



OSUN STATE UNIVERSITY, OSOGBO

**COLLEGE OF
SCIENCE, ENGINEERING AND TECHNOLOGY**

FACULTY OF ENGINEERING



DEPARTMENT OF CIVIL ENGINEERING

DEPARTMENTAL HANDBOOK

NOVEMBER 2024

ADDRESSES

*Request for Information regarding the University should be sent
to:*

**The Registrar:
Osun State University
Osogbo, Osun State**

UNIOSUN Postal Address:
PMB 4494, Osogbo, Osun State

Website:
www.uniosun.edu.ng

Emails:
vc@uniosun.edu.ng
dvc.arip@uniosun.edu.ng
registrar@uniosun.edu.ng
provost.set@uniosun.edu.ng
dean.fengr@uniosun.edu.ng
dept.cen@uniosun.edu.ng

TABLE OF CONTENTS

Contents	Pages
Table of Contents	iii
Preface	v
Foreword	vii
CHAPTER ONE: INTRODUCTION	
1.1 Brief History of the Department	1
1.2 Vision of the Department	5
1.3 Mission of the Department	5
1.4 Philosophy of the Department	5
1.5 Objectives of the Programme	6
1.6 Programme Educational Objectives (PEOs)	7
1.7 Programme Outcomes (POs)	
CHAPTER TWO: REGULATIONS GOVERNING CONDUCT OF EXAMINATIONS	
2.1 Regulations Governing Conduct of Examinations	9
1.2 Merits and Standard System for Students	
CHAPTER THREE: ACADEMIC REGULATIONS	
3.1 Admission Requirements	3
3.1.1 UTME Requirements	3
3.1.2 Direct Entry	3
3.2 Duration of the programme	4

3.3	Admission and graduation policy	4
3.3.1	Admission	
3.3.2	Post-UTME Screening	
3.3.3	Duration of Degree Programmes	
3.3.4	Graduation Requirements	
3.3.5	Probation, Expulsion, Withdrawals	
3.3.6	Probation	
3.3.7	Withdrawal	
3.3.8	Expulsion	
3.4	Grading System and Requirements for Graduation in each programme	
3.4.1	Evaluation of Students	
3.5	Staff Profile	

CHAPTER FOUR: OVERVIEW OF COURSE STRUCTURE FOR B.ENG CIVIL ENGINEERING PROGRAMME

4.1	Scheduled of Courses	5
4.2	Courses Content/Description	5

PREFACE

Welcome to the Department of Civil Engineering at Osun State University, Osogbo. This Departmental Handbook serves as a comprehensive guide, offering invaluable information to both students and faculty. It is a testament to our commitment to providing a top-notch educational experience and facilitating the development of skilled and globally competitive Civil Engineers. As the head of the Faculty, I take immense pleasure in introducing this handbook, which is design to be your companion throughout your academic journey in Civil Engineering. This document is meticulously crafted to provide you with insights into the department's history, vision, mission and objectives, as well as essential regulations and course requirements.

Civil Engineering is a dynamic field that plays a pivotal role in the enhancement of Civil Engineering practices and the sustainability of our environment. Our department is dedicated to preparing students for the challenges of this ever-evolving industry, enabling them to become problem solvers, innovators, and leaders in the field of Civil Engineering. This handbook will not only serve as a reference for academic regulations, examinations, and graduation requirements but also as a source of inspiration, as you delve into the philosophy and aims of the program. Our goal is to empower you with knowledge, skills, and the ethical framework necessary to make meaningful contributions to infrastructures development, both locally and on a global scale.

In an age where the importance of civil and sustainable resource management is more significant than ever, we believe that the graduates of our program will play a crucial role in addressing the world's food and environmental challenges. Our curriculum is carefully structured to meet the requirements set by national and

international bodies, ensuring that our graduates are well-equipped for the demands of the industry.

As you embark on your academic journey within the Department of Civil Engineering, I encourage you to explore the opportunities for growth and development, take full advantage of our dedicated faculty, and engage in the rich learning experiences we offer. We are here to support you in your pursuit of academic excellence, and this handbook will be your guide in understanding the path you are about to tread. I hope you find this handbook informative, engaging, and inspiring. Remember that you are a vital part of our academic community, and your success is our success. I wish you a fulfilling and rewarding experience in the Department of Civil Engineering at Osun State University.

Dr. Ayoade L. Adejumo

Acting Dean, Faculty of Engineering

Osun State University, Osogbo

FORWARD

It is with great pleasure and a sense of pride that I introduce the Departmental Handbook of Civil Engineering at Osun State University, Osogbo. This handbook serves as a compass for our students and a testament to our commitment to providing a high-quality educational experience in the field of Civil Engineering. Civil Engineering is the cornerstone of infrastructural development of our society. Civil Engineering is a vital part of infrastructure development and sustainability because it designs, builds and maintains the physical environment. plays a crucial role in shaping the future of sustainable food production, environmental preservation, and economic development. Civil Engineers create infrastructure that is safe, efficient, and environmentally friend. The Department of Civil Engineering at Osun State University is dedicated to nurturing the next generation of civil engineers, innovators, and leaders.

This handbook is designed to be your companion throughout your academic journey. It offers insights into the history, vision, mission, and objectives of our department. It outlines essential academic regulations and provides a comprehensive list of courses required for the award of a Bachelor of Engineering (B.Eng.) degree in Civil Engineering. As we look to the future, the role of civil engineers becomes increasingly vital. We are committed to equipping our students with the knowledge and skills needed to address the complex challenges facing the construction sector. Our programs are designed to be responsive to the ever-evolving needs of our society, and our curriculum aligns with national and

international standards to ensure that our graduates are well-prepared to make a meaningful impact in their chosen field.

In a world where the demand for sustainable and efficient infrastructures is growing, we believe that our graduates will be at the forefront of innovation and positive change. As you embark on your academic journey with us, I encourage you to make the most of the resources and opportunities provided by our department. I extend my appreciation to the dedicated faculty and staff who work tirelessly to provide an enriching learning environment. Together, we are committed to supporting your academic and personal growth.

I hope you find this handbook informative, inspiring, and helpful in navigating your path through the Department of Civil Engineering at Osun State University. Your success is our success, and we look forward to witnessing your growth and contributions to the civil engineering field. Welcome to a world of knowledge, innovation, and endless possibilities. We wish you a rewarding and transformative academic experience.

Prof. Morufu Oyedunsi Olayiwola

Provost, College Science, Engineering and Technology

Osun State University, Osogbo

CHAPTER ONE

INTRODUCTION

1.1 Brief History of the Department

The Department of Civil Engineering of the Osun State University is one of the two engineering departments under the College of Science, Engineering and Technology established in 2007/2008 academic session as part of the first phase of development of the University. Bachelor of Engineering (B.Eng.) degree programme in Civil Engineering was approved by the University Senate and Council in the 2007/2008 academic session. The first set of students were admitted into Part I of the programme in August 2007.

The Department runs a 5-year undergraduate programme, operating 2-semester course units in its curriculum to acquaint the students with the basic knowledge, practices and current advances in the field of Civil Engineering. Civil Engineering is concerned with the planning, design, construction, maintenance and environmental impact of buildings, r

oads, airports, waterways, railways, bridges, tunnels, docks, offshore structure, dams, water supply, drainage and irrigation systems/schemes, and other major works.

The programme in civil engineering is therefore designed to produce engineers that can meet the challenges in the aforementioned areas through service in governmental agencies/establishments, the building and construction industry, transportation industry, consulting firms, teaching and research organizations. The two semesters in the calendar of the University, tagged Harmattan and Rain, each has 17-18 weeks duration. The programme leads to the awards of Bachelor of Engineering (B.Eng.) degree in Civil Engineering.

The academic programme of the Department operates academic curricular that are tailored along the stipulations contained in the National Universities Commission (NUC) Benchmark Minimum Academic Standards and as required by the Council for the Regulation of Engineering in Nigeria, COREN. The curricula for the programme are being regularly revised. The last revision took place in 2022 to bring the programme contents in line with Benchmark Minimum Academic Standards (BMAS) by the National Universities Commission (NUC) and Council for the Regulation of Engineering in Nigeria (COREN).

During the past 17 years of the existence of the Civil Engineering programme at Osun State University, the department has produced over 350 graduates. While many of these graduates are currently doing well in government and private establishments, many have since obtained higher degrees and are in various institutions as members of faculty. Those in industries and private establishment are holding very senior positions in the public and private sectors of the economy; Directors, Managers, Managing Directors, Chief Engineers, University Lecturers, and State Commissioners.

1.2 Vision of the Department

The Department aspires to be a centre of excellence providing high quality teaching and learning experiences in Civil Engineering through broad-based training and exposure to industrial as well as entrepreneurial practices to enable them satisfy the immediate manpower needs of the industry and the community.

1.3 Mission of the Department

The mission of the department is to create a teaching and research environment through engaging the students in cutting edge researches that will advance frontiers of knowledge, bring

inventions into Nigerian Civil Engineering field and to pursue academic excellence.

1.4 Philosophy of the Department

The Civil Engineering degree program at Osun State University is guided by the following philosophy:

- i. The development of a thorough practice in Civil Engineering training. Education has been conceived as the engine of national development, therefore Civil Engineering as a course was thus established on the philosophy of been relevant to education which must continually be responsive to the changing imperatives of the socio-economic and technological development of the nation.
- ii. Early broad – based training in general Engineering and Technology
- iii. Practical application of Engineering, Technology and Manufacturing Processes to infrastructural development.
- iv. Adequate training in human and organisational behaviour and to raise men and women imbued with the requisite skills, knowledge and competencies to be the arrow heads of the socio-economic and technological development of Nigeria in general and Osun State in particular.
- v. Introduction to entrepreneurial education and training.

The general philosophy therefore 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.

1.5 Aims and Objectives of the Programme

The general aims and objectives of Engineering and Technology training should be in consonance with the realisation of national needs and aspirations vis-à-vis industrial development and technological emancipation. For the attainment of the above philosophy, the department will make deliberate efforts to fulfill the underlisted objectives:

- i. provide a wide range of academic and practical training to achieve mastery in Civil Engineering concepts;
- ii. provide a wide range of quality learning opportunities for students in civil Engineering without distinction of race, colour, religion or political belief;
- iii. offer academic, professional and vocational training of high quality in Civil Engineering, in such a way as to enrich and improve the state, national and international human resources capabilities and assist its graduates to contribute to the common good of society;
- iv. train individuals in the standard engineering practices as applicable to the modern techniques, formulating solutions to the various industrial, manufacturing, and service delivery problems prevalent in our society;
- v. provide students with opportunity to develop, after a basic understanding of all areas of Civil Engineering practice, his special area of interest which include structural engineering, geotechnical engineering, transportation planning and highway engineering, construction

- management, water resources, project management and environmental engineering;
- vi. foster academic research in Civil Engineering that contributes to human knowledge and the vitality of the institution; and
 - vii. evolve academic programme in Civil Engineering to suit the changing social and economic needs of society through continuous review of curricula and development of new programmes to respond to societal and technological changes in Osun State in particular, Nigeria and the world in general.

1.6 Programme Educational Objectives (PEOs)

The programme has five basic PEOs which are highlighted below:

- i. **PEO1–KNOWLEDGE:** access high quality teaching and learning experiences in mathematics, science, engineering fundamentals and an engineering specialization to the solution of developmental and complex engineering problems;
- ii. **PEO2 –RESEARCH:** conduct investigation into developmental or complex problems using research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions;
- iii. **PEO3 -ENTREPRENEURIAL SKILLS:** have entrepreneurial skills that can make them stand on their own as job creators, to provide the engineering industry and

profession globally, with readily employable and enterprising graduates prepared for the assumption of technical, managerial and financial responsibilities.

- iv. **PEO4 -PROFESSIONALISM AND TEAMWORK:** execute and manage teamwork, interpersonal skills and professional growth and be able to conduct professional practice considering societal, ethical, and environmental aspects.
- v. **PEO5 – INVENTION AND CREATIVITY:** apply the acquired knowledge and skills in civil engineering to develop innovative and sustainable solutions for global competitiveness.

1.7 Programme Outcomes (POs)

The programme outcomes are presented below:

- i. **PO1 Engineering knowledge** - Apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of developmental and complex engineering problems
- ii. **PO2 Problem Analysis** - Identify, formulate, research literature and analyze developmental and complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.
- iii. **PO3 Design/Development of Solutions** - Proffer solutions for developmental or complex engineering problems and

- design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal and environmental considerations
- iv. **PO4 Investigation** - Conduct investigation into developmental or complex problems using research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions.
 - v. **PO5 Modern Tools Usage** - Create, select and apply appropriate techniques, resources and modern engineering and ICT tools, including prediction, modelling and optimization to developmental and complex engineering activities, with an understanding of the limitations.
 - vi. **PO6 The Engineer and Society** - Apply reasoning informed by contextual knowledge including Humanities and Social Sciences to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice
 - vii. **PO7 Environment & Sustainability** - Understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development
 - viii. **PO8 Ethics** - Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice, including adherence to the COREN Engineers Code of Conducts.
 - ix. **PO9 Individual & Team Work** - Function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings.

- x. **PO10 Communication** - Communicate effectively on developmental or complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- xi. **PO11 Project Management & Finance** - Demonstrate knowledge and understanding of engineering, management and financial principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multi-disciplinary environments
- xii. **PO12 Lifelong Learning** - Recognize the need for, and have the preparations and ability to engage in independent and lifelong learning in the broadest context of technological and social changes

Table 1.1: Mapping of PEOs to University and Departmental Vision and Mission

Vision and Mission		Educational Objectives (PEOs)				
		PEO-1	PEO-2	PEO-3	PEO-4	PEO-5
University Vision	To be a Centre of excellence, providing high quality teaching and learning experience which will engender production of entrepreneurial graduates capable of impacting positively on their environment while being globally competitive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

University Mission	To create a unique institution committed to the pursuit of academic innovation, skill-based training and a tradition of excellence in teaching, research and community service.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Department Vision	To be a centre of excellence providing high quality teaching and learning experiences in Civil Engineering through broad-based training and exposure to industrial as well as entrepreneurial practices to enable them satisfy the immediate manpower needs of the industry and the community.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Department Mission	To create a teaching and research environment through engaging the students in cutting edge researches that will advance frontiers of knowledge, bring inventions into Nigerian Civil Engineering field and to pursue academic excellence.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

CHAPTER TWO

REGULATIONS GOVERNING CONDUCT OF EXAMINATIONS

2.1 Semester Examinations

Examinations are administered at the end of each course, which is usually at the end of the Harmattan and Rain Semesters. Continuous assessment conducted for students by means of term papers, frequent tests (formal and informal), assignments, assessments in workshop/ laboratory/ studio/ field/clinic/exhibition, carry 30% of the total scores for the examinations conducted. A minimum pass mark of 40% (equivalent to grade point of 1) is used in the Department. A student who scored below 40% in a course will be deemed to have failed the course and will be required to retake the course at the next available opportunity. Failed courses which students retake and pass will be credited with the full marks so earned.

Students who are unable to participate in any examination on account of ill-health or for other genuine reasons may, by the approval of the University Senate, be allowed to sit for the examination for the course at the next available opportunity without penalty.

i) Eligibility

All students who are duly registered for courses in a given semester are eligible to sit for examinations in those courses except students who were absent from the University for upward of six weeks without official permission or students who fail to attend up to 70% of any practical/lectures in a theoretical course.

ii) Instructions to Candidates

Students must ensure that they acquaint themselves with the instructions governing Examinations as contained in the Students' Information Handbook/front page of examination answer booklets.

Candidates must attend punctually at the time scheduled for their papers and should be within the vicinity of the examination venue at least 30 minutes to the commencement of the examination. Candidates arriving later than half an hour after the examination has started shall be admitted only at the discretion of the Chief Invigilator.

Candidates must bring with them to the examination hall their own ink, pen, ruler, eraser and pencils and any materials which may be permitted by those regulations (as stated here-under) but they are not allowed to bring any other books or papers. Candidates are warned in their own interest to ensure that *lecture notes, text-books, jotters, handsets, bags, etc.* are not brought anywhere close to the examination hall.

No student will be allowed into the examination hall without the identity card. The University identity card must be displayed on the table while the examination is in progress.

Invigilators may search candidates before admission into the examination hall.

- ❖ To ensure orderliness in the examination hall, seats will be arranged according to the number of groups taking examinations at each particular time and *candidates are not expected in the hall earlier than 10 minutes to the commencement of each examination. They are also advised to keep strictly to the seating arrangements to avoid*

confusion. Chairs arranged in halls used for examination purposes should not under any circumstances, be removed by any candidate.

- ❖ While the examination is in progress, *communication of any kind between candidates is strictly forbidden*, and any candidate found to be giving or receiving irregular assistance may be required to withdraw from the examination.
- ❖ *Silence must be observed in the examination hall.* The only permissible way of attracting the attention of the Invigilator by any candidate is to signify by raising his/her hand.
- ❖ Smoking in the examination hall is *strictly prohibited*.
- ❖ *The use of scrap paper is not permitted. All rough work must be done in the answer booklets, crossed out neatly afterwards and submitted along with the answer booklet.*
- ❖ *The answer to each question must be started on a fresh page on the answer booklet.*
- ❖ Candidates taking Mathematics or Engineering Drawing and similar courses must not bring their own mathematical or drawing instruments. Personal copies of Mathematical Tables will not be allowed in the examination hall.
- ❖ Candidates must use their matriculation numbers for the examination.
- ❖ Before handling in their scripts at the end of the examination, candidates must satisfy themselves that they have inserted at the appropriate places their matriculation numbers and the numbers of the questions answered. Except for the question paper and any other materials, they may have legitimately brought with them (as indicated

above), candidates are not allowed to remove or mutilate any paper or materials supplied by the University.

- ❖ Candidates must not leave the examination hall in the first 30 minutes and the last 15 minutes of any examination. Candidates permitted by the invigilator to leave the examination hall temporarily should be accompanied by an attendant.
- ❖ Candidates must remain seated while invigilators go from row to row to collect answer scripts.
- ❖ Candidates are required to sign against their matriculation and answer booklet numbers on the attendance sheet.
- ❖ Students permitted to use calculators in University examinations shall use only electronic calculators and not programmable ones (with or without external stores). The calculator must be small (hand-held) and battery operated.
- ❖ A candidate must not borrow another candidate's calculator during the examination, as this practice might be construed as giving or receiving irregular assistance during the examination.
- ❖ Responsibility for the correct operation of the machine rests with the candidate alone and no account will be taken of the machine failure.
- ❖ Instruction manuals are forbidden (as these often contain useful mathematical formulae and methods). Calculator packets and containers are also forbidden in examination halls. Invigilators and Examination Assistants have been requested to remove them whenever and wherever they are discovered in the examination halls, rooms/laboratories.
- ❖ Only one calculator per student is allowed and the calculator must be switched off on entry to the examination

room.

- ❖ Candidates shall make available for inspection by invigilators, their calculators on entry into the examination hall and at any time during the examination.
- ❖ Candidates should know that the contravention of any of these regulations will be treated in the same way as “cheating” in an examination.

iii) Examination Misconduct

- Candidates shall use or consult, during an examination only such books, papers, instruments or other materials or aids as are specifically permitted or provided by the Department in which the examination is being held.
- Candidates shall not introduce or attempt to introduce handbags, books, notes, instruments, handsets or other materials or aids into the examination room.
- Candidate shall not pass or attempt to pass information from one person to another during an examination.
- Candidates shall neither act in collusion with any other candidate or person, nor copy nor attempt to copy from another candidate nor engage in any similar activities classified as examination offences.
- Candidates shall not disturb or distract the attention of any other candidate(s) during examination.
- Candidates shall not engage in the following examination related offences which prejudice the integrity of the University Examination:
 - Submission of answer script with different handwritings

- Abuse of examination procedures and ethics
- Possession of valid question papers prior to the examination period (leakage)
- Smuggling out question papers while the examination is in progress
- Cheating while the examination is in progress
- Exchange of answer sheets between students
- Exchange of question papers on which answers have been written by students
- Impersonation and hire of examination mercenaries
- Copying from notes, scraps of paper, prepared answers, textbooks, handsets and fellow students
- Smuggling in prepared answers on handkerchiefs, examination stationery, part of the body, etc.
- Getting help in dishonest ways
- Discussions among students in the examination hall while the examination is in progress
- Rowdy climate of examination venue
- Submission of scripts without registration of student on the attendance list
- Registration of students on the attendance list without submission of script
- Refusal to complete the examination malpractice form after involvement in a malpractice
- Insubordination or failure to obey invigilator's instructions during the examination
- Refusal to appear before the Examination Malpractices Panel
- Assault/battery/harassment of co-students for non-cooperation in examination malpractice
- Giraffing/spying on another candidate in the examination hall

iv) Application of Sanctions/Disciplinary Actions

Each of the previously listed offences will attract ascending sanctions i.e. warning, interdiction, suspension of the culprit for one to four semesters, expulsion as may be deemed appropriate

by the Examination Malpractices Panel.

Staff complicity in any of the above listed offences will attract the sanction of suspension for three (3) months without salary or dismissal as deemed appropriate.

Any candidate found cheating or aiding and abetting cheating in any examination and who has not previously committed such an offence shall be rusticated for one semester or one academic year. In addition, the result of such an examination shall be declared nullified for any candidate found guilty of cheating. Student so rusticated shall be barred from examinations which fall during the period of rustication.

At the end of the period for which he has been rusticated, a candidate penalized as above may thereafter resume his studentship/study at the appropriate point in the following semester.

A candidate penalized as stated above who afterwards is found guilty of cheating a second time shall be dismissed from the University.

v) Absence from Examinations

Candidates must present themselves at such University

Examinations for which they have registered under these Regulations. Candidates who fail to do so for reasons other than illness or accident or exceptional cases, shall be deemed to have failed that examination. Misreading of the Time-Table and such lapses on the part of the candidates shall not be accepted as a satisfactory explanation for absence.

A student who falls ill during an examination should report in writing to the Provost of his or her College.

A student who is absent from an examination on account of illness confirmed by medical evidence from the Director of University Health Centre shall take the regular examination on the following occasion without penalization. Approval of such shall be by the Senate on the recommendation of the College Board.

2.2 Merit standard system for students

i) Merit Standard System

Students registered in the Department are expected to be of good behavior and adhere strictly to the rules and regulations governing their studentship, and abide by contents of the matriculation oath which they signed.

The University has approved a Merit Standard System to assess the behavior of students during their studentship.

Using this System, a student is credited with 70 points at the commencement of his studentship. Offences committed as listed below attract deductions from the 70 points down to a minimum of 39 points.

Any student who runs down to 45 points is issued a warning through calls and the parent notified of the likely suspension of their wards.

At 39 points a student earns a suspension for a semester. Upon resumption, the student is credited with fresh 70 points, which is also deductible as stated above.

Subsequent infractions of the University regulations will attract suspension for additional two (2) semester and further infractions will lead to expulsion.

The countdown demerit system is categorized as follows:

- | | |
|---|---------------------------------|
| a) Indecent Dressing | C |
| b) Sexual Harassment | A (physical) or B (verbal) |
| c) Class Attendance | A |
| d) Rudeness to Officials | A+ (physical) or B (verbal) |
| e) Inducement for Favours | B |
| f) Violence | A+ (bothering on life)/A (mild) |
| g) Encouragement of Violence | B |
| h) Disruption of Official/Academic Activities | B |
| i) Criminal Activities (Theft, Rape, Assault, Affray, Possession of arms, Impersonation or Forgery of Documents) | A+ |
| j) Fighting | A+ |
| k) Examination Malpractice | A+ |
| l) Destruction of University Property | A |
| m) Cultism | A+ |
| n) Prostitution | A+ |

Where;

A+ = 31 points

A = 10 points

B = 7 points

C = 5 points

ii) Indecent Dressing

Students are expected to be properly dressed and any dressing considered indecent may attract some degree of sanctions.

Indecent dressing includes the following:

- a) Tattered Jeans
- b) Patterned/Flowered Jeans
- c) Loose Ties
- d) Open or Folded Sleeves
- e) Jumpy tops
- f) Micro-mini skirts
- g) Sleeveless Tops
- h) Low-necked Tops
- i) Baggy shorts/Dungarees
- j) Heavy Jewelries
- k) Flying Shirts
- l) Slippers (except on Fridays and not bathroom slippers)
- m) Ankle Chains
- n) Nose/Mouth/Eye/Extra ear rings
- o) Earrings for boys
- p) Afro hair for boys
- q) “Sagging”/”Dropping” of trousers and skirts
- r) Transparent wears
- s) Other observable indecent appearance such as hair braiding for males, etc.

CHAPTER THREE

ACADEMIC REGULATIONS

3.1 Admission Requirements

3.1.1 UTME Entry

In addition to the general entry requirements of the University, an intending candidate must possess at least five (5) credit passes in SSCE or NECO (O' Level), obtained at not more than two sittings, which must include the following subjects: English Language, Mathematics, Physics, Chemistry and any one of Biology/Agricultural Science/Further Mathematics/Technical Drawing. Candidates with acceptable passes in the Pre-Degree Programme of the Osun State University and that have an acceptable pass in the UTME may also be admitted into the 5-year degree programme of the Department.

3.1.2 Direct Entry

Candidates with passes at the Advanced Level (A-Level) in relevant subjects, which must include Mathematics, Physics and Chemistry and those with OND (Upper Credit) and HND (minimum of lower Credit) in relevant Science-Based or Engineering Courses from any higher institution recognized by the University Senate may be admitted into the 200-level, provided such candidates fulfill the UTME admission requirements of the Department.

3.2 Duration of the programme

The duration of the programme is five sessions, that is, -10 semesters for UTME candidates

-8 semesters for Direct Entry candidate ND Civil Engineering candidate from Polytechnics /or

-6 semesters for HND Civil Engineering candidate from Polytechnics and the likes.

3.3 Admission and graduation policy

3.3.1 Admission

For admission into any of the first-degree programmes of the Osun State University, a candidate shall be required to meet the Faculty and Departmental admission requirements as stipulated in the individual Faculty and Departmental Handbooks. In addition to the Faculty requirements, the candidate should possess the following minimum qualifications:

- (i) A candidate for admission into the 100 level must have the Senior Secondary School Certificate (SSCE) or its equivalents with credit level passes in five (5) subjects at not more than two sittings. The candidate must also earn an acceptable score in the Joint Admissions and Matriculation Board's University Tertiary Matriculation Examination (UTME).
- (ii) Candidates seeking admission by direct entry into the 200 level must have two (2) Advanced Level passes or approved equivalents in relevant subjects in addition to the minimum requirements of credit level passes at the SSCE or its equivalents in five subjects are not more than two sittings.

In all admissions into the University, credit level pass in English Language is required. In addition, credit level pass in Mathematics is required for all science- based, Social Sciences and Management Science courses.

3.3.2. Post-UTME Screening

Candidates seeking admission into the University irrespective of their UTME scores are required to pass the University post-UTME screening before being admitted.

3.3.3 Duration of Degree Programmes

The minimum number of years to be spent to be awarded a first degree in a programme of study in non-professional area in the university is four years (or three years minimum for direct entry candidates), and shall not exceed an additional 50% of the duration of the programme if the student fails to graduate within the minimum number of years. The minimum number of academic sessions required for award of the B.Eng. degree in Civil Engineering shall be five academic sessions for UTME candidates and four for direct entry candidates. The maximum duration allowable for UTME candidates shall be seven academic sessions while direct entry candidates shall not spend more than six academic sessions.

3.3.4 Graduation Requirements

To qualify for the award of a degree of the Osun State University, a student is required to have:

- (i) Completed and passed the prescribed number of units including all compulsory courses specified by the University.
- (ii) completed and met the standards for all required and optional courses
- (iii) Obtained the prescribed minimum CGPA.

The graduation requirements for the different honours degree programmes are as contained in the individual Departmental Handbooks.

3.3.5. Probation, Expulsion, Withdrawals

i. Probation

To be in good standing, a student must maintain a cumulative grade-point average (CGPA) of not less than 1.00 at the end of any semester during his/her study in the University. A student whose CGPA is below 1.00 at the end of a semester, goes on probation during the following semester.

ii. Withdrawal

A student will lose studentship and be required to withdraw from the University if at the end of any probation his/her CGPA is still below 1.00. Also, listed for withdrawals are students that have spent the maximum period of study allowed for his/her programme of study and still has one or more courses outstanding.

iii. Expulsion

A student may be expelled for violation of the Matriculation Oath, violation of the Code of Conduct or if found guilty of criminal behaviour. The Vice-Chancellor and Senate are vested with powers to deal with student misconduct and mete out appropriate sanctions. Students accused of misconduct are required to appear before the Student Disciplinary Committee that advises the Vice-Chancellor. Any student who has been so punished has a right to appeal to Council.

3.4 Grading System and Requirements for Graduation in each programme

Describe the grading system used in the evaluation of students and the requirements for graduation in a degree programme. Also explain how repeats in final examinations are handled.

3.4.1 Evaluation of Students

Students' performances in the various courses are assessed as follows:

- Practical oriented Courses.
 - (i) Final theory Examinations : 70%
 - (ii) Final Practical Examination 10%
 - (iii) Class work Practical (Lab, W/shops: Studio, Assignments, Quizzes) 20%
 - 100%

- Non-Practical Oriented Courses
 - (i) Final theoretical Examinations 70%
 - (ii) Course Work (Quizzes, Assignments, Terminal paper etc) 30%
 - 100%

- Purely practical Courses
 - i) Continuous Assessment 50%
 - ii) Practical Examination 50%
 - 100%

3.4.2 Grading System

Osun State University ensures the use of common assessment scale and grading system for all courses taught under the course unit system in the University. The grading system is as indicated in the table below:

Table 3.1. The grading system

Percentage Scores	Letter Grade	Quality Point	Level of Achievement
70-100	A	5	Excellent
60-69	B	4	Very Good
50-59	C	3	Good
45-49	D	2	Satisfactory
40-44	E	1	Pass
0-39	F	0	Fail

Table 3.2. Cumulative Grade Point Average (CGPA) is used to determine the level of the final pass grade obtained by a student in all programmes in the university as follows:

Cumulative Grade Point Average (CGPA)	Class of Degree
4.50-5.00	1 st Class Honours
3.50-4.49	2 nd Class Honours Upper Division
2.40-3.49	2 nd Class Honours Lower Division
1.50-2.39	3 rd Class Honours

3.5 Staff Profile

Table 3.3: Academic Staff List in the Department

S/N	Name of academic staff	Area of specialization	Qualification	Rank
1	Prof. A.A. Bello	Geotechnic and Geo-Environmental Engineering	B.Tech., M.Sc., PhD Civil Engineering, COREN Regd.	Professor
2.	Prof. S. O. A. Olawale	Structural Engineering	B.Sc. Civil Engineering, M.Sc Computer Science PhD. Civil Engineering, COREN Regd.	Professor
3	Prof. H. Mohammad	Highway and Transportation Engineering	B.Sc., M.Sc., PhD Civil Engineering, COREN Regd	Professor
4	Dr. K.A. Olonade	Structural Engineering	B.Eng, MSc Civil Engineering, PhD Civil and Environmental Engineering, COREN Regd.	Associate Professor
5	Dr. O.B. Okedere	Energy and Environmental Engineering	BSc, MSc PhD Chemical Engineering, COREN Regd.	Associate Professor
6	Dr. O.S. Olaniyan	Water and Geo-Environmental Engineering	B.Tech., M.Sc., PhD Civil Engineering, COREN Regd.	Associate Professor

S/N	Name of academic staff	Area of specialization	Qualification	Rank
7	Dr. M.A. Kareem	Structural Engineering	B.Tech., M.Tech., PhD Civil Engineering, COREN Regd.	Senior Lecturer
8	Dr. O.O. Fadipe	Water and Geo-Environmental Engineering.	B.Eng., M.Sc., PhD Civil Engineering, COREN Regd.	Senior Lecturer
9	Dr. B.S. Adeboye	Energy and Environmental Engineering	B.Sc. Agricultural Engineering, M.Sc., PhD Mechanical Engineering, COREN Regd	Senior Lecturer
10	Dr. T.F. Oyewusi	Energy and Environmental Engineering	B.Sc. Agricultural Engineering, M.Sc., PhD Mechanical Engineering, COREN Regd	Lecturer I
11	Dr. M.A. Tijani	Structural Engineering	B.Eng, M.Eng Ph.D Civil Engineering COREN Regd.	Lecturer I
12	Dr. K. Ishola	Geotechnical Engineering	B.Tech., M.Sc., PhD Civil Engineering, COREN Regd.	Lecturer I

S/N	Name of academic staff	Area of specialization	Qualification	Rank
13	Dr. L.O. Salami	Highway and Transportation Engineering	B.Tech., M.Sc., PhD Civil Engineering, COREN Regd.	Lecturer I
14	Engr. K.A. Adeyemo	Geotechnical Engineering	B.Eng., M.Sc. Civil Engineering, COREN Regd.	Lecturer II
15	Dr. I.O. Ameen	Highway and Transportation Engineering	B.Eng., M.Sc., PhD Civil Engineering, COREN Regd.	Lecturer I
16	Engr. O.T. Adeniran	Water and Geo-Environmental Engineering.	B.Tech., M.Tech. Civil Engineering, COREN Regd.	Lecturer II
17	Engr. O.J. Olatoyan	Structural Engineering	B.Tech., M.Sc. Civil Engineering, COREN Regd.	Lecturer II
18	Engr. E.O. Ajadi	Structural Engineering	B.Eng., M.Eng. Civil Engineering, COREN Regd.	Lecturer II

Table 3.4: Technical Staff

S/ N	Name	Area of Specialization	Qualification	Rank
1.	Mr. O.A. Alasi	Water/Hydraulics	OND (Iree), HND (Ibadan)	Principal Technologist
2.	Mr. O.A. Olabiran	Geotechnics	OND, HND (Bida), PGD (Ogbomoso)	Principal Technologist
3	Engr. A.J. Adeleke	Structures	OND, HND, (Offa), PGD (Akure), B.Eng. (Adeleke).	Senior Technologist
4.	Engr. I.O. Lamidi	Water/Hydraulics	OND, HND (Ilaro), B.Tech. (LAUTECH).	Senior Technologist
5.	Engr. A.M. Oyewole	Surveying	OND (Esa Oke), HND (Bida), PGD (LAUTECH), B.Sc. (JABU)	Senior Technologist
6.	Engr. O.O. Lawal	Highway/Materials	OND (Ede), B.Eng. (Osogbo) 2017	Technologist I
7	Engr. D.A. Adeyanju	Structures	OND (Ede), B.Eng. (Osogbo) 2017	Technologist I
8.	Mr. F.A. Mutiu	Water and Environmental	B.Eng. (Ilorin)	Technologist II
9.	Miss B.B. Folarin	Geotechnics	OND (Esa Oke), HND (Bida), B.Eng. (Osogbo)	Technologist II

Table 3.5: Administrative Staff

S/N	Name	Designation
1.	Mrs. J.J. Ogunleye OND (Ede) 2007; HND (Ede) 2011	Confidential Secretary I
2.	Mrs. Lagbaja, B. A. OND (Iree) 2004; HND (Iree) 2007	Clerical Officer

CHAPTER FOUR
OVERVIEW OF COURSE STRUCTURE FOR B. ENG.
CIVIL ENGINEERING PROGRAMME

4.1 Schedule of Courses

100 Level Harmattan Semester

Course Code	Course Title	Total Units	Status
MTH 101	General Mathematics I	3	C
PHY 101	General Physics I	3	C
PHY 107	Experimental Physics I	1	C
CHM 101	General Chemistry I	3	C
CHM 107	Experimental Chemistry I	1	C
CVE 101	Engineer in Society	2	C
MEE 101	Engineering Drawing I	2	C
GNS 101	Use of English I	2	R
GNS103	Use of Library	1	R
ESI 101	Enterpreneurship Studies and Innovation I	2	C
	Total Units	20	

100 Level Rain Semester

Course Code	Course Title	Total Units	Status
MTH 102	General Mathematics III	3	C
MTH 104	General Mathematics IV	3	C

PHY 102	General Physics II	3	C
PHY 108	Experimental Physics II	1	C
CHM 102	General Chemistry II	3	C
CHM 108	Experimental Chemistry II	1	C
MEE 102	Workshop Technology I	2	C
MEE 104	Engineering Drawing II	2	C
GNS 102	Use of English II	2	R
GNS 104	Nigerian People & Culture	1	R
ESI 102	Entrepreneurship Studies and Innovation II	2	C
	Total Units	23	

200 Level Harmattan Semester

Course Code	Course Title	Pre-Req.	Total Units	Status
CSC 201	Structured Programming	-	2	C
EEE 201	Applied Electricity I	-	2	C
EEE 231	Engineering Mathematics I	MTH101	3	C
MEE 201	Engineering Materials	-	2	C
MEE 203	Engineering Mechanics I	-	2	C
MEE 205	Basic Thermodynamics	-	2	C
MEE 207	Workshop Practice I	-	3	C
STA 221	Statistics for Physical Sciences and	-	3	C

	Engineering			
GNS 203	Introduction to Entrepreneurial Skills	-	2	R
GNS 211	Basic French		2	R
	Total Units		23	

200 Level Rain Semester

Course Code	Course Title	Pre-Req.	Total Units	Status
CSC 202	Computers & Computing	CSC201	3	C
CVE 204	Fundamentals of Building Construction	-	1	C
CVE 206	Strength of Materials I	-	3	C
EEE 202	Applied Electricity II	EEE201	3	C
EEE 232	Engineering Mathematics II	EEE231	3	C
MEE 204	Engineering Mechanics II (Dynamics)	MEE203	2	C
MEE 206	Basic Fluid Mechanics	-	2	C
MEE 208	Workshop Practice II	MEE 102	2	C
GNS 204	Logic and Philosophy	-	2	R
GNS 202	Introduction to Information and Communication Technology	-	2	R
	Total Units		23	

CVE 200: SWEP I (Vacation Period)

8weeks

300 Level Harmattan Semester

Course Code	Course Title	Pre-Req.	Total Units	Status
CVE 305	Engineering Geology	-	3	C
CVE 307	Soil Mechanics I	-	3	C
CVE 309	Surveying and Photogrammetry I	-	3	C
CVE 313	Basic Hydrology	-	3	C
CVE 315	Civil Engineering Drawing	-	2	C
CVE 317	Elements of Architecture	-	3	C
EEE 331	Engineering Mathematics III	EEE 232	3	C
	Total Units		20	

300 Level Rain Semester

Course Code	Course Title	Pre-Req.	Total Units	Status
CVE 304	Structural Mechanics	-	3	C
CVE 306	Civil Engineering	-	3	C

	Materials			
CVE 308	Design of Structures I	-	3	C
CVE 316	Hydraulics	-	3	C
CVE 314	Computer Methods in Civil Engineering	-	2	C
MEE 308	Fluid Mechanics II	MEE206	3	C
EEE 332	Engineering Mathematics IV	EEE331	3	C
	Total Units		20	

CVE 300: SWEP II (Vacation Period)

400 Level Harmattan Semester

Course Code	Course Title	Pre-Req.	Total Units	Status
CVE 401	Technical Report Writing	-	2	C
CVE 403	Quantity Surveying and Estimating	-	2	C
CVE 405	Soil Mechanics II	CVE 304	2	C
CVE 407	Civil Engineering Practice	-	2	C

CVE 409	Design of Structures II	CVE 308	3	C
CVE 411	Structural Analysis I	-	3	C
CVE 413	Highway Engineering I	-	2	C
CVE 415	Water Resources & Environmental Engineering I	-	2	C
CVE 417	Surveying and Photogrammetry II	CVE 309	3	C
	Total Units		21	

400 Level Rain Semester

Course Code	Course Title	Pre-Req.	Total Units	Status
CVE200	SWEP I		2	C
CVE300	SWEP II		2	C
CVE400	Student (Supervised) Industrial Work Experienced Scheme (SIWES)	CVE300	6	C
	Total Units		10	

500 Level Harmattan Semester

Course Code	Course Title	Pre-Req.	Total Units	Status
CVE 511	Industrial Economics	-	3	C
CVE 513	Industrial Law and Management	-	3	C
CVE 501	Students Project	-	3	C
CVE 503	Structural Analysis II	CVE 411	2	C
CVE 505	Design of Structures III	CVE 409	2	C
CVE 509	Geotechnical Engineering I	CVE 405	4	C
	ELECTIVES: One of the following			
CVE 519	Environmental Pollution	-	3	E
CVE 521	Advanced Structural Analysis	-	3	E
CVE 525	Drainage & Irrigation Engineering	-	3	E
CVE 527	Construction Engineering	-	3	E
	Total Units		20	

500 Level Rain Semester

Course Code	Course Title	Pre-Req.	Total Units	Status
CVE 502	Students Project	-	3	C
CVE 504	Highway Engineering II	CVE 405	2	C
CVE 510	Hydraulic Structures	-	3	E
CVE 520	Water Resources and Environmental Engineering II	-	2	C
CVE 522	Transportation Engineering	-	2	C
	ELECTIVES: Two of the following			
CVE 512	Traffic and Highway Engineering	-	3	E
CVE 516	Advanced Strength of Materials	CVE 303	3	E
CVE 518	Unit Processes Water and Waste Water resources engineering	-	3	E
CVE 524	Geotechnical Engineering II	-	3	C
	Total Units		18	

4.2 Course Content / Outline

CVE 200: Students Work Experience Programme I (2 Units)

A practical work programme, during the long vacation, arranged within the campus and its immediate environment to enable the students gain some basic skills in the profession of engineering in general and student's chosen field of engineering in particular.

CVE 204: Fundamentals of Building Construction (1 Unit)

Essence of surveying in building, Foundations, Basement and external works, introduction to defects in construction works, building construction supervision, mechanical movement, devices and appliances, elements of architecture in building, construction economics, construction management, estimating in building construction, mechanical and electrical systems in building, alternative energy systems in building, fracture and failure of natural building stones.

CVE 206: Strength of Materials I (2 Units)

Force equilibrium free body diagrams. Elasticity – concept of stress strain, Tensile test, young's modules and other strength factors. Axially loaded bars. Temperature stresses and simple indeterminate problems. Stresses in cylinders and rings. Bending moment, shear force and axial force. Diagrams for simple cases. Simple trusses and deflection of beams torsion.

CVE 300: Students Work Experience Programme II (2 Units)

A more advanced industrial Programme; students this time are attached, during long vacation, to appropriate Computer /Electrical / Electronics / Agricultural / Civil / Mechanical Engineering facilities and industries to further enhance practical approach to engineering through on-the job training.

CVE 304: Structural Mechanics (3 Units)

Analysis of determinate structures, Beams, Trusses; Structure Theorems. Graphical methods: Application to simple determinate trusses. Williot Mohr diagram. Deflection of statistically determinate structures. Unit load, moment area methods. Strain Energy Methods. Introduction to statistically indeterminate structures.

CVE 305: Engineering Geology (3 Units)

Geological structures and mapping. Rocks and minerals. Stratigraphy – time scale– fossils and their importance: special reference to Nigeria. Introduction to geology of Nigeria. Engineering Applications – Water supply, site investigation – Dams, Dykes, etc.

Practical: Rocks and mineral identification, microscopic works to identify the structure of minerals. Geological field work and visit to any geolocial museum.

CVE 306: Civil Engineering Materials (3 Units)

Concrete Technology – Types of cements, aggregates – properties, Concrete mix. Design, Properties and their determination. Steel

Technology – Production, fabrication and properties: corrosion and its prevention. Tests on steel and quality control. Timber Technology – Types of wood, properties, and defects. Stress grading, Preservation and fire protection. Timber products. Rubber, plastics; Asphalt, tar, glass, lime, bricks, etc. Applications to buildings, Roads and Bridges.

CVE 307: Soil Mechanics I (3 Units)

Formation of soils. Soil in water relationship – void ratio, porosity, specific gravity and other factors. Soil classification: Atterberg limits, particle size distribution. Flow in soils - seepage and permeability.

Laboratory tests on each of the topics considered above.

CVE 308: Design of Structures I (3 Units)

Fundamentals of design process, materials selection, building regulations and codes of practice. Design philosophy, Elastic design: Limit State design. Design of structural elements in Reinforced concrete including beams, columns, slab, stair and foundation. Further work in Computer Aided Design.

CVE 309: Engineering Surveying and Photogrammetry I (3 Units)

Chain Surveying. Compass surveying – Methods; Contours and their uses. Traversing – methods and applications. Levelling – Geodetic leveling – errors and their adjustment Applications. Tacheometry – Methods; Substance heighting, self-adjusting and electromagnetic methods. Introduction to Photogrammetry.

Practical: Surveying of a small area with chain and compass. Detailing of the area. Profile leveling, cross-section, calculations of earthwork. Setting out of building roads etc. using compass and chain.

CVE 313: Basic Hydrology (3 Units)

The hydrologic cycle. Precipitation, infiltration, evaporation, groundwater, surface run-off, floods and droughts. Physical and statistical analysis related to hydrologic processes. Flood routing techniques. Hydrologic systems analysis. Hydrography analysis. Unit hydrograph theory. Occurrence and distribution of water in nature. Hydrogeology, Fundamentals of flows in porous media. Equations governing flows in aquifer. Exact and approximate solutions. Flows in layered aquifer systems.

CVE 314: Computer Methods in Civil Engineering (2 Units)

How computer is organized in terms of its architecture such as Random Access Memory (RAM), Read Only memory (ROM), Secondary Store and peripherals. Introduction to Object Oriented Programming (OOP) using Java as the programming language to highlight its control statements, class definition, object instances, inheritance, generic programming concept, files and I/O classes, concurrent programming concept and database programming. Java swing and AWT. Application to pipe network analysis (Hardy Cross method), Finite Element Method, Linear Programming and Simplex Method of optimization.

CVE 315: Civil Engineering Drawing (2 Units)

Concrete Technology – Types of cements, aggregates – properties, Concrete mix. Design, Properties and their determination. Steel Technology – Production, fabrication and properties: corrosion and its prevention. Tests on steel and quality control. Timber Technology – Types of wood, properties, and defects. Stress grading, Preservation and fire protection. Timber products. Rubber, plastics; Asphalt, tar, glass, lime, bricks, etc. Applications to buildings, Roads and Bridges.

CVE 316: Hydraulics (3 Units)

Simulation of complex flow fields using sources, sinks uniform flows and doublets and combinations of vortices. Steady and unsteady flows in open channels. Dimension analysis and similitude. Hydraulic modeling techniques, Pipe network analysis, Design of reticulation systems. Unsteady flows in pipes with special emphasis on water hammer and the use of surge tanks.

CVE 317: Elements of Architecture (3 Units)

Introduction – Dimensional awareness, Graphic communication, relation to environments. Free hand drawing – form in terms of shades, light and shadow. Orthographics; dimetrics, perspective projections: Applications. Common curves. Elementary Designs. Computer Aided Design and Drawing (CADD).

CVE 400: Students Industrial Work Experience Scheme (6 Units)

A comprehensive internship programme in which students spend a full semester in approved engineering establishments (private and

public) and industries. The exposure also provide opportunity for students to sharpen their technical writing skill through field reports, keeping log – books and prepared technical documents under close supervision of industry-based professionals and lecturers.

CVE 401: Technical Report Writing (2 Units)

Oral communication: Public speaking skills with effective use of visual aids and statistical and technical information. Principles of effective communication in interpersonal and mass communication process. Effective reading skills- extracting main ideas and reading for specific information through speed reading. Written communication: principles of technical writing. Project report presentation. 15 hrs (Teaching & demonstrations), 30hrs (Practicals).

CVE 403: Quantity Surveying and Estimating (2 Units)

Scope of Civil Engineering works and standard methods of measurements. Duties of the Quality Surveyor. Setting down dimensions, cut and shuffle. General principles of rules of taking-off. Taking-off quantities from drawing substructures, walling, floors, roofs, finishing and external works. Planning and scheduling. Abstracting and billing. Preparation of Bill of Quantities specification writing, examples on complete building and civil engineering works.

CVE 405: Soil Mechanics II (2 Units)

Mineralogy of soils. Soil Structures. Compaction and Soil Stabilization: General principles, reduced standard, standard

modifies proctor and West African standard. Maximum dry density, optimum moisture content, zero air-voids curve, field control tests, percent compaction and soil stabilization. Site investigation. Laboratory and Coursework.

CVE 407: Civil Engineering Practice (2 Units)

Civil Engineering Work Standards and measurements. Contracts and subcontracts. Works construction and supervision. Job planning and control – Programme Charts – Bar charts. Critical path methods, network method etc. Construction machinery and equipment. Applications/Case study-dams, foundations, bridges, highways, industrial buildings, sewage works.

CVE 409: Design of Structures II (3 Units)

Limit state philosophy and Design in steel: Elastic and Plastic moment Designs. Design of Structural Elements in steel and connections and Joints. Limit state philosophy and design in Timber. Elastic methods and Design in Timber. Design of structural elements in Timber and Timber connectors. Laboratory Tests on Structural elements in Concrete, Timber and Steel. Computer Aided Design of structures.

CVE 411: Structural Analysis I (3 Units)

Indeterminate structural analysis: Energy and Virtual work Methods, Slope deflection and Moment distribution methods. Elastic Instability. Simple plastic theory of bending. Collapse loads. Stress-Grading of Timber, visual mechanical and electronic stress grading of Timber.

CVE 413: Highway Engineering I (2 Units)

Soil Engineering Aspects of Highways. Railways and Airfields. Highway Geometric design, pavement structure and design, interchange design and spacing. Highway information systems, freeway, networks and safety. Design, construction and maintenance of culverts. Design of drainage appertenanies. Different cross-sections of roads. Construction equipment types. Pavement Structure and Design. Pavement materials and Laboratory Tests.

CVE 415: Water Resources and Environmental Engineering I (2 Units)

The Hydraulics of open channels and Wells. Drainage. Hydrograph Analysis. Reservoir and Flood-routing. Hydrological forecasting Hydraulic Structures, i.e. Dams, Dykes/Levees, Weirs, Docks and Harbours, Spillways, Stilling basins, Man Holes and Coastal Hydraulic Structures, etc. Engineering Economy in Water Resources Planning.

CVE 417: Engineering Surveying and Photogrammetry II (3 Units)

Further work on contours and contouring: Methods of contouring, contour interpolation and uses of contour plans and maps. Areas and Volumes. Setting out of Engineering Works. Elementary topographical surveying: Elements of photogrammetry, Photogrammetry equipment and Errors of Measurement.

Practical: Route surveying by the use of theodolite and tapes for alignment and setting out. Contouring and topo-plan production. Simple photogrammetric exercises.

CVE 501: Student Project I (3 Units)

Literature review and bench work on final year project. A first report on detailed task to be carried out, their schedule work carried out up to date and the findings shall be submitted for evaluation.

CVE 502: Student Project II (3 Units)

Bench work on project, seminar and final year report presentation.

CVE 503: Structural Analysis II (2 Units)

Plastic Methods of Structural analysis. Matrix Methods of Structural analysis. Elastic Instability. Continuum of plane strain, elastic flat plates and torsion, solution by series, finite difference, finite element. Yield line Analysis and Strip methods for slabs.

CVE 504: Highway Engineering II (2 Units)

Highway Planning and Traffic Surveys. Pavement Design. Construction and maintenance. Administration and Finance of Highways. Study of Nigerian highways design policies, standard and specifications. Comparison with international standards, administration and finance.

CVE 505: Design of Structures III (2 Units)

Composite Design and construction in Steel and Reinforced Concrete. Design of Structural Foundations. Pre-stressed concrete

Design. Modern Structural form. Tall Buildings, Lift shafts and shear walls, system buildings. Design projects.

CVE 509: Geotechnical Engineering I (4 Units)

Stresses in Soils. Consolidation and settlement. Shear Strength of soils. Earth Pressures. Bearing Capacity of Soils.

CVE 510: Hydraulic Structures (3 Units)

Reservoir study with reference to types, selection of sites, storage capacity, operations siltation and silt removal. Discuss various types of dams, techniques for site location, classification and types selection. Seepage and causes of failure in dams. Design of various types of hydraulic structures: conveyance structures, pipe lines and pipe systems siphone, draft tubes, canals, sewers, Spillway, clutes, culverts, reservoir outlet, conduit). Energy Dissipating structures, surge tanks, stilling basins, drop structures, check dams. Flow measuring and control structures. Weirs, shuices, gates and valves turnout. Collecting and diffusion structures. Intake structures, infiltration galleries, drains, surface drainages, intakes perforated pipes. Water stabilization structures levees cutoff, dikes, breakwaters and sealwalls. Channel lining seepage from channels, design, construction and maintenance of linings (vegetative, impervious soils, masonry, convete and bituminous materials).

CVE 511: Industrial Economics (2 Units)

Law of management economics, management models, revenue of the firms, production decision, cost of production, profit analysis of the firms, pricing technique's location and localization of industries, industrial growth in Nigeria, the size of the firm

integration and diversification marketing; demand and forecasting. Distributive trade in Nigeria, business finance, investment, capital budgeting and management control. Government policies and firm. Financing Technology: Capital equipment investment appraisal methods. Break even analysis. Budgeting and financial control. Fundamentals of cost accounting with emphasis on production costing. Areas of conflicts between Engineering valuation. Management: Organizational structure and behavior, engineer to engineer manager transition, managerial functions, principles and techniques of planning, forecasting organizing technical activities, project selection and management, style of leadership and management techniques.

CVE 512: Traffic and Highway Engineering (3 Units)

Highway planning and traffic surveys. Administration and finance of Highways. Coordination of all transportation media. Transportation planning and economics. Traffic management and design of traffic signals, control systems and safety devices. Parking and parkways: Different types of road construction materials and construction methods. Carry out practical exercises on each of the topics treated above; perform laboratory tests on different types of road construction materials.

CVE 513: Industrial Law and Management (2 Units)

Law, ethics and conduct in engineering. Legal definitions and specifications. Application of business law to engineering. Industrial relations: Law of contract and engineering. Industrial relations: Law of contract and unionism, terms and conditions of employment. Intellectual property: patents, trademarks, copyrights,

license and royalty. Contracts and contract documents, Technology transfer law. Safety and environmental regulations: health and safety law, environmental guidelines and laws. Technological responsibilities and liabilities: best practice, after sales. Technology impact assessment: effects on worker and staff, users and public safety, product lifetime and end of life disposal, legal and moral responsibilities. Role of the Engineer as a witness. Engineering business; types, the structure and functions of organizations. Management of engineer to manager transition. R & D management. Project selection and management. Capital investment policies. Technological collaborations: sub-contracting, consultancies, joint ventures and linkage programmes. Management of change and innovation. Materials Management: Purchasing methods. Contracts. Interest formula. Rate of return. Methods of economic evaluation. Selection between alternatives. Tendering evaluation and contract administration. Planning and Decision Making: Forecasting Planning, Scheduling. Production control Gantt Chart. C.P.M. and PERT. Optimisation. Linear programming as an aid to decision making policies under risk and uncertainties. Transport and Materials Handling: Selection of transport media for finished goods, raw materials and equipment. Faculty layout and location. Worktion economy. Ergonomics in the design of equipment and process.

CVE 516: Advanced Strength of Materials (3 Units)

Review of concepts in solid mechanics; stress, strain, momentum balance, energy principle, linear and non-linear stress-strain laws. Failure theories. Springs. Creep, fatigue, Fracture and stress concentration. Thin shells under internal pressure. Torsion of

circular shafts and thin-walled tubes. Lateral deflections of circular plates. Torsion of non-circular sections. Thick circular cylinders, discs and spheres.

CVE 518: Unit Processes Water and Waste Water Resources Engineering (3 Units)

Theory and application of physical, chemical and biological operation and processes in water and waste water treatment. Topics include: Reactor engineering (completely mixed flow, plug flow and dispersed of mass transfer and oxygen transfer coefficients. Equalization, Flootation, iron and manganese removal, water softening, taste and odour removal.

Introduction to treatability studies: activated sludge process, biological filtration, stabilization ponds, anaerobic sludge digestion, thickening and disposal removal. Site visit to water and waste treatment plants.

CVE 519: Environmental Pollution (3 Units)

Water pollution: Types of sources of water pollution, self – purification of streams; Analysis of the dispersal of pollutants in streams and estuaries. The effects of pollutants on the chemical quality and the ecology of receiving streams. Europeanization and control of water pollution. Stream and effluent standards.

Air pollution: Theory, principles and practices related to engineering control of particulate and gaseous emissions from natural, individual, agricultural, commercial and municipal sources of atmospheric pollution. The effects of atmospheric pollution on various forms of life including both direct and secondary effects, control devices of air pollution.

Noise Control: Sources of noise and control measures. Measurement and standard.

CVE 520: Water Resources & Environmental Engineering II (2 Units)

The work of the Sanitary Engineer. Water Supply, Treatment and Design. Waste Water Collection, Treatment, Disposal and Design. Solid waste Collection, treatment, disposal and design of systems. Air Pollution and Control.

CVE 521: Advanced Structural Analysis (3 Units)

Analysis of Indeterminate structure using stiffer and flexibility matrix methods. Computer applications to practical structures. Continuum of plane strain, elastic flat plates, solution by series, finite differences, finite element methods. Beam on elastic foundation. Partial differential equation. Membrane theory. Analysis of thin-stretched membrane. Theory of thin shells: Classification, structural action, shells of revolution and shells of translation. Examples: Cylindrical shells. Application and limitations of membrane theory. Introduction to folded plate structures, different types and structural behavior. Structural dynamics. Introduction to curved members and non-prismatic structures.

CVE 522: Transportation Engineering (2 Units)

Coordination of all Transportation Media. Transportation Planning and Economics. Traffic Management and Design of Traffic Signals. Parking. Geometric Design. Construction Methods. Construction. Materials and Laboratory Tests.

CVE 524: Geotechnical Engineering II (2 Units)

Foundations: Normal and Deep Foundations. Foundation subjected to dynamic forces maintenance; avoiding failures in construction materials and foundation. Slope Stability. Review of slope stability of circular ship surfaces. Slope stability of non-circular ship surfaces. Earth Dams; planning, design, construction, instrumentation, sub-surface exploration scope, site reconnaissance, boring, test pite, sampling, field test, soil report. Site Investigations.

CVE525: Drainage and Irrigation Engineering (3 Units)

Analysis and design of surface and combined drainage systems, collectors, storages and pumps. Methods of overflow protection of large areas. Analysis and design of irrigation systems. Soil-plan-water relationships. Water supplies, water delivery systems and water distribution systems.

CVE 527: Construction Engineering (3 Units)

Earthwork and earth moving and construction equipment. Taking and basement construction. Vertical communication in buildings, staircases, elevators, ramps, escalators, systems building. Advance building structural systems, space frames, folded, plates, arches etc construction materials, Maintenance of Civil Engineering structures. Formwork design, component assembly, improvement of productivity and construction practices, safety, project financing, insurance and bonding, contract terms.