway Engineering | Assistant Lecturer |
| 34 | A. S. Galadanchi | B. Eng., M. Sc. | Structures / Materials | Assistant Lecturer |
| 35 | N. M. Isah | B. Eng., M.Eng. | Structures / Materials | Assistant Lecturer |

## Technical Staff

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Name** | **Qualification(s)** | **Area** | **Rank** |
| 1 | S. Inuwa | OND, HND, PGDM, PGDCE | Water Resources | Chief Technologist/Lab Coordinator |
| 2 | A. T. Mustapha | OND, HND, PGDM, MBA | Structures/Materials | Chief Technologist |
| 3 | J. D. Aduku | OND, HND, PGDM | Environmental | Chief Technologist |
| 4 | M. H. Fagge | OND, HND, PGD, NATE, COREN | Water Resources | Principal Technologist |
| 5 | Engr. Y. H. Gabasawa | OND, HND, PGD, NATE, COREN | Highway | Principal Technologist |
| 6 | I. H. Shinga | OND, HND, PGD, NATE | Geotechnics | Senior Technologist |
| 7 | A. Ahmed | OND, HND | Materials | Technologist I |
| 8 | M. S. Ismaila | OND | Water Resources | Technologist I |
| 9 | Engr. A. A. Abdulsalam | OND, HND, PGD, NATE, COREN | Geotechnics | Technologist I |
| 10 | Engr. Abubakar Mohammed | OND, HND, PGD, M. Eng, NATE, COREN | Structures/Materials | Technologist I |
| 11 | Danladi Isyaku | OND | Materials | Technologist I. |
| 12 | Yasir Haruna | OND | Environmental | Senior Technical Assistant |
| 13 | Muktar Mu’azu | OND | Environmental | Senior Technical Assistant |
| 14 | Mohammed Idris | Trade Test Cert. | Carpenter | Artisan II |
| 15 | Inuwa Shehu | Trade Test Cert. | Bricklayer | Artisan II |
| 16 | Auwalu S. Muhammad | Trade Test Cert. | Bricklayer | Artisan III |

## Administrative Staff

|  |  |  |  |
| --- | --- | --- | --- |
| **S/N** | **NAME** | **QUALIFICATIONS** | **RANK** |
| 1 | Lovelyn Andrews | OND, Adv. Dip. | Senior Conf. Secretary |
| 2 | Mukhtari Haruna | - | Head Cleaner |
| 3 | Muhammed Umar | - | Head Cleaner |
| 4 | Yakubu Ismail | - | Driver |

## List of the Past and Current Head of Departments

|  |  |  |
| --- | --- | --- |
| **S/N** | **Name** | **Duration** |
| 1 | Prof. B. W. Young | 1978 - 1984 |
| 2. | Dr. S. P. K. Boni | 19 84 -1986 |
| 3. | Dr. G. G. Kulkarni | 1986 - 1988 |
| 4. | Dr. S. A. Muyibi | 1988 - 1992 |
| 5. | Dr. A. H. Gambo | 1992 - 1994 |
| 6 | Mr. T. A. Adedokun | 1994 – 1999 |
| 7 | Engr. M. H. Bichi | 1999 – 2002 |
| 8. | Engr. H. A. Daura | 2002 – 2005 |
| 9. | Engr. H. M. Alhassan | 2005 – 2009 |
| 10. | Engr. H. A. Daura | 2009 – 2012 |
| 11. | Dr. S. Dan’azumi | 2012 – 2017 |
| 12. | Dr. A. Y. Abdulfatah | Jan. 2017 - May 2017 |
| 13. | Dr. M. O. A. Mtallib | 2017 - Date |