



**COVENANT UNIVERSITY**

**DEPARTMENT OF ELECTRICAL AND INFORMATION ENGINEERING  
INFORMATION AND COMMUNICATION ENGINEERING PROGRAMME  
ACADEMIC HANDBOOK**

2022 – 2026

# **COVENANT UNIVERSITY**

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Director, Student Industrial Work Experience Scheme  
**Dr. Adeyinka A. Adewale, B.Sc, M.Sc, Ph.D**

# WELCOME MESSAGE FROM THE CHANCELLOR

## Raising a New Generation of Leaders

“Seest thou a man diligent in his business? He shall stand before kings; he shall not stand before mean men”. (Proverbs 22:29 - KJV)

Covenant University is a Royal Academy birthed on the platform of a compelling vision to raise a new generation of leaders, especially for the Continent of Africa. It is indeed the birthplace of “kings and queens”. I do believe that the greatest need of the 21st Century is that of leadership, whereas leadership is not an endowment, it is a commitment to the future that makes a leader.



Our mission at Covenant University is to develop the man who will, in turn, develop his world. We see the character as the anchor of leadership. The ability makes a manager, but integrity makes a leader.

Our experience over the years strongly indicates the great potential we have as a University in instituting a world class-learning context that is rich in educational opportunities, research and scholarship. The heart-warming positive feedback from employers on the excellent and exemplary conducts of our graduates is one of the many concrete validations of the University's unique vision. We are, however, looking ahead to the future we envision in driving excellence across all our programmes by ensuring that the stage is well anchored to actualise our set vision of raising a new generation of leaders.

Only a serious approach guarantees a glorious result. There is no short cut to any place worth going. Edmund Hilary, the first man that conquered Mount Everest, said, “It is not the mountain that we conquered but ourselves”. Covenant University is indeed a place where you are taught how to conquer yourself as part of the process of becoming outstanding in life. Therefore, if leadership and excellence are your goals, then Covenant University is the right place for you.

Starting from the 2013/2014 Academic Session, every student of the University was made to undertake at least a Certificate/Diploma Course in Leadership in addition to his/her major discipline.

Therefore, the currency of the curriculum and the inclusion of Leadership Certificate will be one of the unique selling points.

You are welcome to Covenant University, a Royal Academy, a Leadership Training Varsity.

Dr. David O. Oyedepo  
*Chancellor, Covenant University*

## FROM THE VICE-CHANCELLOR’S DESK

It is my great delight to welcome you to Covenant University where “*Eaglets*” are nurtured into “*Eagles*” as transformational leaders in their respective vocations and the society. Covenant is a vision-birthered University with a compelling vision to raise a new generation of leaders in all fields of human endeavour, noting that leadership is a fundamental challenge to the advancement and development of Africa. We are on a mission to change the educational landscape of Africa through our departure philosophy; to create knowledge and restore the dignity of the black man through our curricula and pedagogy that are designed to be life-applicable. Our programmes are unique and in consonance with the unique products that we produce.

In our pursuit of this vision, our core values are the crucibles of our quality assurance processes in teaching, research, and community service. These core values—Spirituality, Possibility Mentality, Capacity Building, Integrity, Responsibility, Diligence, and Sacrifice—are the building blocks of our enterprise.

Further to our drive towards producing employable and industry ready graduates, our students continue to enrich their knowledge-base with respect to industry expectations through interaction with the Industry offered by the Town and Gown seminar series. Our custom built programmes—Entrepreneurial Development Studies (EDS), Total Man Concept (TMC) and Towards a Total Graduate (TTG), equip our students with unique skills to navigate life and becoming a total man.

In making the decision to pursue your undergraduate education at Covenant, you have chosen a distinctive institution with a rich spiritual heritage and academic prowess. Within a short period of 20 years, Covenant has demonstrated great potentials in instituting a world-class learning context that is rich in educational opportunities, research and scholarship. As a university acclaimed to be scholarly vibrant; with attestation of eight different rankings of Times Higher Education (THE) in one year, it is our desire to share and disseminate latest knowledge and ideas that are essential in driving the future of society and humanity.

During your time here, I encourage you to take an active role in your own academics, and understand that education at Covenant is as much about character, values, morals, and social responsibility as it is about intellectual development and critical thinking. Take the time to reflect on your total development as you pursue your dreams aspirations and vision. We will assist and support you in the process of becoming what God has destined for you. In doing so, we will also challenge you to stretch your mind, heart and spirit. This Handbook contains vital information and instructions that will help you to enjoy a most rewarding academic journey through your willing and delightful obedience.

Prof. Abiodun H. Adebayo  
*Vice-Chancellor, Covenant University*



Covenant University Centre for Learning Resources



Senate Building

*Covenant University Senate Building*

# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 THE NAME: COVENANT UNIVERSITY (CU)**

All over Africa, and Nigeria in particular, a great significance is attached to names. They portray meanings and convey important messages. Names reflect circumstances of birth or events. The word “Covenant” was chosen as an expression of the University’s total commitment and vows to make a Total Man of her students. It reflects the intention of the proprietors of the University to uphold a binding agreement with students to deliver their desires for excellence and career exploits by offering them the best in educational attainment and by offering their parents/guardians the best value for their investment. It is also common knowledge that every covenant is ratified by blood and, as a church-sponsored University, we consider the blood of Jesus Christ, which is the blood of the everlasting covenant, as our stronghold in the fulfilment of this awesome obligation. Covenant University vows to make of her graduates expert thinkers, leader-managers, and hyper-resourceful technocrats in all fields of human endeavour.

### **1.2 OUR VISION**

To be a leading World-Class University, committed to raising a new generation of leaders in all fields of human endeavour.

### **1.3 OUR MISSION**

To create knowledge and restore man's dignity through a Human Development concept of the Total Man, employing innovative, leading-edge, teaching and learning methods. We aim for application of research that promotes integrated, life-transforming values through Science, Technology and Human Capacity Building.

On October 21, 2002, the African educational landscape was radically altered by the formal entry of Covenant University (CU) into the Higher Education context. The University is located at Canaan Land, Ota, Ogun State, Nigeria. The University is a growing, dynamic vision-birther and vision-driven University, founded on a Christian mission ethos and committed to pioneering excellence at the cutting edge of learning.

The University’s specific mandate can be stated as follows:

- 1.3.1 “Raising a new generation of leaders through a qualitative and life-applicable training system that focuses on value and skill development”.
- 1.3.2 “Raising a new generation of leaders through a broad-based qualitative education built on sound biblical principles culminating in the birth of path-finders, pace-setters and trail-blazers”.
- 1.3.3 “Raising a new generation of leaders who shall redeem the battered image of the black race and restore her lost glory as this trained army of reformers begins to build the old wastes, repair the wasted cities and raise the desolation of many generations”.

### **1.4 OUR FOUNDING PHILOSOPHY**

In response to the global demand for a departure from dogmatism to dynamism in the existing educational system, Covenant University is built on the following philosophical platform:

A departure from form to skill  
A departure from knowledge to empowerment  
A departure from figures to future building  
A departure from legalism to realism  
A departure from “mathe-matics” to “life-matics”.

This is reflected in our motto: “Raising a New Generation of Leaders”.

## **1.5 OUR OBJECTIVES**

The objectives of the University are to:

- i. provide facilities for learning and give instructions and training in such areas of knowledge that will produce sound and mentally equipped graduates, who will provide intellectual leadership in academic institutions, industry and the public sector through the Total Man Concept approach;
- ii. develop and offer academic and professional programmes leading to the award of diplomas, first degrees and higher degrees, which emphasise planning, adaptive and technological maintenance, developmental and productive skills;
- iii. promote by research and other means, the advancement of knowledge and its practical application to social, cultural, economic, scientific and technological problems;
- iv. encourage and promote scholarship and conduct research in all fields of learning and human endeavour;
- v. disseminate scientific and technological knowledge among scientists, researchers, industries, trade services and other bodies; and
- vi. relate its activities to the technological, scientific and socio-economic needs of the people of Nigeria and to undertake other activities appropriate for a university of the highest standard.

## **1.6 OUR CORE VALUES**

Our Core Values as a University are the defining components of the Covenant University Vision and they reflect our beliefs in the encrypted truths that firmly define our purpose and the underlying ethos of our existence as a University.

As a University, we strongly uphold the practices embedded in our Core Values and strive to integrate these Values into all facets of our functions and operations as a University. We expect that students of Covenant University will visibly demonstrate and integrate the virtues embedded in these Core Values in their daily conduct as students who are being raised along the Vision lines of raising a New Generation of Leaders for the Continent of Africa on the Total Man Concept-driven developmental platform. All students are expected to adhere strictly to the University's Core Values in their day-to-day activities within or outside the University.

The Covenant University Core Values are: Spirituality, Possibility Mentality, Capacity Building, Integrity, Responsibility, Diligence and Sacrifice.



### **a. Spirituality**

This forms the bedrock of our existence as a University and defines every aspect of our operations and context. The Christian ethos underlies our activities and conducts at all times, and every student of Covenant University is expected to exhibit the character traits and dispositions of a Jesus-centred heritage. The Jesus - factor centred approach to all issues is non-negotiable and central in the pursuit of our mandate in raising a New Generation of leaders. To this end, therefore, students are to be committed to maintaining a high level of spirituality and act in such a manner as to facilitate their spiritual growth. Attendance at Chapel Services, which every student is expected to attend with a Bible, notebook and pen, are a compulsory and essential part of students' spiritual development. Students are also expected to demonstrate a deep reverence for God at all times.

### **b. Possibility Mentality**

Students of Covenant University are expected to exhibit a royal carriage, attitude, habit and character, exuding self-confidence and dignity at all levels of interaction and in general conduct. They are expected to see themselves as persons of worth and value, taking pride in their uniqueness as individuals with a positive mind-set devoid of any trace of inferiority.

### **c. Capacity Building**

This is related to commitment to a lifestyle of continuous academic and personal development, striving to be continuously relevant to the overall vision requirement of the University as well as her core mission, goals and objectives. Students are encouraged to constantly seek paths for self-improvement. Openness to learning new skills and taking on board new information is a trait expected of Covenant University students in order to have robustness and depth in the quality of their output.

### **d. Integrity**

Students of Covenant University are expected to demonstrate traits of honesty, uprightness and trustworthiness at all times. They must ensure that they are accountable, transparent and open in all their dealings. They shall flag truth as a virtue at all times, particularly in conduct during examinations, obeying the rules and regulations of the University, being spiritually sound, morally upright and having a good conscience.

### **e. Responsibility**

We are committed to inculcating a sense of responsibility in our students. We believe in the place of discipline for effective leadership. We expect our students to respond to issues as demanded, not as convenient. Here at Covenant University, our students are not permitted to do what they like but what is right. Punctuality at lectures, as well as prompt response to assignments as demanded, is a desired trait of responsibility.

### **f. Diligence**

Students of Covenant University are expected to be deeply committed to their assignments. We expect that they will extol the virtues of hard work and constantly strive towards excellent attainment in all they do.

## **g. Sacrifice**

Sacrifice is the ultimate price for outstanding leadership. It is the quality of sacrifice that defines great leadership. We therefore expect students of Covenant University to go the extra-mile and pay the extra- price in the attainment of their set goals. Raising an altar of sacrifice in pursuit of their dreams is what must distinguish and define the Covenant University student.

## **1.7 THE TOTAL MAN CONCEPT**

The Total Man Concept (TMC) is Covenant University's custom-built Programme that constitutes the core concept of her academic programmes. This concept centres on “developing the man that will develop his world.” It is designed to make the student become intelligently conscious of his environment and thus be able to maximise his potential.

The programmes of the University are first directed at “the person” before his profession. In this way, the University will raise a generation of experts who possess the capacity to face and manage challenges.

The TMC Programme centres on three components of the human personality: the spirit, the mind, and the body:

### **a) The Spiritual Man**

Spiritual development is to us a major force for the evolvement of the Total Man, as mental excellence and understanding are generated through the vital force in man, which is the Spirit of God and the Spirit of Intelligence. As a University sponsored by a Christian Mission, character formation is considered as a spiritual issue that is instilled by self-discipline and commitment to the principles enunciated by our Lord Jesus Christ.

Covenant University provides opportunities for spiritual development through various avenues, including spiritual formation programmes and counseling, and also by creating leadership opportunities.

### **b) The Intellectual Man**

Covenant University students enjoy the highest standards of excellence through the institution of academic programmes that are innovative, creative and functional. Covenant University also encourages students to be inquisitive, bold and forthright in asking questions and facing the challenges of academic leadership. The Total Man concept is also promoted through the introduction of a system of compulsory, theoretical and practical courses, all of which must be passed before one can be considered for a degree from the University. In addition to normal General Studies courses, we have included our own specially-designed courses in areas such as: biographical studies, entrepreneurship, family life, human development process, leadership development, mental development, success concepts, work ethics and Towards the Total Graduate (TTG) Programme.

### c) **The Physical Man**

The body is a vital component of the Total Man. Covenant University is committed to providing avenues for sound physical development via recreational activities that engage the body and also enhance personality development, stimulating the cultivation of lifestyles that are conducive to healthy living. We thus encourage students to participate in sporting activities.

## 1.8 **THE TOTAL GRADUATE**

The Covenant University graduate will be mentally resourceful, intellectually reinforced, enterprisingly self-dependent, futuristically visionary and responsibility-sensitive to the changes demanded for the leadership role or dominion nature he is made for. He shall be a Total Man.

Covenant University provides a serene, safe, secure, pleasant and ICT driven teaching and learning environment.

Academic programmes are free of strikes, shut-downs and union face-offs. Well-stocked libraries and laboratories, as well as unrestricted access to the internet for study and research purposes



**Our Campus**

Covenant University pioneered the introduction of:

- i. Entrepreneurial Development Studies (EDS) aimed at preparing the student for self-employment; and
- ii. The Total Man Concept (TMC) aimed at developing the Total Man – Spirit, Soul and Body

Our graduates earn an additional certificate in leadership upon completion of their studies.



Covenant University Landscape

## CHAPTER TWO

### UNIVERSITY ADMINISTRATION AND CONTROL

Covenant University was established by the World Mission Agency (WMA), an arm of the Living Faith Church Worldwide Inc. The Board of Trustees of the Agency appoints the members of Board of Regents, which is the apex ruling body for the University. In his capacity as the *visioner* of the University, Dr. David Oyedepo serves as the life Chancellor of the University and the Chairman of the Board of Trustees of World Mission Agency.

The University's Vision of raising a new generation of leaders has necessitated the development of a unique approach to governance and management of the institution. Its founding philosophy is to specifically and emphatically promote change against the status quo, which had stagnated growth and development in the nation and in the African continent. The University is committed to a visionary resolution of these issues.

The other organs by means of which the University administration is carried out include: the Senate, and Management Board. Other statutory and academic Boards are as explained.

#### 2.1 BOARD OF REGENTS

The Board of Regents is the Governing Council of the University. The Board serves as the apex ruling body of the University and exercises final authority and power in all policy, legal, administrative and financial matters of the University. It has the overall responsibility for the policies and operations of the University.

#### 2.2 THE CHANCELLOR

The unique founding philosophy of change, which was birthed from the visionary base of the University, as well as the adopted strategies for its accomplishments, was considered crucial to the general and specific objectives of the University. The visionary direction and guidance had compelled the executive presence of the Chancellor who conceived the vision of the University. Consequently, the vision, as well as its governance imperatives, is shared with the faculty, staff and students at regular intervals. This vision has permitted and continues to permit stable formation, not only of the organisational structure but also of the management culture, as well as helping to inculcate the values and ethos of the University into members of the University community. The Chancellor of the University is the Chief Executive Officer of the University. He also serves as the Chairman of the Board of Regents.

#### 2.3 THE PRO-CHANCELLOR

The Pro-Chancellor shall, as may be directed by the Chancellor, undertake spiritual oversight of the University in the light of the Institution's foundation of faith and fear of God which is fundamental to successful living. The Pro-Chancellor shall as may be directed by the Chancellor, undertake the oversight and entrenchment of the University Vision and mission in the faculty, staff, and students from the underlining perspective of the University core values. The Pro-Chancellor shall, as may be directed by the Chancellor, maintain a functional platform for the discharge of the governance responsibilities of the Board. The Pro-Chancellor shall, as may be directed by the

Chancellor, entrench a culture of efficient management of the resources and investments of the University, through the prompt discharge of the finance and general-purpose duties of the Board.

#### **2.4 THE VICE-CHANCELLOR**

The Vice-Chancellor is the Chief Academic Officer of the University. In this capacity, he/she is the Chief Responsibility Officer for the University's operations. Academic administration is planted firmly in the highest academic authority of the University, which is the Senate. The Vice-Chancellor is the Chairman of the University Senate and exercises all powers granted him/her in the law that established the University in respect of guiding and directing the University's academic activities. He/she holds in trust the Chancellor's executive responsibilities and authority in all areas where the Chancellor so delegates.

#### **2.5 THE REGISTRAR**

He is the Chief Administrative Officer of the University and oversees the administrative efficiency of the University, engaging historical records and regulations. The Registrar chairs the University's Administrative Board, which serves as the University's apex administrative organ and clearance house for all operational issues. He monitors rules, regulations and policies as well as make recommendations on policies to Senate and Board of Regents.

#### **2.6 OTHER OFFICERS OF THE UNIVERSITY**

##### **(a) THE DEANS OF COLLEGES AND SCHOOL OF POSTGRADUATE STUDIES**

Our colleges were established to provide teaching, research and community service activities in Departments/Programmes approved for them by the Senate. A College Management Board and College Academic Boards are established for each College to determine direction and supervise the conduct and grading of examinations and other academic responsibilities and they make recommendations to Senate on any academic matter, including curriculum development and examination results through the Deans. The Dean is the Chief Academic Officer of the College/School. He is the Chairman of the College Management Board and he coordinates and regulates the teaching responsibilities and the conduct of examinations within the available facility and specified guidelines. He is also responsible for co-coordinating the day-to-day administration of the College, including the organization of students' admission, registration, matriculation and examinations.

##### **b) THE SUB- DEANS OF COLLEGES**

Each College in the University is divided into three administrative units called Schools and a Deputy Dean heads each of them. The Deputy Deans oversee the coordination of activities of the School as they relate to the Colleges' Vision and Goals to ensure their foremost growth and development. They provide leadership and oversight for all the academic programmes of the Schools. They oversee strategic planning matters of the Schools and ensure that they are in tandem with the Vision of the University; continuous improvement of programmes and curriculum; promotion of community service activities; ensuring efficient teaching and quality delivery and monitoring of class attendance, student evaluation reports as they relate to the Schools' context, teaching and learning environment among others.

**c) THE DIRECTOR, PHYSICAL PLANNING AND DEVELOPMENT**

The overall development of Covenant University involves the provision of buildings, equipment, furniture, roads, water, electricity, healthcare facilities and educational facilities for the children of the staff and accommodation for staff and students. The Director of Physical Planning and Development is responsible to the Vice-Chancellor for the physical development as well as maintenance and care of the University estate. Officers of the unit are divided into three main groups: maintenance and services; rehabilitation; and development of new facilities.

**d) THE DIRECTOR, CENTRE FOR LEARNING RESOURCES**

The Centre for Learning Resources (CLR) is the academic heart of the University system. Its basic purpose is to provide students and all academic members of the community with materials, assistance and an environment that facilitate teaching, learning and research. Covenant University's Centre for Learning Resources is being continuously equipped, as a fundamental requirement for academic excellence. The Director of CLR is the head of the University Library, and he is responsible to the Vice-Chancellor in growing and developing the University Library system. This includes the main Library, College Libraries and the departmental reading rooms.

**e) THE DIRECTOR, FINANCIAL SERVICES**

The Director, Financial Services Department, is responsible for ensuring financial prudence in the allocation and utilisation of the financial resources of the institution. This involves coordination, control and periodic evaluation of the financial system of the University, including the internal audit with a proactive audit strategy extending beyond compliance, probability and systems audit, to a value-for-money audit. The Director ensures that financial regulations are made, published in a Manual of Financial Procedures and followed through to ensure the efficient use of funds allocated to, or generated by the University.

**f) THE DIRECTOR, CENTRE FOR SYSTEM & INFORMATION SERVICES (CSIS)**

The Director manages the information system, provides technical support for portal administration, internet and intranet services, training and deployment of systems. CSIS generates and manages data from various sources, including candidate admission, student registration and examination processes for management decisions at various levels.

**g) THE DIRECTOR, ACADEMIC PLANNING UNIT**

The Director, Academic Planning Unit (DAPU) has the responsibility of collating, managing and interpreting data to guide the academic development of the University. The Director also ensures compliance with government policies, notably, the National Universities Commission (NUC) and Council for the Regulation of Engineering in Nigeria (COREN) Benchmark Minimum Academic Standard (BMAS), the University status as they relate to academic matters and other academic requirements of Senate.



*African Leadership Development Centre*





*(Top & Down) Members of the Board of Regents in Academic Procession During a Convocation Ceremony*



*Students Convocation Procession*



## **CHAPTER THREE**

### **COLLEGE OF ENGINEERING**

There are presently four (4) Colleges in Covenant University – College of Management and Social Sciences (CMSS), College of Leadership Development Studies (CLDS), College of Engineering (CoE) and College of Science and Technology (CST). In 2014/2015 academic session, the College of Engineering (CoE) was carved out of the former College of Science and Technology.

#### **3.1 WELCOME ADDRESS FROM THE DEAN**

With anticipation in my heart and gratitude to God Almighty, I welcome you to the Information & Communication Engineering programme of the College of Engineering (COE). The college presently has five departments. The Departments are: Civil Engineering, Electrical and Information Engineering, Mechanical Engineering, Petroleum Engineering and Chemical Engineering. The Department of Electrical and Information Engineering ([eie.covenantuniversity.edu.ng](http://eie.covenantuniversity.edu.ng)) offers programmes in Computer Engineering, Electrical and Electronics Engineering, and Information & Communication Engineering.

The college is walking in line with the vision of the university in helping to raise young stars, future leaders and world best engineers in all fields of endeavours for a better tomorrow. The college also has well-groomed lecturers ranging from professors, senior academic staff and well-trained technologist. The non-teaching staffs are also available to work hand in hand with the academic staff in the college for a better and ready result. The students are groomed to tackle different challenges in the engineering field.

Our programmes are fully enriched with good course outlines, which are well packaged to prepare our students for the successful practice of their profession anywhere in the world. The programmes are also to help the students achieve their full potentials and skills to the highest level. The programmes are fully accredited by the NUC and COREN.

On this note, I would like to say a very big welcome once again to the Information & Communication Engineering programme in the College of Engineering.

**Prof. David Olukanni**  
*Dean, College of Engineering, Covenant University*

#### **3.2 OVERVIEW OF THE COLLEGE OF ENGINEERING**

The College of Engineering (CoE) presently has five departments. The Departments are: Civil Engineering, Electrical and Information Engineering, Mechanical Engineering, Petroleum Engineering and Chemical Engineering. The Department of Civil Engineering offers programme in Civil Engineering ([cve.covenantuniversity.edu.ng](http://cve.covenantuniversity.edu.ng)), the Department of Electrical and Information Engineering ([eie.covenantuniversity.edu.ng](http://eie.covenantuniversity.edu.ng)) offers programmes in Computer Engineering, Electrical and Electronics Engineering, and Information & Communication Engineering, the Department of Mechanical Engineering ([mce.covenantuniversity.edu.ng](http://mce.covenantuniversity.edu.ng)) runs the programme in Mechanical Engineering, the Department of Petroleum Engineering ([pet.covenantuniversity.edu.ng](http://pet.covenantuniversity.edu.ng))

runs programme in Petroleum Engineering while the Department of Chemical Engineering runs programme in Chemical Engineering ([che.covenantuniversity.edu.ng](http://che.covenantuniversity.edu.ng)). The college is walking in line with the vision of the university in helping to raise young stars, future leaders and world best engineers in all fields of endeavours for a better tomorrow. The college also has well-groomed lecturers ranging from professors, senior academic staff and well-trained technologists. The non-teaching staffs are also available to work in hand with the academic staff in the college for a better and ready result. The students are groomed to tackle different challenges in the engineering field. Our programmes are fully enriched with good course outlines, which are well packaged to prepare our students for the successful practice of their profession anywhere in the world. The programmes are also to help the students achieve their full potentials and skills to the highest level.



**College of Engineering Building**

### 3.3 DEPARTMENTS AND PROGRAMMES

The Departments and Programmes in the College of Engineering, Covenant University are listed in the Table 1.

Table 1: **List of Departments and Programmes in the College of Engineering**

| <b>Department</b>                      | <b>Programme</b>                          | <b>Degree</b> |
|--|---|---------------|
| Chemical Engineering                   | Chemical Engineering                      | B.Eng.        |
| Civil Engineering                      | Civil Engineering                         | B.Eng.        |
| Electrical and Information Engineering | Computer Engineering                      | B.Eng.        |
|  | Electrical and Electronics Engineering    | B.Eng.        |
|  | Information and Communication Engineering | B.Eng.        |
| Mechanical Engineering                 | Mechanical Engineering                    | B.Eng.        |
| Petroleum Engineering                  | Petroleum Engineering                     | B.Eng.        |

### 3.4 VISION

The vision of the College of Engineering (CoE) is to be a leading engineering centre of excellence involved in teaching, research and innovation.

### 3.5 MISSION

The mission of the College is to provide, through innovative teaching and research, sound engineering education aimed at producing a new generation of highly motivated, competent, skillful and innovative professional and academic engineers with a burning desire to tackle Africa's developmental challenges. The College strives to generate and provide high quality and high-tech knowledge in a student-friendly environment for the purpose of producing well-prepared leaders of tomorrow.

### 3.6 PHILOSOPHY

The College, philosophically, aims at producing students with profound engineering knowledge in different disciplines collaborating in deployment of a wide range of skills and knowledge to provide solutions to societal problems. Situated in a Christian mission University, the College is committed to the goals of learning and faith – learning as both the means to and the result of dogged scholarship; and faith as the personal appropriation of truth for godly living.



*Cross-Section of Faculty and Staff at an Academic Event*



*E-Learning Facility at the Centre for Learning Resources (Library)*

## CHAPTER FOUR

### DEPARTMENT OF ELECTRICAL AND INFORMATION ENGINEERING

#### 4.1 WELCOME ADDRESS FROM THE HEAD OF DEPARTMENT

Welcome to the Information & Communication Engineering Program of the Department of Electrical and Information Engineering. The Information & Communication Engineering programme is hinged on the Covenant University vision and mission of “Raising New Generation of Leaders” with the objective of turning out graduates that are expert thinkers and prudent managers in their respective fields. The Information & Communication Engineering Program is driven by a passion to equip students with the required skills to be able to advance the practice of Information & Communication Engineering and to be able to develop solutions using the skills acquired during their training. This is achieved by putting in place a robust curriculum that meets up challenges in Information & Communication Engineering through the acquisition of relevant skills. The program is adequately staffed with experienced faculty most of whom have made very valuable contributions in research, industry and teaching. The program also has state-of-the-art laboratory facilities and technical personnel who are both passionate about their jobs and always willing to work with faculty in ensuring that the students get the best in terms of both Engineering training and the University experience.

#### 4.2 OVERVIEW OF THE DEPARTMENT

The Department of Electrical and Information Engineering was founded in the 2004/2005 academic session under the College of Science and Technology in order to help provide the personnel needed to exploit the abundant natural resources and manpower for the growing industries of the nation. The Department is now housed within the College of Engineering. The Department of Electrical and Information Engineering offers three-degree programmes namely: Bachelor of Engineering (B.Eng.) in Computer Engineering, Bachelor of Engineering (B.Eng.) in Electrical and Electronics Engineering and Bachelor of Engineering (B.Eng.) in Information and Communication Engineering.

The Department graduated her first set of Information and Communication Engineering students in 2006/2007 academic session, the second set in 2007/2008 and the rest from 2008/2009 to 2021/2022 academic sessions. As at 2021/2022, the Department had produced sixteen (16) sets of Information and Communication Engineering graduates. The duration of the Information & Communication Engineering programme is five (5) years of ten (10) semesters. In the first two semesters, the students are engaged in the College of Science and Technology where they learn courses relating to fundamentals of basic sciences and engineering graphics. Subsequently, upon completion of the two semesters, successful students with Cumulative Grade Point Average (CGPA) above 2.0 and not more than the stipulated carryover units proceed to the 200 Level where they are introduced to the general engineering courses. The 200 Level culminates into an eight-week Student Work Experience Programme (SWEP) while the last six semesters are for general Electrical & Information, and core Information & Communication Engineering courses. The SIWES II (Students Industrial Work Experience Scheme) is for a period of eight-weeks during the long vacation after the Omega (i.e. second) semester of 300 level, and it is spent in the industry.

The SIWES III (Students Industrial Work Experience Scheme) is over a period of six consecutive months after the Alpha (i.e. first) semester of 400 level, and is spent in the industry. The structure of Information & Communication Engineering courses as taught in Covenant University is such that the students are introduced to and engaged in the core curriculum set out by the



Benchmark Minimum Academic Standard (BMAS) of both the National Universities Commission (NUC) and the Council for the Regulation of Engineering in Nigeria (COREN). Sometimes additional courses are added to the courses suggested by the BMAS in such a way as to facilitate a total Information and Communication Engineering graduate that is up-to-date with the current global advancement drive.

The graduation statistics of the last five sets of Information and Communication Engineering students are summarized in Table 2.

**Table 2: Summary of Graduated Students for Five Years**

| Class     | 1st       |           | 2 1       |            | 2 2       |           | 3rd      |           | Grand Total |
|-----------|-----------|-----------|-----------|------------|-----------|-----------|----------|-----------|-------------|
|           | F         | M         | F         | M          | F         | M         | F        | M         |             |
| 2017/2018 | 0         | 5         | 15        | 19         | 10        | 14        | 0        | 0         | <b>63</b>   |
| 2018/2019 | 4         | 5         | 4         | 20         | 8         | 10        | 0        | 2         | <b>53</b>   |
| 2019/2020 | 4         | 1         | 11        | 26         | 11        | 15        | 1        | 4         | <b>73</b>   |
| 2020/2021 | 2         | 4         | 8         | 17         | 6         | 12        | 0        | 0         | <b>49</b>   |
| 2021/2022 | 2         | 1         | 14        | 24         | 12        | 32        | 2        | 6         | <b>93</b>   |
| Total     | <b>12</b> | <b>16</b> | <b>52</b> | <b>106</b> | <b>47</b> | <b>83</b> | <b>3</b> | <b>12</b> | <b>331</b>  |

#### 4.2.1 Vision

The vision of the Department is derived from Covenant University’s vision, which is succinctly captioned — Raising a New Generation of Leaders. Therefore, the Department is raising a new generation of leaders in Electrical and Information Engineering.

#### 4.2.2 Mission

The mission of the Department is to create universally applicable and technologically relevant knowledge in the field of Electrical and Information Engineering, with the aim of promoting an integrated and universal education with real-life, real-time applicability vis-à-vis, Science, Technology and Human Capacity Building.

#### 4.2.3 Philosophy

The Philosophy of the Department is derived from the departure philosophy of Covenant University. Electrical and Information Engineering as the backbone of a knowledge-based economy, is highly dynamic and versatile. Therefore, the Department’s Programmes aim to contribute effectively to the knowledge-based economy by putting in place curricula that meet these challenges in Computer Engineering, Electrical and Electronics Engineering, and Information and Communication Engineering. The training is to produce graduates, who will be producers rather than mere consumers of knowledge and who, upon graduation, will be functional engineers in industries, research assistants, scholars in the academia, or successful entrepreneurs in the Electrical and Information Engineering sectors.



#### **4.2.4 Programme Educational Objectives**

The Information and Communication Engineering Programme has established the following objectives, of the undergraduate programme to support our mission and that of the University. Graduates are expected to be able to attain the following objectives within the five (5) years of training at Covenant University.

**PEO1:** Develop knowledge, skills (including transferable skills, such as leadership, motivation, time management, prioritization, delegation, listening, communication, analytics) and understanding, as well as awareness and “know how”, in the fields of engineering and its related disciplines so that as graduates they will be equipped to enter into self-employment and employment as professional engineers progressing on to Registered Engineer or equivalent status or a wide range of other professional careers.

**PEO2:** Prepare them to engage in life-long and critical enquiry with skills in research and knowledge acquisition and an appreciation of the value of education to the wider community.

**PEO3:** Provide them with internationally recognized qualifications which meet and exceed the requirements of the COREN Outcome-Based Education Benchmark for Engineering Programmes in Nigeria and international Benchmark Statements for Engineering for ABET, Engineering Council, UK, etc.

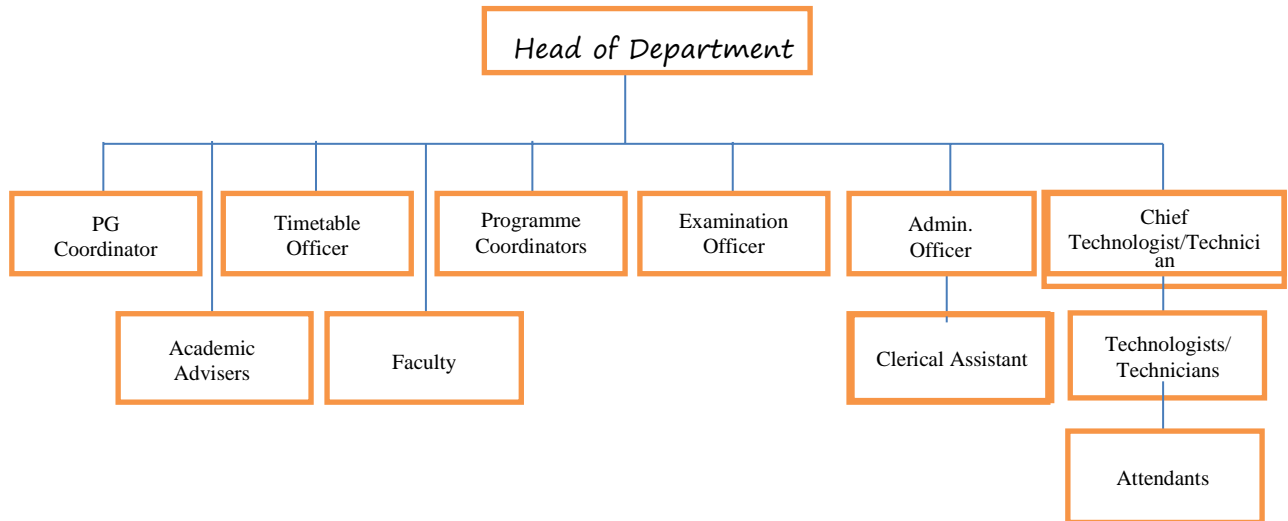
**PEO4:** Provide the engineering industry and profession, in Nigeria and elsewhere, with ready employable and enterprising graduates prepared for the assumption of technical, managerial, and financial responsibilities.

**PEO5:** Achieve the above in the contexts of the Covenant University Vision business plans, following the University’s policies and procedures and conforming to the relevant sections of the Quality and Academic Standards (QAS) guidelines.

#### **4.2.5 Goal-Attainment Strategies**

The Department of Electrical and Information Engineering appreciates the fact that conducive learning environment has to be created. The components of the ideal environment include Curriculum, Right Human Resources, Qualified students & Learning Facilities. With the right environment, the curriculum is structured to produce professionals capable of producing appropriate and imaginative solutions that are not only technically proficient and contemporary but also economically feasible and relevant in all their ramifications. Students are guided by the right human resources, procedures and conducive learning environment. Laboratory practicals and their supervision are structured to enable students acquire the knowledge and skills for the practice of the profession.

## 4.2.6 Administration and Control



**Figure 1: Departmental Organogram**



**Students Working in EIE Laboratories**

## 4.2.7 List of Staff in the Department

Table 3 contains the list of full-time academic staff in the programme while Table 4 contains the list of adjunct academic staff.

**Table 3: List of Full-Time Academic Staff in Information and Communication Engineering Programme**

| S/N | Name of Staff              | Qualification                     | Professional Status               | Designation                      |
|-----|----------------------------|-----------------------------------|-----------------------------------|----------------------------------|
| 1.  | Dr. Isaac. A. Samuel       | Ph.D., M.Eng., PGD                | MNSE, COREN Rgd. (R12,459)        | Associate Professor & HOD        |
| 2.  | Dr. Oluwadamilola I. Oshin | Ph.D., M.Eng., B.Eng.             | MIEEE, COREN Rgd. (R35,323)       | Lecturer I (Program Coordinator) |
| 3.  | Prof. Emmanuel Adetiba     | Ph.D., M.Eng., B.Eng.             | MIEEE, MNSE, COREN Rgd. (R16,875) | Professor                        |
| 4.  | Prof. Anthony U. Adoghe    | Ph.D., M.Eng., B.Eng.             | MNSE, COREN Rgd. (R15,649)        | Professor                        |
| 5.  | Dr. Adeyinka A. Adewale    | Ph.D., M.Sc., B.Sc.               | MNSE, COREN Rgd. (R16,877)        | Associate Professor              |
| 6.  | Dr. Ayoade F. Agbetuyi     | Ph.D., M.Eng., B.Eng.             | MNSE, COREN Rgd. (R14,016), MIEEE | Associate Professor              |
| 7.  | Dr. Ademola G. Abdulkareem | Ph.D., M.Eng., B.Eng.             | MNSE, COREN Rgd. (R17,964), MIEEE | Associate Professor              |
| 8.  | Dr. Ayokunle A. Awelewa    | Ph.D., M.Eng., B.Eng.             | MNSE, COREN Rgd.(R19,001)         | Associate Professor              |
| 9.  | Dr. Hope E. Orovwode       | Ph.D., M.Eng., B.Eng.             | MNSE, COREN Rgd. (R14,578)        | Senior Lecturer                  |
| 10  | Dr. Kennedy Okokpujie      | Ph.D., M.Eng., MBA, M.Sc., B.Eng. | MIEEE, COREN Rgd. (R29,230)       | Senior Lecturer                  |
| 11  | Dr. O.A Akinola            | Ph.D., M.Eng., B.Eng.             | MNSE, COREN Rgd (R12,610)         | Senior Lecturer                  |
| 12  | Dr. Joseph. O. Olowoleni   | Ph.D., M.Eng., B.Eng.             | MNSE, COREN Rgd. (R19, 297)       | Lecturer I                       |

|    |                                   |                             |  |                    |
|----|-----------------------------------|-----------------------------|--|--------------------|
| 13 | Dr. Victoria Oguntosin            | Ph.D.,<br>M.Eng.,<br>B.Eng. | MNSE, COREN Rgd<br>(R54,286)           | Lecturer I         |
| 14 | Dr. Osemwegie Omoruyi             | Ph.D.,<br>M.Sc.,<br>B.Eng.  | MNSE,<br>COREN Rgd.<br>(R45,501)       | Lecturer I         |
| 15 | Dr. Tobi Somefun                  | Ph.D., M.Eng.,<br>B.Eng.    | MNSE, COREN<br>Rgd. (R39,527)          | Lecturer I         |
| 16 | Dr. Amuta Elizabeth Ose           | Ph.D<br>M.Eng.,<br>B.Eng.   | MNSE, COREN<br>Rgd. (R14,104)          | Lecturer I         |
| 17 | Engr. Adisa A. Adelakun           | M.Eng., B.Sc.               | MNSE, COREN<br>Rgd. (R24,408),<br>MNCS | Lecturer I         |
| 18 | Engr. Tiwalade Odu                | M.Eng.,<br>B.Eng.           | MIEEE, COREN<br>Rgd.(R39,273)          | Lecturer II        |
| 19 | Engr. Etinosa Noma- Osaghae       | M.Sc., B.Sc.                | MNSE, COREN<br>Rgd. (R49,978)          | Lecturer II        |
| 20 | Engr. Sanni Timilehin Fiyinfoluwa | M.Eng.,<br>B.Eng.           | MNSE, COREN<br>Rgd. (R50,320)          | Lecturer II        |
| 21 | Mrs. Temitope Oluwatosin Takpor   | M.Eng.,<br>B.Eng.           | MNSE, COREN<br>Rgd.                    | Lecturer II        |
| 22 | Mr. Akua Denen Collins            | M.Eng.,<br>B.Eng.           | MNSE,<br>COREN Rgd.                    | Assistant Lecturer |
| 23 | Mrs. Chinemere Owuama             | M.Eng B.Eng                 | MNSE                                   | Assistant Lecturer |
| 24 | Engr. Ifijeh Ayodele Hephzibah    | M.Eng.,<br>B.Eng.           | MNSE, COREN<br>Rgd. (29,038)           | Assistant Lecturer |
| 25 | Mr. Michael Adedokun              | M.Eng B.Eng                 | MNSE                                   | Lecturer II        |
| 26 | Miss Ademola Omolola              | M.Eng<br>B.Eng              | MNSE                                   | Assistant Lecturer |
| 27 | Miss Amarachi Attah               | M.Eng<br>B.Eng              | MNSE                                   | Assistant Lecturer |
| 28 | Prof. Olayinka Ohunakin           | Ph.D., M.Sc.<br>B.Sc.       | MNSE, COREN<br>Rgd. (R18,222)          | Professor          |

|    |                         |                             |                                |                 |
|----|-------------------------|-----------------------------|--------------------------------|-----------------|
| 29 | Dr. Gbenga Omotosho     | Ph.D., M.Sc.<br>B.Sc.       | MNSE, COREN<br>Rgd. (R23,274)  | Senior Lecturer |
| 30 | Dr. Philip. O. Babalola | Ph.D., M.Sc.<br>B.Sc.       | MNSE, COREN<br>Rgd. (R8,890)   | Senior Lecturer |
| 31 | Dr. Isaac Akinwumi      | Ph.D.,<br>M.Eng.,<br>B.Eng. | MNSE, COREN<br>Rgd. (R22,192)  | Senior Lecturer |
| 32 | Dr. Oluwasanmi Olabode  | Ph.D, M.Sc.,<br>B.Sc.       | MNSE, COREN<br>Rgd. (R47,132)  | Senior Lecturer |
| 33 | Dr. Oyebisi Solomon     | Ph.D, M.Sc.,<br>B.Sc.       | MNSE, COREN<br>Rgd. (R39,458)  | Senior Lecturer |
| 34 | Dr. Sanni Samuel        | Ph.D, M.Sc.,<br>B.Sc.       | MNSE, COREN<br>Rgd. (R30,877)  | Senior Lecturer |
| 35 | Dr. Gideon Bamigboye    | Ph.D, M.Eng.,<br>B.Sc.      | MNSE, COREN<br>Rgd. (R25,153)  | Senior Lecturer |
| 36 | Dr. Oluwaseun Kilanko   | Ph.D, M.Eng.,<br>B.Sc.      | MNSE, COREN<br>Rgd. (R14, 912) | Senior Lecturer |
| 37 | Dr. M. Ojewunmi         | Ph.D.,<br>M.Eng.,<br>B.Eng. | MNSE, COREN<br>Rgd. (R22,474)  | Senior Lecturer |
| 38 | Dr. Modupe Ojewunmi     | Ph.D, M.Eng.,<br>B.Sc.      | MNSE, COREN<br>Rgd. (R22,474)  | Senior Lecturer |
| 39 | Dr. Funmilayo Joseph    | Ph.D, M.Eng.,<br>B.Sc.      | MNSE, COREN<br>Rgd. (R23,619)  | Senior Lecturer |
| 40 | Dr. Richard Leramo      | Ph.D.,<br>M.Eng.<br>B.Eng.  | MNSE, COREN<br>Rgd. (R17,647)  | Lecturer I      |

**Table 4:** List of Adjunct Academic Staff in the Programme

| S/N | Name of Staff         | Qualification        | Designation (Status) |
|-----|-----------------------|----------------------|----------------------|
| 1.  | Dr. Omotayo Adegbuyi  | Ph.D, M.Sc., B.Sc    | Associate Professor  |
| 2.  | Dr. Ebikaboere Ovia   | Ph.D, M.Sc., B.Sc.   | Senior Lecturer      |
| 3.  | Dr. Samuel T. Owoeye  | B. Sc., M.Sc., Ph.D. | Senior Lecturer      |
| 4.  | Dr. Michael Agarana   | Ph.D, M.Sc., B.Sc    | Senior Lecturer      |
| 5.  | Dr. Maxwell Omeje     | Ph.D, M.Sc., B.Sc.   | Senior Lecturer      |
| 6.  | Dr. Toluope Siyanbola | Ph.D, M.Sc., B.Sc    | Senior Lecturer      |

### 4.2.8 Technical Staff

Table 5 contains the list of technical staff in the programme.

Table 5: List of Technical Staff in the programme

| S/N | Name                   | Qualification   | Professional Status | Designation             | Assigned Laboratory                     | Modules (Laboratory Courses)            | Hrs / Wk |
|-----|------------------------|-----------------|---------------------|-------------------------|---|---|----------|
| 1.  | Engr. G. A. Afolabi    | HND; PGD; M.Eng | MNSE; Rgd COREN     | Senior Technologist III | Electrical Machine/Power                | GEC216<br>GEC 226<br>GEC219<br>ICE413   | 45       |
| 2.  | Mr. M.A Daramola       | HND; PGD; M.sc  | NATE; Rgd COREN     | Senior Technologist III | Electronics                             | EIE318<br>EIE328<br>EIE 219             | 45       |
| 3.  | Mrs. O.R.Olomo         | HND;M.Sc        | NATE Rgd.COREN      | Technologist I          | Microprocessor                          | ICE413,<br>GEC216,<br>GEC226<br>GEC219  | 45       |
| 4.  | Mr. D. Ajakaiye        | HND;PGDM;MBA    | NATE                | Technologist I          | Microwave /Telecommunication            | ICE413;<br>GEC226<br>GEC216<br>GEC219   | 45       |
| 5.  | Mr. J.O. Odetola       | HND             | NATE Rgd. COREN     | Technologist I          | Applied Electricity                     | EEE416;<br>GEC216;<br>GEC226;<br>GEC229 | 45       |
| 6.  | Mr. K.V. Adeyeye       | HND             | NATE; Rgd. COREN    | Technologist I          | Control and Instrumentation             | ICE413;<br>GEC226;<br>GEC216<br>GEC219  | 45       |
| 7.  | Mr. A.G. James         | HND;MIT         | NATE Rgd. COREN     | Technologist I          | Digital System and Prototyping /PCB Lab | EIE417;<br>ICE413;<br>GEC226;<br>GEC216 | 45       |
| 8.  | Mr. L.S. Raheem        | HND             | NATE Rgd. COREN     | Technologist I          | Electric Machine/Power                  | GEC 226<br>GEC229<br>ICE413<br>EIE328   | 45       |
| 9   | Mr. Moses Kayode       | HND             | NATE Rgd COREN      | Technologist II         | High Voltage                            | GEC216<br>GEC226<br>GEC219<br>EIE318    | 45       |
| 10  | Mr. Odetola Oyekunle.T | HND             | NATE                | Technologist III        | Control and Instrumentation             | GEC216,<br>GEC226,<br>ICE413;<br>GEC229 | 45       |
| 11  | Mr. S. Ariba           | B.Eng.          | NATE                | Technologist III        | High Voltage Lab                        | EIE318,<br>GEC328,<br>GEC226;<br>GEC229 | 45       |
| 12  | Mr. C.                 | HND             | NATE                | Technologist            | Electronics                             | EIE318;                                 | 45       |

| S/N | Name                         | Qualification            | Professional Status | Designation          | Assigned Laboratory                           | Modules (Laboratory Courses)            | Hrs / Wk |
|-----|------------------------------|--------------------------|---------------------|----------------------|---|---|----------|
|     | Ogbodor                      |                          |                     | III                  |   | EIE328<br>GEC216<br>GEC219              |          |
| 13  | Mr. T. Olusanya              | HND                      | NATE<br>Rgd.COREN   | Technologist III     | Microprocessor                                | ICE413,<br>GEC216,<br>GEC226;<br>GEC229 | 45       |
| 14  | Mrs. Y. O. Owosho            | HND;<br>PGD              | NATE<br>Rgd.COREN   | Technologist III     | Software Engineering (Computation) Laboratory | ICE413,<br>GEC216,<br>GEC226;<br>GEC229 | 45       |
| 15  | Miss Jennifer Chinedu        | HND                      | -                   | Technologist III     | All Laboratories                              |   |          |
| 16  | Mrs. Olajumoke Peju West     | HND                      | -                   | Technologist III     | Computation Laboratory                        |   |          |
| 17  | Mr. O. V. Ekene              | SSCE                     |                     | Laboratory Attendant | All Laboratories                              |   |          |
| 18  | Mr. Williams Chibuike A.     | SSCE/ Trade Test 3, 2, 1 |                     | Laboratory Attendant | All Laboratories                              |   |          |
| 19  | Mr. Ewlen Aghogho Roland     | SSCE                     |                     | Laboratory Attendant | All Laboratories                              |   |          |
| 20  | Mr. Olagbaju Julius Olaobaju | SSCE/ Trade test 1, 2, 3 |                     | Laboratory Attendant | All Laboratories                              |   |          |
| 21  | Mr. Akinola Kunle Michael    | SSCE/ Trade test 1, 2, 3 |                     | Laboratory Attendant | All Laboratories                              |   |          |

#### 4.2.9 Non-Academic Staff

Table 6: List of Non-Academic Staff in the programme

| S/N | NAME                    | QUALIFICATION                        | DESIGNATION                            |
|-----|-------------------------|--------------------------------------|--|
| 1   | Miss. Oyewole O. Hannah | B.Sc. HRM IR<br>MMP                  | Programme Officer/ Assistant Registrar |
| 2   | Mr. Salami Emmanuel     | B.Sc., Marketing<br>Management M.Sc. | Administrative Officer                 |
| 3   | Etormi Patience         | SSCE                                 | Office Assistant                       |

### 4.3 INFORMATION & COMMUNICATION ENGINEERING PROGRAMME

#### 4.3.1 Undergraduate Programme

**PROGRAMME:** INFORMATION & COMMUNICATION ENGINEERING

**DEGREE AWARDED:** B.Eng. (Honours) INFORMATION & COMMUNICATION ENGINEERING

**DURATION:** 5 Years (10 Semesters)

#### 4.3.2 Admission Requirements

- Credit level passes in five (5) subjects in the NABTEB/SSCE/GCE/NECO O/L or their equivalent must be obtained in not more than two sittings and must include Mathematics, English Language, Physics, Chemistry, and credit pass in either Further Mathematics, Biology or Technical Drawing.
- U.T.M.E Subjects include English Language, Mathematics, Chemistry and Physics.
- The candidates must fulfil all other Admission Requirements as prescribed by the Senate of Covenant University.

#### 4.3.3 Graduation Requirements

Students must take and pass a minimum of 241 credit units to graduate from the 5-year Bachelor of Engineering (B.Eng.) degree programme in Information & Communication Engineering, as shown in Table 7.

Table 7: Graduation Requirements for B.Eng. (Information & Communication Engineering)

| Level        | Core/ Compulsory | Electives | SWEP     | Industrial Training (SIWES) | University Courses | General Courses | Total      |
|--------------|------------------|-----------|----------|-----------------------------|--------------------|-----------------|------------|
| 100          | 35               |           |          |                             | 4                  | 10              | 49         |
| 200          | 38               |           | 6*       |                             | 4                  | 6               | 48         |
| 300          | 42               |           |          | 6*                          | 4                  | 2               | 48         |
| 400          | 26               |           |          | 6                           | 2                  |                 | 46**       |
| 500          | 40               | 4         |          |                             | 6                  |                 | 50         |
| <b>Total</b> | <b>181</b>       | <b>4</b>  | <b>6</b> | <b>12</b>                   | <b>20</b>          | <b>18</b>       | <b>241</b> |

\*These sum as 12 units of SWEP/ SIWES in 200 and 300 levels but are not added to the course units at these levels.

\*\*This includes all units presented for 400L and the 12 units described in \* above.



## **4.4 STUDENT ACADEMIC INFORMATION**



**Covenant University Students Going to Their Various Classes**

### **4.4.1 DEFINITION OF A STUDENT**

A student in Covenant University is anyone who has been duly registered, having met all the requirements for admission to a programme of choice in the University and is actually involved in all academic and non-curricular activities on campus.

Such a person must be duly matriculated and resident on campus, except otherwise declared by termination/cessation of studentship or official policy declaration by Management, sequel to imposed penalty as contained in the Student Handbook. If in the course of the semester or session a student is suspended, such a student shall lose all the rights of studentship during the period of suspension.

Again, if a parent indicates an intention to withdraw his or her ward from the University, such a student will be so allowed.

### **4.4.2 ADMISSION POLICY**

The undergraduate programmes of the University are focused on raising a new generation of leaders equipped in their total personality to positively influence their community and restore hope to the citizens of their nations and to mankind. Assessment of academic potentials is not the only basis for a candidate's admissibility. As a Christian Mission University, intending students of the University must be God-fearing. Prospective students are expected to demonstrate in their conducts the Core Values of the University.

### **4.4.3 UNDERGRADUATE ADMISSION REQUIREMENTS**

The minimum entry requirement for undergraduate programmes in Covenant University is the possession of credit level passes in 5 subjects at the Ordinary Level examination of **WAEC/NECO/NABTEB/IGCSE**. The subjects must include English Language and Mathematics.

These must have been obtained at not more than two sittings. There are other requirements that may be specific to a College and/or a Programme.

In addition to the above, candidates must fulfill the statutory requirement of sitting for the UTME examination of the Joint Admissions and Matriculation Board (JAMB) in the year they intend to apply for admission. It is mandatory for applicants to attain the prescribed cut-off mark in the UTME examination.

Applicants must also undergo the post-UTME screening exercise conducted by the University, i.e., the Covenant University Scholastic Aptitude Screening (CUSAS).

#### **4.4.4 INTERNATIONAL ADMISSIONS**

An international student at Covenant University is defined as any intending student applying to the University for consideration for admission who is:

1. a foreigner, i.e. a citizen of a country other than Nigeria;
2. a Nigerian who resides in a foreign Country/a Nigerian who is a citizen of a foreign country;
3. a Nigerian, in the diaspora, whose School Certificate, High School or O'Level examinations is /was not sat for or obtained in Nigeria but which has been translated or equivalent to Nigerian O'Level standards;
4. a Nigerian, who is also a citizen of another country, this shall be supported with documentation such as, international passport, birth certificate, etc.

To be eligible for consideration, applicants must fulfill the following requirements:

A. Obtaining, completing and return of the admission application form.

Submission of relevant results/certificates, and satisfying the minimum academic entry requirements.

B. Submission of a letter of reference from a spiritual leader.

Application forms for International Applicants can be completed online at <http://admission.covenantuniversity.edu.ng> at the prescribed fee. Payment can be made online through electronic payment platforms or through cash deposits at designated banks.

#### **4.4.5 COURSE-UNIT SYSTEM**

Covenant University runs the Course-Unit System, meaning that courses are quantified in units. Courses are run on a semester basis. Each academic session is divided into two semesters, namely Alpha Semester and Omega Semester. The Alpha and Omega semesters consist of at least 15 teaching weeks and three weeks of examination.

##### **4.4.5.1 Status of a Course**

A course is classified into three categories as follows:

- i) Core or Compulsory courses** are courses that must be taken unconditionally and passed.
- ii) Required courses** are those courses registered for at the department and must be passed.
- iii) Optional or Elective courses** include those courses that may be taken to make up the minimum number of credits to be passed in order to graduate.

#### 4.4.5.2 Grading System

Each course has three grading components. These include:

- i) Percentage score grade.
- ii) Letter grade.
- iii) Grade point.

Table 8 - Components of Course Grading

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

#### 4.4.5.3 Course Registration

Bona-fide students of Covenant University must first meet the necessary requirements of having paid the prevalent tuition fees among others before they are qualified to embark on the course registration exercise of each semester/session.

The modalities of course registration currently operational in the University are listed below:

##### 1. Registration within Approved Limits

- i. A student is required to register and pass all prescribed courses from any programme for which he/she is enrolled in the University. However, all cases of failed courses shall be carried over at the next available opportunity.
- ii. Students who are carrying over courses shall be required to register the failed or dropped courses first. A combination of all failed/dropped courses and current semester’s courses shall not exceed 25 units per semester.
- iii. The maximum number of units a student shall be allowed to register per semester is 25

units while the minimum is 15 units.

## 2. Excess Unit Loads

- i. To address the registration challenges being faced by students, especially those in the graduating class, the registration of six (6) extra units above the 25 maximum units per semester may be allowed provided such students' CGPAs are not below 3.0 on a scale of 5.0 scale or 2.4 on a 4.0 scale.
- ii. All applications for consideration to registering extra credit units above the approved maximum limit shall be directed to the Registrar for onward processing to the Senate Business Committee (SBC).
- iii. Any other request related to the aforementioned are directed to the office of the Vice-Chancellor.

### 4.4.6 ACADEMIC PROGRESSION OF STUDENTS

The following shall apply regarding the academic progression of students from one level to another in Covenant University:

#### 4.4.6.1 Academic Classification

The rating of a student's performance and categorization of the class of the degree shall be based on the cumulative grade point average obtained by each student in all prescribed courses and approved electives taken at Covenant University. The existing class of honors degree are as indicated below:

Table 9 – Degree Classification

| Class of Degree             | Cumulative GPA |
|-----------------------------|----------------|
| First Class                 | 4.50 – 5.00    |
| Second Class Upper Division | 3.50 – 4.49    |
| Second Class Lower Division | 2.40 – 3.49    |
| Third Class                 | 1.50 – 2.39    |

#### 4.4.6.2 Academic Standing

A student who has satisfactorily completed all requirements for the degree with an end of session Cumulative Grade Point Average (CGPA) of not less than 1.50 and less than 20 credit units of failed courses, shall be deemed to be in **Good Standing (GS)**, and thus shall be promoted to the next academic level in the same course. A student whose CGPA is **less than 1.50 or has a minimum of 20 credit units of failed courses** shall be deemed to be **Not in**

**Good Standing (NGS).** This category of students shall not be promoted to the next academic level.

#### **4.4.6.3 Probation**

Probation is a status granted to a student whose academic performance fall below an acceptable standard. A student that is Not in Good Standing (NGS) but with CGPA of 1.0 - 1.49 is deemed to be on Probation and shall be allowed to remain in the same course level in order to retake only the courses that are failed during the first attempt at that level, while already passed courses are retained. In addition, he/she will be allowed to register for any outstanding dropped courses. This provision is subject to the residency policy of the University.

However, the grade earned for a repeated course shall be recorded and used in the computation of the Grade Point Average (GPA) in the usual way. Please note that no student is allowed to be on probation twice.

#### **4.4.6.4 Withdrawal**

A student with a Cumulative Grade Point Average (CGPA) of less than 1.0 at the end of the session in his/her first attempt in a particular programme shall be asked to withdraw from that programme. Also, a student whose Cumulative Grade Point Average (CGPA) was below 1.5 at the end of a particular year of probation shall be required to withdraw from the University. However, in order to minimize waste of human resources, consideration is given to withdrawal from programme of study and possible transfer to another programme in the University bearing in mind the residency policy of the University. **In the circumstance of a change of programme of study, the student must satisfy the basic entry requirement (BRQ) for the new course.**

#### **4.4.6.5 Repeating Failed Course Units (Non-Graduating Class)**

Subject to the conditions for withdrawal and probation, a student could retake the failed course units at the next available opportunity, provided that the total number of credit units carried during that Semester shall not exceed 20, and the Grade Points earned at all attempts shall count towards the CGPA. Also, at the point of registration of courses, the failed/dropped courses MUST be registered first.

#### **4.4.6.6 Prerequisite for Progressing into the Graduating Class**

The maximum number of units a student shall be allowed to register per semester is 25 units while the minimum is 15 units. This provision is subject to the Residency policy of the University. Please note that no student that is not likely to graduate on any ground should be allowed into the final class. All outstanding issues must be resolved at the penultimate year (300L and 400L respectively for a 4-year and 5-year programme). Consequently, only students in the penultimate year with a minimum CGPA of 2.0 and pending units (failed/unregistered courses), which can be accommodated in the 25 units per semester of final year workload, shall proceed to the final year.

Students with more than 25 units of courses per semester shall remain in the penultimate class but may be allowed to register few final year courses after they have registered the failed/unregistered courses.

#### **4.4.6.7 Penultimate Class**

Students in the penultimate class would be allowed to register and take all failed and unregistered courses; if less than 25 units, they will be allowed to take courses from the final year.

#### **4.4.6.8 Probation for Lower Level**

100 level, 200 level and 300 level (for 5 years program) on probation would take only failed and unregistered courses for the semester.

#### **4.4.6.9 Transfer**

100 level students who could not make up a CGPA of 2.0 in the College of Engineering are expected to transfer to the College of Science and Technology. They would be accepted in the departments of industrial physics, industrial mathematics and industrial chemistry. Concerned students should please pick their change of course forms from the academic affairs.

#### **4.4.6.10 Release of Examination Results**

1. At the end of each semester, the Registrar shall publish a provisional list of successful students in course examinations soon after the recommendations of the College Boards to the Senate Business Committee have been considered and approved by Senate.
2. The Registrar shall publish the final year results of students for the award of degrees after Senate approval.

#### **4.4.6.11 Special Graduation Requirement**

For any student to be adjudged qualified to be certificated by Covenant University as her graduate, he/she is expected to have successfully gone through the **Towards a Total Graduate (TTG)** Course which is specially designed as a consolidated approach towards raising a new generation of leaders equipped in their total personality to positively influence their community and restore hope to the citizens of their nations and to mankind in general.

This course shall partly examine and provide teachings and counsel on the character status for Covenant University Students. There shall be a lecture component for this programme as well as appropriate examinations/tests to validate levels of comprehension in the course and the character disposition of the intending graduate. Attendance at all lectures and examinations/test is compulsory for graduating students. Students who fail the TTG programme shall not be deemed to have graduated until the failure is remedied.

#### **4.4.6.12 Award of Covenant University Degree**

Covenant University has the right to refuse the award of its Degree to any student who has exhibited gross acts of misbehaviour in the University. The award of the University's Degree is subject to both good academic and behavioural performance of the student throughout his/her studentship. A graduate of Covenant University must, therefore, be found worthy in character and learning.

#### **4.4.6.13 Regulations on Students' Examinations**

This presents the regulations governing all examinations at the University. This is to avoid those pitfalls that have tended to erode the public's confidence in University Degrees. Students are admonished to study well, attend lectures and cultivate the habit of personal reading and studying. All students should observe the regulations, as ignorance of them shall not be entertained.



**Covenant University Students during an Examination**

#### **4.4.6.14 Admission to Examinations**

Only students who have been duly admitted, registered and matriculated with signed Student Code of Honour and payment of the required fees will be allowed to take examinations, subject to the clauses below:

All such students must have a minimum of 75% attendance in the courses selected, before being allowed to take their examinations. Each lecturer keeps and uploads to the portal the class attendance register for courses taught. Any student that fails to meet the 75% attendance in any course would be deemed to have failed the course. The determination of the 75% eligibility requirements is also affected by student's compliance with attendance at other mandatory events, such as Chapel services, public and inaugural lectures, hostel roll-call etc.

Students who are serving any disciplinary action will not be allowed to retake any examination already written during the course of serving such penalties, except as decided at the discretion of University Management. Such examinations will be carried over to the next academic session by such students.

#### **4.4.6.15 Use of Assigned Seats by Students**

The invigilators shall assign seats to candidates. A candidate shall neither choose a seat for himself/herself nor refuse a seat assigned to him/her by the Invigilator.

#### **4.4.6.16 Dress Code during Examinations**

Students must comply with the dress code regulations during examinations, including the hanging of their current identity cards.

#### **4.4.6.17 Punctuality during Examinations**

Students are expected to report at the Examination Hall at least 30 minutes before the commencement of the examination. Students who report late to the examination hall may be admitted at the discretion of the Chief Invigilator, but no student shall be admitted 30 minutes after the commencement of the examination.

#### **4.4.6.18 Visiting the Conveniences during Examinations**

No student is allowed to leave the examination hall with the intention of returning, except to visit the conveniences. An appropriate examination attendant will accompany such a student.

#### **4.4.6.19 Unauthorised Communication during Examination**

Students must maintain utmost silence during examinations. No student is allowed to communicate with any other student during examinations. Students who need clarification are advised to raise their hands to draw the attention of the Invigilator.

#### **4.4.6.20 Personal Requirements**

Students are expected to go into examination halls with their biros, erasers, rulers, pencils and any other materials that are permitted. No borrowing of any material is allowed during examinations. Students are not allowed to bring any papers, books or bags into the examination hall. However, where a particular course requires the use of tables, graphs, etc., the University shall supply these during examinations. Also, scientific calculators, organisers, etc., are not allowed during examinations unless specifically permitted by course lecturers. Students are advised to search themselves before entering the examination halls.

#### **4.4.6.21 Use of Wrong Matriculation Number**

It is unlawful to sign in a wrong matriculation number; hence it is important for students to memories their matriculation numbers.

#### **4.4.6.22 Filling of Examination Answer Booklets**

Students are advised to ensure that the necessary documentation and instructions are followed before submitting their answer scripts to the Invigilator.



#### **4.4.6.23 Possession of Used or Unused Scripts**

Students are not allowed to take away any used or unused scripts from the examination hall as it constitutes a gross violation of Examination conduct. Such student will be made to face Students Disciplinary Committee (SDC). This is viewed as unauthorized access to Examination material.

#### **4.4.6.24 Submission of Examination Scripts**

No Student is allowed to leave the examination hall without handing over the examination script to the Invigilator. On handing over the script, the student must ensure that he/she signs out on the attendance register. However, students are not permitted to leave the examination hall without the permission of the Invigilator, who may wish to reconcile the number of scripts with the number of students present in the hall.

### **4.5 REGULATIONS ON STUDENTS' CONDUCT**

A high standard of personal discipline and integrity is expected of every student. Covenant University regards all acts of unethical, immoral, dishonest or destructive behavior as well as violations of University regulations, as serious offences. It is the responsibility of each student to know these regulations.

#### **4.5.1 UNIVERSITY'S MANDATORY ATTENDANCE POLICY**

Covenant University has an accountability system in place to ensure that her students are accounted for at all times. This system was designed to enable the effective discharge of our in loco parentis obligations, and the University's attendance policies are sacrosanct for accountability sake.

These policies are all intertwined as default in one affects the other, and they cover attendance of the following:

- a. Lectures
- b. University General assemblies, which includes chapel services and other mandatory prayer meetings, welcome assembly, departure assembly, public and inaugural lectures, Founder's Day events etc.
- c. Daily roll call at the halls of residence

Consequently, defaults in any of these events jeopardize the University's ability to fulfill her leadership development objectives and therefore attracts punitive implications to the defaulters.

The University has invested in biometrics and other identity capturing mechanisms to ensure the authenticity and effectiveness of attendance data capturing and processing, and all students have been educated on the enrollment protocols and operational modalities.

However, provisions have been made to cater for condonable circumstances in which it is impossible to comply with the attendance policies. Students should familiarize themselves with the guidelines for seeking excuse permits for the approved condonable reasons.

The University Management will communicate the compliance updates of students to their parents and guardian on a weekly basis through emails and SMS, via registered parental email addresses and phone numbers. This is to ensure that parents are abreast of their conducts while on campus and to follow up as necessary.

#### **4.5.2 RESIDENCY CONDUCTS**



#### **Halls of Residence**

The residence life of students is a communal life where a student's moral character and conduct can be molded. The residency policy is to enhance peaceful coexistence amongst the students and facilitate good administration in the Halls of Residence.

#### **Resumption and Closure**

Students are expected to resume and vacate the campus as publicized by the University Management. Any student who refuses to resume on the set date of resumption, except for cases of ill health and other mitigating circumstances, which must have been duly reported to the Dean, Student Affairs prior to resumption, shall be liable for violating the Responsibility Core Value.

#### **Eligibility for Accommodation**

No student shall be granted accommodation unless he or she has completed the residency agreement forms, paid all required fees and been properly registered as a student of the University. It is The Dean, Student Affairs or his representative who assigns accommodation to students.

### **4.5.3 EXEAT**

Exeats are given to students as necessary. There are three types of exeat: Canaan land Exeat, Day Exeat and Home Exeat. Canaan land Exeats are given to students by their Hall Officers on request while the day and home exeats are given on application to the Dean, Student Affairs through the Hall Officers. Applications for day and home exeats are only granted by the Dean or his/her representative, subject to parental confirmation. No student is allowed to be absent from the Hall of Residence without exeat.

### **4.5.4 DRESS CODE**

The University attaches great importance to modest and decent dressing. Dressing adds value to a person's personality, self-confidence and self-worth. Indeed, "the way you dress is the way you are addressed." Dress code is one of the unique aspects of Covenant University's culture that students must imbibe to make their academic pursuits pleasurable. The dress code regulations subsist during the academic period, 8.00 am - 6.00 pm.

#### **4.5.4.1 Dress Code for Female Students**

1. Female students must be corporately dressed during normal lectures, public lectures, special ceremonies, Matriculation, Founder's Day, Convocation and examinations. To be corporately dressed connotes a smart skirt suit, skirt and blouse, or a smart dress with a pair of covered shoes. Casual wear is not allowed during University assemblies.
2. All dress and skirt hems must be at least 5 -10 cm (2-4 inches) below the knees.
3. Female students may wear decent "native" attire or foreign wear outside lecture and examination halls.
4. The wearing of sleeveless native attires or baby sleeves and spaghetti straps without a jacket is strictly prohibited in the lecture rooms and in the University environment.
5. Any shirt worn with a waistcoat or armless sweater should be properly tucked into the skirt or lose trousers. It should never be left flying under the waistcoat/armless sweater
6. The waistcoat /armless sweater must rest on the hip. "Bust coats", terminating just below the bust line are not allowed. However, shirts with frills are allowed.
7. Jersey material tops are not allowed for normal lectures and other University assemblies.
8. Skirts could be straight, flared or pleated. Pencil skirts and skirts with uneven edges are not allowed. Lacy skirts are better worn to church. None should be tight or body-hugging.
9. The wearing of dropping shawls or scarves over dresses or dresses with very tiny singlet-like straps (spaghetti strap) is strictly prohibited in the Chapel services, lecture and examination halls and in the University environment.
10. The wearing of strapless blouses or short blouses that do not cover the hip line is strictly prohibited in the lecture and examination halls and in the University environment.

#### **4.5.4.2 Dress Code for Male Students**

Male students are expected to dress corporately to the lecture halls, examination halls and University assemblies. To be corporately dressed connotes wearing a shirt and necktie, a pair of trousers, with or without a jacket, and a pair of covered shoes with socks. The tie knot must be pulled up to the top button of the dress shirt.

1. For national days such as Independence Day, the national dressing code may be observed. Any shirt with indecent inscriptions or any sign with hidden meaning is strictly outlawed.
2. Bandless trousers must never be worn without suspenders. Singlets and shorts above the knee are not allowed.
3. No male student is allowed to wear jumpy trousers i.e. trousers above the ankle in the University.
4. Folding, holding and pocketing of one's tie along the road, lecture halls, University assemblies, etc., is strictly prohibited in the University.
5. Wearing a tie with canvas is not allowed in the University environment. Jerry curls and treated hair are strictly prohibited.
6. Male students may wear "native" or traditional attire outside lecture hours and examination halls, especially during the weekend.
7. No male student is allowed to wear scarves, braided hair, earrings and ankle chains in the University.
8. Wearing of long-sleeved shirts, without buttoning the sleeves is not allowed.
9. Shirt collars should not be left flying while collarless shirts are not allowed.
10. Shirts must be properly tucked into the trousers.

#### **4.5.5 EXAMINATION MISCONDUCT**

Students are admonished not to be involved in any form of examination misconduct as cheating of any kind during examinations is strictly prohibited. Any action by a student, which prejudices the integrity and sanctity of the University examinations, shall be considered to be examination misconduct, punishable by appropriate disciplinary action.

This section summarizes what constitutes examination misconduct. Examination misconduct not covered in this section shall be appropriately addressed by the Student Disciplinary Committee.

##### **Impersonation**

Entering into an agreement with another student or any other person to undertake examination, test, laboratory work or other assignments on behalf of a student.

##### **Unorthodox Means**

Obtaining by any improper means examination papers and using such materials or distributing to other students.

**Falsification of Academic Records for Admission**

Falsifying academic records or submitting false credentials and documents for purposes of gaining admission into the University or for any other academic purpose.

**False Medical Certificate**

Submission of a false medical certificate, or obtaining such a certificate under false pretenses for examinations or any other academic purpose.

**Re-submission of Used Materials**

Submitting an essay, report or assignment to satisfy some, or all of the requirements of a course, when that essay, report or assignment has been previously submitted or is concurrently being submitted for another course whether in this University or any other institution.

**Writing on Unauthorized Materials**

Writing on any unauthorized paper or material(s) during an examination.

**Unauthorized Change of Seating Position**

Changing the assigned seating position in the examination hall without the permission of the Invigilator.

**Possession of Unauthorized Written Materials**

Possession of written or photocopies of relevant notes or notes written on any part of the body, clothing, instruments such as set square, slide rules, rulers, calculator, etc., or having notes written on chairs, tables, desks, neckties or drawing boards during examinations.

**Copying from Unauthorized Materials**

Copying from any book or note on to any part of clothing, body, table, desk or instruments like set square, slide rule, protractors, calculators etc.

**Consulting Recommended Books or Lecture Notes**

Consulting lecture notes or recommended textbooks in any format including digital or electronic during examinations.

**Passing Unauthorized Materials to Others**

Passing any unauthorized material to another student during examinations.

**Receiving Unauthorized Help from Others during Examinations**

Receiving or giving help to another student.

**Destruction of Unauthorised Materials**

Destruction of any unauthorized note or paper found on a student during an examination or refusal to hand over the same.

**Disobeying Examination Instructions**

Disobeying instructions from examination officials. This includes writing before the start of examination or after the call for students to stop writing in an examination.

**Refusal to Complete Misconduct Form**

Refusal to complete examination misconduct form.

**Smuggling of Answer Scripts**

Smuggling in or out of the examination hall, any answer script or continuation sheet or any question paper not meant to be taken out of the examination hall.

**Attacking Invigilator(s) or Lecturer(s)**

Attacking an invigilator or any examination official in or out of the examination hall or exhibiting an unruly behavior towards the Invigilator or Examination Official.

**Failure to Return Examination Booklets**

Failure to return examination booklets after examinations constitutes examination misconduct.

**4.5.6 GENERAL****University General Assemblies**

University General Assemblies include the following:

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- a. Sunday Worship Services.
- b. Chapel Services.
- c. Founders Day Events, Public/Inaugural Lectures.
- d. Welcome and Departure Assemblies.
- e. Other Special Academic or Spiritual Programmes organized by the University Authority.

These assemblies are mandatory for all students of the University. No student is allowed to remain in the room whenever there is a University General Assembly. Students are expected to be seated at least fifteen (15) minutes before the commencement of any General Assembly. The University does not condone any act of lateness. Students must ensure that they sign attendance, in and out, during any such assemblies.

**4.5.7 COUNSELLING SUPPORT**

Any student who experiences any emotional or social discomfort should feel free to speak with the Chaplain, the Director of the Counselling Centre, Dean, Student Affairs, Hall Mentors, Hall Officers, or any other officer designated to provide spiritual and emotional counselling to students. Every student is expected to relate well with other students and other members of the University Community.

Covenant University shall perform its role as 'in-loco-parentis' to students and shall assist students to develop spiritually, academically, emotionally, socially and physically during their studentship in the University. The Student Support Programme (SSP) also provides a rich anchor in this respect.

#### **4.5.8 CULTURAL ETHICS**

An important aspect of our culture is respect for elders. All Covenant University students are to give due respect and honor to their elders, faculty and staff of the University.

#### **4.6 ACADEMIC STRUCTURE**

##### **4.6.1 Course Structure**

The courses offered by Electrical & Electronics Engineering students in their five years of study, that is 100 level to 500 level, is presented in Tables 10a – 10e, respectively.

Table 10a: 100 Level Engineering Courses by Semesters

|                    | ALPHA SEMESTER |   |           |           |               | OMEGA SEMESTER |  |           |           |               |             |
|--------------------|----------------|---|-----------|-----------|---------------|----------------|--|-----------|-----------|---------------|-------------|
|                    | Course Code    | Course Title                                | Status    | Units     | Pre-Requisite | Course Code    | Course Title                                 | Status    | Units     | Pre-Requisite | Total Units |
| Core Courses       | MAT111         | Algebra                                     | C         | 3         | -             | MAT121         | Calculus                                     | C         | 3         | -             | 35          |
|                    | MAT112         | Trigonometry and Geometry                   | C         | 3         | -             | MAT122         | Vector Algebra                               | C         | 3         | -             |             |
|                    | PHY111         | Mechanics and Properties of Matter          | C         | 3         | -             | PHY121         | Electricity and Magnetism                    | C         | 2         | -             |             |
|                    | PHY112         | Heat, Sound and Optics                      | C         | 3         | -             | PHY122         | Atomic and Nuclear Physics                   | C         | 2         | -             |             |
|                    | PHY119         | Physics Practical I                         | C         | 1         | -             | PHY129         | Physics Practical II                         | C         | 1         | -             |             |
|                    | GEC117         | Technical Drawing                           | C         | 1         | -             | CHM123         | General Organic Chemistry                    | C         | 3         | -             |             |
|                    | CHM111         | General Physical Chemistry                  | C         | 3         | -             | CHM122         | General Inorganic Chemistry                  | C         | 2         | -             |             |
|                    | CHM119         | General Chemistry Practical I               | C         | 1         | -             | CHM129         | General Chemistry Practical II               | C         | 1         | -             |             |
|                    |                | <b>Sub-Total</b>                            |           | <b>18</b> |               |                | <b>Sub-Total</b>                             |           | <b>17</b> |               |             |
| University Courses | EDS111         | Entrepreneurial Development Studies I       | C         | 1         | -             | EDS121         | Entrepreneurial Development Studies II       | C         | 1         | EDS111        | 4           |
|                    | TMC111         | Total Man Concept I                         | C         | 1         | -             | TMC121         | Total Man Concept II                         | C         | 1         | TMC111        |             |
|                    | TMC112         | Total Man Concept - Sports I                | C         | 0         | -             | TMC122         | Total Man Concept - Sports II                | C         | 0         | TMC112        |             |
|                    |                | <b>Sub-Total</b>                            |           | <b>2</b>  |               |                | <b>Sub-Total</b>                             |           | <b>2</b>  |               |             |
| General Courses    | CST111         | Computer Applications and Library Studies I | C         | 2         | -             | CST121         | Computer Applications and Library Studies II | C         | 2         | CST111        | 10          |
|                    | GST111         | Communication in English I                  | C         | 2         | -             | GST121         | Communication in English II                  | C         | 2         | GST111        |             |
|                    |                |   |           |           |               | GST122         | Communication in French                      | C         | 2         | -             |             |
|                    |                | <b>Sub-Total</b>                            |           | <b>4</b>  |               |                | <b>Sub-Total</b>                             |           | <b>6</b>  |               |             |
|                    | <b>TOTAL</b>   |   | <b>24</b> |           |               | <b>TOTAL</b>   |  | <b>25</b> |           | <b>49</b>     |             |



Table 10b: 200 Level Engineering Courses by Semesters

|                    |              | ALPHA SEMESTER                           |        |           |               | OMEGA SEMESTER |  |        |           |               |             |
|--------------------|--------------|--|--------|-----------|---------------|----------------|--|--------|-----------|---------------|-------------|
|                    | Course Code  | Course Title                             | Status | Units     | Pre-Requisite | Course Code    | Course Title   | Status | Units     | Pre-Requisite | Total Units |
| Core Courses       | GEC210       | Engineering Mathematics I                | C      | 3         | MAT112        | GEC220         | Engineering Mathematics II   | C      | 3         | MAT122        | 38          |
|                    | GEC211       | Fundamentals of Electrical Engineering I | C      | 2         | -             | GEC221         | Thermodynamics   | C      | 3         | -             |             |
|                    | GEC212       | Engineering Graphics                     | C      | 2         | GEC117        | GEC222         | Computer Aided Design & Manufacture                                | C      | 2         | -             |             |
|                    | GEC213       | Material Science and Engineering         | C      | 2         | -             | GEC223         | Fluid Mechanics  | C      | 3         | -             |             |
|                    | GEC214       | Applied Mechanics                        | C      | 3         | -             | GEC224         | Strength of Materials  | C      | 3         | -             |             |
|                    | GEC215       | Applied Computer Programming I           | C      | 2         | CST121        | GEC225         | Applied Computer Programming II                                    | C      | 1         | GEC215        |             |
|                    | GEC216       | General Engineering Laboratory I         | C      | 1         | -             | GEC226         | General Engineering Laboratory II                                  | C      | 1         | GEC216        |             |
|                    | GEC217       | Engineer-In- Society                     | C      | 2         | -             | GEC228         | Fundamentals of Electrical Engineering II                          | C      | 2         | GEC211        |             |
|                    | GEC218       | Workshop Technology                      | C      | 2         | -             | GEC229         | Student Workshop Experience Program (SWEP)<br>*see 400 level Omega | R      | -         | -             |             |
|                    | GEC219       | Applied Mechanics Practical              | C      | 1         | -             |                |  |        |           |               |             |
|                    |              | <b>Sub-Total</b>                         |        |           | <b>20</b>     |                | <b>Sub-Total</b>   |        |           | <b>18</b>     |             |
| University Courses | EDS211       | Entrepreneurial Development Studies III  | C      | 1         | EDS121        | EDS221         | Entrepreneurial Development Studies IV                             | C      | 1         | EDS211        | 4           |
|                    | TMC211       | Total Man Concept III                    | C      | 1         | TMC121        | TMC221         | Total Man Concept IV   | C      | 1         | TMC211        |             |
|                    | TMC212       | Total Man Concept – Sports III           | C      | 0         | TMC122        | TMC222         | Total Man Concept– Sports IV                                       | C      | 0         | TMC212        |             |
|                    |              | <b>Sub-Total</b>                         |        |           | <b>2</b>      |                | <b>Sub-Total</b>   |        |           | <b>2</b>      |             |
| General Courses    | GST211       | Logic, Philosophy and Human Existence    | C      | 2         | GST121        | GST221         | Nigerian People and Culture  | C      | 2         | GST211        | 6           |
|                    |              |  |        |           |               | GST222         | Peace Studies and Conflict Resolution                              | C      | 2         | GST211        |             |
|                    |              |  |        | 2         |               |                |  |        | 4         |               |             |
|                    | <b>TOTAL</b> |  |        | <b>24</b> |               | <b>TOTAL</b>   |  |        | <b>24</b> | <b>48</b>     |             |

**\*NOTE:** GEC229 (SWEP – done during the long vacation is registered as 6 Units in 400 Omega Semester and used in CGPA computation

Table 10c: 300 Level Information and Communication Engineering Courses by Semesters

|                    |              | ALPHA SEMESTER                        |           |           |               | OMEGA SEMESTER |  |           |           |               |             |
|--------------------|--------------|---------------------------------------|-----------|-----------|---------------|----------------|--|-----------|-----------|---------------|-------------|
| Core Courses       | Course Code  | Course Title                          | Status    | Units     | Pre-Requisite | Course Code    | Course Title                           | Status    | Units     | Pre-Requisite | Total Units |
|                    | GEC310       | Engineering Mathematics III           | C         | 3         | GEC210        | GEC320         | Numerical Methods                      | C         | 3         | GEC310        |             |
|                    | EIE311       | Electromagnetic Fields & Waves        | C         | 3         | MAT121        | GEC324         | Technical/Engineering Communication    | C         | 2         | -             |             |
|                    | EIE312       | Communication Principles              | C         | 3         | GEC228        | GEC321         | Engineering Economics                  | C         | 3         | -             |             |
|                    | EIE313       | Physical Electronics                  | C         | 2         | GEC228        | GEC329         | **SIWES2 (see400level Omega)           | R         | -         | GEC229        |             |
|                    | EIE314       | Electric Circuit Theory I             | C         | 3         | GEC228        | EIE321         | Electric Power Principles              | C         | 2         | EIE315        |             |
|                    | EIE315       | Electrical Machines                   | C         | 2         | GEC228        | EIE323         | Analogue Electronics                   | C         | 3         | -             |             |
|                    | EIE318       | Laboratory Practical I                | C         | 2         | -             | EIE326         | Software Development Techniques        | C         | 3         | GEC225        |             |
|                    | EIE317       | Electric Machine Practical            | C         | 1         | -             | EIE327         | Digital Electronics                    | C         | 3         | -             |             |
|                    |              |                                       |           |           |               | EIE328         | Laboratory Practical II                | C         | 2         | EIE318        |             |
|                    |              |                                       |           |           |               | EIE329         | Cyberpreneurship and Cyberlaw          | C         | -         |               |             |
|                    |              |                                       |           |           |               | EIE322         | Signals and Systems                    | C         | 2         |               |             |
|                    |              | <b>Sub-Total</b>                      |           | <b>19</b> |               |                | <b>Sub-Total</b>                       |           | <b>23</b> |               | <b>42</b>   |
| University Courses | EDS311       | Entrepreneurial Development Studies V | C         | 1         | EDS221        | EDS321         | Entrepreneurial Development Studies VI | C         | 1         | EDS311        |             |
|                    | TMC311       | Total Man Concept V                   | C         | 1         | TMC221        | TMC321         | Total Man Concept VI                   | C         | 1         | TMC311        |             |
|                    | TMC312       | Total Man Concept – Sports V          | C         | 0         | TMC222        | TMC322         | Total Man Concept – Sports VI          | C         | 0         | TMC312        |             |
|                    | GST311       | History and Philosophy Science        | C         | 2         | -             |                |  |           |           |               |             |
|                    |              | <b>Sub-Total</b>                      |           | <b>4</b>  |               |                | <b>Sub-Total</b>                       |           | <b>2</b>  |               | <b>6</b>    |
|                    | <b>TOTAL</b> |                                       | <b>23</b> |           |               | <b>TOTAL</b>   |  | <b>25</b> |           | <b>48</b>     |             |

**\*\*GEC329 (SIWES2)–done during the long vacation and is registered as 6 Units in 400 Omega Semester and used in CGPA computation**

Table 10d: 400 Level Information and Communication Engineering Courses by Semesters

| ALPHA SEMESTER     |  |   |           |               | OMEGA SEMESTER |                  |        |           |               |             |
|--------------------|--|---|-----------|---------------|----------------|------------------|--------|-----------|---------------|-------------|
| Course Code        | Course Title   | Status                                  | Units     | Pre-Requisite | Course Code    | Course Title     | Status | Units     | Pre-Requisite | Total Units |
| GEC410             | Engineering Statistics                                 | C                                       | 3         | -             |                |                  |        |           |               |             |
| EIE412             | Control Engineering and Linear Systems                 | C                                       | 3         | -             |                |                  |        |           |               |             |
| ICE413             | Communication Laboratory Practical & Mini Project      | C                                       | 2         | -             |                |                  |        |           |               |             |
| ICE415             | Antenna & Propagation                                  | C                                       | 2         | EIE311        |                |                  |        |           |               |             |
| EIE411             | Computer Organization and Architecture                 | C                                       | 3         | -             | GEC427         | SWEP             | C      | 6         |               |             |
| ICE438             | Internet Technology and Programming                    | C                                       | 3         | EIE326        | GEC428         | SIWES I          | C      | 6         |               |             |
| EIE418             | Data Communication & Computer Networks                 | C                                       | 3         | -             | GEC429         | SIWES II (IT)    | C      | 6         |               |             |
| ICE417             | Operations Research                                    | C                                       | 2         |               |                |                  |        |           |               |             |
| EIE316             | Measurements and Instrumentation                       | C                                       | 3         |               |                |                  |        |           |               |             |
| EIE414             | Design and Installation of Electrical and ICT Services | C                                       | 2         |               |                |                  |        |           |               |             |
|                    | <b>Sub-Total</b>                                       |   | <b>26</b> |               |                | <b>Sub-Total</b> |        | <b>18</b> |               | <b>44</b>   |
| University Courses | EDS411   | Entrepreneurial Development Studies VII | C         | 1             | EDS321         |                  |        |           |               |             |
|                    | TMC411   | Total Man Concept VII                   | C         | 1             | TMC321         |                  |        |           |               |             |
|                    | TMC412   | Total Man Concept – Sports VII          | C         | 0             | TMC322         |                  |        |           |               |             |
|                    |  | <b>Sub-Total</b>                        |           | <b>2</b>      |                |                  |        |           |               | <b>2</b>    |
|                    | <b>TOTAL</b>   |   | <b>28</b> |               |                | <b>TOTAL</b>     |        | <b>18</b> |               | <b>46</b>   |

Table 10e: 500 Level Information and Communication Engineering Courses by Semesters

|                    |  | ALPHA SEMESTER                                  |        |           |               | OMEGA SEMESTER |   |        |           |               |             |
|--------------------|--|---|--------|-----------|---------------|----------------|---|--------|-----------|---------------|-------------|
| Core Courses       | Course Code                              | Course Title                                    | Status | Units     | Pre-Requisite | Course Code    | Course Title                            | Status | Units     | Pre-Requisite | Total Units |
|                    | GEC517                                   | Engineering Law                                 | C      | 2         | -             | GEC527         | Engineering Management                  | C      | 3         | -             |             |
|                    | EIE512                                   | Reliability and Maintainability                 | C      | 2         | -             | ICE524         | Microwave Engineering                   | C      | 2         | ICE415        |             |
|                    | EIE510                                   | Research Methodology                            | C      | 1         | -             | EIE526         | Digital Image Processing                | C      | 2         | EIE515        |             |
|                    | ICE517                                   | Digital Signal Processing                       | C      | 2         | EIE322        | ICE526         | Mobile and Satellite Communication      | C      | 3         | ICE514        |             |
|                    | ICE516                                   | Artificial Intelligence and Applications        | C      | 3         | -             | ICE527         | Optical Communication System            | C      | 2         | EIE514        |             |
|                    | ICE518                                   | Computational Mathematics & Queuing Theory      | C      | 3         | GEC320        | EIE529         | Final Year Project                      | C      | 6         |               |             |
|                    | ICE513                                   | Information Theory & Coding                     | C      | 3         | GEC320        |                |   |        |           |               |             |
|                    | ICE514                                   | Telecommunication Engineering & System Planning | C      | 3         | EIE312        |                |   |        |           |               |             |
|                    | ICE515                                   | Communication Engineering Practical             | C      | 3         |               |                |   |        |           |               |             |
|                    |  | <b>Sub-Total</b>                                |        | <b>22</b> |               |                | <b>Sub-Total</b>                        |        | <b>18</b> |               | <b>40</b>   |
|                    | <b>Select 4 units from the electives</b> |   |        |           |               |                |   |        |           |               |             |
| Electives          |  |   |        |           |               | ICE528         | Computer Graphics and Animations        | E      | 2         | EIE326        |             |
|                    |  |   |        |           |               | ICE529         | Computer hardware system Design         | E      | 2         | EIE411        |             |
|                    |  |   |        |           |               | ICE540         | Power Electronics and Design            | E      | 2         | -             |             |
|                    |  |   |        |           |               | EIE521         | Electromagnetic Interference (EMI)      | E      | 2         | EIE311        |             |
|                    |  |   |        |           |               | EIE524         | Cryptography Principle and Applications | E      | 2         | EIE416        |             |
|                    |  |   |        |           |               |                | <b>Sub-Total</b>                        |        | <b>4</b>  |               | <b>4</b>    |
| University Courses | EDS511                                   | Cost Engineering                                | C      | 2         | -             | EDS521         | Engineering Valuation/Appraisal         | C      | 2         | -             |             |
|                    | TMC511                                   | Total Man Concept IX                            | C      | 1         | TMC411        | TMC521         | Total Man Concept X                     | C      | 1         | TMC511        |             |
|                    | TMC512                                   | Total Man Concept– Sports IX                    | C      | 0         | TMC412        | TMC522         | Total Man Concept – Sports X            | C      | 0         | TMC512        |             |
|                    |  | <b>Sub-Total</b>                                |        | <b>3</b>  |               |                | <b>Sub-Total</b>                        |        | <b>3</b>  |               | <b>6</b>    |
|                    |  | <b>TOTAL</b>                                    |        | <b>25</b> |               |                | <b>TOTAL</b>                            |        | <b>25</b> |               | <b>50</b>   |

## 4.6.2 Course Description

### Detailed Course Description – Alpha Semester 100 Level

#### **MAT111: Algebra**

**(3 Units: L 30, T15, P0)**

Algebra of set theory: Definition of concepts, laws of algebra of sets, Venn diagram and application. Real Numbers: Rational numbers, theory of surds, sequences and series (including AGP), binomial theorem, theory of quadratic, cubic and quartic equations, indices and logarithms, mathematical induction, partial fractions, theory of equations, inequalities and polynomials (including factor and remainder theorems). Complex Numbers: Algebra of complex numbers, Argand diagram, multiplication and division of numbers in polar form,  $n$ th root of unity, and DeMoivre's theorem, expansion of  $\sin n\theta$ ,  $\cos n\theta$ ,  $\tan n\theta$ .

#### **MAT112: Trigonometry and Geometry**

**(3 Units: L 30, T15, P 0)**

Trigonometry and analytic geometry in (2-D & 3-D): Elements of trigonometry, circular measure, elementary treatment of circles, coordinate geometry: straight lines in (2B-D); plans. Functions and relations: permutation and algebra of functions, Binary operations, Permutations and combinations, elementary treatment of logic.

#### **PHY111: Mechanics and Properties of Matter**

**(3 Units: L 30, T15, P 0)**

Units and dimensions, scalars and vectors, particle kinematics, Newton's laws, friction, work, energy, centre of mass, simple harmonic motion, rigid body dynamics, kepler's laws, pressure in fluids, intermolecular forces, Hooke's law, Young's modulus, fluid flow streamline turbulence, stroke's law, surface tension.

#### **PHY112: Heat, Sound and Optics**

**(3 Units: L 30, T15, P 0)**

Temperature, thermometers, heat transfer, PVT – surfaces, Kinetic theory, first and second laws of thermodynamic, transverse and longitudinal waves, standing waves, intensity, beats. Doppler Effect, Electromagnetic spectrum. Huygen's principle, images formed by a single surface thin lens, aberrations, the eye, optical instruments, interface, single slit, diffraction grating, polarization, Malus' law.

#### **PHY119: Physics Practical I**

**(1 Unit:L 0, T 0, P45)**

A selection from the following experiments uses of measuring instruments, viscosity, surface tension oscillations about an equilibrium position, Hooke's law, moment of inertia, focal lengths of lenses, refractive index, optical instruments, the sonometer heat capacity, volume expansion and latent heat.

#### **GEC117: Technical Drawing**

**(1 Unit:L 0, T 0, P45)**

Introduction to engineering drawing as a means of communication, use of drawing instruments, drawing paper format, types of lines and their uses in engineering drawing, plane geometry, circles and tangents, conic sections, Loci (cycloid, epicycloids, hypocycloid, involute, Archimedean spiral, Eclipse, hyperbola, parabola, including approximate method), theory of projection, parallel projection, orthographic projection, axonometric projection, perspective projection multiview representation, 1st and 3rd angle projection, isometric drawings, oblique drawings, Freehand sketching.

#### **CHM111: General Physical Chemistry**

**(3 Units: L 30, T15, P 0)**

Historical development of the atom: atoms, Dalton's atomic theory, atomic masses. Fundamental particles of the atom atomic structure. Modern electronic theory of atoms. Periodicity of the elements. Stoichiometry mole concept, chemical formulas, equations and calculations. State of matter; gas, liquid and solid. Chemical energetics and thermo chemistry. Chemical kinetics, equilibria and electrochemistry.

**CHM119: General Chemistry Practical I****(1 Unit: L 0, T 0, P45)**

Quantitative inorganic and organic analysis for elements in Groups I, II, IIIA, IIIB, IV. Chemical analysis for functional groups: acidic, ketonic carboxylic, etc.

**EDS111: Entrepreneurial Development Studies I****(1 Unit: L 15, T 0, P0)**

Approach: Resource persons will be drawn from the academics and industries as a way of bridging the gap between town and gown. Students are exposed to actual industrial environment.

Objective: - This is a foundation course that is aimed at imparting entrepreneurial orientation and skill to the students.

Topics covered include the following: Some basic concepts and definitions of Entrepreneurship. Entrepreneurial equation, historical background of Entrepreneurship. Definition of Entrepreneurship and Entrepreneur. Characteristics of Entrepreneurship. Qualities of successful entrepreneur, Entrepreneurship and Economic growth, Environment of Entrepreneur Development, What entrepreneurship involves, Elements of Entrepreneurship, Components of entrepreneurial ventures, Fundamental changes that stimulate entrepreneurship, The Entrepreneurial process, Benefits of being an Entrepreneur, Contributions of memorable early Entrepreneurs, Time Management. Students are also expected to submit a term paper on Entrepreneurship from some selected areas of SMEs (Small and Medium Scale Enterprise) operations.

**TMC111: Total Man Concept I****(1 Unit: L15 T 0, P 0)**

This course provides explanatory constructs for TMC as a course of study in understanding life and development of a total man. It provides a basic introduction to the fundamental aspects of the Total Man Concept, exploring life from the biblical, philosophical and experiential perspectives. It also sets out to explore the purpose and pursuit of life with a view to identifying the foundational anchors of life, the place of visions, dreams, goals and the foundational principles for making the most of life.

**TMC112: Total Man Concept – Sports I****(0 Unit: L 0, T 0, P 0)**

Jogging: This helps in many ways, our focus here on the benefit of jogging is for physical fitness that reduces risk of Osteoporosis. Osteoporosis is the condition when the bones become increasingly porous and brittle. It can result to bone fractures and deformities.

Aerobics exercise: This is said to be any activity that can get the heart rate going and keeps it at a sustained rate over a period of time e.g., twenty minutes. An aerobic activity helps to increase cardiorespiratory fitness, which is one of the fine essential components of physical fitness.

Being aerobically fit you can feel it as you go about.

Swimming (safety measures): the importance of swimming lessons for water safety cannot be overstated. Everyone and especially young people should be able to swim. Swimming has a lot of benefits, which include health benefit, psychological benefit, most importantly safety benefit which involved discipline that is adhering to the rules governing swimming and learning of basic skills

**GST111: Communication in English 1****(2 Units: L 30, T 0, P 0)**

At the end of the course, students should be able to: Organise their study time, Listen to lectures and effectively manage lecture notes, Develop effective reading habits and increased reading speed, Apply effective methods of summarizing reading materials, & Develop a wide range of vocabulary for a successful academic career..

**CST111: Computer Applications and Library Studies I****(2 Units: L 15, T 0, P 30)**

Identification of PC parts and peripheral devices: functions, applications, and how to use them. Safety precautions. Procedure for booting a PC. Filing system: directory, sub-directory, file, path, and how to locate them. Word processing: principle of operation, application, demonstration and practical hands-on exercises in word processing using a popular word processing package. Internet: services available, principle of operation, application, demonstration and hand-on practical exercises on e-mail and www using popular packages.

## Detailed Course Description – Omega Semester 100 Level

### **MAT121: Calculus**

**(3 Units: L30, T15, P0)**

Functions of Real Variables: Graph, Limits and Concepts of Continuity. Techniques of Differentiation of Algebraic and Trigonometric Functions, Higher Order Derivatives, Maxima and Minimal, Leibnitz Rule, Application of Differentiation. Integration as Inverse of Differentiation, Methods of Integration, Definite Integra. Application to Areas, Volumes, Moment of Inertial. Approximate Integration: Trapezoidal and Simpson's Rule. Taylor's and Mclaurin's Theorems, partial Differentiation and Implicit Differentiation.

### **MAT122: Vector Algebra**

**(3 Units: L 30, T15, P 0)**

3-Dimensional Cartesian Coordinate Systems. Definition and Representation of Vectors, Algebra of Vectors, Multiplication of a Vector by a Scalar, Addition of Vectors, Scalar Products of two Vectors, Direction Cosines, Calculus of Vector Functions, Differentiation of Vector Function, Integration of Vector Function. Conic: Circles, Parabola, Ellipse and Hyperbola

### **PHY121: Electricity and Magnetism**

**(2 Units: L 30, T 0, P 0)**

Coulomb's law, ohm's law, Gauss' Law, capacitors, Ohm's law, Kirchoff's laws, Electrical energy, DC bridges, potentiometer, magnetic effect of current, electromagnetic induction, moving coil and ballistic galvanometers, multi-meters, DC and AC motors and generators, hysteresis, power in AC circuits, semiconductors, conductivity and mobility, rectification.

### **PHY122: Atomic and Nuclear Physics**

**(2 Units: L30, T 0, P 0)**

Theory of atomic structure., Thompson, Rutherford and Bohr's theories, the hydrogen atom, properties of the electron,  $e/m$ , CRO, Millikan's experiment, properties of the nucleus, natural radioactivity, wave particle duality of light, x-rays, photo electricity, thermionic emission, diode valve.

### **PHY129: Physics Practical II**

**(1 Unit: L 0, T 0, P45)**

A selection from the following experiments, potential difference and internal resistance of cells, uses of potentiometer circuit, the meter bridge, simple direct current measuring instruments, Planck's constant, radioactivity.

### **CHM123: General Organic Chemistry**

**(3 Units: L30, T15, P 0)**

Historical survey of the development and importance of organic chemistry. Nomenclature and classes of organic compounds. Homologous series, functional groups, isolation and purification of organic compounds. Qualitative and quantitative organic chemistry, stereochemistry, determination of structure of organic compounds. Electron theory in organic chemistry; saturated hydrocarbons, unsaturated hydrocarbons.

### **CHM122: General Inorganic Chemistry**

**(2 Units: L 30 T 0, P 0)**

Periodic table and periodic properties, chemical bonding, structures of solids. The chemistry of selected representative elements. Quantitative analysis, hybridization.

### **CHM129: General Chemistry Practical II**

**(1 Unit: L 0, T 0, P45)**

Qualitative inorganic and organic analysis for elements in Groups I, II, IIIA, IIIB, IV. Chemical analysis for functional groups: acidic, kenotic, carboxylic, etc.

### **EDS121: Entrepreneurial Development Studies II**

**(1 Unit: L15, T 0 P 0)**

Topics covered include the following: Generating Entrepreneurial ideas and translating same with action, The source and approaches to the study of Entrepreneurship, constraints of launching

Business, Youths and Money Management, Investment, Introduction to Capital Market, Classification of Entrepreneurs, Economic Importance of Entrepreneurship, Entrepreneurial Windows. Factors that influence Entrepreneurship. The practice of Entrepreneurship Productivity, Salaried Employment Vs Entrepreneurship, Introduction to Marketing Management, Forms of Business Organizations, their advantages and disadvantages. Introduction to International Trade. Students are also expected to submit a term paper on Entrepreneurship from some selected areas of SMEs (Small and Medium Scale Enterprise) operations.

**TMC121: Total Man Concept II**

**(1 Unit: L15, T 0, P 0)**

This course focuses on the exploration of self as it relates to self-discovery and the context of the changing life course and stages. It attempts to help students have some understanding of who they are in relation to God and the context of human systems. The spiritual, physical, psychological, cultural and ecological dimensions of self and the development of positive self-image, self-esteem and self-actualization parameters are also explored.

**TMC122: Total Man Concept – Sports II**

**(0 Unit: L 0, T 0, P 0)**

Jogging: This helps in many ways, our focus here on the benefit of jogging is for physical fitness that reduces risk of Osteoporosis. Osteoporosis is the condition when the bones become increasingly porous and brittle. It can result to bone fractures and deformities.

Aerobics exercise: This is said to be any activity that can get the heart rate going and keeps it at a sustained rate over a period of time e.g., twenty minutes. An aerobic activity helps to increase cardiorespiratory fitness which is one of the fine essential components of physical fitness. Being aerobically fit you can feel it as you go about.

Athletic (track & short quarter mile races): Institutional athletics programme represent a multi financial industry and are generally linked to school branding and reputation. Athletic programme drives enrolment and heightens institutional profile and often results in financial windfall for those whom their students engaged in.

**CST121: Computer Applications and Library Studies II**

**(2 Units: L15, T 0, P45)**

Spreadsheet: principle of operation, application, demonstration and practical hand-on exercises in spreadsheet using a popular spreadsheet package. Database Management: principle of operation, application, demonstration and practical hand-on exercises in using a popular relational Database Management package. Report presentation software package: principle of operation, application, demonstration and practical hand-on exercises in using a popular report presentation package such as Power Point package. Mini-Project to test proficiency in use of the software packages.

**GST121: Communication in English II**

**(2 Units: L30)**

This course focuses on introducing basic aspects of English grammar, developing effective reading and writing skills across disciplines. Style in communication. Revision and self-editing strategies.

**GST122: Communication in French**

**(2 Units: L30, T 0, P 0)**

Introduction to French, Alphabets and numeracy for effective communication (written and oral), Conjugation and simple sentence construction based on communication approach, Sentence construction, Comprehension and reading of simple texts.

**Detailed Course Description – Alpha Semester 200 Level**

**GEC210: Engineering Mathematics I**

**(3 Units: L 30, T15, P 0)**

Functions, inverse trigonometric functions and principal values, hyperbolic & its inverse, graphs. Concepts of continuity and differentiability. Mean-value theorem. Taylor's series expansion. Integration by parts. Sequences: real numbers, monotone, convergence, limits. Infinite series: convergence tests, addition, multiplication. Power series, radius of convergence, integration, differentiation. Real and imaginary parts, the complex plane, terminology and notation. Complex



algebra, DeMoivre's theorem, powers and roots of complex numbers. Euler formula. Elementary functions of a complex variable, polynomials, rational, exponential, trigonometric, hyperbolic, logarithmic, inverse trigonometric and inverse hyperbolic functions. Vectors in  $R_n$  space, addition and scalar multiplication, linear combination of vectors, idea of linear dependence and independence. Dot and cross products, triple products, lines and planes.

**GEC211: Fundamentals of Electrical Engineering I (2 Units: L30, T 0, P 0)**

Fundamentals of electric, electromagnetic and electrostatic circuits. Transients in RC and RL dc circuits. Steady-state dc circuit analysis: Source conversion, Kirchoff's laws, Mesh analysis, nodal analysis, Thevenin and Norton theorems, superposition principle, star-delta transformation, Maximum power transfer. Steady-state ac circuit analysis: Phasors and phasor diagrams, Power triangle, power factor and power factor improvement, frequency response of RLC circuits, resonance. Introduction to simple diode and transistor circuits and characteristics: Amplification & rectification. Introduction to digital systems.

**GEC212: Engineering Graphics (2 Units: L15, T 0, P45)**

Introduction, Uses and types of Engineering drawing, Dimensioning, Principle of Tangency, Orthographic projection, Isometric projection, Oblique projection (with harder examples), Auxiliary Views, Sectioning, True length of Lines and shapes, Interpenetration of Solids, Development of Surfaces, Introduction to Electronic drafting and Architectural drawings. Freehand or Technical drawings (with harder examples), Machine Drawing, Graphical calculus, electrical and communication, and IT symbols and introduction to assembly drawing, working drawings.

**GEC213: Materials Science & Engineering (2 Units: L30, T 0, P 0)**

Introduction, Atomic structure & interatomic bonding. The structure of crystalline solids. Imperfections in solids. Diffusion. Mechanical properties of metals. Dislocations and strengthening Mechanisms. Corrosion; effects and control. Failure phase diagrams. Phase transformations in metals. Development of microstructure and alteration of mechanical properties. Thermal processing of metal Alloys. Metal alloys. Structure, Properties, characteristics, applications and processing of polymers, ceramics and composites. Electrical properties.

**GEC214: Applied Mechanics (3 Units: L 30, T15, P 0)**

Statics: Principles of mechanics. Forces, Moment Couples, Laws of Mechanics. Coplanar forces and their resultants. First and Second Moments of area. Centroids. Distributed line loads and their resultants. Application of vectors to resolution of forces. Equilibrium of particles. Free body Diagrams.

Dynamics: Kinematics of particles and rigid body kinematics in plane motion. Application of Newton's laws of motion. Rigid body translation, rotation about fixed axis and the velocity and acceleration of general plane motion. Relative motion of two particles. Dependent motion of particles. Instantaneous centre of rotation. Kinetics of particles, kinetic energy; principles of work and energy impulse and momentum analysis.

**GEC215: Applied Computer Programming I (2 Units: L15, T 0, P 15)**

Software development life cycle (SDLC): Definitions, SDLC models: Waterfall model, V-shaped model, Incremental Model, Spiral Model. Program Design: Algorithms: Key features of algorithms and different ways of presenting algorithms. Flow charting of algorithms.

Linux System Architecture: Determine and configure hardware settings, boot the system and shutdown system using run levels. Linux installation and Software management: design hard disk layout and install software using the Debian, RPM and Yum package managers. GNU and UNIX commands: work on the command line for text streaming and file management. Device and Linux File Systems: Create and manage file systems and file permissions. Shell Programming: customize environment using shell scripts.

Introductory C Programming concepts: operators and expression, data input and output, control statements, functions, arrays, pointers, structures and unions, data files and low-level programming, create and solve simple science and engineering problems using C programming

**GEC216: General Engineering Laboratory 1****(1 Unit: L 0, T 0, P45)**

Laboratory investigations and report submission on selected experiments and projects drawn from introduction to Electrical Engineering, Materials Science, Applied Mechanics, Applied Computer Programming I and Workshop Technology Courses.

**GEC217: Engineer-In-Society****(2 Unit: L30, T 0, P 0)**

Science, Technology and Development: Ethical concepts of development. Indicators of development, and the role of science and technology. The contribution of the Government to the process of development and the Nigerian experience in the process of economic development (Nigerian Five-Year Development Plans, successes and setbacks). Limits of growth, appropriate technology and a new world of science and technology. Science, Technology and Society: The inter-relationship of social ethics and values, and science and technology. Societal needs and resources in the genesis and development of science and technology. Social problems, impact assessment, and control of science and technology. Responsibilities of engineers. Science, Technology and Environment: Disruption or enhancement of environmental quality through harmful or sound science and technology in relation to air, space, water, land, populations, agriculture, industry, wild life, human settlements, culture, education, etc. Ethics and Professionalism: Theistic and secular concepts of personal, social and professional ethics. Codes of conduct of engineers. Motivation, control, responsibility, rewards and accountability of engineers and development of an ethical engineering professionalism. Council of Engineers and Engineering Societies.

**GEC218: Workshop Technology****(2 Units: L15, T 0, P45)**

Introduction to engineering workshop practice covering mechanical, electrical, information engineering, civil, chemical, and petroleum engineering. Machine operation practice. Use of hand tools, and safety measures in these fields.

**GEC219: Applied Mechanics Practical****(1 Unit: L 0, T 0, P30)**

The laboratory practical covers topics in GEC214.

**EDS211: Entrepreneurial Development Studies III****(1 Unit: L15, T 0, P 0)**

Objective: This course is the continuation of EDS 1. The course is aimed at exposing students to the opportunities in Entrepreneurship and the basic characteristics required for successful performance as entrepreneurs using some related biographical studies of entrepreneurs and management giants as case studies.

Topics covered include the following: Relevance of Entrepreneurial and SMEs to the Nations and Societies and Individuals, More on biographical studies of business thinkers, Entrepreneurs and Management Giants, Introduction to International Entrepreneurship, Entrepreneurship and globalization, accelerated industrialization through active promotion and development of SMEs, SMEs: Definitions, Advantages and Disadvantages, Management Challenges of SMEs. Managing the Business Growth. Students are also expected to submit a term paper on Entrepreneurship from some selected areas of SMEs (Small and Medium Scale Enterprise) activities, operations etc.

**TMC211: Total Man Concept****(1 Unit: L15, T 0, P 0)**

The focus of this course is on the identification of building blocks of self-development in the context of personal visions, mission and personal capacity building. Major self-motivational blocks, the power and place of focus, the place of the human thought process and how to enhance thinking and reasoning for creativity

**TMC 212: Total Man Concept: Sports III****(0 Unit: L 0, T 0, P 0)**

Jogging: This helps in many ways, our focus here on the benefit of jogging is for physical fitness

that reduces risk of Osteoporosis. Osteoporosis is the condition when the bones become increasingly porous and brittle. It can result to bone fractures and deformities.

Flexibility Exercise: Flexibility can be said to be the freedom and ease of motion performed within an individual normal anatomical range.

To improve one's flexibility, range at a joint or muscles, persons should engage in exercises that involves; flexion, adduction, extension and circumduction at the various joints.

Athletics (Field Events): Institutional athletics programme represent a multi financial industry and are generally linked to school branding and reputation. Athletic programme drives enrolment and heightens institutional profile, and often results in financial windfall for those whom their students engaged in.

### **GST211: Philosophy, Logic and Human Existence (2 Units: L30, T 0, P 0)**

The aim of this course is to expose students to the meaning of philosophy and a brief survey of its branches. While discussing its major branches, emphasis will be on Logic. The topics to be taught in this respect will include Symbolic logic, Quantificational theory and Logical rules. Other sub-topics will include arguments and evidence, fallacies, statements and sentences, laws of thought, rules of inference and deduction and analogical reasoning. The course will also provide valuable insights into the origin and content of traditional logic.

## **Detailed Course Description – Omega Semester 200 Level**

### **GEC220: Engineering Mathematics II (3 Units: L 30, T15, P 0)**

Partial Differentiation: Functions of several variables, continuity and partial derivatives. Total differentials, approximate calculations using differentials. Chain rule. Implicit differentiation. Series representation of functions (Maclaurin & Taylor's), Taylor's Theorem. Extremum problems, (analytic method) without and with constraints, Lagrange multipliers, global extremum. Ordinary Differential Equations: Definition, degree, order, linear, non-linear, solution. First order equations, separable variables, equations reducible to separable form, exact equations, integrating factors, homogenous differential equations. Modeling of engineering systems leading to first order differential equations- electric circuit, mixing/dilution, radioactive decay, bacterial culture. 2<sup>nd</sup> order differential equations with constant coefficients, homogeneous, non-homogeneous, complementary functions, particular integrals, D-operator method. General linear second-order differential equations (without using matrices). Power series solution, Legendre's differential equation. Modeling of engineering systems leading to 2<sup>nd</sup> order differential equations- electric circuit, mechanical oscillations-free and forced, resonance.

Matrices and Determinants: Solution of system of linear equations by determinants. Linear dependence and independence, rank of a matrix. General system of linear equations, existence and properties of solution, Gaussian elimination. Matrix inverse by elementary matrices, adjoint, and partitioning methods. Characteristic polynomial, characteristic equation, eigenvalues and eigenvectors.

### **GEC221: Thermodynamics (3 Units: L 30, T15, P 0)**

Basic concepts, energy and energy conversions and surroundings, temperature of scales, quantitative relations of zeroth, first, second and third laws of thermodynamics. Steady flow energy equations. Heat and work. Behaviour of pure substances and perfect gases. Applications of the first law. Use of steam tables and charts.

### **GEC222: Computer Aided Design & Manufacture (2 Units: L15, T 0, P45)**

Introduction to CAD/CAM, Area of its applications and important. How CAD/CAM works. Extensive introduction to CAD package i.e. AutoCAD. Hand-on practical approach is used especially for CAD application.

### **GEC223: Fluid Mechanics (3 Units: L 30, T15, P 0)**

Introduction: Properties of fluids: Density, Pressure, surface tension, viscosity, compressibility

etc. Fluid statics. Buoyancy of floating bodies. Fluid dynamics. Basic conservation laws. Friction effects and losses in laminar and turbulent flows in ducts and pipes. Dimensional analysis and dynamic similitude.

**GEC224: Strength of Materials (3 Units: L 30, T15, P 0)**

Forces, moments. Equilibrium of simple structures and machine parts. Hooke's law stresses and strains due to loading and temperature change. Stress circle. Deflection of beams. Shear forces and bending moments. Analytical and graphical methods for structures.

**GEC225: Applied Computer Programming II (1 Unit: L 0, T 0, P45)**

C Language Overview and Program Structure,. Decision making in C. Program Loops in C. Functions in C. Storage Classes and Scope. Introduction to Pointers. Using Pointers Effectively. Structures, Unions and Data Storage. Arduino Libraries. Arduino C and Data types, PIC Microcontroller. Interfacing with the Outside World. Introduction to OOP C++.

**GEC226: General Engineering Laboratory II (1 Unit: L 0, T 0, P45)**

Laboratory investigations and report submission on selected experiments and projects drawn from introduction to electrical Engineering, Materials science, Applied Mechanics, Applied computer Programming I, and Workshop Technology courses.

**GEC228: Fundamentals of Electrical Engineering II (2 Units: L30, T 0, P 0)**

Analysis of Magnetic circuits, Hysteresis and eddy currents, three phase circuits, three-phase power measurement, Transformer theory; short-circuit and open-circuit tests, voltage regulation, efficiency. Electrical machines; constructional features and operation of dc generators and motors; single-phase and 3-phase motors and generators, electric energy utilization for lighting and heating. Tariffs.

**GEC249: Student Work Experience Programme (SWEP) (6 Unit: L0, T 0, P270)**

*\*\* Course registered in 400 Level Omega Semester but conducted during the long vacation*

Introduction to practices and skills through supervised hands-on workshop exercises in each engineering departments: Mechanical Engineering (Fabrication, welding, Machining, Foundry, Automotive operations, etc), Chemical Engineering (bar and liquid soap, creams, paints, etc), Civil Engineering, Computer Engineering (soldering and de-soldering, building of different circuits, etc), Petroleum Engineering, Electrical Electronics (surface and conduit wiring, etc), Information and Communication Technology (DSTV and Dish installation).

Working in the construction site if available during the period. Introduction to Networking Operation Center (Satellite Broad casting), Bakery Operation (Bread Production), Water Table, sachet and Hebron Juice Production, Printing Technology, Firefighting Exercise and other available related general engineering practice on campus. These exercises include familiarization with basic tools, troubleshooting. Safety precautions in handling devices in each workshop.

**EDS221: Entrepreneurial Development Studies IV (1 Unit: L15, T 0, P 0)**

Topics covered include the following: More on biographical studies of business thinkers, Entrepreneurs and Management Giants in Nigeria, Africa and Europe. Theoretical Framework of Entrepreneurship, Feasibility studies, Marketing Management in Entrepreneurship, Impact of Modern Technologies on Entrepreneurial Ventures in Developing Countries. The SMEs: Challenges and Prospects, Financing of SMEs in Nigeria. Planning, SMEs and Capital Markets. Term paper on Entrepreneurship from some selected areas of SMEs (Small and Medium Scale Enterprise) operations.

**TMC221: Total Man Concept IV (1 Unit: L15, T 0, P 0)**

Understanding success, personal profile building and biographical analysis of some success giants

forms the emphasis of this course. The role of wisdom in the context of success is explored along the lines of understanding, building and communicating wisdom. In addition, the place of self-identity building is explored alongside with a focus on identifying personal measures and inches of self-worth and self-appreciation in the context of success.

#### **TMC 222: Total Man Concept: Sport IV**

**(0 Unit: L 0, T 0, P 0)**

Jogging: This helps in many ways, our focus here on the benefit of jogging is for physical fitness that reduced risk of Osteoporosis. Osteoporosis is the condition when the bones become increasingly porous and brittle. It can result to bone fractures and deformities.

Games (Table – tennis): This centers on the mastery of basic skills, game situation as well as rules and regulation governing the various sports that will be attempted.

Focuses are also being on appreciation of various sports and the spirit of sportsmanship that is ‘win or loss’ taking it in good fate.

Athletic (Field Events): Institutional athletics programme represent a multi financial industry and are generally linked to school branding and reputation. Athletic programme drives enrolment and heightens institutional profile, and often results in financial windfall for those whom their students engaged in.

#### **GST221: Nigerian People and Culture**

**(2 Units: L30, T 0, P 0)**

The concept of culture. Study of Nigerian history, culture and arts in precolonial times. Social beliefs and the Nigerian’s perception of his world. Culture areas of Nigeria and their characteristics. Evolution of Nigeria as political unit. Indigene/settler phenomenon. Concepts of trade, economic self-reliance and social justice. Individual and national development, norms and values. Negative attitudes and conducts (cultism and related vices). Re-orientation of moral and national values as well as moral obligations of citizens. Environmental problems.

#### **GST222: Peace Studies and Conflict Resolution**

**(2 Units: L30, T 0, P 0)**

The concept of conflict: Definitions, Constructive and Destructive angles to understand conflict. The causes of conflict: Contradicting value systems, Competition for scarce resources, Psychological needs of people, Perception (self, others, circumstances, interests), Manipulations of information. Conflict Handling Styles: Avoidance, Confrontation, Role Playing, Third-Party decision-making, Joint-Problem Solving, Compromising. The life angle of conflict: From Organization transformation. The concept of peace: Definition of concept; Peacemaking, Peace-keeping. Power and conflict: Types of power - Expert power, Referent power, legitimate power, Reward power, Coercive power.

### **Detailed Course Description – Alpha Semester 300 Level**

#### **GEC310 - Engineering Mathematics-III**

**(3 Units: L 30, T15, P 0)**

Matrices and Determinants: Matrices, some special matrices, matrix operations. Determinants and some useful theorems. Laplace’s development. Solution of system of linear equations by determinants. Linear dependence and independence, rank of a matrix. General system of linear equations, existence and properties of solution, Gaussian elimination. Matrix inverse by elementary matrices, adjoint, and partitioning methods. Characteristic polynomial, characteristic equation, eigenvalues and eigenvectors. Diagonalization of matrices, application to system of first order linear differential equations. Multiple Integrals: Iterated integrals, multiple integrals over elementary regions. Change of variables, Jacobians. Differentiation of integrals involving a parameter, Leibniz’s rule.

Vector Algebra: Vector field, gradient and directional derivative, divergence, curl. Line and surface integrals, Stoke’s theorem. Volume integrals, divergence theorem. Orthogonal transformations, scale factors, basis vectors. Cylindrical and spherical polar coordinate systems, gradient, divergence and curl in these systems. Fourier Series: periodic functions, trigonometric series. Fourier coefficients, Parseval’s theorem, Functions of arbitrary period, even and odd functions. Half range expansion. Complex form of Fourier series. Integral Transform: Derivation of transforms and

inverses (Fourier and Laplace). Applications of these transforms in boundary and initial value problems. Z transforms. Partial Differential Equations: Elementary properties of Gamma, Beta, Error, Bessel functions and Legendre polynomials. Basic concepts of partial differential equations. Classification of 2nd order linear partial differential equation into basic types. The principle of superposition. The wave, diffusion and Poisson's equations. Boundary and initial-value problems. D'Alembert's solution for wave equation. Method of separation of variables. Bi-harmonic equation.

### **EIE311- Electromagnetic Fields & Waves**

**(3 Units: L 30, T15, P 0)**

Review of Vector Algebra; Calculus: Scalar product and vector product, coordinate systems, gradient, curl, divergence operations. Gauss's, Stokes, Helmholtz and Green's integral theorems, integral of scalar and vector fields.

Electrostatics: Charge and charge density. Coulomb's Law. Concept of fields. Electric flux density and electric field intensity. Gauss's Theorem and applications. Voltage and electric potential. Conductor, dielectrics. Polarization, susceptibility, permittivity. Electrostatic boundary condition. Capacitance calculation and electric energy.

Magnetostatics: Current and current density. Magnetic dipoles and current loops. Magnetic flux density and magnetic field intensity. Biot-Savart Law and Ampere's Law, Faraday's Law. Magnetostatic boundary condition. Self and mutual induction. Inductance calculation and magnetic energy.

### **EIE312 - Communication Principles**

**(3 Units: L30, T15, P 0)**

Principles of Communications: An elementary account of the types of transmission. Brief historical development on communications: telegraph, telephony, radio, satellite, data, optical and mobile communications, facsimile. Block diagram of a communication system. The frequency spectrum. Signals and vectors, orthogonal functions, Fourier series, Fourier integral, signal spectrum, convolution, power and energy, correlation. Reasons for modulation. Types of modulation. Amplitude modulation systems: Comparison of AM systems, Methods of generating, and detecting AM, DBS, SSB signals. Vestigial sideband. Frequency mixing and multiplying, frequency division multiplexing, applications of AM systems. Frequency modulation systems: Instantaneous frequency, frequency deviation, modulation index, Bessel coefficients, significant sideband criteria, bandwidth of a sinusoidally modulated FM signal, power of an FM signal, narrowband FM, direct and indirect FM generation, various methods of FM demodulation, discriminator, phase-lock loop; limiter, pre-emphasis and de-emphasis, stereophonic FM broadcasting. Noise waveforms and characteristics. Thermal noise, shot noise, noise figure and noise temperature. Cascade network, experimental determination of noise figure. Effect of noise on AM and FM systems. Block diagram of a superheterodyne AM radio receiver, AM broadcast band and specification, signal sensitivity, aerial circuit, i.f. trap, RF amplifier design, frequency mixer, local oscillator design, inter modulation interference, adjacent channel interference, ganging, tracking error, intermediate frequency, automatic gain control, delay agc, diode detector, volume control. FM broadcast band specification, block diagram of a FM radio receiver, limiter and ratio detector, automatic frequency control, squelch circuit, FM mono and FM stereo receivers. AM broadcast band and specification. FM broadcast band and specification. Image frequency. FM mono and FM stereo receivers. TV broadcast band and specification. Signal format, transmitter and receiver block diagrams of Black and White TV, and Color TV.

### **EIE313 - Physical Electronics**

**(2 Units: L30, T 0, P 0)**

Free electron motion in static electric, magnetic and electromagnetic fields. Atomic theory: Bohr's model, quantum theory. Electron emission Engineering-band theory of conductors, insulators and semiconductors. Semi-conductor theory: intrinsic and extrinsic  
Semiconductors, n-type and p-type semi-conductors and their formation, Fermi energy level, pn-junction: operation & characteristics and applications pn-junction diodes: operation, characteristics and application of rectifier diodes, varactor diode, Schottky diode, Zener diode. Bipolar junction transistors: types, operation, characteristics, modes of connection, application. Field effect transistors: types, operation, characteristics, modes of connection, application. Thyristors; operation, characteristics, application. Introduction to semiconductor technology. Elementary discrete devices fabrication techniques and IC technology.

**EIE314 - Electric Circuit Theory I****(3 Units: L30, T15, P 0)**

Electric fields: Fundamental concepts, energy storage. Magnetic fields: Fundamental laws, field calculations, and energy storage. Magnetic circuits: simple calculation of magnetic circuits, B – H curves and core losses. Inductance: Self and mutual inductance, coupled circuits. Transient and steady state response of circuits: RL, RC, RLC circuits, free and forced oscillation. Network analysis: network theorems; mesh and node analysis. Delta-Wye transformation, Superposition theorem; Reciprocity; Thevenin's and Norton's theorems; Maximum power transfer theorem. One and two – port network: driving point functions, circuit parameters, interconnection and termination, transformation. Foster-Cauer synthesis. 1 -port network-synthesis. Active filters. Approximation to nonlinear characteristics of nonlinear resistive circuits. Harmonic analysis techniques. Sensitivity analysis. Use of computer simulation packages is strongly recommended. Introduction to CAD.

**EIE315 - Electrical Machines****(3 Units: L30, T15, P 0)**

Electromechanical energy conversion: Law of conservation of energy. General energy balance equation. Singly excited system (induced voltage, electrical energy and torque equations). Double excited system (electrical energy, induced voltage and torque equations) DC Machines: principles of operation construction simple armature windings-lap and wave. Emf equations. Commutation. Armature reaction DC Generators: methods of excitation (separate series, shunt and compound) conditions for self-excitation of shunt generators. Parallel operation of d.c. generators. Characteristics of d.c. generators. D.C. Motors: methods of excitation (separate series, shunt and compound characteristics of D.C motors. Derive expression for torque developed in D.C motors. D.C motor starters speed control (varying the armature voltage varying the field magnetic flux, ward Leonard method) variable and constant losses in D.C. machines. Determining efficiency of D.C machines by Direct loading method, swinburnes method, Hopkins test. Conditions for maximum efficiency of D.C machines. Transformers: construction of single phase transformers. Principle of operation. Drawing phase diagrams for transformers on no-load and on load., “ An Ideal transformer, deriving an expression for the turn ratio of a transformer. Emf equations of transformers, approximate equivalent circuit, efficiency voltage regulation. Three phase transformers: Construction grouping and connection of windings parallel operation. Conditions for parallel operation, testing of transformers, list different types of transformers – power, distribution autotransformers, current and voltage transformers. Methods of cooling tap changing. Tests on transformers.

**EIE318 - Laboratory Course I****(1 Units: L 0, T 0, P30)**

The laboratory practical covers topics in some 300 level courses taken in alpha semester.

**Electrical Machine Practical****EDS311 - Entrepreneurial Development Studies V****(1 Unit: L 0, T 0, P45)**

Objective: To expose the students to a greater depth in the practical aspects of entrepreneurship, particularly the development of skills. The aim is to distinguish Covenant University graduates from graduates of other institutions of higher learning.

Practicum: All students are sent to the entrepreneurial village in-groups for skill acquisition in different specialization fields. Mini trade fairs will be organized where the students will display all their products. This program includes both theoretical and practical aspects of entrepreneurship. Production and Quality control of entrepreneurship material Management will be taught. These specialized fields include: tailoring, carpentry, millinery (hat making), mechanical, catering, shoe making, interior decoration, software development, candle and soap making, fishery, farming, snail rearing, poultry farming, piggery, textile development (tie & dye), cooking, paint manufacturing, photography, ice-cream making, saloon and barbing etc.

**TMC311 - Total Man Concept V****(1 Unit: L15, T 0, P 0)**

This course examines man in different environmental contexts – the biblical, biological, cultural and ecological. The emphasis here is the civic and social responsibilities of man in society and the



expectations of community living. The place of social relationships, diversity, issues of difference, conflict, family issues are explored looking at God's mandate and current trends and challenges.

### **TMC 312 - Total Man Concept: Sport V**

**(0 Unit: L 0, T 0, P 0)**

Aerobics (Cardio respiratory) Aerobics exercise: This is said to be any activity that can get the heart rate going and keeps it at a sustained rate over a period of time e.g. twenty minutes. An aerobic activity helps to increase cardiorespiratory fitness, which is one of the fine essential components of physical fitness. Being aerobically fit you can feel it as you go about.

Games (modified sports): Modified level of sports prepares student for the real activity itself and beyond. The philosophy of modified sports is to maximize participation and playing time for students. The level focuses on growth of basic skills and sportsmanship. During these events, we make every attempt to include as many students as possible teams.

Athletics (Field Events): Institutional athletic programmes represent a multi financial industry and are generally linked to school branding and reputation. Athletic programme drives enrolment and heightens institutional profile and often resulting in financial windfall for those whom their students engaged in.

### **Detailed Course Description – Omega Semester 300 Level**

#### **GEC320: Engineering Mathematics-Numerical Methods (3 Units: L30, T15, P 0)**

Polynomials and their zeros -methods of bisection, Newton, Bairstow, synthetic division and Lehmer; Direct methods for the solution of linear equations; Iterative process, its application to the solution of simultaneous linear equations; convergence; interpolation and differentiation method in numerical integration -Newton Coates formulae and finite difference methods;

Finite difference. Interpolation. Numerical differentiation and integration. Numerical solution of ordinary differential equations, Trapezoidal, Simpson, Runge Kutta methods. Newton Raphson method for roots of equations. System of simultaneous linear equations. Linear simultaneous equations, Gaussian elimination, Gauss-Seidel iterative method, Jacobi Method, evaluation of determinant and inverse matrix.

Eigen system analysis: system stability, eigenvalue sensitivity, stability of Gauss-Seidel solution, amplitude and time scaling for model studies. The eigen system problem Solution of ordinary differential equations -methods of Taylor, Euler, Predictor -Corrector and Runge-Kutta. Use of numerical analysis software packages to solve simple engineering problems. Use of appropriate software packages (e.g MATLAB) should be encouraged.

#### **GEC324 - Technical/Engineering Communication (2 Units: L30, T 0, P 0)**

Introduction to Communications: Principles of effective communication in interpersonal and mass communication process. Verbal, graphical and numerical communications. Written Communication: Principles of technical writing. Types of technical writing, referencing and citation. Styles of writing. Graphs; diagrams presentation. Statistical information presentation. Macro level, and micro-level. Oral Communication: Public speaking skills, multi-media presentation skills. Facilitator and participant skills in meetings. Negotiating skills. Idea-generating skills. Manuscript speaking and presentation involving media and telecommunications. Reading skills: Effective reading skills: extracting main ideas and speed-reading, chunk/cluster-reading and word-attack techniques of technical reading materials. Equipment Manual Writing and Presentation: Component diagrams, assembling, description, and multi-language presentation. Basic troubleshooting information, and technical support information. Marketing strategy.

#### **GEC321 - Engineering Economics**

**(3 Units: L30, T 15, P 0)**

The nature and scope of economics. Basic concepts of engineering economy. Interest formulae, discounted cash flow, present worth, equivalent annual growth and rate of return comparisons. Replacement analysis. Breakdown analysis. Benefit-cost analysis. Minimum acceptable rate of return. Judging attractiveness of proposed investment.

**EIE 321 - Electric Power Principles****(2 Units: L30, T 0, P 0)**

Types of power station, operation, auxiliaries, economics of operation - stations, substations power supply economics, tariffs, Power factor correction. Calculation of inductances of single-phase and three-phase lines. GMR and GMD. Bundled conductors. Calculation of capacitance of single-phase and three-phase lines. Current and voltage relations: Short, medium and long lines. Network equations and calculations: Power system components and equipment: Transformers. Polyphase theory. DC, AC power distribution, network calculations. Overhead line conductors. Corona effect, voltage control, circuit breakers, load forecast, siting of generating plants.

**EIE322: Signals and Systems****(2 Units: LH 30)**

System modeling, Analog signals, Convolution and correlation, Fourier and Laplace Transforms, Random processes, sampled signals and systems, Discrete Fourier transforms. Z transforms, Analog and Digital filters. Control strategies; Open-loop, feed forward and feedback control systems, Stability, performance and sensitivity analyses. Lag and Lead compensation, Frequency domain design, PID controllers. Elements of nonlinear control.

**EIE323 - Analogue Electronics****(3 Units: L30, T15, P 0)**

Review of single stage transistor amplifiers using BJTs and FETs. Equivalent circuit and calculation of current gain, voltage gain, power gain, input and output impedance. Operational Amplifiers: Parameters and applications, Feedback, Broadband and narrow band amplifiers. Power amplifiers, voltage and current stabilizing circuits, voltage amplifiers, multi-Stage amplifiers using BJT and FETs.

**EIE326 - Software Development Techniques****(3 Units: L30, T15, P 0)**

Number system, Logical operations, Algorithm, Flow Charts and procedures. Object oriented programming concepts. Programming using a structured language such as C: Symbols, keywords, identifiers, data types, operators, various statements, operator precedence, type conversion, conditional and control structures, function, recursive functions. Arrays: 1-D, and multi-dimensional arrays, passing elements or whole array to a function. Simple sorting and searching on arrays, pointers, strings, dynamic memory allocation. Structures and Unions: Structure declaration and definition, accessing structures, array of structures, pointers and structures, union declaration, enumerated variables. File Handling: Concept of a file, files and streams, standard file handling functions, binary files, random access files. Advanced Topics: Command line parameters, pointers to functions, creation of header files, stacks, linked lists, bitwise manipulation. Software development in C in MS Windows, UNIX/LINUX environments, header file, preprocessor directives, make, Makefile. Static and dynamic linking libraries. Extensive examples, and exercises programming in C to solve practical problems in engineering. Details of C++, C# language with engineering applications, Comparison of BASIC, PASCAL, C+ +. Exercises are to be done in the Computer Laboratory.

**EIE327 - Digital Electronics****(3 Units: L30, T15, P 0)**

Number Systems and Code. Analysis and design of logic gates of various families: Diodes logic, RTL, TTL, ECL, MOS and MOS of digital integrated circuits. Concepts of small, medium, large, and very large scale integration and their consequences. Introduction to analysis and design of digital systems. Boolean algebra and mapping methods: Karnaugh and variable entered Maps, combinational logic realization with gates, multiplexers, read only memories (ROMs) and programmable logic arrays (PLAs). State machine analysis and design: state diagram, state flip-flops, input and output forming Logic, State assignments, redundant states, sequential counters, and mainly synchronous systems. State machine realization with multiplexers, ROMs and PLAs. Asynchronous systems approach to digital systems design, top-down design, trial-and-error methods. Introduction to computer structures: register, transfers, hardware programming methods, Von Neumann machines, and memory systems standard logic functions with MSI circuits: seven segment display drivers, parity generator/checker, encoders, comparators, adders, etc.

**EIE328 - Laboratory Practical II****(2 Units: L30, T 0, P 0)**

The Laboratory Practical covers topics in some 300 level courses taken in the second semester.

**GEC329 - SIWES - Industrial Training I****(6 Units: L 0, T 0, P90)**

\*\* Course registered in 400 Level Omega Semester but conducted during the long vacation

During the SIWES each student will undergo practical on the job training in an engineering industry approved for its relevance to the student's major for a minimum of 10 weeks starting immediately after the first semester examinations at 300 level. A programme of training will be drawn by the College and the Industry for each student, and a prescribed log book with daily recording of the student activities is to be kept by each student and appropriately signed. At the end of the programme, a written report is to be submitted to the college and each student to present a seminar on his/her industrial experience. Each student must pass a prescribed certification examination during the industrial training.

**TMC321- Total Man Concept VI****(1 Unit: L15, T 0, P 0)**

This course follows directly from TMC 311 and provides a further exploration of man and his specific civic, social and ecological and family responsibilities. The place of global trends, community service and family responsibilities vis-à-vis preparation for life in society and family context are explored closely. Focus will also be given to the demands of preparing for the context of the work place, job interviews and demands of world of work.

**TMC322 - Total Man's Concept: Sport VI****(0 Unit: L 0, T 0, P 0)**

Jogging: This helps in many ways, our focus here on the benefit of jogging is for physical fitness that reduced risk of Osteoporosis. Osteoporosis is the condition when the bones become increasingly porous and brittle. It can result to bone fractures and deformities.

Modified Sports Advance: Modified level of sports prepares student for the real activity itself and beyond. The philosophy of modified sport is to maximize participation and playing time for students. The level focuses on growth of basic skills and sportsmanship. During these events we make every attempt to include as many students on possible teams.

Basic Skills in Swimming: The importance of swimming lessons for water safety cannot be overstated. Everyone and especially young people should be able to swim. Swimming has a lot of benefits, which include health benefit, psychological benefit, most importantly safety benefit, which involved discipline that is adhering to the rules governing swimming and learning of basic skills

**EDS321- Entrepreneurial Development Studies VI****(1 Unit: L 0, T 0, P45)**

Objective: To expose the students to a greater depth in the practical aspects of entrepreneurship, particularly the development of skills. The aim is to distinguish Covenant University graduated from graduates of other institutions of higher learning.

Practicum: All students are sent to the entrepreneurial village in-groups for skill acquisition in different specialization fields. Mini trade fairs will be organized where the students will display all their products. This program includes both theoretical and practical aspects of entrepreneurship. Production and Quality control of entrepreneurship material Management will be taught. These specialized fields include: tailoring, carpentry, millinery (hat making), mechanical, catering, shoe making, interior decoration, software development, candle and soap making, fishery, farming, snail rearing, poultry farming, piggery, textile development (tie & dye), cooking, paint manufacturing, photography, ice-cream making, saloon and barbing etc.

**Detailed Course Description – Alpha Semester 400 Level****GEC410: Engineering Statistics****(3 Units: LH 45, T0, P0)**

Probability and Statistics: Probability space, theorems. Conditional probability and independence. random variables, discrete and continuous distributions, mean and variance. Bernouli, Binomial, Poisson, hypergeometric, exponential, normal distributions and their characteristics. Examples of

experimental measurement and reliability. Elementary sampling theory for normal population. Central limit theorem. Statistical inference (point and interval estimation and hypothesis testing) on means, proportions and variances. Power and operating characteristics of tests. Chi-squares test of goodness of fit. Simple linear regressions.

**ICE413: Communications Laboratory Practical & Mini Project (2 Units: L0, T0, P45)**

The Laboratory Practical covers topics in some 400 level courses.

**ICE415: Antennas and Propagation**

**(2 Units: LH 30, T0, P0)**

Antenna Systems: Review of Maxwell's equations. Polarization, polar diagrams, antenna gain, directivity, radiation resistance, impedance matching, effective length and capture area. Radiation by dynamic currents and charges, retarded potentials, the isotropic. Hertzian dipole, short and loop antenna, folded dipole antenna. Vertical and horizontal antennas, rhombic antenna, log-periodic antenna. Centre-fed linear antenna, linear arrays, radiation from diffraction gratings, Yagi-Uda arrays, integrated antennas. Microwave antenna, horn, parabolic reflectors, slot, and lenses. Field analysis of antennas. Transmitting-receiving system, reciprocity relations. Equivalent circuit of receiving antenna. Radar Systems: Principles of pulse radar and Doppler radar. Radar equation and system parameters. Components of radar systems. Study of a practical radar system. Radar signal detection. Synthetic aperture radar, tracking and scanning radar, HF (OTR) radar. Radio Wave Propagation: Electromagnetic waves, wave front, characteristic impedance of free space, reflection, refraction and diffraction. Ground waves and sky waves. The ionospheric layers, refractive index, virtual height, critical frequency and angle, maximum usable frequency, skip zone, skip distance, fading. VHF line of sight transmission. Tropospheric scattering communications. Relationship between transmitter power, antenna gains and received signal to noise in a free space radio link. VHF and microwave point-to-point link.

**EIE411: Computer Organization and Architecture**

**(3 Units: LH 45, T0, P0)**

Introduction to basic concepts of computer organization and design: metrics for computer performance, computer arithmetic, Von Neumann architecture, instruction implementation, control unit, pipelining, memory systems hierarchy, cache memories and basic I/O controllers.

**ICE438: Internet Technology and Programming**

**(2 Units: LH 45, T0, P0)**

Overview of the fundamentals of computer networks and connections between networks, from the physical layer up through peer-to-peer communications at the application level. Lower layer characteristics including serial vs, parallel, capacity issues, high-speed connections, LAN framing and error handling. LAN vs. WAN characteristics, network architecture and the ISO network model. Internetworking components including LANs, repeaters, routers, bridges, and gateways. Internet addresses, TCP/IP and the Domain Name System, Common Internet client/server application protocols including SMTP and FTP Client/server programming involving sockets. World Wide Web characteristics including CGI and HTTP protocol. Web pages. Web browsers, Web servers, and Applets. Introduction to advanced web issues such as web security. Search engine operations, and Web database operations. Packet-switching networks: topology, routing and routing algorithms, shortest path algorithms. TCP/IP: architecture, Internet protocols, IPv4, IPv6, UDP, TCRDHCR mobile 11), Internet routing protocols, multicast routing. ATM networks: traffic management and QoS. Congestion control. MPLS. RSVP Network Management: SNMP, SMI, MIB, remote network monitoring.

**EIE412: Control Engineering and Linear Systems**

**(3 Units: LH 45, T0, P0)**

Mathematical models of physical system. Analogous concepts in electrical, mechanical and thermal systems. Transfer functions. Block diagrams and signal flow graphs. Feedback control system: advantages. Transient response of systems. The root-locus methods. Frequency response of systems. Bode and polar plots. System stability. Bouth and Nyquist criteria. Introduction to analogue computer simulation. Difference equation and solution. The z-transform: direct, transfer

function, inverse transform methods, response of linear discrete system. Z-transform applications. Z-transform of sampling instants, zero-order-hold, Z and S plane relationship. Closed loop sampled data system, stability analysis. Finite word length effect. Digital PID algorithm and compensator design. Root locus of digital control system. Sequential control system design. State variable of dynamic system, solution of state equations, transition matrix, eigenvalues, eigenvector. SCADA system. CAD digital control system.

**EIE418: Data Communication & Computer Networks (3 Units: LH 45, T0, P0)**

Interfacing: Interfaces for simple computer system and terminal to terminal. MODEM, terminal interfaces, CCITT V.24/RS-232, CCITT V.28, V.35, GPIB, EIA, RS-232C standard, speed and distance limitations for V.24, RS-232C, RS-449/422/423 interfaces and standards. Channel Coding and Error Control: Forward Error Control; Error Detection Methods; Parity Checking; Linear Block Codes, Cyclic Redundancy Checking; Feedback Error Control. Digitalization: Sampling theorem, Shannon theorem, PCM and Quantization Error; Multiplexing, FDM, TDM; Higher order multiplexing; Frame formatting, time-slot. Digital Modulation Techniques: Line coding, intersymbol interference, Nyquist wave shaping, eye pattern, adaptive equalization. Transmission over bandpass channel. ASK, FSK, PSK, DPSK, M-ary modulation, continuous phase FSK, MSK, QAM, DSL Schemes. Spread Spectrum Communications: Pseudo noise sequences, direct sequence spread spectrum, frequency hopping spread spectrum, CDMA, application examples. Telephony: The telephone set and subscriber loop interface, basic function of the telephone set, cordless telephone, local loop, line characteristics and conditioning. Public switched telephone network, hybrids, echo suppression. Central office switching system. Digital Switching: Digital Switching Systems, Space Switching, Time Switching Module; Time-Space-Time Switch Structure, Circuit switching networks; Packet switching networks; X.25 packet switched networks, ISDN interfaces and functions: Transmission structure, user-network interface configurations, ISDN protocol architecture, connections, addressing. Physical layer. Data link layer, network layer. Frame Relay: Background. Protocols and service. Frame-mode protocol architecture, frame-mode call control, Frame relay congestion control: Traffic rate management, explicit congestion avoidance and implicit congestion control. ATM: Virtual channels and virtual path. ATM protocols, transmission of ATM cells, ATM adaptation layer. AAL services. Traffic and congestion control. Latency/speed effect, cell delay variation. Network resource management, connection admission control, usage parameter control, priority control. Cellular Mobile Network: Cellular network architectures; Frequency management; Channel types and assignment; types of hand-offs and hand-off management; Switching and transport; Wireline and microwave facilities and link design considerations. Call Processing and Signaling: Roaming and mobility management; Traffic engineering.

**EIE414: Design and Installation of Electrical and ICT Services (3 Units: LH 45, T0, P0)**

Electrical Installation: Induction to Health and safety at work act in Nigeria. Electrical safety. First aid. Electricity supply regulations. Lighting and Illumination: Luminous intensity and flux. Maintenance factor. Coefficient of utilization. Types of light sources. Calculation of lighting requirements. Glare. Stroboscopic effect. Installation Materials, cables, junction box, terminations, joints. Conduits and conduiting. Truck and trucking. Electrical Installation design in domestic, commercial and industry. Alarm and emergency systems. Earthing and Protection. Purposes of earthing. Faraday cage. Rod electrodes. Earth electrode resistance. Earthing system. Earth fault loop impedance. ICT services: NCC and FCC codes of practice and standards. Telecommunication design and installation: Satellite, VSAT, etc. Telephone design and installation. Computer networking design and installation. Wireless LAN design.

**EIE316/416: Measurements and Instrumentation (3 Units: LH 45, T0, P0)**

Basic meter in a.c and d.c measurements; rectifier voltmeter; dynamometer, wattmeter- instrument transformer:- current and voltage transformer; d.c bridge:- Resistance bridge, strain gauge bridge and their applications. A.C bridge:- capacitive bridge inductive bridge and their applications; digital

instruments for measurement of voltage, current and impedance: R-L-C meter; the multimeter; oscilloscope; waveform generators; pulse generators; waveform analyser; counter; time-base circuit; analogue and digital data acquisition system; A/D & D/A counters; sample and hold circuits; transducers:- speed, pressure and temperature.

**EDS411: Entrepreneurial Development Studies VII (1 Unit: LH 15, T0, P0)**

Objective: To expose the students to more issues in entrepreneurship.

Topics covered include the following: Various functions of Entrepreneurship – such as financing, production, marketing and personnel management. Entrepreneurial succession, issues in succession: challenges and prospects. Taking Entrepreneur to the stock market. International Entrepreneurship. Funding of Entrepreneurial activities. Term paper on Entrepreneurship from some selected areas of SMEs (Small and Medium Scale Enterprise) operations.

**TMC411: Total Man Concept VII (1 Unit: LH 15, T0, P0)**

This course examines the building blocks for leadership development in the context of providing an overview of the broad dimensions of leadership. The course also explores the enhancement of leadership traits and how power and influence qualify the dynamics of leadership.

**TMC412: Total Man Concept: Sport VII (0 Unit: LH0, T0, P4 )**

Game (Soccer & Volleyball): This centers on the mastery of basic skills, game situation as well as rules and regulation governing the various sports that will be attempted.

Focuses are also being on appreciation of various sports and the spirit of sportsmanship that is ‘win or loss’ taking it in good fate.

Aerobics exercise: This is said to be any activity that can get the heart rate going and keeps it at a sustained rate over a period of time e.g. twenty minutes. An aerobic activity helps to increase cardiorespiratory fitness, which is one of the fine essential components of physical fitness. Being aerobically fit you can feel it as you go about. Muscle tone improves as you work on the proper running techniques.

**Detailed Course Description – 400 Level Omega Semester**

**GEC429: SIWES - Industrial Training III (6 Units: LH0, T0, PH 270)**

During the SIWES each student will undergo practical on the job training in an engineering industry approved for its relevance to the student’s major for a minimum of 28 weeks starting immediately after the first semester examinations at 400 level. A programme of training will be drawn by the College and the Industry for each student, and a prescribed log book with daily recording of the student activities is to be kept by each student and appropriately signed. At the end of the programme, a written report is to be submitted to the college and each student to present a seminar on his/her industrial experience. Each student must pass a prescribed certification examination during the industrial training.

**Detailed Course Description – 500 Level Alpha Semester**

**GEC517: Engineering Law (2 Units: LH 30, T0, P0)**

Introduction and Overview of the Nigerian Legal System: Civil and criminal. Basic concepts of law, and sources of law. Formation of contracts. Contract Law. Liabilities in torts: assaults, negligence and strict liability. Professional role and liabilities of Engineers. Contract of Employment: independent contractors, workmen compensation. Property law. Partnership. Intellectual property and moral rights, copyright, trademarks and patent. Music royalties, synchronization rights, performance rights. Role of music publishers. Broadcast rights, merchandising. Registration and incorporation of companies and effects. Public and private licensing. Case studies relating to professionals. Arbitration. Current issues: digital signatures. Speech Law: Defamation, Sedition, Printing Press Act. Speech on the Internet. Advertising Code: Made in Nigeria rules and guidelines, Advertising standards. Media and Licensing law in Nigerian:

Developing an in-depth understanding of the nature and function of Nigerian cyber law. Detailed analysis of Communications and Multimedia Act. Ethic and Etiquette: New codes of social behaviour, the right to privacy.

**EDS511: Cost Engineering**

**(2 Units: LH 30, T0, P0)**

Cost and schedule management- an engineering function. Supporting skills and knowledge. Role of cost engineer during evaluation, basic engineering design, and contractor selection phases. Role of cost engineer during construction. Cost engineering function as distinct from Design engineering function. Canon of ethics for cost engineers. Basic capital cost estimating. Basic operating cost estimating. Basic project planning and scheduling. Cost engineering terminology and standards. Network analysis, CPN, PERT, forecasting, controlling, budgeting, nature decision making, employer attitude to managerial leadership. Production, stages in production, factory location and design, factory layout and site selection, production method, mass production, unit, small and large batches.

Personnel management, safety consideration, training and apprenticeship and recruitment, trade unions and their functions, joint consultations, and collective bargaining, setting variable cost control, tendering and estimating, estimated costs for operational control, basic account, balance sheet development, marketing, market research-prediction by time series analysis, limitation of statistical analysis, questionnaires, advertising and sales promotions, export and import operations. Work study method. Research, characteristics of research design. What is a variable in research, operationalizing variables and types of variables? Financial management.

**EIE510: Research Methodology**

**(1 Units: LH 15, T0, P0)**

Definition of Research, Characteristics of Research, Types of Research, The Research Process, Formulating the Research Problem, Considerations in Selecting a Research Problem, Reviewing the Literature, Procedure for reviewing the Literature, The Formulation of Objectives, Preparing the Research Design, Consideration for the Research Design, Guidelines to construct a Research tool, Constructing a Questionnaire, Piloting the Questionnaire, Collecting Data, Ethical Issues concerning research participants, Ethical Issues relating to the researcher, Processing and Analyzing Data, The Data Processing Operations, Data Analyzing methods, Generalization and interpretation of the Results, Reporting the Findings, Written Research Project Report Format, General Attributes of a Research Proposal, What distinguishes an Engineering Research Proposal, Components of a Research Proposal, Costing an Engineering Research Proposal

**EIE512: Reliability and Maintainability**

**(2 Units: LH 30, T0, P0)**

Introduction to reliability, maintainability, reliability specification and metrics. Application to computer hardware system, communication equipment, power systems, electronic components. Basic maintenance types, and procedures for computers and digital communication systems. Fault troubleshooting techniques. QoS and time of availability of data communications. Quality control techniques. Design for higher Metrics, fault avoidance, fault tolerance, programming for reliability, software safety and hazard analysis. Comparison of hardware and software reliability. Software Quality and Assurance: definition of software quality, software quality factors, quality control, cost of quality, quality assurance. SQA activities, formal technical reviews, software quality metrics, statistical quality assurance. ISO 9000 Requirements and certification, ISO 9000-3 for software quality process, process documentation, quality audit. Capability Maturity Model: Software Engineering Institute, levels of maturity, key process areas, Comparison between ISO 9000 Standards and CMM. Ensuring Quality and Reliability: verification and validation, measurement tracking and feedback mechanism, total quality management, risk management.

**ICE513: Information Theory and Coding**

**(3 Units: LH 45, T0, P0)**

Review of probability theory: random variables, probability distributions, joint, marginal and conditional distributions, expectation. Information measure: self-information, entropy, mutual

information. Channel representation. Channel capacity. Shannon's source encoding, noiseless coding theorem, noisy theorem. Shannon's limit. Source encoding techniques: Shannon-Fano, Huffman, run-length, LZW. Error detection codes: VRC, LRC, CRC. Error correction codes: Hamming code.

**ICE514: Telecommunication Engineering & Systems Planning (3 Units: LH 45, T0, P0)**

Telephony: traffic engineering, Erlang's formulas, GOS. Microwave devices and circuits - Gunn oscillators, Impatt & Trapatt diode amplifiers, microwave BJT and FET models and S- parameters. Microwave transmission systems: link budget. Radio Transmitters and Receivers: AM transmitters (low level, high-level), FM transmitters, Communication transmitters; TRF receivers, Superheterodyne receivers, Communication receivers. Television Systems: Principle of operation of analogue and digital TV systems. Radar Systems: The radar range equation, pulse radar, CW Doppler radar, FW radar, MTI, Other applications of radar systems.

Telecommunications standards, monitoring and regulation: international Telecommunications Union (history, structure and functions. Global telecommunications standards collaboration: international and regional. Nigerian Communications Act. Nigerian Communications Commission. Spectrum Management: Basics of Spectrum Management: RF spectrum, classifications and features, Spectrum utilization, Need for spectrum management, Spectrum Management goals. Spectrum Management functions. Spectrum Policy, Planning and Assignment: Frequency assignment and allocation procedures, National, regional and international spectrum management regulatory frameworks. Spectrum Management applications (e.g. aeronautics, radio astronomy, radar, broadcasting, satellite networks, etc.). Spectrum Management Responsibilities: Spectrum Management improvement techniques, ITU's Radio Regulation and Recommendations, ITU-R activities and Study Groups, CEPT, ETSI, NTIA, Ofcom, Nigerian Communications Commission (NCC), Spectrum management in selected developing countries.

**ICE516: Artificial Intelligence and Applications (3 Units: LH 45, T0, P0)**

Neural Network: Definition of artificial neural network. Similarities of neural network with human brain. Classification of ANN. Terminologies: input/output sets, weights, bias or threshold, supervised learning, network training, Convergence process, single layer vs. multilayer perception, Forward and Backward propagation, gradient descent rule. Back-propagation neural network, Variable terms used in back propagation neural network: learning rate, momentum, hidden nodes, sigmoid activation function. Back propagation algorithm of ANN. Design of ANN model, training sets for ANN, test sets for ANN, network testing and performance. Engineering applications. ANN programming.

**ICE517: Digital Signal Processing (2 Units: LH 30, T0, P0)**

Digital Fourier transform; Fast Fourier transform; approximation problem in network theory; synthesis of low-pass filter; special transforms and their application in synthesis of high-pass and band-pass filters; digital filtering transfer function analysis; one-dimensional recursive and non-recursive filters; computer techniques in filter analysis; realization of filters in hardware and software; basic image processing concepts.

**ICE518: Computational Mathematics and Queuing Theory (3Units: LH 45, T0, P0)**

Numerical solution of systems of non - linear algebraic equations - methods of Newton, bisection and Bairstow; iterative process - application equation; Numerical solution of systems of linear algebraic equations - Basic concepts of matrix (Review), exact methods (the Gaussian method or Gauss elimination and LU decomposition of matrix); Inverse matrix. Interpolation and differentiation method in numerical integration-finite difference methods and formulae. The eigenvalue problem solution of ordinary differential equation-methods of Taylor, Euler, Predictor-corrector and Runge-Kutta. Operations Research: Introduction to Linear Programming: LP model,



graphical solution, simplex method, duality, sensitivity analysis. Transportation and assignment problems. Network models: shortest-route problem, maximal flow model, minimal spanning tree algorithm. Queuing systems: pure birth and death models, generalized Poisson queuing model, specialized Poisson queue models. M/M/1, M/M/c, M/M/∞, M/G/1. Markov chains.

**TMC511: Total Man Concept IX**

**(1 Unit: LH 15, T0, P0)**

Profile Building (Part 1). The emphasis of this course is on experimental learning and it involves pulling together the main stands of TMC from 1st year to 4th year. It will introduce a personal dimension by exploring the idea of service from a student centered learning perspective. There will be practical exercises, workshops, projects, and journal keeping and detailed character study.

**TMC512: Total Man Concept: Sport IX**

**(0 Units: L0,T0, P4)**

Game (Soccer & Volleyball): This centers on the mastery of basic skills, game situation as well as rules and regulation governing the various sports that will be attempted.

Focuses are also being on appreciation of various sports and the spirit of sportsmanship that is 'win or loss' taking it in good fate.

Aerobics exercise: This is said to be any activity that can get the heart rate going and keeps it at a sustained rate over a period of time e.g. twenty minutes. An aerobic activity helps to increase cardiorespiratory fitness, which is one of the fine essential components of physical fitness.

Being aerobically fit you can feel it as you go about. Muscle tone improves as you work on the proper running techniques.

**Detailed Course Description – 500 Level Omega Semester**

**GEC527: Engineering Management**

**(3 Units: LH 45, T0, P0)**

Analysis and design of engineering projects from the view point of the whole. Interaction between the individual components (subsystems) and the effect of such on the overall system. Optimal operation of the projects as measured by stability, ease of operation, and economic returns. Management of engineering project environment. Formation of company, sources of finance, money and credit. Insurance, national policies, GNP growth rate and prediction. Organizational management. Management by objectives. Personnel management-selection, recruitment and training. Job evaluation. Industrial psychology-individual and group behaviour. The learning process and motivation factors. Resource management planning and decision-making. Forecasting scheduling. Production control. Work study and production processes. Systems management (Operations research) techniques and applications in engineering modeling linear programming, dynamic programming, PERT, CPM in system management. Transportation problems. Queuing theory and application.

**EIE526: Digital Image Processing**

**(2 Units: LH 30, T0, P0)**

The human vision system: monochrome and color vision and perception. Digital imaging systems: system model, sampling and quantization, Image enhancement: point and operators, linear and non-linear filters, spatio-temporal filtering. Image interpretation: edge detection, feature extraction and classification. Colour: full and pseudo-colour image processing, colour models. Scene labeling: discrete and probabilistic relaxation. Introduction to digital and audio broadcasting: standards, requirements MPEG.

**ICE524: Microwave Engineering**

**(2Units: LH 30, T0, P0)**

*Microwave Engineering:* The microwave spectrum. Transmission-line theory: circuit representation, transients, terminated transmission line, impedance transformation, the Smith chart. Impedance matching. Typical microwave transmission lines: two-wire line, coaxial, strip-type. Theory of waveguide transmission. Reciprocal multiport junctions and their applications: hybrid junctions, directional couplers, dual-mode transducers, turnstile junction, etc. Microwave resonators and filters.

**ICE526: Mobile and Satellite Communication****(3 Units: LH 45, T0, P0)**

Evolution of mobile radio communications. Examples of mobile radio systems: radio paging, cordless telephones, cellular radio. Trends in cellular radio and personal communications. A basic cellular system, Frequency reuse, Roaming, Hand-off strategies, Co-channel interference, Traffic and Grade of service, System capacity, Improving capacity of cellular system. Propagation path loss, multi-path propagation problem, Raleigh fading, Rician distribution. Doppler effect. Field strength prediction models, co-channel interference and reduction, adjacent channel interference, near-far problem. Standards and overview of analogue and digital cellular systems: AMPS, TACS, GSM, CT2, PCN, DECT, PHS. Frequency management and channel assignment, speech coding, channel coding, bandwidth consideration, equalization, modulation techniques, multiple access techniques. GSM: Architecture, elements, and standard interfaces; FDMA/TDMA structure; Speech and channel coding; time slots and bursts; signaling; hand-offs; DCS 1800; GPRS; data services over gsm. Third Generation Wireless Standard: convergence; UMTS; IMT-2000; CDMA2000; WCDMA; UWC-136; Network layer standards. Paging services and technologies; Short Message Services. Call Processing: Signalling; Roaming and mobility management; Route optimization; Wireless Intelligent Networking; Databases; Protocols; Security and billing issues. Global Positioning System: principles, and applications.

Satellite frequency bands, services, transmission and multiplexing schemes, trans-multiplexing, and multiple access schemes. Satellite orbit, satellite motion, paths, geostationary satellites, non-geostationary constellations, satellite subsystems, and satellite launching. Antennas: types, gain, pointing loss, G/T, EIRP; high power amplifiers; low noise amplifiers; BUC/LNB: conversion process, polarization hopping, redundancy configurations; earth station monitoring and control. Basic link analysis, attenuation, sources of interference, carrier to noise and interference ratio, system availability, frequency reuse, link budget, link design. Multiple access techniques: companded FDM-FM-FDMA, SSB-AM-FDMA, amplitude and phase nonlinearities, optimized carrier to noise and intermodulation ratio; TDMA : frame structure, burst structure, frame efficiency, super-frame structure, frame acquisition and synchronization, satellite position determination, TDMA equipment, advanced TDMA satellite systems; CDMA : direct sequence CDMA (DS-SS), sequence synchronous and sequence asynchronous DS-SS, random access DS-SS, link analysis, FH-SS systems, FH-SS, acquisition and synchronization. Demand assignment multiple access (DAMA): types of demand assignments, DAMA characteristics, real time frame reconfiguration, DAMA interfaces, SCPC DAMA, SPADE, digital speech interpolation. Message transmission by FDMA: M/G/1 queue, message transmission by TDMA: pure ALOHA- satellite packet switching, slotted ALOHA, packet reservation, tree algorithm. Advantages and disadvantages of multibeam satellites, interconnection by transponder hopping, interconnection by on-board switching (SS/TDMA), interconnection by beam scanning, ISL : GEO-LEO, GEO-GEO, LEO-LEO, RF and optical links. VSAT networks: VSAT technologies, network configurations, multi-access and networking, network error control, polling VSAT networks

**ICE527: Optical Communication****(2Units: LH 30, T0, P0)**

Planar and cylindrical optical waveguides, LEDs, lasers, optical amplifiers, integrated optical and photodetectors, design tradeoffs for optical systems, passive optical networks, and wavelength division multiplexed systems.

**EDS521: Engineering Valuation/Appraisal****(2 Units: LH 30, T0, P0)**

Organizational structure, formal and informal, definition of the term organization, development of organization from one-man business. Scientific organization. Why engineering management. Engineering to Engineering management. Assuming management responsibilities: -management knowledge requirement. The engineering manager job: - engineering management process, the management functions, engineering project manager, hierarchy structure and flow of information. Hierarchy (scalar principle), scalar chain, gang plan, unity of command business organization, logic

of organizing, the classical organizer, the behavioural organization, bureaucratic organization, centralization and decentralization.

Objectives of valuation work/valuer's primary duty and responsibility. Valuer's obligation to his or her client, to other valuers, and to the society. Valuation methods, practices and standards. Valuation reports. Expert witnessing. Ethics in valuation. Price, cost and value. Depreciation and obsolescence. Valuation terminology. Appraisal reporting and review. Real property valuation. Personal property valuation. Machinery and equipment valuation. Oil and gas valuation. Mines and quarries valuation.

**EIE529: Final Year Project**

**(6 Units: L0, T0, PH 270)**

The project work is to be completed in this second phase. Each student is to submit a proper written report (banded 3 hardcopies, and a CD-ROM of electronic copy). The project is presented and defended at a seminar. Students may choose to work on individual design projects or team design projects. These projects consist of largely industry-sponsored projects as part programming, CAD/CAM application (turning problem, surface milling, machining of curved surfaces).

**TMC521: Total Man Concept X**

**(1 Unit: LH 15, T0, P0)**

Profile Building (Part 2). This course follows directly from TMC511 and continues to explore the personal connection students have made with TMC as a course of study via practical exercises on the specific themes that are addressed in the course of the lecture. The question and discourse emanating from this exercise will enable students to develop their own perspective to the issues of life.

**TMC 522: Total Man Concept: Sport X**

**(0 unit:L0, T0, P0)**

Jogging: This helps in many ways, our focus here on the benefit of jogging is for physical fitness that reduces risk of Osteoporosis. Osteoporosis is the condition when the bones become increasingly porous and brittle. It can result to bone fractures and deformities.

Game (Basketball & Handball): This centres on the mastery of basic skills, game situation as well as rules and regulation governing the various sports that will be attempted.

Focuses are also being on appreciation of various sports and the spirit of sportsmanship that is 'win or loss' taking it in good fate.

**ELECTIVES**

**EIE521: Electromagnetic Interference**

**(2 Units: LH 30, T0, P0)**

Concern for electromagnetic compatibility. Circuit theory approach and field theory approach. Comparative analysis. Coupling and Shielding: Capacitive (electric) coupling. Inductive (magnetic) coupling. Shielding of cables. Effects of shield resistance, cause and effects of leakage flux, stray current return paths, methods of adding common-mode impedance. Balanced circuits. Grounding: Grounding of multiple-chassis systems. Signal ground connections. Safety ground connections. Layout and grounding of printed circuit board: layout consideration, current return path, power distribution within a PCB. Radiation: Radiation coupling between distant devices. Superposition of multiple electric and magnetic sources. Cabinet shielding. Absorption losses and reflection losses for nonmagnetic shields. Effects of shield apertures: current flow in shields, slot antenna theory, waveguide theory. Shield penetration by wires and cables. Interconnecting leads as antennas, treatment of power, low frequency and high frequency leads. EMC Regulations and Measurements: Civilian regulations. Measurement of radiated emissions. Anechoic Chamber. Test site calibration. Measurement of conducted emissions.

**EIE524: Cryptography Principle and Application**

**(2 Units: LH 30, T0, P0)**

History of cryptographic System, Public Key Systems, Digital Signatures. Information Theory: Entropy, Perfect Secrecy, Unicity Distance, Complexity Theory, NP Completeness, Number Theory. Data Encryption Methods: Transposition Ciphers, Substitution Ciphers, Product Ciphers, Exponentiation Ciphers, Knapsack Ciphers, Breakable NP-Complete Knapsack, Encryption Standards DES, RSA, Elliptic Curves. Cryptographic Techniques: Block and Stream Ciphers, Autokey, Endpoints of Encryption, One-way Ciphers, Password and Authentication, Secret Keys and Public Keys, Threshold Scheme. Video scrambling techniques. Digital video encryption techniques: principle, IRDETO, Viaaccess, Videoguard, etc. Security and Legality Issues: Copyrights, Patents, Trade Secret, Ownership of Products, Computer Crimes, Ethical Issue in Computer Security

**ICE529: Computer Hardware System Design (2 Units: LH 30, T0, P0)**

Digital logic. Data representation. Digital components and signals. Combinational and sequential logic design and realization. Microprocessor system design and programming. Simple and complex programmable logic devices. Hardware description languages and introduction to VHDL. CPU design and field programmable gate arrays (FPGAs).

## 4.7 LABORATORIES AND WORKSHOPS

The Department has cutting-edge laboratory equipment to corroborate the classroom teaching and to further the frontiers of research results. The laboratories and workshops are adequate in size, well equipped with suitable machinery, tools and equipment. The environment is safe, well maintained and suitably laid out. For the purpose of drawing, the Department uses the well-equipped drawing studio in the Department of Mechanical Engineering for students to carry out their drawing assignments. There are nine laboratories for the programme and one Central workshop namely:

- a) Telecommunication and Network Laboratory
  - Microwave
  - Optic Fiber
  - Transmission Line
  - Intermediate Network
- b) Energy Laboratory
- c) Microprocessor Laboratory
- d) Digital System and Prototyping (Printed Circuit Board) Laboratory
- e) Computation (Software Engineering) Laboratory
- f) Control, Instrumentation and Embedded Systems Laboratory
- g) Electronics Laboratory
- h) Applied Electricity Laboratory
- i) Electrical Machines Laboratory
- j) Central Workshop

### 4.7.1 Microwave Laboratory

Table 11: Details of Equipment, Instruments and Tools available in Microwave Laboratory

| S/N | Equipment Description   | Model    | Quantity |
|-----|---|----------|----------|
| 1   | Microwave Trainer   | 56-200   | 3        |
| 2   | Microstrip Trainer  | MST 532  | 2        |
| 3   | CT60 Microwave communication trainers: Receiver and transmitter | CT60     | 3        |
| 4   | Spectrum Analyser 9KHz- 3GHz                                    |          | 3        |
| 5   | NTC-104 "Radio frequency and Telecommunication with MPMS        |          | 3        |
| 6   | Indoor Antenna  |          | 1        |
| 7   | Decoder   | TANDBERG | 2        |



**Figure 2: Students in the Microwave Laboratory**



**Figure 3: An Overview of the Microwave Laboratory**

#### 4.7.2 Optic Fiber Laboratory

Table 12: Details of Equipment, Instruments and Tools available in Optic Fiber Laboratory

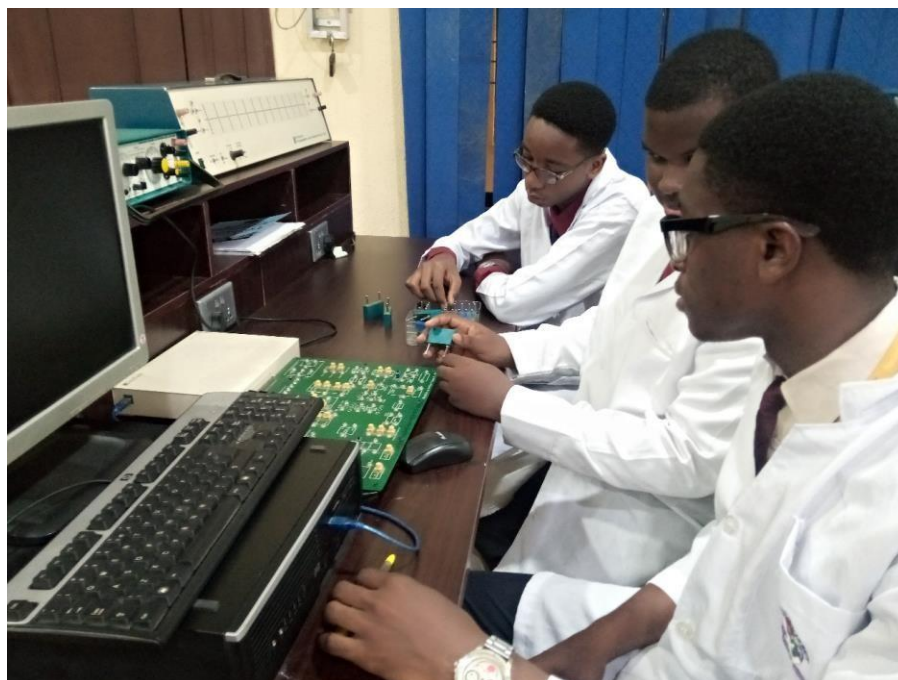
| S/N | Equipment Description                                      | Model         | Quantity |
|-----|--|---------------|----------|
| 1   | Optic fibre Educator                                       | Elimax        | 3        |
| 2   | 06 Modicom 6 “Fibre optics transmitter and receiver system | Modicom       | 3        |
| 3   | NTC-1 03.000 “Fibre optic communication” Training stand    | NTC-1         | 2        |
| 4   | Photodiode current meter                                   | Keithlay 2500 | 2        |
| 5   | Continuous Semiconductor Laser                             | LS-P3500      | 2        |
| 6   | Current Generator  |               | 2        |
| 7   | Fast Photo detector  | BNC-3D        | 2        |
| 8   | Stand to study photo detector operation                    |               | 2        |
| 9   | Optical Fibre Coupler                                      | KL-280G       | 1        |

#### 4.7.3 Transmission Line Laboratory

Table 13: Details of Equipment, Instruments and Tools available in Transmission Line Laboratory

| S/N | Equipment Description                                    | Model    | Quantity |
|-----|--|----------|----------|
| 1   | Transmission Line educator                               | TLD 511  | 3        |
| 2   | Variable Phase LF Generator                              | VPG 608  | 3        |
| 3   | Ctl modicom1 “signal sampling and reconstruction module” | Modicom1 | 4        |
| 4   | 02 modicom2 “Time Division Multiplexer PAM module”       | Modicom2 | 4        |

| S/N | Equipment Description   | Model    | Quantity |
|-----|---|----------|----------|
| 5   | CT3/1 and CT3/2 modicom3<br>“Pulse Code Modulation<br>Transmitter/Receiver<br>system” | Modicom3 | 4        |
| 6   | CT4 Modicom4 “Delta<br>modulation module”   | Modicom4 | 4        |
| 7   | CT5/1 and CT5/2 modicom5<br>“Delta conditioning and<br>carrier<br>modulation system”  | Modicom5 | 4        |
| 8   | CT7 Audio input module  |          | 4        |
| 9   | CT8 Audio output module   |          | 4        |
| 10  | CT20 Anacom1/1 and v2<br>Analogue communication<br>module                             |          | 4        |
| 11  | CT21 Anacom2 “Introductory<br>Analogue<br>communication module                        |          | 4        |



**Figure 4: A Cross-section of the Transmission Line Laboratory**





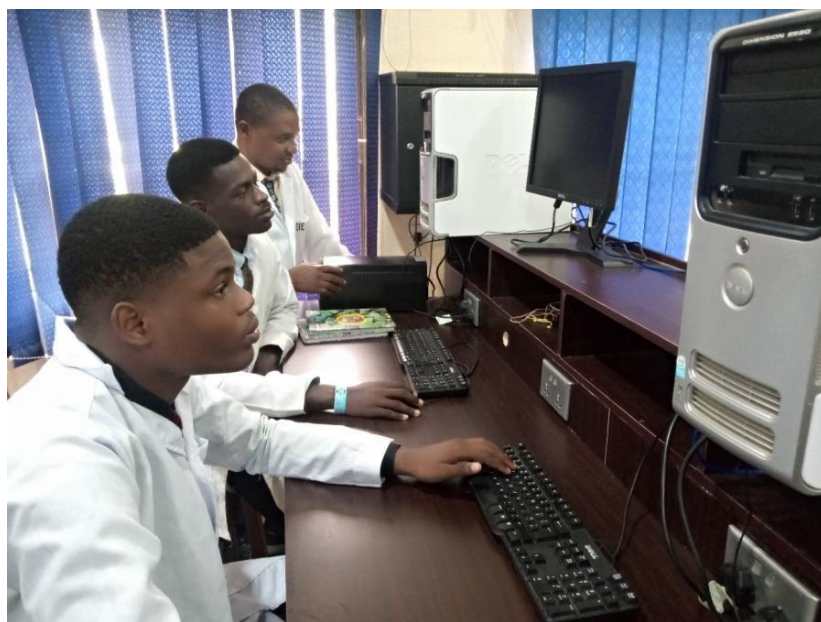
**Figure 5: Students Undertaking Experiment in the Transmission Line Laboratory**

#### **4.7.4 Intermediate Network Laboratory**

Table 14: Details of Equipment, Instruments and Tools available in Intermediate Network Laboratory

| <b>S/N</b> | <b>Description of Equipment</b> | <b>Model</b>       | <b>Quantity</b> |
|------------|---------------------------------|--------------------|-----------------|
| 1          | CISCO Switch                    | Catalyst 2960 Plus | 2               |
| 2          | CISCO Router                    | 2900 Series        | 2               |
| 3          | Desktop PCs                     | Dell               | 10              |
| 4          | Patch Panel                     | Commscope          | 2               |
| 5          | Jack/Socket/Faceplate           | Commscope          | 24              |
| 6          | Fibre Optic Educator            | Ellmarck           | 2               |
| 7          | CAT 5 Cables                    | Commscope          | 1 Carton        |
| 8          | Crimper                         | Germany/ China     | 15              |
| 9          | Tester                          | Paladin Tools      | 14              |
| 10         | RJ45 Connector                  | Commscope          | 1 Carton        |
| 11         | Antenna System Trainer          | Dutrux D2261 AST   | 1               |
| 12         | Oscilloscope                    | GDS – 1052U        | 4               |

|    |                            |             |   |
|----|----------------------------|-------------|---|
| 13 | Spectrum Analyzer          | SPA-932TG   | 1 |
| 14 | Intermediate Network       | 52-230      | 5 |
| 15 | Microwaveguide Bench       | Tesca 10401 | 1 |
| 16 | Microscript                | MST532      | 1 |
| 17 | Transmission Line          | TDL 511     | 3 |
| 18 | Digital Data formatting    | 53-150      | 3 |
| 19 | Amplifiers and Oscillators | 53-210      | 3 |



**Figure 6: A cross section of the Intermediate Network Laboratory**

**Figure 7: Overview of the Telecommunication Laboratory**

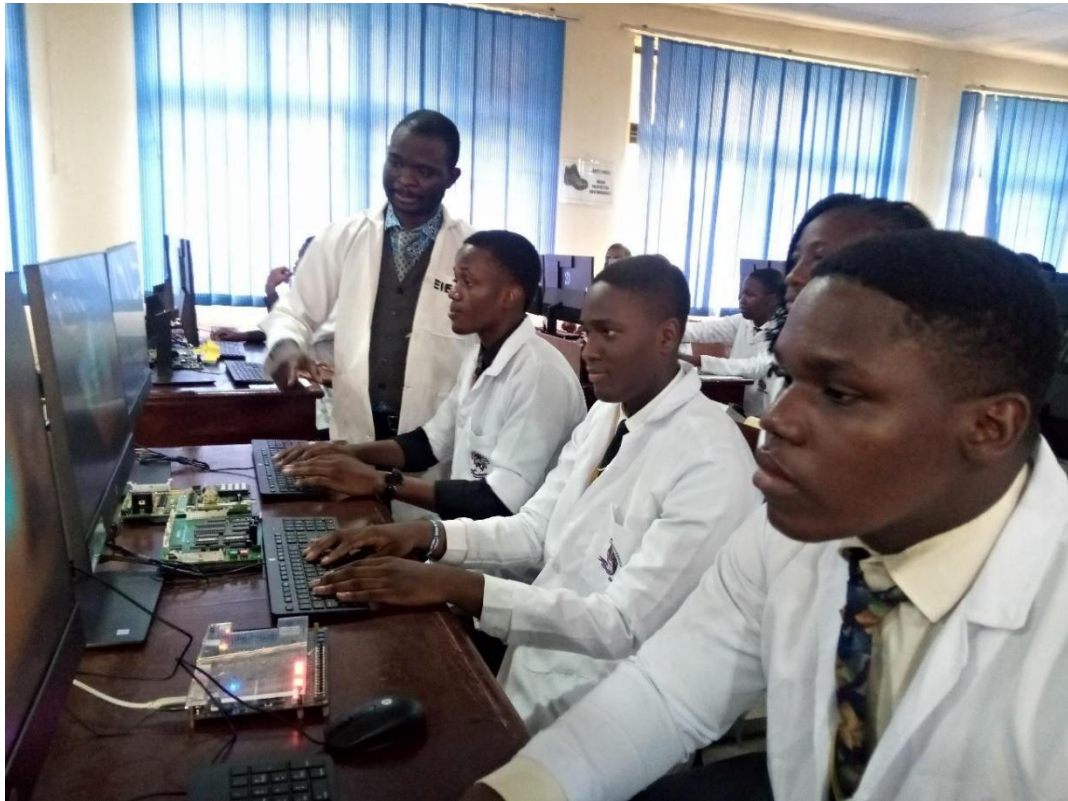


#### 4.7.5 Microprocessor Laboratory

Table 15: Details of Equipment, Instruments and Tools available in Microprocessor Laboratory

| S/N | EQUIPMENT DESCRIPTION  | Model  | QUANTITY                     |
|-----|--|--|------------------------------|
| 1   | HP PRO ONE 440 GS 238 ALL –IN ONE  |  | 40                           |
| 2   | SERVER   | HP PROLIANT DL38                                 | 1                            |
| 1   | PURE SINE WAVE COMBINED INVERTER &CHARGER  |  | 1                            |
| 2   | PC COMPUTER TRAINER  | EO-865   | 1                            |
| 3   | WAVETEK FUNCTION GEN.  | FG2C   | 3                            |
| 4   | FEEDBACK FUNCTION GEN.   | PFG605   | 1                            |
| 5   | GWINSTEK FUNCTION GEN.   | GFG-8217A  | 1                            |
| 6   | ANALOG DIGITAL SCOPE   | HM507  | 1                            |
| 7   | BENCH MULTIMETER   | MX553  | 1                            |
| 8   | SYSTEM STORAGE RACK<br>Inside the storage rack we have;<br>(a) Digital System & Computing Module<br>(b) Digital System & Computing Module<br>(c) Digital System & Computing Module | SSR1000<br><br>CK342B<br><br>CK342A<br><br>CK341 | 1<br><br>3<br><br>1<br><br>6 |
| 9   | 16F877 TARGET BOARD  | 877-TB   | 3                            |
| 10  | (PL-DATS) PLD TRAINER  | PL-DATS  | 1                            |
| 11  | 8086-DATS TRAINER SYSTEM   | 8086-DATS  | 3                            |
| 12  | APPLICATIONS BOARD   | 8086-DATS  | 5                            |
| 13  | 68HCII TRAINER SYSTEM  | MC11-DATS  | 2                            |
| 14  | 80C51 TRAINER SYSTEM   | 8051-DATS  | 2                            |
| 15  | 68000 TRAINER SYSTEM   | KAYCOMP II                                       | 1                            |
| 16  | CROSS-ASSEMBLER  | A68000NT   | 2                            |
| 17  | CROSS-ASSEMBLER  | A8086NT  | 1                            |
| 18  | CROSS-ASSEMBLER  | A8051NT  | 2                            |
| 19  | PC APPLICATIONS TRAINING SYSTEM (PCI)  |  | 2                            |
| 20  | 8051 MICRO TRAINER SYSTEM  | 8051   | 2                            |
| 21  | 68000 MICRO TRAINER SYSTEM   | 68000  | 2                            |
| 22  | MICRO TRAINING SYSTEM  | 877-DATS   | 2                            |
| 23  | ELECTRIC HAND DRILLING MACHINE (BOSCH)   | PSB500RE   | 4                            |
| 24  | D.C. POWER SUPPLY  | FEEDBACK   | 4                            |
| 25  | CHIPRASE EPROM ERASER  | AT-701   | 2                            |
| 26  | DEVELOPMENT & EDUCATION BOARD MODULE   | ALTERA DE2                                       | 1                            |
| 27  | MICRO ENGINEERING LABS MODULE  | LAB-X1A  |                              |

|    |                               |             |    |
|----|-------------------------------|-------------|----|
| 28 | MICRO ENGINEERING LABS MODULE | LAB-X1K     |    |
| 29 | BENCHMARK                     | LAN TRAINER | 2  |
|    | <b>COMPUTER ACCESSOIRES</b>   |             |    |
| 30 | RAM 4 GIG                     |             | 6  |
| 31 | CARDL READER                  |             | 6  |
| 32 | HARD DRIVE                    |             | 6  |
| 33 | DVD DRIVE                     |             | 6  |
| 34 | MOTOR BORAD                   |             | 6  |
| 35 | CPU MAT                       |             | 6  |
| 36 | LCD FLAT MONITOR              |             | 6  |
| 37 | TOOL KIT                      |             | 5  |
| 38 | SPEAKER SET                   |             | 5  |
| 39 | KEYBOARD                      |             | 80 |
| 40 | COMPUTER CASING               |             | 5  |
| 41 | COMPUTER REPAIR TRAINER       |             | 3  |
| 42 | STOOLS                        |             | 70 |
| 43 | LOGIC GATE                    |             | 4  |
| 44 | ARDURNO BROAD                 | UNOR 3      | 60 |
| 45 | COLLECTOR'S (USB)             |             | 60 |



**Figure 8: Computers in the Microprocessor Laboratory**



**Figure 9: Microprocessor Experiments in the Microprocessor Laboratory**





**Figure 10: Microcontroller Experiments in the Microprocessor Laboratory**



**Figure 11: View of the Microprocessor Laboratory**

#### 4.7.6 Digital System and Prototyping (Printed Circuit Board) Laboratory

Table 16: Details of Equipment, Instruments and Tools available in Digital System and Prototyping (Printed Circuit Board) Laboratory

| S/N | Description of Equipment        | Model        | Quantity |
|-----|---------------------------------|--------------|----------|
| 1   | Digital Oscilloscope            |              | 2        |
| 2   | Project Board                   |              |          |
| 3   | Logic Circuit 12 – 220A         |              | 3        |
| 4   | Logic Circuit 12 – 220 B        |              | 3        |
| 5   | Logic Tutor Ex. Board LT345 MK2 |              | 6        |
| 6   | PCB Plotter Machine             | 1017390148   | 1        |
| 7   | Exposure Unit                   | 300-247      | 1        |
| 8   | LPKF PROTOFLOW Machine          | SN0Z1947L332 | 1        |
| 9   | LPKF PROTOPLACE Machine         | SN1116000079 | 1        |
| 10  | LPKF MINI CONTAC RS Machine     | OZ1740N18    | 1        |
| 11  | Laminating Machine              |              | 1        |
| 12  | Paper Cutter                    |              | 1        |
| 13  | WorxPlex Drilling Machine       | WF-ZJ4113    | 1        |



Figure 12: Printed Circuit Board Machine in the Digital System and Prototyping (Printed Circuit Board) Laboratory



**Figure 13: View of the Digital System and Prototyping (Printed Circuit Board) Laboratory**

#### **4.7.7 Computation (Software Engineering) Laboratory**

Table 17: Details of Equipment, Instruments and Tools available in Computation (Software Engineering) Laboratory

| <b>S/N</b> | <b>Description of Software/Equipment</b> | <b>Model</b>           | <b>Quantity</b>  |
|------------|--|------------------------|------------------|
| 1          | MATLAB                                   | 2015B                  | 20 network users |
| 2          | Visual Studio                            | 2015 community edition | 20 network users |
| 3          | MultiSim                                 | 2001 Textbook edition  | 20 network users |
| 4          | Proteus                                  | V1.6                   | 20 network users |
| 5          | Arduino IDE                              | V7.2.1                 | 20 network users |
| 6          | Packet Tracer                            | V13.0 service pack 1   | 20 network users |
| 7          | Intel/Altera Quartus II                  | V7                     | Multiple Users   |
| 8          | Java                                     | HP                     | 20               |
| 9          | Laptop Units                             | 2015B                  | 20 network users |





**Figure 14: View of Computation (Software Engineering) Laboratory**



**Figure 15: View of the Computation (Software Engineering) Laboratory (A)**



**Figure 16: View of Computation (Software Engineering) Laboratory (B)**

#### 4.7.8 Control and Instrumentation Laboratory

Table 18: Details of Equipment, Instruments and Tools available in Control and Instrumentation Laboratory

| S/N | Description of Equipment            | Model        | Quantity |
|-----|-------------------------------------|--------------|----------|
| 1   | Sensor and Transducer Training Kits | TK2942       | 3        |
| 2   | Servo Fundamental Trainer           | MS150<br>MK3 | 4        |
| 3   | Analogue Servo fundamentals trainer | 33 – 100     | 3        |
| 4   | Target board with accessories       |              | 1        |
| 5   | Function generator                  |              | 2        |
| 6   | Oscilloscope                        |              | 2        |
| 7   | Instrumentation Module              | TK2941A      | 3        |
| 8   | Industrial Process Trainer          | 34-250       | 1        |
| 9   | Twin Rotor MIMO System              | 33 – 220     | 1        |
| 10  | Magnetic Levitation System          | 33 – 210     | 1        |
| 11  | Digital Pendulum System             | 33 – 200     | 1        |
| 12  | Complete Transducer Accessories     |              | 3        |
| 13  | Mechatronics System                 |              | 16       |
| 14  | Computer System                     |              | 4        |

|    |                                  |        |   |
|----|----------------------------------|--------|---|
| 15 | Traffic Signal Control Module    | 34-402 | 2 |
| 16 | Automatic Washing Machine Module | 43-401 | 2 |
| 17 | Mentor Desktop Robot             | 35-100 | 2 |
| 18 | 30KVA UPS System                 |        | 1 |



**Figure 17: View of Control and Instrumentation Laboratory**

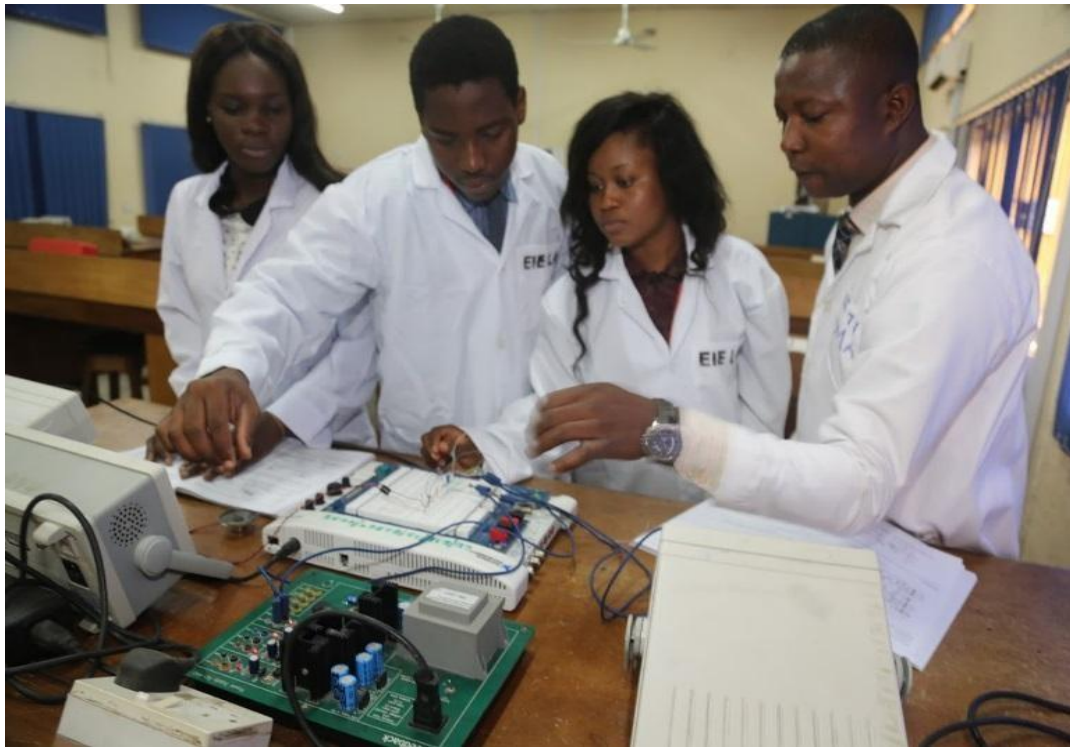
#### **4.7.9 Electronics Laboratory**

Table 19: Details of Equipment, Instruments and Tools available in Electronics Laboratory

| <b>S/N</b> | <b>Description of Equipment</b>                 | <b>Model</b>   | <b>Quantity</b> |
|------------|---|----------------|-----------------|
| 1          | Oscilloscope                                    | P-3502C        | 3               |
| 2          | Combscope (Analog Digital Scope)                | HM507          | 2               |
| 3          | Digital storage Oscilloscope                    | GDS-1052-U     | 10              |
| 4          | Function Generator                              | FG2C           | 3               |
| 5          | Function-Pulse Generator with Frequency counter | 4063A          | 3               |
| 6          | DC Power Supply                                 | HY3005D        | 2               |
| 7          | DC Power Supply                                 | Scientech 4073 | 3               |
| 8          | Feedback Power Supply                           | 92-445         | 4               |
| 9          | Feedback Teknit Console Power Supply            | 92-300         | 7               |
| 10         | Voltage Slide Regulator                         | SRV-21         | 1               |
| 11         | Project Board                                   | PP277          | 1               |

|    |  |             |    |
|----|--|-------------|----|
| 12 | Project Board                                    | UC-03       | 2  |
| 13 | Benchtop Digital Multi-meter                     | MX533       | 1  |
| 14 | Dual Display Digital Multimeter                  | GDM-8245    | 10 |
| 15 | Amplifier & Electronics Cct. App. Ex. Board A    | 12 - 210    | 5  |
| 16 | Amplifier & Electronics Cct. App. Ex. Board B    | 12 - 210    | 5  |
| 17 | Amplifier & Electronics Cct. App. Ex. Board C    | 12 - 210    | 6  |
| 18 | Amplifier & Electronics Cct. App. Ex. Board D    | 12 - 210    | 6  |
| 19 | Amplifier & Electronics Cct. App. Ex. Board E    | 12 - 210    | 6  |
| 20 | Logic Circuit Ex. Board A                        | 12 - 220    | 5  |
| 21 | Logic Circuit Ex. Board B                        | 12 - 220    | 6  |
| 22 | Electromagnetism Trainer                         | 12 - 100    | 4  |
| 23 | Logic Tutor Ex. Board                            | LT345 Mk2   | 7  |
| 24 | Basic Elect. & Elect. application Ex. Board B    | 12 - 200    | 4  |
| 25 | Operational Amplifier Tutor                      | OAT343      | 2  |
| 26 | Basic Electrical & Electronics Board(components) | EEC417-2    | 6  |
| 27 | Electrical & Electronics Constructor             | EEC470      | 6  |
| 28 | Amp. & Elect. Cct Application Board(components)  | EEC473-4    | 6  |
| 29 | NI myDAQ Student Instrumentation Device          | 195509F-01L | 5  |
| 30 | Digital System                                   | CK342A      | 1  |
| 31 | Power Devices & DC Motor Control                 | EEC476-2    | 4  |
| 32 | Opto-electronics                                 | EEC477      | 2  |
| 33 | Feedback System Storage Rack                     | SSR1000     | 3  |
| 34 | Fluke Multimeter                                 | 117         | 2  |
| 35 | Function Generator                               | GFG-8217A   | 4  |
| 36 | Function Generator                               | FG601       | 9  |
| 37 | Power Function Generator                         | PFG605      | 4  |
| 38 | Variable Phase L.F Generator                     | VPG608      | 1  |





**Figure 18: Students Undertaking Various Experiments in the Electronics Laboratory**



**Figure 19: Students Undertaking Electronics Practical**



**Figure 20: View of the Electronics Laboratory**

#### **4.7.10 Applied Electricity Laboratory**

Table 20: Details of Equipment, Instruments and Tools available in Applied Electricity Laboratory

| <b>S/N</b> | <b>Description of Equipment</b>                  | <b>Model</b> | <b>Quantity</b> |
|------------|--|--------------|-----------------|
| 1          | Oscilloscope Protex                              | P-3502C      | 8               |
| 2          | Oscilloscope Texio                               | CS-4125A     | 7               |
| 3          | Function Generator                               | FG2C         | 15              |
| 4          | DC Power Supply                                  | HY3005D      | 5               |
| 6          | Benchtop Digital Multi-meter                     | MX533        | 3               |
| 7          | Rapid Digital Multimeter                         | 328 DMM      | 3               |
| 7          | Digital Multimeter                               | DT830L       | 3               |
| 8          | Basic Elect. & Electronics Cct. App. Ex. Board A | 12-200-A     | 1               |
| 9          | Basic Elect. & Elect. application Ex. Board B    | 12-200-B     | 1               |
| 10         | Teknikit Console                                 | 92-300       | 7               |
| 11         | Electronic System Lab                            |              | 10              |



**Figure 21: Students Undertaking Various Experiments in the Applied Electricity Laboratory**



**Figure 22: View of the Applied Electricity Laboratory**

#### 4.7.11 Electrical Machines Laboratory

Table 21: Details of Equipment, Instruments and Tools available in Electrical Machines Laboratory

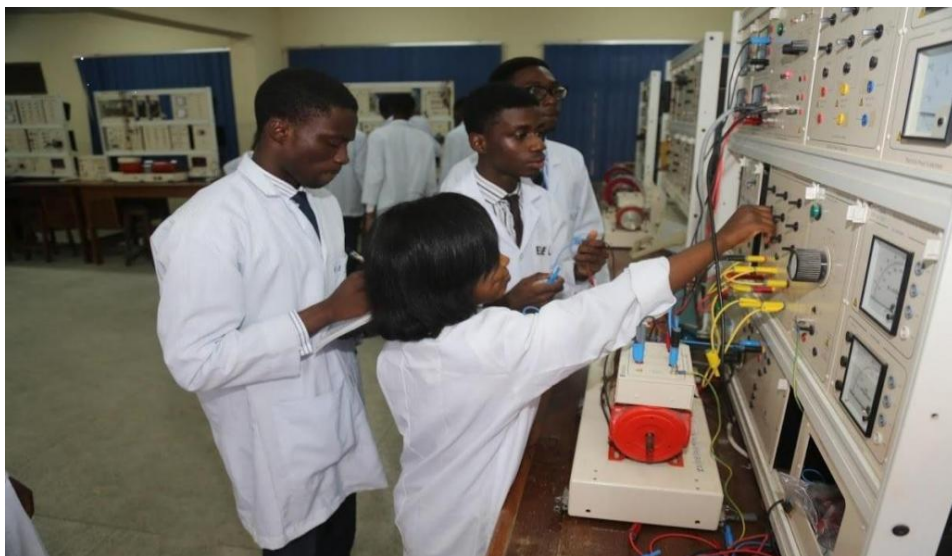
| S/N | Description of Equipment    | Model  | Quantity |
|-----|-----------------------------|--------|----------|
| 1   | Motor control circuit board | 70-310 | 3        |



| S/N | Description of Equipment               | Model  | Quantity |
|-----|--|--------|----------|
| 2   | Firing and Bridge circuit board        | 70-220 | 3        |
| 3   | SCR and Diode board                    | 70-100 | 3        |
| 4   | Three phase power supply               | 60-132 | 2        |
| 5   | Inductive Load                         | 67-300 | 3        |
| 6   | Switched capacitive Load               | 67-201 | 2        |
| 7   | Moving iron voltmeter and Ammeter      | 68-114 | 2        |
| 8   | Universal lead bin                     | 91-240 | 7        |
| 9   | Oscilloscope 20Mhz                     | HAMMEG | 2        |
| 10  | Three phase Resistive load             | 67-142 | 4        |
| 11  | Three phase transformers               | 61-107 | 1        |
| 12  | Variable Resistance 200 Ohms           | 67-113 | 3        |
| 13  | Resistor/Capacitor unit                | 67-190 | 1        |
| 14  | Single phase transformer               | 61-106 | 3        |
| 15  | D.C voltmeter and Ammeter              | 68-110 | 4        |
| 16  | D.C mill-ammeter center zero           | 68-113 | 1        |
| 17  | Three phase power supply               | 60=132 | 2        |
| 18  | Single and Three phase measurement     | 68-100 | 2        |
| 19  | Variable ac/dc supply                  | 60-121 | 2        |
| 20  | Synchronizing lamp                     | 68-120 | 3        |
| 21  | Control Switches                       | 65-130 | 2        |
| 22  | Magnetic and Electromagnetic principle | 61-400 | 1        |
| 23  | Variable frequency Drive               | 66-110 | 1        |
| 24  | AC voltmeter and Ammeter               | 68-111 | 1        |
| 25  | DC motor controller                    | 66-120 |          |
| 26  | Rectifier Voltmeter and Ammeter        | 68-117 | 2        |
| 27  | AC voltmeter and frequency meter       | 68-121 | 1        |
| 28  | Contacto panel                         | 65-123 | 2        |
| 29  | Three phase capacitive Load            | 67-212 | 2        |
| 30  | Three phase Inductive Load             | 67-312 | 2        |
| 31  | Torque and Speed control panel         | 68-441 | 3        |
| 32  | Multichannel i/o                       | 68-500 | 3        |
| 33  | Control push button                    | 65-132 | 3        |



| S/N | Description of Equipment   | Model        | Quantity |
|-----|--|--------------|----------|
| 34  | Motor switches   | 65-133       | 2        |
| 35  | DC compound motor  | 63-120       | 2        |
| 36  | Series Universal motor   | 67-100       | 2        |
| 37  | Three phase synchronous motor                                    | 64-510       | 3        |
| 39  | Three phase induction motor                                      | 64-510       | 3        |
| 40  | Single phase induction motor (capacitor start and induction run) | 64-110       | 2        |
| 41  | Three phase induction motor squirrel cage                        | 64-501       | 2        |
| 42  | DC shunt machines  | 63-110       | 4        |
| 43  | DC variable speed drive  | 63-501       | 2        |
| 44  | Swinging field Dynamometer                                       | 67-503       | 3        |
| 45  | Digital Tachometer   | DT-2236B     | 2        |
| 46  | Digital multimeter   | 68-116       | 4        |
| 47  | AC/DC Voltmeter/Ammeter  | 68-111       | 2        |
| 48  | Desk top computer systems  | Intel core 2 | 3        |
| 49  | Electronics wattmeter  | EW1604       | 4        |
| 50  | 6kw, 3phase wattmeter (5/10A)                                    | DPW 3        | 1        |
| 51  | Digital clamp meter  | MS2001C      | 2        |
| 52  | DISSECTABLE MACHINES   | 62-100       | 2        |



**Figure 23: Students Undertaking Various Experiments in the Electrical Machines**

#### 4.7.12 Energy Laboratory

Table 22: Details of Equipment, Instruments and Tools available in Energy Laboratory

| S/N | Description of Equipment           | Model                   | Quantity |
|-----|------------------------------------|-------------------------|----------|
| 1   | 10W Fuel cell Experiment Apparatus | Cussons<br>( P9040/102) | 1 set    |
| 2   | Photovoltaic Solar Energy Unit     | Cussons<br>(P9060/157)  | 1 set    |
| 3   | Educational wind Turbine           | Cussons<br>(P3130)      | 1 set    |



**Figure 24: View of the Renewable Energy Laboratory.**



**Figure 25: Students Undertaking Experiments in the Renewable Energy Laboratory**

## CHAPTER FIVE STAFF PROFILES

### 5.1 FACULTY PROFILES

The detailed curriculum vitae of each academic staff is presented below



**Engr. Dr. Isaac Adekunle Samuel**

#### 1. Education

| Degree | Discipline                                | Institution             | Year    |
|--------|---|-------------------------|---------|
| PhD    | Electrical & Electronic Engineering       | Covenant University     | 2017    |
| M.Eng  | Electrical Engineering                    | Covenant University     | 2006    |
| PGD    | Electrical Engineering (Power / Machines) | Bayero University,      | 03/2003 |
| PGD    | Management                                | Bayero University,      | 10/2003 |
| HND    | Electrical Power and Machines             | Kwara State Polytechnic | 1990    |
| ND     | Electrical Power and Machines             | Kwara State Polytechnic | 1987    |

#### 2. Academic experience

| Date- from – to | Institution         | Rank                | Title                      | FT/PT |
|-----------------|---------------------|---------------------|----------------------------|-------|
| 2023 to date    | Covenant University | HoD                 |                            | FT    |
| 2021 to date    | Covenant University | Associate Professor |                            | FT    |
| 2020 -2021      | Covenant University | Senior Lecturer     | Industry Board Coordinator |       |
| 2019 - 2020     | Covenant University | Senior Lecturer     | College PG Coordinator     | FT    |

|                                     |                     |                 |   |    |
|-------------------------------------|---------------------|-----------------|---|----|
| 2018- date                          | Covenant University | Senior Lecturer | Coordinator for courses EEE521 (High Voltage Engineering) & EEE522 (Electric Drives). EIE315 and EEE415 | FT |
| 2017-2019                           | Covenant University | Senior Lecturer | Departmental Examination Officer.   | FT |
| 2011-2013                           | Covenant University | Lecturer 1      | Departmental Examination Officer  | FT |
| 2008-2009<br>2009-2011<br>2013-2018 | Covenant University | Lecturer 11     | Academic Adviser  | FT |

### 3. **Non-academic experience**

| Organisation                                | Title  | Duties  | Date      | FT/PT |
|---|--|---|-----------|-------|
| Integrated Fibres Ltd, Kano State, Nigeria. | Assistant Head of Department of Elect & Electr | Electrical maintenance and repairs.   | 2002-2007 | FT    |
| Integrated Fibres Ltd, Kano State, Nigeria. | Asst. Group Elect/Elect Engr.                  | Operations, maintenance and repair of industrial machinery  | 1997-2002 | FT    |
| Integrated Fibres Ltd, Kano State, Nigeria. | Factory Coordinator                            | Production Process and staff coordination   | 1995-1997 | FT    |
| Integrated Fibres Ltd, Kano State, Nigeria. | Shift Engineer                                 | Rectifies any electrical fault in the factory during the shift and manage the electrical and mechanical staff on duty | 1992-1995 | FT    |

#### **CERTIFICATION OR PROFESSIONAL REGISTRATION**

- Certificate in Leadership Development through the African Leadership Development Centre, Covenant University, Ota.
- A registered Electrical Engineer by the Council for the Regulation of Engineering in Nigeria (R.Eng., COREN, No.: R.12,459).

#### **CURRENT MEMBERSHIP IN PROFESSIONAL ORGANIZATION**

- Corporate Member of the Nigerian Society of Engineers (MNSE, No.: 15946).

#### **HONOURS AND AWARDS**

- **COVENANT UNIVERSITY**

- Leadership Award for exemplary leadership and direction offered to the management of the association as the COUNSELOR of the Association of Electrical and Information Engineering Students (AEIES).
- Certificate of Excellence award for excellent stewardship and mentorship by Information and Communication Engineering (class of 2018).
- Award of Recognition by College of Engineering at Hooding Event 2018/2019.

- **CALVARY LIFE ASSEMBLY INT’I**

- Diligence Service Award for faithfulness, steadfastness and commitment to the service of God in the Church on Sunday 30<sup>th</sup> 2011.

### SERVICE ACTIVITIES

- Appointed as Supervisor for 2013 Unified Tertiary Matriculation Examination (UTME) - 27<sup>th</sup> April 2013. By the Registrar, JAMB.

### IMPORTANT PUBLICATIONS (from the past 5 years)

1. **Samuel Isaac**, Soyemi Adebola, Awelewa Ayokunle, Katende James, Awosope Claudius "Voltage Collapse Prediction Using Artificial Neural Network" International Journal of Electrical and Computer Engineering (IJECE) Vol. 11, No. 1, February 2021, pp. 124~132 ISSN: 2088-8708, DOI: 10.11591/ijece.v11i1.pp124-132 Indexed in **SCOPUS – 3.15**
2. Oluseyi, P.O., Somefun, T.E., Babatunde, O.M., ...**Isaac, S.A.**, Babatunde, D.E. "Evaluation of energy-efficiency in lighting systems for public buildings" International Journal of Energy Economics and Policy, 2020, 10(6), pp. 435–439 Indexed in **SCOPUS - 3.725**
3. **Isaac A. Samuel**, Temitope M. Adeyemi-Kayode, Ayobami A. Olajube, Shorinwa T. Oluwasijibomi, Adekitan I. Aderibigbe "Artificial Neural Network and Particle Swarm Optimization for Medium Term Electrical Load Forecasting in a Smart Campus" International Journal of Engineering Research and Technology. ISSN 0974-3154, Volume 13, Number 6 (2020), pp. 1273-1282 © International Research Publication House. <http://www.irphouse.com> Indexed in **SCOPUS – 1.85**
4. Awelewa, A.A., Popoola, O., **Samuel, I.A.**, Olajube, A.A. "Comparison of nonlinear excitation controllers for power system stabilization" International Journal of Engineering Research and Technology, 13(2), pp. 320-333. 2020. Indexed in **SCOPUS – 1.85**
5. **Isaac Adekunle Samuel**, Segun Ekundayo, Ayokunle Awelewa, Tobiloba Emmanuel Somefun, Adeyinka Adewale "Artificial Neural Network Base Short-Term Electricity Load Forecasting: A Case Study of A 132/33kv Transmission Sub-Station" International Journal of Energy Economics and Policy 10(2):200-205 DOI: [10.32479/ijeep.8629](https://doi.org/10.32479/ijeep.8629) ISSN: 2146-4553, [www.econjournals.com](http://www.econjournals.com). Indexed in **SCOPUS – 3.725**
6. Aderibigbe Israel Adekitan, **Isaac Samuel**, Elizabeth Amuta' Dataset on the performance of a three-phase induction motor under balanced and unbalanced supply voltage

conditions" Data in brief 24 (2019) 103947. <https://doi.org/10.1016/j.dib.2019.103947>  
Indexed in **SCOPUS-3.3**

7. **I. A. Samuel**, J. Katende, C. O. A. Awosope, A. A. Awelewa, A. I. Adekitan, F. A. Agbetuyi "Power system voltage collapse prediction using a new line stability index (NLSI-1): A case study of the 330-kV Nigerian National Grid" International Journal of Electrical and Computer Engineering (IJECE) Vol. 9, No. 6, December 2019, pp. 5125~5133 ISSN: 2088-8708, DOI: 10.11591/ijece.v9i6.pp5125-5133 Indexed in **SCOPUS – 3.15**
8. Agbetuyi, A.F., Awosope, C.O.A., Samuel, I.A., Ademola, A., Awelewa, A.A." Dynamic stability of a distribution system with wind turbine generators connected" International Journal of Mechanical Engineering and Technology, 2018, 9(11), pp. 2453–2461 index in **SCOPUS- 2,625**
9. Adeyinka Ajao Adewale, Aderibigbe Israel Adekitan, Ofukowoicho Jeremiah Idoko Felix Ayoade Agbetuyi and **Isaac Adekunle Samuel** "Energy audit and optimal power supply for a commercial building in Nigeria" Cogent Engineering (2018), 5: 1546658 <https://doi.org/10.1080/23311916.2018.1546658> Indexed in **SCOPUS – 3.350**
10. **Isaac A. Samuel**, James Katende, Claudius O. A. Awosope and Ayokunle A. Awelewa "Prediction of Voltage Collapse in Electrical Power System Networks Using A New Voltage Stability Index" International Journal of Applied Engineering Research (IJAER) ISSN 0973 -4562 Volume 12, Number 2 (2017) pp. 190-199. It is indexed in EBSCOhost, GOOGLE Scholar, JournalSeek, J-Gate, SNIP Value 0.166. **SCOPUS- 1.825**

Adekitan Aderibigbe, Ayodeji Ogunjuyigbe, Raphael Ayodele and **Isaac Samuel** "The performance of a 3-Phase Induction Machine under Unbalance Voltage Regime" Journal of Engineering Science and Technology Review 10 (5) (2017) 136 – 143. DOI: [10.25103/jestr.105.17](https://doi.org/10.25103/jestr.105.17) [www.jestr.org](http://www.jestr.org). **SCOPUS – 2.65**



## Engr. Prof. Emmanuel Adetiba

### 1. Education – degree, discipline, institution, year

| Degree | Discipline  | Institution          | Year |
|--------|---|----------------------|------|
| Ph.D   | Information and Communication Engineering         | Covenant University  | 2014 |
| M.Eng  | Electrical & Information Engineering (ICT option) | Covenant University  | 2007 |
| B.Eng  | Electrical Engineering                            | University of Ilorin | 2002 |

### 2. Academic experience – institution, rank, title (chair, coordinator, etc. if appropriate), when (ex. 1990-1995), full time or part time

| Institution   | Rank                           | Title  | Dates Held             | FT/PT |
|---|--------------------------------|--|------------------------|-------|
| Covenant University   | Professor                      | Professor  | 01/2018–<br>Till Date  | FT    |
|   |                                | Deputy Director/Co-PI,<br>Covenant Applied Informatics<br>and Communication Africa<br>Center of Excellence | 11/2018 –<br>Till Date |       |
|   |                                | HoD, Electrical & Information<br>Engineering,  | 01/2021–<br>05/2023    |       |
| Durban University of<br>Technology (DUT),<br>Durban, South Africa | Honorary Research<br>Associate | HRA  | 07/2017 -<br>07/2020   | PT    |
| DUT, Durban, South<br>Africa                                      | Post-Doctoral<br>Fellow        | PDF<br>Chair, PDF Forum  | 07/2014 -<br>07/2016   | PT    |
| Covenant University   | Senior Lecturer                | Chair, College Seminar<br>Committee  | 08/2014 –<br>12/2017   | FT    |
| Covenant University   | Lecturer I                     | Departmental Time-Table<br>Officer;<br>Academic Adviser  | 01/2011 –<br>01/2014   | FT    |
| Covenant University   | Lecturer II                    | Academic Adviser   | 01/2008 –<br>09/2011   | FT    |
| Covenant University   | Assistant Lecturer             | Academic Adviser   | 08/2007 –<br>01/2008   | FT    |
| Covenant University   | Graduate Assistant             | Academic Adviser   | 05/2004 –<br>08/2007   | FT    |

### 3. Non-academic experience – company or entity, title, brief description of position, when (ex. 1993-1999), full time or part time

| Organisation | Title | Duties | Dates | FT/PT |
|--------------|-------|--------|-------|-------|
|--------------|-------|--------|-------|-------|

|                               |   |   |                   |    |
|-------------------------------|---|---|-------------------|----|
| Covenant University           | Director, Center for Systems and Information Services (ICT) | Chief ICT Officer of Covenant University                                  | 2017 – 2019       | FT |
| Rollar Cecillee Communication | Software Development Trainee                                | Design, Implementation, Deployment and Maintenance of Software Solutions. | 05/2001-07/2001   | FT |
| Telnet Nigeria Ltd.           | Network Support Engineering Trainee                         | LAN/WAN Support Services.   | 02/2000 – 08/2000 | FT |

#### **4. Certifications or professional registrations**

- Registered Engineer by the Council for the Regulation of Engineering in Nigeria (R.Engr. COREN) - R.16,875.

#### **5. Current membership in professional organizations**

- Member, Nigerian Society of Engineers (MNSE).
- Member, Institute of Information and Communication Engineering (MIEEE), USA.
- A registered member of the Institute of Information Technology Professionals, South Africa (MIITPSA).

#### **6. Honors and awards**

- Honorary Research Associate, Institute for Systems Science, DUT, South Africa.
- Postdoctoral Fellow, ICT and Society Research Group, DUT, Durban, South Africa.
- World Bank Research Grant for CAPIC-ACE Projects.
- Agence Francaise de Development (AFD) funding for SEC-FEDGEN Project.
- Google TensorFlow Historically Black College and University (HBCU) Outreach Award.
- Nigeria Communications Commission (NCC), Nigeria: Research Grant for NomadicBTS Project.

#### **7. Service activities (within and outside of the institution)**

- Head of Department, Electrical and Information Engineering, College of Engineering, Covenant University, Nigeria - January 2021 till date.
- Deputy Director/Principal Investigator, Covenant Applied Informatics and Communication Africa Center of Excellence (CAPIC-ACE), Covenant University, Ota, Nigeria – November 2018 till date.
- Director, Center for Systems and Information Services (aka ICT Center), Covenant University, Ota, Ogun State, Nigeria, July 2017 to July 2019.
- External Examiner, Department of Computer Engineering, Achievers University, Nig.
- External Examiner for Dissertations, Federal University of Technology, Minna, Nig..

#### **9. Selected publications**

- **Emmanuel Adetiba, et al.**, A Review of Evolutionary Trends in Cloud Computing and Applications to the Healthcare Ecosystem, *Applied Computational Intelligence and Soft Computing, Hindawi*, 2021.
- **Adetiba E., et al.**, Large-Scale Radio Propagation Path Loss Measurements and Predictions in the VHF and UHF Bands. *Heliyon, Elsevier*, 2021.
- **Emmanuel Adetiba et al.**, LeafsnapNet: An Experimentally Evolved Deep Learning Model for Recognition of Plant Species based on LeafSnap Image Dataset, *Journal of Computer Science*, 17(3), 2021.
- **Adetiba E. et al.**, Thermal decomposition of rice husk: a comprehensive artificial intelligence predictive model. *Journal of Thermal Analysis and Calorimetry, Springer*, 2020:1-3, 2020.



- **Emmanuel Adetiba et al.**, Towards a More Efficient and Cost-sensitive Extreme Learning Machine: a State-of-the-art Review of Recent Trend, *Neurocomputing*, Elsevier, 2019.

#### **10. Professional Development**

- **Outcome Based Engineering Education Workshop** – 2018.
- **Co-Host/Organizer, 1st HPC Workshop**, at the Covenant Applied Informatics and Communication Africa Center of Excellence (CApIC-ACE), 17<sup>th</sup> - 28<sup>th</sup>, May 2021.
  - **Host/Organizer, FEDGEN Bootcamp 1.0** at the Covenant Applied Informatics and Communication Africa Center of Excellence (CApIC-ACE), 11<sup>th</sup> - 13<sup>th</sup> August 2021.



## Engr. Dr. Ayoade Felix Agbetuyi

### 1. Education

| <b>Degree</b> | <b>Discipline</b>                     | <b>Institution</b>      | <b>Year</b> |
|---------------|---------------------------------------|-------------------------|-------------|
| <b>Ph.D.</b>  | Electrical & Electronics Engineering  | Covenant University     | 2014        |
| <b>M.Eng</b>  | Electrical (Power Systems / Machines) | University of Benin     | 2006        |
| <b>B.Eng.</b> | Electrical / Electronic Engineering   | University of Ado Ekiti | 2001        |

### 2. Academic Experience

| <b>From – To</b>    | <b>Institution</b>  | <b>Rank/Title</b>       | <b>Full time/Part time</b> |
|---------------------|---------------------|-------------------------|----------------------------|
| <b>2021-present</b> | Covenant University | Associate Professor     | Full time                  |
| <b>2016-2021</b>    | Covenant University | Senior Lecturer         | Full time                  |
| <b>2014-2016</b>    | Covenant University | Lecturer I              | Full time                  |
| <b>2017-present</b> | Covenant University | COE Examination Officer | Full time                  |
| <b>2013-2017</b>    | Covenant University | EIE Examination Officer | Full time                  |
| <b>2007-2014</b>    | Covenant University | Lecturer II             | Full time                  |
| <b>2006-2007</b>    | Covenant University | Assistant Lecturer      | Full time                  |

### 3. Non-Academic Experience

| <b>Company</b>  | <b>Title</b>              | <b>Description of Position</b>                | <b>Year-Year</b>         | <b>Full time/Part time</b> |
|---|---------------------------|---|--------------------------|----------------------------|
| PHCN Transmission Station, Gombe, Gombe State (330/132/33KV STATION). | Pupil Electrical Engineer | NYSC  | January – December, 2002 | Full time                  |
| Tiara Building and Construction company, Ibadan, Nigeria.             | Site Electrical Engineer  | Building, Electrical Wiring and Installation. | 2003 - 2004              | Full time                  |

|  |  |  |  |  |
|--|--|--|--|--|
|  |  | Site Management and Procurement of Electrical Materials. |  |  |
|--|--|--|--|--|

**4. Certifications or professional registrations**

- Certificate in Power auditing for SMEs and Social facilities: Site and load analysis, sizing and design of PV diesel hybrid systems. A Nigerian-German Initiative called let’s make solar work, 29<sup>th</sup> June 2018.
- Certificate of participation in Energy Audit and Energy Management, funded by USAID and implemented by Winrock International, November 21 – December 3, 2016 & January 30 – February 17, 2017.

**5. Current membership in professional organizations**

- Member, Nigerian Society of Engineers (M.N.S.E). Membership Number 17422
- COREN, Registered Engineer (R.14,016)

**6. Honours and Awards**

- Canadian Commonwealth Scholarship Award tagged “Graduate Student Exchange Programme (GSEP) at University of Saskatchewan, Saskatoon, Canada for Six Months (1<sup>st</sup> February to July 31<sup>st</sup>, 2013).

**7. Service Activities**

- Academic Level Adviser, Elect/Elect Programme, 2006 to 2010
- Member of the International Office and Linkages Committee on MOUs and Collaboration for the 2018/2019 academic session.
- College of Engineering Examination Officer 2017/2018 and 2018/2019 Academic sessions.
- SIWES Committee (College of Engineering representative) 2016/2017 Academic Session
- Departmental Examination Officer, 2013/2014 Academic Session till 2016/2017 Academic Session.
- Coordinator; Departmental Student Industrial Work Experience Scheme (SIWES); Electrical and Information Engineering; college of Engineering; Covenant University; Nigeria; 2007 – 2011.
- Departmental Academic Secretary 2010-2012
- Departmental Financial Secretary 2012-2013
- Secretary Renewable Energy Committee 2013-till 2015

- Acting Head of Department 4<sup>th</sup> Nov., 2019 to 8<sup>th</sup> Nov., 2019
- Chair, Computer Engineering Accreditation Committee November 2019 to April 2021
- Electrical/Electronic Engineering Programme Coordinator 2020 till date

## **8. Selected Publications and Presentations from the Past Five Years**

1. **Agbetuyi A.Felix**, Orovwode H.E, Awelewa A.A Wara S.T and Oyediran T “Design and Implementation of an Automatic Irrigation System based on monitoring soil moisture” A Paper Published in Journal of Electrical Engineering, University “Politehnica” Tomisoara Romania Volume 16, Edition 2, 2016. ISSN 1582-4592
2. **Agbetuyi Ayoade F**, Abdulkareem Ademola., Orovwode H. E., Oladipupo Oluwafemi K., Matthew Simeon., Agbetuyi Oluranti A, (2021). Power quality considerations for embedded generation integration in Nigeria: A case study of ogba 33 kV injection substation. International Journal of Electrical and Computer Engineering (IJECE). 11(2) 956~965 [[Scopus Indexed](#)]
3. **Felix Agbetuyi.**, Owolabi Bango., Ademola Abdulkareem., Ayokunle Awelewa., Tobiloba Somefun., Akinola Olubunmi., Agbetuyi Oluranti, (2021). Investigation of the Impact of Distributed Generation on Power System Protection. Advanced in Science, Technology and Engineering Systems (ASTES) Journal. 6(2). 324-331 **Google Scholar**
4. Hope Evwieroghene Orovwode, Simeon Matthew, Elizabeth Amuta, **Felix Ayoade Agbetuyi**, and Isaac Odun-Ayo (2021). Carbon footprint evaluation and Environmental Sustainability Improvement through capacity Optimization” International Journal of Energy Economics and Policy. 11(3). 454-459 [[Scopus Indexed](#)]
5. Abdulkareem A., Divine Ogbe., Tobiloba Somefun., **Felix Agbetuyi**, (2021). Optimal PMU Placement Using Genetic Algorithm for 330kV 52-Bus Nigeria Network” Advanced in Science, Technology and Engineering Systems (ASTES) Journal. 6(1). 597-604. [[Scopus Indexed](#)]
6. Esan, A. B., Oghorada O., and **Agbetuyi, A.F.**, (2020). Conceptual Model Framework for Demand Response Ancilliary services deployed by Interconnected Microgrids in West Africa- A Nigerian Case Study. Renewable Energy Focus 20(34): 47-56. [[Scopus Indexed](#)]
7. Ayodele Benjamin Esan., **Ayoade Felix Agbetuyi.**, Oghenevogaga Oghorada., Kingsley Ogbeide., Ayokunle. A. Awelewa., and Esan Afolabi, (2019). Reliability assessments of an islanded hybrid PV-diesel-battery system for a typical rural community in Nigeria. Heliyon 5 Published by Elsevier. [[Scopus Indexed](#)]
8. **Agbetuyi A.F**, Awosope C.O.A, Samuel I. A, AbdulkareemAdemola, Awelewa A.A., (2018). Dynamic Stability of a Distribution System with Wind turbine Generators connected. International Journal of Mechanical Engineering & Technology (IJMET). 9(11). 2453–2461 [[Scopus Indexed](#)]
9. **Agbetuyi A.F**, Olowoleni J.O, Fagbuaro O.E, and Odiaka K. J, (2018). Comparative Analysis On The Performance Characteristics Of Two - Single Phase Generators. International Journal of Mechanical Engineering & Technology (IJMET). 9(13). 498–502 [[Scopus Indexed](#)]



## Engr. Prof. Adoghe, U. Anthony

### 1. **Education** – degree, discipline, institution, year

| Degree | Discipline                                      | Institution         | Year |
|--------|---|---------------------|------|
| PhD    | Electrical Power System Reliability Engineering | Covenant University | 2010 |
| M.Sc   | Power Systems / Machines                        | University of Benin | 2005 |
| B.Eng  | Electrical / Electronics Engineering            | University of Benin | 1985 |

### 2. **Academic experience** – institution, rank, title (chair, coordinator, etc. if appropriate), when (ex. 1990-1995), full time or part time

| Institution         | Rank                | Title   | Dates Held        | FT/PT |
|---------------------|---------------------|---|-------------------|-------|
| Covenant University | Professor           | HOD, EIE  | 08/2018 - 05/2021 | FT    |
| Covenant University | Professor           | College PG Coordinator/EEE Program Coordinator                      | 12/2017           | FT    |
| Covenant University | Associate Professor | Departmental PG Coordinator   | 08/2015 - 12/2017 | FT    |
| Covenant University | Senior Lecturer     | Coordinator; Departmental Student Industrial Work Experience Scheme | 2013 -2015        | FT    |
| Covenant University | Lecturer 1          | Research Scholar; University of Portsmouth                          | 04/2012 - 10/2012 | FT    |
| Covenant University | Lecturer 11         | Academic Adviser  | 2005 – 2009       | FT    |

### 3. **Non-academic experience** – company or entity, title, brief description of position, when (ex. 1993-1999), full time or part time

| Organisation  | Title                             | Duties                           | Dates     | FT/PT |
|---|-----------------------------------|----------------------------------|-----------|-------|
| Bendel Cement Company Okpilla, Edo State, Nigeria.          | Chief Electrical Engineer         | Electrical maintenance.          | 2000-2005 | FT    |
| Bendel feeds and flour mill Ewu, Edo State, Nigeria         | Principal Electrical Engineer PPE | Design and maintenance operation | 1994-1999 | FT    |
| Industrial Training Fund (ITF), a parastatal of the Federal | (TD0 1                            | Training Development             | 1987-1994 | FT    |

|                        |  |            |  |  |
|------------------------|--|------------|--|--|
| Government of Nigeria; |  | Activities |  |  |
|------------------------|--|------------|--|--|

#### 4. **Certifications or professional registrations**

- Member, Nigerian Society of Engineers (M.N.S.E).
- Member, IEEE USA
- COREN, Registered Engineer (R.15, 649)

#### 5. **Current membership in professional organizations**

- Member, Nigerian Society of Engineers (M.N.S.E).
- Member, IEEE USA
- COREN, Registered Engineer (R.15, 649)

#### 6. **Honors and awards**

- 2012, Research Scholar, University of Portsmouth;
- 2015, Gold Medals; World Invention and Innovation Forum Yancheng, China;
- 2015, Silver Medals; 67<sup>th</sup> IENA International Trade Fair or “Ideas, Inventions and New Products” in Nuremberg, Germany;

#### 7. **Service activities (within and outside of the institution)**

- Head of Department; Electrical and Information Engineering; College of Engineering; Covenant University; Nigeria; 31<sup>st</sup> July 2018 to April, 2020
- Coordinator; Electrical/Electronic Engineering Program; Electrical and Information Engineering; Covenant University; Nigeria; 11/2014 to 31/07 2018
- College of Engineering Postgraduate Coordinator, 2017 to July 2018
- Departmental Postgraduate Coordinator; Electrical and Information Engineering; College of Engineering; Covenant University; Nigeria; 01/2011 – 2017
- Chairman; Exhibition Sub-Committee for 2013 Convocation Ceremony; Covenant University; Nigeria; 2013.
- Coordinator; Departmental Student Industrial Work Experience Scheme (SIWES); Electrical and Information Engineering; college of Engineering; Covenant University; Nigeria; 08/ 2013 – 01/ 2015.
- Member; Covenant University Research & Development Committee; Covenant University; Nigeria; 11/ 2012 – 09/ 2014.
- Member; Covenant University Students’ Appellate Committee; Covenant University; Nigeria; 12/2012 – 09/2013.
- Appointed as External Examiner for master program, Bells University, Ota, Ogun State
- Appointed as Professorial Assessor, Kaduna State, University, Kaduna. ( July, 2019)
- Appointed as Professorial Assessor, Edo University, Iyamho, Edo State. (Nov., 2019
- Appointed as Professorial Assessor, Ambrose Alli University, Ekpoma, Edo State. (January, 2020).
- **Member, NUC Accreditation Panel** for evaluation of Academic Programs in Nigerian Universities, November, 2019
- **Resource Person, COREN Accreditation Visitation Panel** for Evaluation of Engineering Programs in Nigerian Universities, September, 2019

#### 8. **Selected publication**

- Oguntosin, V., Oluwadurotimi, M., **Adoghe, A.**, Abdulkareem, A., Adeyemi, G. “Development of a Web-Based Complaint Management Platform for a University

Community” Journal of Engineering Science and Technology Review, 2021, 14(1), pp. 150–159

- Olowoleni, J.O., Awosope, C.O.A., Adoghe, A.U., Obinna, O., Ebubechukwu Udo, U., “Design and simulation of a novel 3-point star rectifying antenna for RF energy harvesting at 2.4 GHz”, Cogent Engineering, 2021, 8(1), 1943153
- Olowoleni, J.O., Awosope, C.O.A., Adoghe, A.U., Oguntosin, V., Okupevi, E.S., “Design and implementation of a single phase to three phase rotary converter”, Journal of Physics: Conference Series, 2021, 1734(1), 012029
- **Anthony U. Adoghe**, Etinosa Noma-Osaghae, Yabkwa Rimamchika Israel. “Photonic Crystal and its Application as a Biosensor for the Early Detection of Cancerous Cells” (2020), International Journal of Online and Biomedical Engineering (iJOE) – eISSN: vol16, 03, pp 86-94, EISSN:2626-8493, <https://online-journals.org/index.php/i-joe/article/view/12523>
- Afolabi Gbenga, Orovwode Hope, Abdulkareem Ademola, **Adoghe Anthony**, Matthew Simeon, “The Influence of Meteorological Features on the Performance Characteristics of Solar Photovoltaic Storage System”, Journal of Physics: Conference Series, (2019), Vol.1378, Iss 3, pp. 032088, IOP Publishing
- Adeyemi A Alabi, **Anthony U Adoghe**, Oluwasikemi G Ogunleye, Claudius OA Awosope, “Development and sizing of a grid-connected solar PV power plant for Canaanland community” 2019/4, International Journal of Applied Engineering, vol8, iss01, pp69-77.
- **Anthony U. Adoghe**; Owuama Chinemere Eberechukwu and Timilehin F. Sanni “The Effect of low power factor Led Lamp Invasion on the Utility Grid: A Case Study of Nigerian Market”, Proceedings of 2017 IEEE PES-IAS Power Africa conference, 27 – 30 June, 2017, IEEE Catalog Number: CFP17PES – ART, ISBN: 978 – 1 – 5090 – 4746 – 8
- **Adoghe, A.U**; Airoboman, A.E.; Owuama C. E.; Awosope COA “Implemetation of Solar Water Heating System for a Sustainable Environment in Sub-Sahara Africa”. Proceedings of 2017 IEEE PES-IAS Power Africa conference, 27 – 30 June, 2017, IEEE Catalog Number: CFP17PES – ART, ISBN: 978 – 1 – 5090 – 4746 – 8
- **Anthony U. Adoghe**; Ifeoluwa O. Oyinlola; Segun I. Popoola and Aderemi A. Atayero. “Free Energy Generation using Neodymium Magnets: An Off-Grid Sustainable Energy Solution for Sub-Saharan Africa” Lectures notes in Engineering and Computer Science, World Congress on Engineering 2017, Vol. 1, London, U.K, 5 – 7 July, 2017, International Association of Engineers, ISBN: 978-988-14047-4-9, ISSN: 2078-0958. Pg 277 -282., <http://www.iaeng.org/publication/WCE2017/>

#### 9. Professional Development

**COREN** - “Outcome Based Engineering Workshop and Review of Benchmark Minimum Academic Standard (BMAS) and Accreditation Scoring Criteria for Undergraduate Engineering Programmes in Nigerian Universities” (4-6 April, 2017).



## Engr. Dr. Awelewa Ayokunle Ajibola

### 1. **Education** – degree, discipline, institution, year

| Degree | Discipline                           | Institution         | Year |
|--------|--------------------------------------|---------------------|------|
| PhD    | Electrical/Electronics Engineering   | Covenant University | 2016 |
| M.Sc   | Electrical/Electronics Engineering   | Covenant University | 2007 |
| B.Eng  | Electrical / Electronics Engineering | University of Benin | 2001 |

### 2. **Academic experience** – institution, rank, title (chair, coordinator, etc. if appropriate), when (ex. 1990-1995), full time or part time

| Institution                    | Rank                | Title              | Dates Held       | FT/PT |
|--------------------------------|---------------------|--------------------|------------------|-------|
| Covenant University            | Associate Professor |                    | 2021 – till date | FT    |
| Covenant University            | Senior Lecturer     | Course Coordinator | 2016 – 2021      | FT    |
| Covenant University            |                     | Course Coordinator | 2014 -2016       | FT    |
| Covenant University            |                     | Course Coordinator | 2009 - 2014      | FT    |
| Covenant University            |                     | Instructor         | 2007 - 2009      | FT    |
| Covenant University            | Graduate Assistance | Teaching Assistant | 2004 – 2007      | FT    |
| Comprehensive Secondary School | Teacher             | Class Teacher      | 2002 - 2003      | FT    |

### 3. **Non-academic experience** – company or entity, title, brief description of position, when (ex. 1993-1999), full time or part time

| Organisation               | Title              | Duties  | Dates     | FT/PT |
|----------------------------|--------------------|---|-----------|-------|
| Doltotemic Computer Center | Trainee Engineer   | Desktop and Laptop Computer Repair, Maintenance, and Installation | 2003-2004 | FT    |
| FENIKOH Nigeria Limited    | Industrial Trainee | Manufacture and installation of industrial motor control          | 1999      | FT    |



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|--|--|--|--|--|
|  |  | centers,<br>switchgears,<br>feeder pillars,<br>automatic<br>mains failure,<br>and automatic<br>street light<br>kiosk |  |  |
|--|--|--|--|--|

**4. Certifications or professional registrations**

- Nigerian Society of Engineers (NSE); Registration No. 20168
- Council for Regulation of Engineering in Nigeria (COREN); Registration No.19001

**5. Current membership in professional organizations**

- Member, Institute of Electrical & Electronics Engineers (IEEE); Member No. 80675402
- Member, IEEE Power & Energy Society
- Member, IEEE Control Systems Society

**6. Honors and awards**

- a) Best 2016 Ph.D Student, Covenant University

**7. Service activities (within and outside of the institution)**

- Postgraduate Coordinator, Electrical and Information Engineering; 2017/2018-2018/2019 and 2020/2021 to date
- Member, Covenant University Tutorial Committee; 2016 to 2017
- Member, College of Engineering Undergraduate Curriculum Committee; 2016
- Postgraduate Coordinator, Electrical & Information Engineering; 2017 to date
- Member, Electrical & Information Engineering Undergraduate Curriculum Committee; 2012 to date
- Member, Electrical & Information Engineering Postgraduate Curriculum Committee; 2013, and 2016 to date
- Member, Electrical & Information Engineering Project Coordination Committee; 2016-2017
- Member, Electrical & Information Engineering Quality Assurance Committee; 2016 to date
- Facilitator, Nigerian Society of Engineers (NSE) Graduateship Examination Refresher Course; 2010

**8. Selected publication**

- **Ayokunle A. Awelewa**, Peter O. Mbamaluikem, Isaac A. Samuel, "An Artificial Neural Network-Based Intelligent Fault Classification System for the 33-kV Nigeria Transmission Line", International Journal of Applied Engineering Research, Vol. 13, No. 2, pp. 1274-1285, 2018.
- Peter O. Mbamaluikem, **Ayokunle A. Awelewa**, Isaac A. Samuel, " Artificial Neural Networks for Intelligent Fault Location on the 33-kV Nigeria Transmission Line",

International Journal of Engineering Trends and Technology, Vol. 54, No. 3, pp. 147-155, December 2017.

- Isaac A. Samuel; James Katende; Claudius O. A. Awosope; **Ayokunle A. Awelewa**, " Prediction of Voltage Collapse in Electrical Power System Networks using a New Voltage Stability Index" International Journal of Applied Engineering Research, Vol. 12, No. 2, pp. 190-199, 2017.
- **Ayokunle A. Awelewa**, Claudius O. A. Awosope, Ademola Abdulkareem, Ayoade F. Agbetuyi, "Investigation of the Performance of Synchronous Generators Equipped with Nonlinear Excitation Controller", International Journal of Scientific & Engineering Research, Vol. 7, Issue 1, pp. 1508-1513, January 2016.
- **Ayokunle A. Awelewa**, Claudius O. A. Awosope, Ademola Abdulkareem, Isaac A. Samuel, "Nonlinear Excitation Control Laws for Electric Power System Stabilization", Journal of Engineering and Applied Sciences, Vol. 11, Issue 7, pp. 1525-1531, 2016.
- **Awelewa A. A.**, Samuel I. A., Abdulkareem A., Iyiola S.O., "An Undergraduate Control Tutorial on Root Locus-Based Magnetic Levitation System Stabilization", International Journal of Engineering & Computer Science IJECS-IJENS, Vol. 13, No. 01, pp. 22-30, February 2013.
- **Ayokunle A. Awelewa**, Ayoade F. Agbetuyi, Ishioma A. Odigwe, Isaac A. Samuel, Kenechukwu C. Mbanisi, "Analysis and Simulation of a Single Generator-Infinite Bus Power System under Linear Quadratic Regulator Control", International Journal of Scientific & Engineering Research, Vol. 4, Issue 10, pp. 587-594, October 2013.
- Ifijeh Ayodele Hephzibah, **Awelewa Ayokunle A.**, and Awosope C.O.A., "Innovative Practical-Oriented Teaching Reforms in Engineering Education: A Key to Effective Capacity Building", 5<sup>th</sup> African Regional Conference on Engineering Education (ARCEE 2013), University of Lagos, Akoka, Lagos, Nigeria, pp. 242-251, 9<sup>th</sup>-12<sup>th</sup> September, 2013.

#### 9. Professional Development

- Visiting Scholar at the University of Strathclyde, Glasgow, UK (4th June-4th September, 2015)
- Postdoctoral Fellowship at the Tshwane University of Technology, Pretoria, South Africa (September 2019- August 2020)



## Engr. Dr. Ademola Abdulkareem

### 1. Education– degree, discipline, institution, year

| Degree | Discipline                          | Institution          | Year |
|--------|-------------------------------------|----------------------|------|
| Ph.D.  | Electrical / Electronic Engineering | Covenant University  | 2016 |
| M.Sc.  | Electrical / Electronic Engineering | University of Lagos  | 2008 |
| B.Eng. | Electrical Engineering              | University of Ilorin | 1990 |

### 2. Academic Experience– institution, rank, title (chair, coordinator, etc. if appropriate), when (ex. 1990-1995), full time or part time

| Institution         | Rank                | Title                                  | Dates Held  | FT /PT |
|---------------------|---------------------|--|-------------|--------|
| Covenant University | Associate Professor |  | 2021 - date | FT     |
| Covenant University | Senior Lecturer     | Industry Coordinator                   | 2018-2020   | FT     |
| Covenant University | Senior Lecturer     | Dept. Project Coordinator              | 2016-2017   | FT     |
| Covenant University | Lecturer I          | Dept. Project Coordinator              | 2015-2016   | FT     |
| Covenant University | Lecturer I          | Dept. Project Coordinator              | 2014-2015   | FT     |
| Covenant University | Lecturer II         | Asst. Departmental Project Coordinator | 2013-2014   | FT     |
| Covenant University | Lecturer II         | Departmental Level Adviser             | 2010-2015   | FT     |

### 3. Non-Academic Experience– company or entity, title, brief description of position, when (ex. 1993-1999), full time or part time

| Organization   | Title                      | Ditie  | Date        | FT/PT |
|--|----------------------------|--|-------------|-------|
| Integrated Fibre Nig, Ltd.<br>Independence Road, Bompai, Kano. | Shift Electrical Engineer  | Organize and plan for qualitative preventive maintenance of all the Factory Equipment and utilities. | 1991-1994   | FT    |
| Nexans Kabelmetal Nigeria. Plc. Ikeja, Lagos.                  | Senior Production Engineer | Design, plan and coordinate the production of Power and Telcom. Cable Technology.                    | 1994 - 2005 | FT    |

|                                       |                 |   |             |    |
|---------------------------------------|-----------------|---|-------------|----|
| MICOM Nig. Wire and Cable Ltd. Lagos. | Factory Manager | Plan, manage and coordinate production activities for efficient and supervision of factory workers for efficient utilization of the machines. | 2005 - 2006 | FT |
|---------------------------------------|-----------------|---|-------------|----|

**4. Certification or professional registration**

- Member, Nigerian Society of Engineers (M.N.S.E) 13,463
- Registered Engineer - Council for Regulation of Engineers in Nigeria (COREN), R. 17,964
- ISO Committee: Auditor/Secretary ISO 9001/9002, Nexans Kabelmetal Nigeria Plc, Ikeja-Lagos

**5. Current membership in professional organizations**

- Member, Nigerian Society of Engineers (M.N.S.E). 13,463
- COREN, Registered Engineer (R.17, 964)

**6. Honors and awards**

- Nexans Kabelmetal Nigeria Plc Scholarship on training for technical processing of high voltage cables at Hannover, Germany 2005.
- Best Researcher Award, Department of Information and Communication Engineering, Covenant University, Ota, Nigeria, (2020).
- Award of Excellence, Centre for Research on Evaluation, Science and Technology, Stellenbosch University, South Africa, for successfully completed the DIE/CREST online Training Course for Supervisors of Doctoral Candidates at African Universities, 20 July 2020 – 30 November 2020.

**7. Service activities (within and outside of the institution)**

- Tender board member for the proposed construction of New Faith academy, 2019-2021
- Head electrical consulting services, Covenant University, 2019 to date.
- Chair. College Week and Hooding Committee 2019/2020 and 2020/2021
- Industry coordinator, and industry board member, 2018/2019 & 2019/2020
- Chairman of a Technical Session at 2019 International Conference for a Sustainable World (ICESW 2019), Department of Mechanical Engineering, Covenant University, Ota
- External Examiner for the M.Tech. Oral defense examination of Post Graduate Students at Ladoké Akintola University of Technology, Department of Electronic and Electrical Engineering. Oyo State, Nigeria, March 10, 2020.
- External (Foreign) examiner for a PhD thesis, titled “Design of QFT Controller and Pre filter Algorithm for MIMO systems” for submission and examination to Visvesvaraya Technological University (VTU), Belagavi, and Karnataka, India, 2019.

- Technical Committee Member in the 2020 third International Conference on Power and Smart Grid (ICPSG 2020), held in Kuala Lumpur, Malaysia on May 29-31, 2020.
- Chairman, NUC Accreditation Committee (Electrical/Electronic Engineering) (2012)

## 9. Selected Publications

- **Abdulkareem Ademola**, A. Adesanya, A. F. Agbetuyi, A. S. Alayande (2021). Novel Approach to Determine Unbalanced Current Circuit on Nigerian 330kV Transmission Grid for Reliability and Security enhancement. HLY 7563, Heliyon Journal, Heliyon. [**Scopus-indexed**]
- **Abdulkareem Ademola**, Alayande, A. S., Somefun, T. E., Ette E. V. (2021). Investigating the Effects of Bus Numbering in a Radial Transmission Network using Load-Flow Study. Heliyon Journal, Heliyon 7 e07098 Heliyon. [**Scopus-indexed**]
- **Abdulkareem Ademola**, Somefun, T. E., Chinedum, O. K., Agbetuyi, F. (2021). Design and implementation of speech recognition system integrated with internet of things. International Journal of Electrical and Computer Engineering, 11(2), pp. 1796–1803. [**Scopus-indexed**]
- **Abdulkareem Ademola**, Ogbe, D., Somefun, T., Agbetuyi, F. (2021). Optimal PMU Placement using Genetic Algorithm for 330kV 52-Bus Nigerian Network. Advances in Science, Technology and Engineering Systems, 6(1), pp. 597–604. [**Scopus-indexed**]
- **Abdulkareem Ademola**, Ogbe, D., Somefun, T. (2020). Review of Different Methods for Optimal Placement of Phasor Measurement Unit on the Power System Network. Advances in Science, Technology and Engineering Systems, 5(6), pp. 1071–1081. [**Scopus-indexed**]
- **Abdulkareem Ademola**, Adesanya, A., Mutalub, A. L., Awelewa, A. (2020). Predicting Extrusion Process Parameters in Nigeria Cable Industry for Polyethylene Cable Insulation using Artificial Neural Network. Journal of Theoretical and Applied Information Technology, 98(23), pp. 3770–3782. [**Scopus-indexed**]
- **Abdulkareem Ademola**, Oguntosin, V., Oluwatimileyin D., Adesina L. M. (2020). The Electricity Security in Nigeria: Design and Analysis of 750-kV Mega Grid. International Journal of Engineering Research and Technology (Publisher International Research Publication House), vol. 13, no. 3. [**Scopus-indexed**]

## 10. Professional Development

- Collaboration with some Nigerian cable industries for waste reduction and production cost effectiveness during extrusion process using Artificial intelligence.
- Collaboration with Joaquim Nigerian cable industries for the manufacturing of high voltage (11kV and 33kV) cables using local materials (2017-present).



## Engr. Dr. Orovwode, Hope Evwieroghene

### 1. Education – degree, discipline, institution, year

| Degree | Discipline                                | Institution         | Year |
|--------|---|---------------------|------|
| PhD    | Information and Communication Engineering | Covenant University | 2015 |
| M.Eng  | Electronics and Telecommunications        | University of Benin | 2004 |
| B.Eng  | Electrical / Electronics Engineering      | University of Benin | 2000 |

### 2. Academic experience – institution, rank, title (chair, coordinator, etc. if appropriate), when (ex. 1990-1995), full time or part time

| Institution                  | Rank            | Title                         | Dates Held | FT/PT |
|------------------------------|-----------------|-------------------------------|------------|-------|
| Covenant University          | Senior Lecturer | Lecturer and Academic Adviser | 2016-date  | FT    |
| Covenant University          | Lecturer 1      | Lecturer and Academic Adviser | 2015-2016  | FT    |
| Covenant University          | Lecturer 11     | Lecturer and Academic Adviser | 2006-2015  | FT    |
| Igbinedion University, Okada | Lecturer 11     | Lecturer and Academic Adviser | 2005-2006  | FT    |

### 3. Certifications or professional registrations

- Member, Nigerian Society of Engineers (M.N.S.E).
- COREN, Registered Engineer

### 4. Current membership in professional organizations

- Nigerian Society of Engineers (MNSE) Membership Number: **16243**
- Registered Electrical Engineer (COREN) **R.14,578**

### 5. Honors and awards

- Won the Trans-African Hydrological and Metrological Observatory (TAHMO) Sensor Design Competition (2013) Organized by Delft University of Technology, The Netherland. ([Www.Tahmo.Com](http://www.tahmo.com)).
- **Grand prize** at the UniAmerica, Global Exhibition of Inventions For Creative, Happy Human and Smart Cities, in Foz Do Iguacu, **Brazil, December 2016. Gold medal** at the Seoul International Invention Fair, in **Seoul, Korea, November 2016.**
- **Gold Medal** at the 1st World Inventions and Innovations Forum (WIIF) which took place in **Yancheng China, September 2015.**
- Member of the team that won **Gold and Bronze** in **KIWIE2015 Seoul Korea**

### 6. Service activities (within and outside of the institution)

- Member, Covenant University Consortium as Electrical Services Consultant and Supervisor
- Secretary, Appointment and Promotion Committee
- Departmental Financial Secretary
- Member, Departmental Laboratory Committee
- Member, Covenant University Security Committee
- Member, Centre of Excellence on Human Development Committee
- Member, Covenant University Scholastic Aptitude Screening Committee
- Member, Covenant University Energy Management Committee
- Coordinator EIE Exhibition Committee
- Chair Covenant University Students Disciplinary Committee.
- Vice chairman Nigeria Society of Engineers Ota Branch

## **7 Selected publication**

- (i) **Hope Ewvierooghene Orovwode**, Simeon Matthew, Elizabeth Amuta, Felix Ayoade Agbetuyi, and Isaac Odun-Ayo “Carbon footprint evaluation and Environmental Sustainability Improvement through capacity Optimization” International Journal of Energy Economics and Policy 2021, Volume 11 Issue 3, pp 454-459 (*Scopus Indexed*)
- (i) **Hope Orovwode** , Simeon Matthew, Felix Agbetuyi, U. Anthony Adoghe, and Elizabeth Amuta (2021) ‘Development of a Starter with Protective Systems for a Three-Phase Induction Motor’ Hindawi Journal of Engineering Volume 2021, Article ID 3163046, 8 pages <https://doi.org/10.1155/2021/3163046>
- (ii) **Hope, O.**, Simeon, M., Amuta, E., Alashiri, O. ( 2020) **Losses in the nigerian distribution systems: A review of classification and strategies for mitigation** International Journal of Engineering Research and Technology, , 13(11), pp. 3251–3254
- (iii) Afolabi Gbenga, **Orovwode Hope**, Abdulkareem Ademola, Adoghe Anthony, and Matthew Simeon (2019) ‘The Influence of Meteorological Features on the Performance Characteristics of Solar Photovoltaic Storage System’ International Conference on Engineering for Sustainable World Journal of Physics: Conference Series 1378 (2019)
- (iv) Isaac Odun-Ayo, Chinonso Okereke, and **Hope Orovwode (2018)** "Cloud and Application Programming Interface - Issues and Developments," Lecture Notes in Engineering and Computer Science: Proceedings of The World Congress on Engineering 2018, 4-6 July, 2018, London, U.K., pp169-174
- (v) **Hope Orovwode**, Samuel Wara, Temitope John Mercy, Moyo Abudu, Anthony Adoghe, William Ayara (2018) “Development and Implementation of a Web Based Sustainable Alternative Energy Supply for a Retrofitted Office” IEEE PES/IAS PowerAfrica June 2018 Conference: DOI: 10.1109/PowerAfrica.2018.8521132

## **8. Professional Development**

1. The Nigerian Universities Commission (NUC)/Eagle Scientific Ltd Seminar On Equipment Functionality, Processed And Mechatronics In Nigerian Universities (Abuja 2<sup>nd</sup>-4<sup>th</sup> December, 2015)
2. Workshop on Laboratory and Equipment Users organized by The Equipment Committee, Landmark University Omu-aran, 22<sup>nd</sup> -24<sup>th</sup> September 2015
3. 5- Day Capacity Building workshop on the Application of Satellite Remote Sensing and GIS Techniques in Tackling Environmental Challenges in Nigeria. August 16 – 21, 2015 at the University of Uyo, Uyo, Akwa Ibom State.
4. Workshop on capacity building for engineering and technology educators 18<sup>th</sup> -20<sup>th</sup> May, 2015 university of Lagos organized by African engineering education association in collaboration with university of Lagos



## Engr. Dr. Okokpujie Kennedy

### 1. **Education** – degree, discipline, institution, year

| Degree | Discipline   | Institution                     | Year |
|--------|--|---------------------------------|------|
| PhD    | Information and Communication Engineering                  | Covenant University, Ota        | 2020 |
| M.Eng. | Electronic and Telecommunication Engineering               | University of Benin, Benin-City | 2016 |
| MBA    | Master in Business Administration                          | Lagos State University, Ojo     | 2015 |
| M.Sc.  | Electrical and Electronic Engineering-Communication Option | University of Lagos, Akoka      | 2014 |
| B.Eng. | Electrical and Electronic Engineering                      | Ambrose Ali University, Ekpoma  | 2006 |

### 2. **Academic experience** – institution, rank, title (chair, coordinator, etc. if appropriate), when (ex. 1990-1995), full time or part time

| Institution         | Rank            | Title  | Dates Held            | FT/PT |
|---------------------|-----------------|--|-----------------------|-------|
| Covenant University | Senior Lecturer | Chair, ICE accreditation committee / ICE Programme Coordinator | 2021 till 2022        | FT    |
| Covenant University | Lecturer 1      | Member, Computer accreditation committee                       | 2020 -2021            | FT    |
| Covenant University | Lecturer 1      | Assist Departmental PG Coordinator                             | 2020-2021             | FT    |
| Covenant University | Lecturer 11     | Member, College Equipment Committee                            | 2018 Academic Session | FT    |
| Covenant University | Lecturer 11     | Member, EIE Departmental Publication Committee                 | 2018 Academic Session | FT    |
| Covenant University | Lecturer 11     | Assist Final year project Departmental Student Coordinator     | 2016 -2017            | FT    |
| Covenant University | Lecturer 11     | Academic Adviser   | 2016 – 2021           | FT    |

### 3. **Non-academic experience** – company or entity, title, brief description of position, when (ex. 1993-1999), full time or part time

| Organisation       | Title              | Duties                                      | Dates     | FT/PT |
|--------------------|--------------------|---|-----------|-------|
| Okpojie Global Ltd | Technical Director | Oversees all technical/ operational matters | 2013-2015 | FT    |



|  |   |  |           |    |
|--|---|--|-----------|----|
| Finbank Plc (now FCMB)   | Customer officer/ Cash Management Officer/ATM Custodian | Officer in charge of centre vault head office VI/ Coordinate local/ foreign cash shipment/sorting of ATMs cash | 2007-2012 | FT |
| Toptech Engineering Limited, Gbagada   | Customer Service Engineer                               | Engineering equipment installation, maintenance and services   | 2006-2007 | FT |
| Toptech Engineering Limited, Ikeja, Lagos  | Trainee   | Engineering equipment installation, maintenance and services   | 2005      | FT |
| National Electric Power Authority (NEPA) now Power Holding Company of Nigeria (PHCN), Ikpoba Hill/ Etete GRA Commercial Centres Benin City | Trainee   | Power distribution equipment installation, maintenance and services  | 2002/2003 | FT |

#### **4. Certifications or professional registrations**

- Artificial Intelligence Analyst (2019) Mastery Award by Global University Programmes IBM, USA
- Blockchain Developer Mastery Award (2018) by Global University Programmes IBM USA
- Cisco Certify Network Associate (CCNA) (2007)
- Security Intelligence Analyst Mastery Award
- Security Intelligence Engineer Mastery Award for Students
- Application Security Specialist with IBM Security AppScan v8.7
- Application Security Engineer Mastery Award for Students (2016)
- Big Data Developer Mastery Award (2016)
- Cloud Application Developer Mastery Award (2017)

#### **5. Current membership in professional organizations**

- International Association of Engineers (IAENG) 2017  
(Membership No.: 201815)
- Council for the Regulation of Engineering in Nigeria (COREN:R29230) 2014
- Nigeria Society of Engineers (Membership No.: 320333) 2014
- Nigerian Institute of Management (Membership No.: 96199) 2008
- Cisco Certify Network Associate (CCNA) 2007  
(Certification Verification No.: 3936941750591QCH)
- Institute of Electrical and Electronic Engineers (IEEE), USA 2003

#### **6. Honors and awards**

- Student Choice of the year Lecturer Awards (2020/2021); Association of Electrical Electronics Engineering Students Covenant University, Ota, Ogun State.

- Certificate of Excellence: Best Postgraduate Researcher award (2020); College of Engineering, Covenant University.
- Students' Choice Lecturer Awards (2019); Association of Electrical Electronics Engineering Students Covenant University, Ota, Ogun State.
- Certificate of Excellence: Third Position, Best Postgraduate Researcher award (2018); College of Engineering, Covenant University.

#### 7. **Service activities (within and outside of the institution)**

- Chair; Information and Communication Engineering COREN Accreditation Committee; College of Engineering; Covenant University; Nigeria; 1<sup>st</sup> July 2021 till date

#### 8. **Selected publication**

1. **Okokpujie, K.**, Noma-Osaghae, E., John, S. N., Ndujiuba, C., & Okokpujie, I. P. (2021). Comparative analysis of augmented datasets performances of age invariant face recognition models. *Bulletin of Electrical Engineering and Informatics*, 10(3).
2. **Okokpujie K.**, Reuben A., Ofoche J. C., Biobelemoye B. J., Okokpujie I. P. (2021). A Comparative Analysis Performance Of Data Augmentation On Age-Invariant Face Recogni-Tion Using Pretrained Residual Neural Network. *Journal of Theoretical and Applied Information Technology*, 99(6).
3. **Okokpujie K.**, Abubakar J., John S., Noma-Osaghae E., Ndujiuba C., Okokpujie I. P. IAES International Journal of Artificial Intelligence, Vol. 10, Iss. 1,(Mar 2021): 1-8. DOI: 10.11591/ijai.v10.i1.pp1-8
4. **Okokpujie, K.**, John, S., Ndujiuba, C., Badejo, J. A., Noma-Osaghae, E. (2021). An improved age invariant face recognition using data augmentation. *Bulletin of Electrical Engineering and Informatics*, 10(1), 179-191.
5. **Okokpujie, K. O.** and John, S. N., Ufuah, D., Nwagu, M. and Noma-Osaghae E., Ndujiuba, C., Okokpujie, I. P. (2020) *Development of an Illumination Invariant Face Recognition System*. International Journal of Advanced Trends in Computer Science and Engineering, 9 (5). pp. 92159220. ISSN 2278-3091
6. **Okokpujie K.**, John S., Ndujiuba C., Noma-Osaghae E. (2020) Development of an Adaptive Trait-Aging Invariant Face Recognition System Using Convolutional Neural Networks. In: Kim K., Kim HY. (eds) Information Science and Applications. Lecture Notes in Electrical Engineering, vol 621. Springer, Singapore.
7. **Okokpujie K.**, Apeh S. (2020) Predictive Modeling of Trait-Aging Invariant Face Recognition System Using Machine Learning. In: Kim K., Kim HY. (eds) Information Science and Applications. Lecture Notes in Electrical Engineering, vol 621. Springer, Singapore.
8. **Kennedy Okokpujie, S. A.**, Abayomi-Alli, O., John, A., Adoghe, A., & Okokpujie, I. P. Implementation of A Bimodal Biometric Access Control System For Data Center. International Journal of Advanced Research in Engineering and Technology (IJARET) Volume 12, Issue 3, March 2021, pp.410-420 ISSN Print: 0976-6480 and ISSN Online: 0976-6499 DOI: 10.34218/IJARET.12.3.2021.038

#### 9. **Professional Development**

- Editor of the TELKOMNIKA (Telecommunication, Computing, Electronics and Control) a Journal indexed in Scopus. 2020 till date, index in Scopus
- Reviewer: Review for IEEE Access, USA. Reviewer; 2018 till date.
- Review for TELKOMNIKA Telecommunication Computing Electronics and Control. Reviewer; 2018 till date, index in Scopus

- Review for International Journal of Electrical and Computer Engineering. Reviewer; 2018 till date, index in Scopus
- Review for Bulletin of Electrical Engineering and Informatics. Reviewer; 2018 till date, index in Scopus



## Engr. Dr. Babalola Philip Olufemi

### Education

| <b>Degree</b> | <b>Discipline</b>      | <b>Institution</b>   | <b>Year</b> |
|---------------|------------------------|----------------------|-------------|
| PhD           | Mechanical Engineering | Covenant University  | 2015        |
| MSc           | Mechanical Engineering | University of Ibadan | 1999        |
| BEng          | Mechanical Engineering | University of Ilorin | 1995        |

### Academic Experience

| <b>Institution</b>  | <b>Rank</b>     | <b>Title/Position</b> | <b>Date Held</b> | <b>FT/PT</b> |
|---------------------|-----------------|-----------------------|------------------|--------------|
| Covenant University | Senior Lecturer | Lecturer              | 2018-Date        | FT           |
| Covenant University | Lecturer I      | Lecturer              | 2015-2018        | FT           |
| Covenant University | Lecturer II     | Lecturer              | 2008-2015        | FT           |

### Certifications or Current Membership in Professional Organizations

1. Corporate Member, Nigerian Society of Engineers (M.N.S.E)
2. Registered Member, Council for the Regulation of Engineering in Nigeria (COREN), R8890

### Honours and Awards

1. Best overall graduating student, Immanuel College High School, Ibadan, 1988
2. Book award presented by College of Science & Technology, Covenant University, Ota 'in recognition of your performance as the outstanding Level Adviser in Mechanical Engineering Department in 2008/2009 academic session'
3. Book award presented by College of Science & Technology, Covenant University, Ota 'in recognition of your performance as the outstanding Level Adviser in Mechanical Engineering Department in 2011/2012 academic session'
4. Book award presented by College of Science & Technology, Covenant University, Ota 'in recognition of your performance as the outstanding Departmental Examination Officer in Mechanical Engineering Department in 2011/2012 academic session'
5. Plaque award presented by Department of Mechanical Engineering, Covenant University in recognition of performance as Chair, Publicity Committee, 4th International Conference on Engineering for a Sustainable World.

### Service Activities

1. LOC, HIGHER EDUCATION PARTNERSHIP IN SUB – SAHARAN AFRICA (HEPSSA), 2018

2. LOC, International Conference on Engineering for a Sustainable World (ICESW), 2017 till date
3. Session Chair, International Conference on Energy and Sustainable Environment (ICESE)
4. Session Chair, International Conference on Engineering for a Sustainable World
5. Reviewer, The Journal of The Minerals, Metals & Materials Society (TMS), Scopus
6. Reviewer, African Journal of Science, Technology, Innovation and Development Scopus
7. Reviewer, Journal of Materials Science Scopus
8. Reviewer, Journal of Petroleum Technology and Alternative Fuels Scopus
9. Reviewer, UMUDIKE JOURNAL OF ENGINEERING AND TECHNOLOGY (UJET)
10. Reviewer, Advanced Engineering Forum Scopus
11. Reviewer, Covenant Journal of Engineering and Technology
12. Reviewer, International Conference on Engineering for a Sustainable World, Scopus
13. Reviewer, International Conference on Sustainable Infrastructural Development (ICSID), Scopus
14. Reviewer, International Conference on Energy and Sustainable Environment (ICESE), Scopus
15. Editorial Board, International Conference on Engineering for a Sustainable World, Scopus
16. Editorial Board, International Conference on Advances in Material Science, Indexed in Scopus
17. Member, Industry Coordinator of College of Engineering

### **Selected Publications and Presentations from the Past Five Years**

1. Moses Oriyomi<sup>1</sup>, Philip Babalola, 2020. Comparison of Mosquitoes Response to Different Diodes Wavelengths, International Journal of Science and Research (IJSR), Volume 9 Issue 7, July 2020
2. Babalola P.O., Bolu C.A, Inegbenebor A.O., Oyedepo S.O. and Kilanko O., 2019. Application of solar photovoltaic system to power air blower and mixing mechanism in a tilting furnace. World Review of Science, Technology and Sust. Development, Volume 15, No. 2, pp. 160-169
3. Philip O. Babalola, Anthony O. Inegbenebor, Christian A. Bolu, Shella I. John, 2019. Comparison of the mechanical characteristics of aluminium SiC composites cast in sand and metal moulds, International Journal of Mechanical Engineering and Technology (IJMET) Volume 10, Issue 02, February 2019, pp. 1671–1681, Article ID: IJMET\_10\_02\_172 ISSN Print: 0976-6340 and ISSN Online: 0976-6359
4. Loto RT, Babalola P., 2019. Electrochemical analysis of SiC composite additions at 7.5% weight content on the corrosion resistance of monolithic aluminium alloy in sulphate–chloride solution. J Mater Res Technol. <https://doi.org/10.1016/j.jmrt.2019.03.001>

5. Loto R.T. & Babalola P., 2018. Analysis of SiC grain size variation and NaCl concentration on the corrosion susceptibility of AA1070 aluminium matrix composites. *Cogent Engineering*, 5: 1473002 <https://doi.org/10.1080/23311916.2018.1473002>
6. Loto R.T & Babalola P., 2018, Effect of alumina nano-particle size and weight content on the corrosion resistance of AA1070 aluminum in chloride/sulphate solution, *Results in Physics*, Elsevier, 10, 731–737
7. Babalola P.O., Bolu C.A., Inegbenebor A., 2017. Artificial Neural Network Prediction of Aluminium Metal Matrix Composite with Silicon Carbide Particles Developed Using Stir Casting Method, *International Journal of Mechanical & Mechatronics Engineering IJMME-IJENS* Vol:15 No:06.
8. Babalola P.O., Bolu C.A, Inegbenebor A.O., Kilanko O., Oyedepo S.O. and Odunfa K.M., 2017. Producing AA1170 Based Silicon Carbide Particulate Composite through Stir Casting Method, *Asian Journal of Materials Chemistry*, 3(2), pp 1-5, DOI: <https://doi.org/10.14233/ajmc.2017.AJMC-P49>
9. Loto R.T. & Babalola P., 2017. Corrosion polarization behavior and microstructural analysis of AA1070 aluminium silicon carbide matrix composites in acid chloride concentrations. *Cogent Engineering*, 4: <https://doi.org/10.1080/23311916.2017.1422229>
10. Oyedepo S.O., Babalola P.O., 2017. ‘Renewable Energy Technologies in Nigeria: Challenges and Opportunities for Sustainable Development’ in *Renewable Energy Systems-Renewable Energy: Research, Development and Policies*, Edited by Sandip A. Kale, Nova Science Publishers, Inc., New York, pp. 225-257.

### **Recent Professional Development Activities**

2019 International Conference on Energy and Sustainable Development (ICESE 2019), May 18-20, Ota, Nigeria

4th International Conference on Science and Sustainable Development (ICSSD 2020), Covenant University, Ota, Ogun State.

International Conference on Energy and Biochemical Engineering (ICEBE 2021), Covenant University, Ota, Ogun State.

International Conference on Sustainable Engineering and Materials Development (ICSMD 2021), September 22-24, 2021, Ontario, Canada.



## Engr. Dr. Olugbenga OMOTOSHO

### Education

| Degree | Discipline             | Institution          | Year |
|--------|------------------------|----------------------|------|
| PhD    | Mechanical Engineering | Covenant University  | 2016 |
| M.Eng  | Mechanical Engineering | Covenant University  | 2010 |
| B.Eng  | Mechanical Engineering | University of Ilorin | 1997 |

### Academic Experience

| Institution         | Rank               | Title                               | Dates Held  | FT/PT |
|---------------------|--------------------|-------------------------------------|-------------|-------|
| Covenant University | Senior Lecturer    | College PG Coordinator              | 2017- Date  | FT    |
| Covenant University | Lecturer I         | Level Adviser                       | 2014 – 2017 | FT    |
| Covenant University | Lecturer II        | Departmental Exam Officer           | 2011 - 2014 | FT    |
| Covenant University | Assistant Lecturer | Departmental Exam Timetable Officer | 2010 - 2011 | FT    |
| Covenant University | GA                 | Departmental Exam. Officer          | 2007 - 2010 | FT    |

### Non-academic Experience

| Organization   | Title                       | Duties | Dates       | FT/PT |
|--|-----------------------------|--------|-------------|-------|
| Data-in-brief (Elsevier)                               | Peer Reviewer               |        | 2017        | PT    |
| <i>International Journal of Environmental Sciences</i> | Peer Reviewer               |        | 2012 – 2014 | PT    |
| Covenant Journal of Engineering Technology             | Editor-in-Chief             |        | 2017-2019   | PT    |
| Covenant University Project, Ota                       | Project Mechanical Engineer |        | 2004-2007   | FT    |
| Ediphin Nigeria Limited, Aba                           | Community Project Engineer  |        | 1997 – 2004 | FT    |

### Certifications or Current Membership in Professional Organizations

- Registered Engineer (R. Eng.) Nigeria, No: 23274
- Member Nigerian Society of Engineers Membership No: 25085
- Member, The Minerals, Metals and Materials Society (TMS) 2016-2018
- Member, National Association of Corrosion Engineers (NACE) 2016

### Honours and Awards

- Ediphin Nigeria Limited/Colgate Palmolive Best Engineer Award for Effluent Pipeline Project 2001 (#250,000 Naira).
- David Oyedepo Foundation Category C High Impact Publication Award 2010/2011 (\$200).
- David Oyedepo Foundation Category C High Impact Publication Award 2011/2012 (\$200).

- Chancellor Honours List-Exceptional Researcher 2017.

### Service Activities

- Member, Board of School of Postgraduate Studies, Covenant University (2020 – 2022)
- Coordinator, Departmental Postgraduate Board, Covenant University (2019 – 2020)
- Rapporteur Chair, 2019 and 2020 International Conference on Engineering for a Sustainable World.
- Editor-in-Chief Covenant Journal of Engineering and Technology (2017 - 2019)

### Selected Publications and Presentations from the Past Five Years

1. Salawu, E.Y., Ajayi, O.O. Inegbenebor, A.O., Akinlabi, S., Popoola, A.P.I., Akinlabi, E., **Omotosho, O.A.**, Uyo, U.O. (2020). Electrochemical study and gravimetric behaviour of gray cast iron in varying concentrations of blends as alternative material for gears in ethanol environment, *Journal materials Research and Technology* 9(2), 7529-7539.
2. Joseph, O.O., **Omotosho, O.A.**, Ojewumi, M.E., Loto, R.T. 2019. An assessment on the effects of *Lecaniodiscus cupaniodes* extract and normalizing temperature in corrosion behaviour of mild steel in 0.5 M HCl. *MS and T 2019 - Materials Science and Technology* 2019, 1283-1290.
3. **Omotosho, O.A.**, Okeniyi, J.O., Popoola, A.P.I. (2018). Corrosion Inhibition of Stainless Steel in 0.5 M HCl by  $C_6H_5NH_2$  CORROSION 2018 (*NACE-2018-51318-10807*) 1-14. (**IF-1.661**) (**Scopus & Thomson reuters**)
4. **Omotosho, O.A.**, Okeniyi, J.O., Loto, C.A., Popoola, A.P., Oni, A. Alabi, A. and Olarewaju, A. (2018). Corrosion Resistance of Aluminium in 0.5 M  $H_2SO_4$  in the Presence of *Cassia fistula* Extract TMS Annual Meeting & Exhibition, 909-918. (**Scopus & Thomson reuters**)
5. **Omotosho, O.A.**, Okeniyi, J.O., Loto, C.A., Popoola, A.P., Afolalu, S.A., Obi, E. Sonoiki, O., Osin-Timi, O. and Ogbiye, A.S. (2018). Stainless Steel Corrosion Resistance in 0.5 M  $H_2SO_4$  Using *Cassia fistula* Extract TMS Annual Meeting & Exhibition, 891-900. (**Scopus & Thomson reuters**)

### Recent Professional Development Activities

- 2019 and 2020 International Conference on Engineering for a Sustainable World, Covenant University, Ota.
- Coursera- Data Analytics for Lean Six Sigma, University of Amsterdam, Netherlands, 2020
- Coursera- Lean six sigma yellow belt, University System of Georgia, USA, 2020
- Coursera- Lean six sigma green belt- University System of Georgia, USA, 2020.





# Engr. Dr. Akinwumi, Isaac I.

## EDUCATION

| Degree | Discipline        | Institution                                      | Year |
|--------|-------------------|--|------|
| Ph.D.  | Civil Engineering | Covenant University, Ota, Nigeria                | 2017 |
| M.Eng. | Civil Engineering | Covenant University, Ota, Nigeria                | 2012 |
| B.Eng. | Civil Engineering | Federal University of Technology, Akure, Nigeria | 2006 |

## ACADEMIC EXPERIENCE

| From - To      | Institution              | Rank/Title         | Full Time/Part Time |
|----------------|--------------------------|--------------------|---------------------|
| 2018 - present | Covenant University, Ota | Senior Lecturer    | Full Time           |
| 2015 - 2018    | Covenant University, Ota | Lecturer I         | Full Time           |
| 2012 - 2015    | Covenant University, Ota | Lecturer II        | Full Time           |
| 2012           | Covenant University, Ota | Assistant Lecturer | Full Time           |
| 2009 - 2012    | Covenant University, Ota | Research Fellow    | Full Time           |

## NON-ACADEMIC EXPERIENCE

| Company                                  | Title                       | Description of Position  | Year-Year   | Full time/part Time |
|--|-----------------------------|--|-------------|---------------------|
| First Fossil Nigeria Ltd, Lagos          | Project Planner/Scheduler   | Facilitate training of Engineers on Project Planning and Scheduling Using Primavera P6 | 2008 - 2009 | Full Time           |
| CASS Consulting Nigeria Ltd, Lagos       | Structural Engineer         | Provide Structural Engineering Design and Construction Supervision                     | 2008 - 2008 | Full Time           |
| Federal Ministry of Transportation, Yola | Supervising Engineer (NYSC) | Supervise contractors on the construction of roads                                     | 2007 - 2008 | Full Time           |

## CURRENT MEMBERSHIP OF PROFESSIONAL ORGANIZATIONS

Registered Engineer, Council for the Regulation of Engineering in Nigeria (COREN)  
 Member, American Society of Civil Engineers (ASCE)  
 Corporate Member, Nigerian Society of Engineers (NSE)  
 Member, Nigerian Young Academy (NYA)  
 Member, International Association of Engineers (IAENG)

## HONOURS AND AWARDS

Grant Winner Award (2020), College of Engineering (CoE), Covenant University, Second Edition of the College Award Night and Dinner (17 December 2020)  
 Panel Member, Future Leaders – African Independent Research (FLAIR) Fellowship Committee (Physical Sciences), The Royal Society, United Kingdom (1 January 2021 until 31 December 2023)

Frontiers of Engineering for Development Seed Funding, Royal Academy of Engineering (RAEng), United Kingdom 2020

Co-Investigator, “Strategic planning of urban water reuse interventions for community resilience”, Frontiers of Engineering for Development Seed Funding of the Royal Academy of Engineering (RAEng), K. Behzadian, P. Phaik Eong, L. Choe Peng, K. Blay, A. Mehmood, I. I. Akinwumi, A. Moghayedi, V. Vassilev and J. Diazsolano (£19,964.03)

Frontiers of Engineering for Development Seed Funding, Royal Academy of Engineering (RAEng), United Kingdom 2019

Co-Investigator, “The circularity of biological wastewater treatment”, Frontiers of Engineering for Development Seed Funding of the Royal Academy of Engineering (RAEng), L. Orsini, K. Akinola, L. C. Pasquale Rosa, K. D. Dearn and I. I. Akinwumi (£30,000)

Frontiers of Development Seed Funding, Royal Academy of Engineering (RAEng), United Kingdom 2019

Co-Investigator, “WASH environments, sanitation policies and health outcomes during the first 2000 days of life”, Frontiers of Development Seed Funding of the Royal Academy of Engineering (RAEng), M. Luhrmann, A. Akinwumi and I. I. Akinwumi (£20,000)

Travel Scholarship provided by the Royal Academy of Engineering (RAEng), United Kingdom to attend the Frontiers of Development Symposium: “Inclusive Prosperity and Wellbeing in the Context of Mass Displacement”, 11-14 February 2018, held at Kigali, Rwanda.

SDG Talent, UNLEASH Innovation Lab 2017, Denmark, August 13-21, 2017 (Support by UNLEASH covering costs related to flights to and from Denmark, accommodation, food, curriculum, and facilitation for the entire program in Denmark).

Travel Scholarship provided by the University of Oklahoma WaTER Center and its sponsors to attend the “University of Oklahoma WaTER Conference”, 18-20 September 2017, held at Norman, Oklahoma, United States (US)

Volkswagen Foundation Best Poster Prize Award, “Engineering and Life” conference, October 2016, Hanover, Germany

Volkswagen Foundation Travel Grant to attend the “Engineering and Life” conference, 19-21 October 2016, held at Hanover, Germany

Commonwealth Scholarship Commission (CSC) in the United Kingdom, Award for 2015/2016 Split-Site PhD programme at the University of the West of England, Bristol, United Kingdom

### **SELECTED SERVICE ACTIVITIES**

Coordinator, Research, Covenant University Centre for Research, Innovation and Discovery (CUCRID), 2021-present

Postgraduate Coordinator, Department of Civil Engineering, 2018-2021

Examinations Officer, Department of Civil Engineering, 2016–2018

### **SELECTED PUBLICATIONS AND PRESENTATIONS IN THE PAST 5 YEARS**

**Akinwumi, I.I.**, Afolayan, O.D., Okeke, C.A.U., Badiru, O.O., Jolayemi, K.J. (2021) "Suitability of using borrow pit soils collected from Southwestern Nigeria as landfill liners". IOP Conference Series: Materials Science and Engineering, 1036(1), 012038 (1–10). <https://iopscience.iop.org/article/10.1088/1757-899X/1036/1/012038/pdf>.

**Akinwumi, I.I.**, Domo-Spiff, A.H. and Salami, A. (2019) "Marine plastic pollution and affordable housing challenge: Shredded waste plastic stabilized soil for producing compressed earth bricks". Case Studies in Construction Materials, 11, e00241 (1–8).

<https://doi.org/10.1016/j.cscm.2019.e00241>.

**Akinwumi, I.I.**, Ajayi, O.O., Joshua, O., Sani, R., Olofinnade, O.M., Awoyera, P.O., Ogundairo, T.O., Ogunwole, D.A. and Afolayan, O.D. (2019) "Housing crisis: Waste glass-stabilized clay for use as fired clay bricks". IOP Conference Series: Materials Science and Engineering, 640(1), 012072(1–10). <https://iopscience.iop.org/article/10.1088/1757-899X/640/1/012072>.

**Akinwumi, I.I.**; Booth, C.A.; Ojuri, O.O.; Ogbiye, A.S.; Coker, A.O. (2018) "Containment of Pollution from Urban Waste Disposal Sites". In S. Charlesworth & C. A. Booth (Ed.), *Urban Pollution: Science and Management* (Chapter 17). Wiley-Blackwell Publishing.

**Akinwumi, I.I.**; Ojuri, O.O.; Ogbiye, A.S.; Booth, C.A. (2017) "Engineering properties of tropical clay and bentonite modified with sawdust", *Acta Geotechnica Slovenica*, **14**(2), 47–56.

**Akinwumi, I.I.**; Booth, C.A.; Diwa, D.; Mills, P. (2016) "Cement Stabilisation of Crude-Oil-Contaminated Soil", *Proceedings of the Institution of Civil Engineers – Geotechnical Engineering* **169**(4), 336–345.

#### PROFESSIONAL DEVELOPMENT

Certificate of Short Course Participation, Hydrology and Remote Sensing, University of Oklahoma, Post-conference short course after the 2019 OU International WaTER Conference, Norman, Oklahoma, United States of America, 18th September 2019

Statistical Package for Social Sciences (SPSS) Course, Digital Bridge Institute, Covenant University, Ota, Nigeria, 18th – 22nd March 2019. Training on using SPSS for research organised by the Digital Bridge Institute as part of the Advanced Digital Appreciation Programme for Tertiary Institutions (ADAPTI).

Research Proposal Writing Skills Course, African Women in Agricultural Research and Development (AWARD), Covenant University, Ota, Nigeria, 5th – 7th September 2018

"Certificate of Participation, Safe and Sustainable Well Drilling", organised by the University of Oklahoma, after the International WaTER Conference, Norman, Oklahoma, United States of America, 20th – 21st September 2017.

"Certificate of Participation, Technical Field Methods", organised by the University of Oklahoma, after the International WaTER Conference, Norman, Oklahoma, United States of America, 20th September 2017.

"Building a reputation as a researcher" South West (of England) Graduate School Residential Course, held at Buckland Hall, Bwlch, Powys, Wales, UK, 28th June 2016 to 1st July 2016.

"Translating Science Research into Public Action" organised by the Commonwealth Scholarship Commission in the UK and held at Liverpool School of Tropical Medicine, Liverpool, UK, 26th May 2016

First Aid Course – "Level 2 Award in Emergency First Aid at Work" (with certificate) Nuco Training Ltd., organised by the Students' Union, University of the West of England, Bristol, UK, 23rd May 2016

Academic Professional Development with VOX Coaching – "Communicating Effectively through E-learning Tools: Excellence in On-Camera Teaching and Learning" organised by the University of the West of England, Bristol, UK, April 2016



## Engr. Dr. J. Oluwole Olowoleni

### 1. Education – degree, discipline, institution, year

| Degree                           | Discipline   | Institution  | Year |
|----------------------------------|--|--|------|
| Ph.D                             | Information and Communication Engineering in view.                           | Covenant University                                  | 2018 |
| M.Eng                            | Electric Drive Equipment and Process Automation of Industrial Installations. | Krivoy-Rog National University, Krivoy-Rog, Ukraine. | 1995 |
| C&G of London Institute, London. | Information and Communication Engineering.                                   | Government Technical College, Ado Ekiti. Nigeria     | 1979 |

### 2. Academic experience – institution, rank, title (chair, coordinator, etc. if appropriate), when (ex. 1990-1995), full time or part time

| Institution         | Rank               | Title                                    | Dates Held        | FT/PT |
|---------------------|--------------------|--|-------------------|-------|
| Covenant University | Lecturer 1         | Member College of Engineering Chaplency. | 2015-2017         | PT    |
| Covenant University | Lecturer 11        | Chair Departmental Fellowship Committee. | 08/2012 – 2020.   | PT    |
| Covenant University | Assistant Lecturer | Coordinator; Departmental Welfare Comm.  | 2011 – 2020.      | FT    |
| Covenant University | Assistant Lecturer | Academic Adviser                         | 09/2004 - 06/2016 | FT    |
|                     |                    |  |                   |       |

### 3. Non-academic experience – company or entity, title, brief description of position, when (ex. 1993-1999), full time or part time

| Organisation                                       | Title               | Duties  | Dates     | FT/PT |
|--|---------------------|---|-----------|-------|
| Audi Quattro Centre, Krivoy-Rog. Ukraine.          | Electrical Engineer | Electrical maintenance and installations of automobile alert signals. | 2000-2004 | FT    |
| Ajaokuta Steel Company Limited, Ajaokuta. Nigeria. | Technician          | Maintenance and servicing of Electrical                               | 1983-1989 | FT    |

|  |  |             |  |  |
|--|--|-------------|--|--|
|  |  | appliances. |  |  |
|--|--|-------------|--|--|

**4. Certifications or professional registrations**

- Member, Nigerian Society of Engineers (M.N.S.E).
- Member, IEEE USA
- COREN, Registered Engineer (R.19, 297)

**5. Current membership in professional organizations**

- Member, Nigerian Society of Engineers (M.N.S.E).
- Member, IEEE USA
- COREN, Registered Engineer (R.19, 297)

**6. Honors and awards**

- Recipient of the Federal Government Scholarship through the Bureau for External Aid, Federal Ministry of Education for Tertiary Institution tenable in the USSR(CIS) – 1989 – 1995.

**7. Service activities (within and outside of the institution)**

- Minister, Winners’ Satellite Fellowship (WSF).
- Member, WSF Prayer Squad CU Guest House.
- Chairman, Protocol Sub-Committee. of eieCon2011 and eieCon2012.
- Chairman, Special Committee of Praise Unit, Protocol Service Group, living Faith Church, Canaanland, Ota.(2006- 2008).
- Assistant Unit Head, Praise Unit, Protocol Service Group, Living Faith Church, Canaanland, Ota. (Oct.2008- Sept. 2009).
- Unit Head, Praise Unit, Protocol Service Group, living Faith Church, Canaanland, Ota. (Sept. 2009- April 2013).
- Deputy Chair, 2011 Shiloh Service Committee of Protocol Service Group, LFC, Canaanland, Ota.
- Chairman, 2012 Shiloh Service Committee of Protocol Service Group, LFC, Canaanland, Ota.
- Member, Shiloh Activity Review Committee (SARC) of Protocol Service Group, LFC, Canaanland, Ota.
- Supervisor, 2013- 2014 , Shiloh Service Committee of Protocol Service Group, LFC, Canaanland, Ota.
- Member, Protocol Single’s Counselling Committee. (2013- 2017).
- Vice Chairman, Units of Protocol Service Group, LFC, Canaanland, Ota.( April 2013- 2017).

Special Adviser, Administration and Special Duties, Protocol Service Group, LFC, Canaanland, Ota. (April 2017 – till date).

**8. Selected publication**

- **J.O. Olowoleni**, A.U. Adoghe, A. Ademola, A.O. Omadoye, A.F. Agbetuyi, H.E. Orovwode, C.O.A. Awosope. “Construction and Operation of an Electronic Automatic Transfer Switch (Ats)” Global journal of Energy Technology Research updates, 2015, vol 2, no 1, pp.
- **Olowoleni J.O.**, Adoghe A.U., Agbetuyi A.F., Olayinka Oni, Awosope C.O.A, Arokoyo J.B.” Development of an Automatic Luminaire Control System”

International Journal of Applied Engineering Research ISSN 0973-4562 Volume 12, Number 7 (2017) pp. 1244-1246 © Research India Publications. <http://www.ripublication.com>

- **Olowoleni J.O.Olowoleni**, Adoghe A.U., Awosope C.O.A, Mbamali D.I., Owuama C.E.”Comparative study of hybrid versus stand-alone generator systems in Covenant University power system networks” International Journal of Electrical Engineering.
- F.E. Idachaba, H.E. Orovwode, **J.O. Olowoleni**, O.O. Oni. “Power Supply Options and Suitability Assessment for Remote Oil and Gas Production Installations”; International Journal of Emerging Technology and Advanced Engineering, ISSN 2250-2459, ISO 90011:2008 Certified Journal, Volume 4, Issue 9, September 2014.
- Ademola Abdulkareem, Ayokunle A. Awelewa, **J.O. Olowoleni**, J.O. Ibrinke “ Investigating the Normal Operating Mode of Abule-Egba Distribution Grid with Respect to Bus Voltages, Line Currents and Line Flow”; International Journal of Scientific & Engineering Research, ISSN 2229-5518, Volume 5, Issue 4, April 2014.
- A.U. Adoghe, A.F. Agbetuyi, A. Abdulkareem, **J.O. Olowoleni**, COA Awosope, “Review of lightning protection Standard in building Structures in Nigeria” IOSR Journal of Information and Communication Engineering (IOSR-JEEE), e-ISSN: 2278-1676, VOL 9, Issue 4 Ver III (July-Aug. 2014) pp 51 – 54. [ **Impact Factor = 0.532**]
- Adelakun Adebisi A, Adewale Adeyinka A., Ademola Abdulkareem, **Olowoleni Joseph O.** “Automatic Control and Monitoring of Electrical Energy Consumption Using PIR Sensor Module” International Journal of Scientific & Engineering Research, ISSN 2229-5518, Volume 5, Issue 5, May-2014.
- Agbetuyi A.F., **Olowoleni J.O.**, Fagbuaro O.E., Odiaka K.J. “Comparative Analysis On The Performance Characteristics Of Two - Single Phase Generators”. (IJMET) Volume 9, Issue 13, December 2018, Pp. 498 – 502. ISSN 0976-6359. [**Scopus-indexed**]
- **Olowoleni J.O.**, Awosope C.O.A, Adoghe A.U, Okoyeigbo Obinna, Udochukwu Ebubechukwu. “Design and Simulation of a Novel 3-Point Star Rectifying Antenna for RF Energy Harvesting at 2.4GHz”. Cogent Engineering. Ref: COGENTENG-2021-0115R1.ISSN:(Print)(Online).Cogent Engineering(2021),8:1943153.. [**Scopus-indexed**]

## 9. Professional Development

a) **COREN** – Installations and Maintenance of Solar Panels.

Raw Material Research and Development Council (RMRDC), ABUJA. 2009, 2010.

b) Nigerian University Research and Development Fund (NURESDEF), UNILAG, Lagos, 2008. UNN, Nsuka, 2010.



## Engr. Dr. Oguntosin, Victoria

### EDUCATION

| Degree | Discipline                           | Institution                   | Year |
|--------|--------------------------------------|-------------------------------|------|
| Ph.D.  | Electronics Engineering              | University of Reading, UK     | 2017 |
| M.Sc.  | Electrical & Electronics Engineering | University of Greenwich, UK   | 2014 |
| B.Eng. | Electrical Engineering               | University of Ilorin, Nigeria | 2011 |

### ACADEMIC EXPERIENCE

| From – To       | Institution         | Rank/Title         | Full Time/Part Time |
|-----------------|---------------------|--------------------|---------------------|
| 2021- Till Date | Covenant University | Lecturer I         | Full time           |
| 2018-2021       | Covenant University | Lecturer II        | Full time           |
| 2011-2012       | Bingham University  | Teaching Assistant | Full time           |

### CURRENT MEMBERSHIP OF PROFESSIONAL ORGANIZATIONS

- Member, Nigerian Society of Engineers (M.N.S.E).
- COREN, Registered Engineer (R.54, 286)

### SERVICE ACTIVITIES

- Reviewer and member of Covenant Health Research Ethics Committee (CHREC), Nov 2020 – till date.
- Course Adviser, Covenant University, Aug 2018 – Aug 2019

### SELECTED PUBLICATIONS

- Oguntosin, Victoria, and Ayobami Olomo. "Development of an E-Commerce Chatbot for a University Shopping Mall." *Applied Computational Intelligence and Soft Computing* 2021 (2021).
- Oguntosin, Victoria, and Ademola Abdulkareem. "Hand gesture control and design of a rotary pneumatic soft actuator using leap motion sensor." *International Journal of Intelligent Robotics and Applications* 4.3 (2020): 328-341.
- Oguntosin, Victoria, and Ayoola Akindele. "Design and characterization of artificial muscles from wedge-like pneumatic soft modules." *Sensors and Actuators A: Physical* 297 (2019): 111523.
- Design and Validation of Exoskeleton Actuated by Soft Modules toward Neurorehabilitation - Vision-Based Control for Precise Reaching Motion of Upper Limb , V. Oguntosin, Y. Mori, H. Kim , S. J. Nasuto, S. Kawamura and Y. Hayashi, *Frontiers in Neuroscience*, Vol 11, No 352, 2017.

- Embedded Fuzzy Logic Controller for Positive and Negative Pressure Control in Pneumatic Soft Robots, V. Oguntosin, S. J. Nasuto and Y. Hayashi, UKSim-AMSS 19th International Conference on Modelling & Simulation, Cambridge, 2017, pp. 1–6.
- Development of a wearable assistive soft robotic device for elbow rehabilitation, V. Oguntosin, W. S. Harwin, S. Kawamura, S. J. Nasuto and Y. Hayashi, IEEE International Conference on Rehabilitation Robotics (ICORR), Singapore, 2015, pp. 747–752.

#### **PROFESSIONAL DEVELOPMENT**

- 29TH COREN ENGINEERING ASSEMBLY, Advancing the Frontiers of Engineering Practitioners and Entrenching Professionalism for National Development, (9-11 August, 2021)





## Engr. DR. Oshin, Oluwadamilola I.

### EDUCATION

| Degree | Discipline                                | Institution         | Year |
|--------|---|---------------------|------|
| Ph.D   | Information and Communication Engineering | Covenant University | 2020 |
| M.Eng  | Information and Communication Engineering | Covenant University | 2012 |
| B.Eng  | Information and Communication Engineering | Covenant University | 2009 |

### ACADEMIC EXPERIENCE

| From – To        | Institution                      | Rank/ Title                      | Full time/ Part time |
|------------------|----------------------------------|----------------------------------|----------------------|
| 2022 – present   | Covenant University              | Acting ICE Programme Coordinator | Full time            |
| 2021 – present   | Covenant University              | Lecturer 1                       | Full time            |
| Feb. – Apr. 2019 | University of Texas, Austin, USA | Visiting Researcher              | Part time            |
| 2016 – 2021      | Covenant University              | Lecturer 2                       | Full time            |
| 2013 – 2016      | Covenant University              | Assistant Lecturer               | Full time            |

### NON-ACADEMIC EXPERIENCE

| Company           | Title                 | Description of Position                                     | Year                  | Full time/ Part time |
|-------------------|-----------------------|---|-----------------------|----------------------|
| Access Bank PLC   | Officer               | National Youth Service Corps                                | Full time             | Part time            |
| Total Nigeria PLC | Industrial Attachment | Troubleshooting of faulty computers within the organization | Mar. 2008 – Aug. 2008 | Part time            |

### CURRENT MEMBERSHIP OF PROFESSIONAL ORGANIZATIONS

1. Member, Institute of Information and Communication Engineers (MIEEE) #92128467
2. Member, International Association of Engineers (MIAENG)
3. Registered Engineer, Council for the Regulation of Engineering in Nigeria (COREN) #35,323

### HONOURS AND AWARDS

1. Best Undergraduate Project (Parallel operation of un-synchronizable generators), 2009, EIE Department, Covenant University, Ota, Ogun State.
2. Special Selection by the World Bank Group (WBG) to attend the WBG Youth Summit, 2018

### SERVICE ACTIVITIES

1. Information & Communication Engineering Level Adviser 2013 – 2018; 2019 – date  
(One on one mentorship of students at least once every semester (in-loco parentis))

- |  |             |
|--|-------------|
| 2. Member, Departmental Research and Teaching Laboratories Committee                           | 2020 – date |
| 3. Departmental Time-table Officer   | 2019 – date |
| 4. Student Resumption Activities – Faculty assistance with hostel check-ins                    | 2013 – 2017 |
| 5. Monthly monetary contribution to Covenant University community impact initiative activities | 2016 – date |

### SELECTED PUBLICATIONS AND PRESENTATIONS IN THE PAST 5 YEARS

1. **Oshin, O.**, Kireev, D., Hlukhova, H., Idachaba, F., Akinwande, D., & Atayero, A. (2020). Graphene-Based Biosensor for Early Detection of Iron Deficiency. *Sensors*, 20(13). <https://doi.org/10.3390/S20133688>
2. **Oluwadamilola Oshin**, Dmitry Kireev, Deji Akinwande, Emmanuel Adetiba, Francis Idachaba and Aderemi Atayero, “Advancing LoC Devices for Early Disease Detection using Graphene-based Sensors,” **International Conference on Engineering for a Sustainable World (ICESW 2019), Covenant University, Nigeria, July 3rd – 8th, 2019, to be published in IOP Conference Series: Materials Science and Engineering.**
3. Funmilayo S. Moninuola, Emmanuel Adetiba, **Oluwadamilola I. Oshin**, Anthony A. Atayero and Ademola Adeyeye, “A Mini Review of Trends towards Automated and Non-Invasive Techniques for Early Detection of Lung Cancer: From Radiomics through Proteogenomics to Breathomics,” **International Conference on Engineering for a Sustainable World (ICESW 2019), Covenant University, Nigeria, July 3rd – 8th, 2019, to be published in IOP Conference Series: Materials Science and Engineering.**
4. **Oluwadamilola Oshin**, Daniela Hampel, Francis Idachaba and Aderemi Atayero, “The First 1,000 Days: Trends towards Biosensing in Assessing Micronutrient Deficiencies,” **International Conference on Science and Sustainable Development 2019 (ICSSD 2019), Covenant University, Nigeria, May 6<sup>th</sup> – 8th, 2019, to be published in IOP Conference Series.**
5. **Oshin O.I.**, Simisola S., Oni O., Atayero A.A., “Development of a Power-harnessing Smart Shoe with Outdoor Navigation”, Proceedings of the World Congress on Engineering and Computer Science 2017 Vol I, pp.333-337, WCECS 2017c, October 25-27, 2017, San Francisco, USA.

### PROFESSIONAL DEVELOPMENT

- The International Conference on Engineering for a Sustainable World (ICESW 2019), Covenant University, Ota, Ogun State, Nigeria, July 3rd – 8th, 2019
- The International Conference on Science and Sustainable Development 2019 (ICSSD 2019), Covenant University, Ota, Ogun State, Nigeria, May 6th – 8th, 2019
- Mentoring Orientation Workshop facilitated by the African Women in Agricultural Research and Development (AWARD), 6TH-7TH September, 2018.
- Online Course (nanoHUB): Fundamentals of Nanoelectronics – Part A: Basic Concepts, 2nd Edition, 2018
- Training on Very Large Scale Integration of circuits: Equivalent to Advanced Systems Design Methodologies facilitated by Prof. Abbey Ilumoka, a Carnegie African Diaspora Fellow, 2017
- Online Course (Coursera): Nanotechnology and Nanosensors – Part 2, 2017
- Online Course (Coursera): Nanotechnology and Nanosensors – Part 1, 2017



## Engr. Adebisi A. Adelokun

1. **Education** – degree, discipline, institution, year

| Degree | Discipline                              | Institution         | Year    |
|--------|---|---------------------|---------|
| PhD    | Information & Communication Engineering | Covenant University | In view |
| M.Eng  | Information & Communication Engineering | Covenant University | 2009    |
| B.Tech | Electrical / Electronics Engineering    | LAUTECH             | 2004    |

2. **Academic experience** – institution, rank, title (chair, coordinator, etc. if appropriate), when (ex. 1990-1995), full time or part time

| Institution         | Rank                    | Title         | Dates Held      | FT/PT |
|---------------------|-------------------------|---------------|-----------------|-------|
| Covenant University | Lecturer 1              |               | 2017 -till date | FT    |
| Covenant University | Lecturer 11             |               | 2013 -2017      | FT    |
| Covenant University | Assistant Lecturer (AL) | Level Adviser | 2009-2013       | FT    |
| Covenant University | Graduate Assistant      |               | 2007 – 2009     | FT    |

3. **Non-academic experience** – company or entity, title, brief description of position, when (ex. 1993-1999), full time or part time

| Organisation   | Title                       | Duties                          | Dates     | FT/PT |
|--|-----------------------------|---------------------------------|-----------|-------|
| Government Day Secondary School, Rukubi, Nasarawa State. | National Youth service Corp | Classroom Teacher               | 2005-2006 | FT    |
| Nigeria Telecommunication Limited (NITEL)                | Trainee Engineer            | Training Development Activities | 2002-2004 | FT    |

4. **Certifications or professional registrations**

- Member, Nigerian Society of Engineers (M.N.S.E).
- COREN, Registered Engineer (R.24, 408)

5. **Current membership in professional organizations**

- Member, Nigerian Society of Engineers (M.N.S.E).

- COREN, Registered Engineer (R.24, 408)

## 6. Selected publication

### See service activities above

- Ndujiuba, C. U., Adelokun, A. A., & Agboje, O. E. (2015). Hybrid Method of Analysis for Aperture-Coupled Patch Antenna Array for MIMO Systems. *International Journal of Electromagnetics and Applications*, 5(2), 90-97.
- Arinze, David, Adisa Adelokun, Christie Etukudor, and F. Ajayi. "Electric tricycle for commercial transportation." (2016): 376-382.
- Ojewande, O., Ndujiuba, C., Adelokun, A. A., Popoola, S. I., & Atayero, A. A. (2020). Negative resistance amplifier circuit using GaAsFET modelled single MESFET. *TELKOMNIKA Telecommunication, Computing, Electronics and Control*, 18(1), 179-190.
- Adenle, B. J., Onaifo, F., Alashiri, O. A., Adekusibe, K. G., & Adelokun, A. A. (2018). Evaluation of electrical power outages: A restructuring approach in Nigeria.

## 7. Professional Development

**COREN - "Outcome Based Engineering Workshop and Review of Benchmark Minimum Academic Standard (BMAS) and Accreditation Scoring Criteria for Undergraduate Engineering Programmes in Nigerian Universities" (4-6 April, 2017)**



## Engr. Dr. Osemwegie N. Omoruyi

### 8. **Education** – degree, discipline, institution, year

| Degree            | Discipline                             | Institution                | Year |
|-------------------|--|----------------------------|------|
| Ph.D<br>(in view) | Computer Engineering                   | Covenant University        | 2022 |
| M.Sc.             | Electronics and Electrical Engineering | Obafemi Awolowo University | 2014 |
| B.Eng             | Computer Engineering                   | Covenant University        | 2008 |

### 9. **Academic experience** – institution, rank, title (chair, coordinator, etc. if appropriate), when (ex. 1990-1995), full time or part time

| Institution         | Rank        | Title            | Dates Held     | FT/PT |
|---------------------|-------------|------------------|----------------|-------|
| Covenant University | Lecturer 1  |                  | 05/2020 -      | FT    |
| Covenant University | Lecturer 11 | Academic Adviser | 2015 –<br>2020 | FT    |

### 10. **Non-academic experience** – company or entity, title, brief description of position, when (ex. 1993-1999), full time or part time

| Organisation          | Title              | Duties  | Dates         | FT/PT |
|-----------------------|--------------------|---|---------------|-------|
| One Dream PRO Limited | Research/Developer | Software Development/Research of Tools and Packages | 2012-<br>2015 | FT    |

### 11. **Certifications or professional registrations**

- Member, Nigerian Society of Engineers (M.N.S.E).
- COREN, Registered Engineer (R.45, 501)

### 12. **Current membership in professional organizations**

- Member, Nigerian Society of Engineers (M.N.S.E).
- COREN, Registered Engineer (R.45, 501)

### 13. **Honors and awards**

- Covenant University Postgraduate Ph.D. Grant

### 14. **Service activities (within and outside of the institution)**

- Head of Website Committee; Electrical and Information Engineering; College of Engineering; Covenant University; Nigeria; January 2020 till date.

- Acting Coordinator; Computer Engineering Programme; Electrical and Information Engineering; Covenant University; Nigeria; May 2021
- Academic level adviser Computer Engineering; Electrical and Information Engineering; College of Engineering; Covenant University; August 2015 – November 2020
- Member, Interview Panel for Covenant University Scholastic Aptitude Test 2018
- Member, 2017 COREN Accreditation committee

#### 15. Selected publication

- Omoruyi, O., Kennedy, O., Nsikan, N., Ndujiuba, C., John, S., Uzairue, S. (2018). Performance Benchmarking of Key-Value Store NoSQL Databases. *International Journal of Electrical and Computer Engineering (IJECE)*, 8(6).
- Azeta, J., Okokpujie, K. O., Okokpujie, I. P., Osemwegie, O., & Chibuzor, A. (2016). A Plan for Igniting Nigeria's Industrial Revolution. *International Journal of Scientific & Engineering Research*, 7(11), 489.
- Obinna, O., Kennedy, O., Osemwegie, O., & Nsikan, N. (2017). Comparative Analysis of Channel Estimation Techniques in SISO, MISO and MIMO Systems. *International Journal of Electronics and Telecommunications*, 63(3), 299-304.
- Omoruyi, O. N., Omoruyi, M. G., Okokpujie, K. O., & Okokpujie, I. P. (2018). Electronic Fare Collection Systems in Public Transits: Issues, Challenges and Way-Forward. *COVENANT JOURNAL OF ENGINEERING TECHNOLOGY*, 2(1).
- Chinonso, Okereke, Osemwegie Omoruyi, Kennedy Okokpujie, and Samuel John. "Development of an Encrypting System for an Image Viewer based on Hill Cipher Algorithm." *Covenant Journal of Engineering Technology* 1, no. 2 (2017).
- Adekitan, A. I., & Omoruyi, O. (2018). Stock keeping accuracy: a data based investigation of storage tank calibration challenges. *Data in Brief*, 19, 2155-2162.
- Okokpujie, K. O., Okoyeigbo, O., Okhaifoh, J. E., Osemwegie, O., & Nkordeh, N. (2016). Performance Analysis and Modeling of MIMO Systems. *International Journal of Applied Engineering Research*, 11(23), 11537-11541.
- Omoruyi, O., Okereke, C., Okokpujie, K., Noma-Osaghae, E., & John, S. (2018). Evaluation of the Quality of an Image Encryption Scheme. *TELKOMNIKA (Telecommunication Computing Electronics and Control)*, 17(1).
- Omoruyi, O., Okokpujie, K. O., Nsikan, N., John, S. N., & Adewale, A. (2017). On Issues, Strategies and Solutions for Computer Security and Disaster Recovery in Online Start-ups. *International Journal of Applied Engineering*, 12(19), 8009-8015.

#### 16. Professional Development

**COREN** - "Outcome Based Engineering Workshop and Review of Benchmark Minimum Academic Standard (BMAS) and Accreditation Scoring Criteria for Undergraduate Engineering Programmes in Nigerian Universities" (4 April, 2017)



## Engr. Etinosa Noma-Osaghae

### 1. Education

| Degree | Discipline                           | Institution         | Year |
|--------|--------------------------------------|---------------------|------|
| M.Eng  | Electronic and Telecommunication     | University of Benin | 2016 |
| B.Eng  | Electrical / Electronics Engineering | University of Benin | 2011 |

### 2. Academic experience

| Institution                                       | Rank        | Title                               | Dates Held          | FT/PT |
|---|-------------|-------------------------------------|---------------------|-------|
| Covenant University                               | Lecturer 11 | Academic Adviser 2018-<br>Till Date | FT                  |       |
| Covenant University                               | Lecturer 11 | Departmental Time<br>Table Officer  | 2020 – Till<br>Date | FT    |
| Patricia Private<br>School                        | Teacher     | Physics Teacher                     | 2016-2017           | FT    |
| Community<br>Secondary School,<br>Obeleagu Umana. | Teacher     | Physics Teacher                     | 2012-2013           | FT    |

### 3. Non-academic experience

| Organisation                                   | Title                                   | Duties   | Dates     | FT/PT |
|--|---|--|-----------|-------|
| Webdata Technology Company<br>Nigeria Limited  | Database<br>Administration<br>Team Lead | Supervised and<br>coordinated<br>database<br>administration<br>team.                 | 2013-2014 | FT    |
| Industrial Trainee, Shell<br>Petroleum Company | Industrial<br>Trainee                   | Provided<br>information<br>and<br>communication<br>technology<br>support<br>services | 2010-2011 | FT    |

### 4. Certifications or professional registrations

- IBM Certified Artificial Intelligence Analyst, 2019.

- IBM Certified Block Chain Developer, 2019
  - IBM Certified Security Intelligence Analyst, 2017
  - IBM Application Security Analyst, 2017
- 5. Current membership in professional organizations**
- Council for the Regulation of Engineering in Nigeria (COREN) Certified, COREN/REG/R. 49,978.
  - Corporate Member, Nigerian Society of Engineers “MNSE”, Nigeria, Reg. No.: 46296.
- 6. Honors and awards**
- University Scholar Prize (for being the best graduating student in academic performance in M. Eng., Electrical/Electronic, Faculty of Engineering, (2014/2015) academic session).
  - Nigeria Agip Exploration Scholarship (NAE) for master degree programme – 2016.
- 7. Service activities (within and outside of the institution)**
- Academic adviser, Department of Electrical and Information Engineering, Covenant University.
  - Time Table Officer, Department of Electrical and Information Engineering, Covenant University.
  - Member, Publication Committee, Department of Electrical and Information Engineering, Covenant University.
  - Member, College Examination Committee, Covenant University.
  - Member, Publication Committee, College of Engineering, Covenant University.
  - Member, Student Industrial Work Experience Scheme (SIWES) committee, College of Engineering, Covenant University.
- 8. Selected publication**
- Okokpujie, K., John, S., Ndujiuba, C., Badejo, J. A., & **Noma-Osaghae, E.** (2021). An improved age invariant face recognition using data augmentation. *Bulletin of Electrical Engineering and Informatics*, 10(1), 179-191.
  - K Okokpujie, J Abubakar, J Samuel, **E Noma-Osaghae** (2021), A secured automated bimodal biometric electronic voting system, IAES International Journal of Artificial Intelligence, 2021.
  - Okokpujie, K., **Noma-Osaghae, E.**, John, S. N., Ndujiuba, C., & Okokpujie, I. P. (2021). Comparative analysis of augmented datasets performances of age invariant face recognition models. *Bulletin of Electrical Engineering and Informatics*, 10(3).
  - John, S. N., **Noma-Osaghae, E.**, Oajide, F., & Okokpujie, K. (2020). Cybersecurity Education: The Skills Gap, Hurdle!. In *Innovations in Cybersecurity Education* (pp. 361-376). Springer, Cham.
  - Adoghe, A., **Noma-Osaghae, E.**, & Yabkwa, R. (2020). Photonic Crystal and its Application as a Biosensor for the Early Detection of Cancerous Cells.
- 9. Professional Development**



- 3rd International Conference on Science and Sustainable Development (ICSSD 2019), CUCRID Building, Covenant University, Ota, Nigeria. " Predictive student performance using counselling for enhanced academic progress", May 6-8, 2019.



## Engr. Sanni Timilehin F.

### Education

| Degree | Discipline                                 | Institution                 | Year      |
|--------|--|-----------------------------|-----------|
| Ph.D   | Power System Control and Energy Management | Covenant University         | (In-View) |
| M.Sc.  | Electronics and Electrical Engineering     | University of Leeds         | 2014      |
| B.Eng. | Electrical / Electronic Engineering        | Olabisi Onabanjo University | 2012      |

### Academic Experience

| Institution         | Rank        | Title   | Dates Held                                  | Full time/Part time |
|---------------------|-------------|---|---|---------------------|
| Covenant University | Lecturer II | Academic Adviser<br>CODET committee member<br>Final year Project committee member | 01/2016 – 02/2020<br>2019-2020<br>2018-2020 | Full time           |

### Non-Academic Experience

| Company   | Title              | Description of Position                   | Year-Year | Full time/Part time |
|---|--------------------|---|-----------|---------------------|
| Busitec Engineering Limited, Lagos State, Nigeria | Industrial Trainee | Design and installation of control meters | 2010      | Full time           |

### Certifications and Current Membership in Professional Organizations

- Member, Nigerian Society of Engineers (M.N.S.E).
- Member, IEEE USA
- Member, COREN

### Service Activities

- Level Adviser, Electrical/Electronic Engineering student; Electrical and Information Engineering; Covenant University; Nigeria; 2016 - till date
- Member, Undergraduate Project Committee, Electrical and Information Engineering; College of Engineering; 2018 till date
- Member, CODET Committee, College of Engineering, Covenant University, Nigeria; 2018

### **Selected Publications and Presentations from the Past Five Years**

- **Sanni Timilehin F.**, Olajube Ayobami, Abdulkareem Ademola, Alabi Gideon, “Renewable Energy Towards A Sustainable power supply in the Nigerian Power Industry: Covenant University as A Case Study”, in International Journal of Mechanical Engineering and Technology (IJMET), Volume 10, Issue 03, March 2019, pp.754-762. Article ID: IJMET\_10\_02\_079.
- Anthony Uwakhonye Adoghe, Victor Olugbenga Matthews, Peter Aigboviosa Amaize, Joseph Oluwole Oloweni, **Timilehin Fiyinfoluwa Sanni** and Olayinka Ayo, “Design and Implementation of a single-phase energy meter with SMS controlled and monitored recharge capability” in Journal of Energy and Power Engineering.
- A.U. Adoghe, **T.F. Sanni**, P.A. Amaize, A.E. Airoboman, “Transmission Grid Decongestion Management in Deregulated Power sector” in International Journal of Latest Engineering and Management Research (IJLEMR), vol. 1, Issue 5, June 2016, pp 12-16.
- **Sanni Timilehin Fiyinfoluwa**, Airoboman Abel, Adoghe Anthony, Amaize Peter, “A model for transmission grid decongestion” in 3<sup>rd</sup> International Conference on African Development Issues (CU-ICADI 2016) @ 2016 by Covenant University press. Pp 289-292.
- Anthony U. Adoghe, Owuama Chinemere Eberechukwu and **Timilehin F. Sanni**, “The effect of low power factor LED lamp invasion on the utility grid: A case study of Nigerian market. 2017 IEEE PES-IAS power Africa. @ 2017 IEEE, pp 413-417.
- **Timilehin F. Sanni**, Olayinka O. Ayo, Anthony U. Adoghe and Augustus E. Ibhaze, “ A hybrid thermos-electric solar based system for energy efficiency in Microgrids, 2017 IEEE PES-IAS power Africa @ 2017 IEEE pp 518-522.



## Engr. Dr. Amuta Oses Elizabeth

### 1. EDUCATION

| Degree | Discipline                           | Institution                                 | Year |
|--------|--------------------------------------|---|------|
| Ph.D   | Power Systems / Machines             | Covenant University                         | 2022 |
| M. Eng | Power Systems / Machines             | Federal University of Agriculture, Abeokuta | 2014 |
| B. Eng | Electrical / Electronics Engineering | Ambrose Alli University, Ekpoma             | 1999 |

### 2. ACADEMIC EXPERIENCE

| Institution            | Rank        | Title                              | Dates (From-To)     | Full Time/Part Time |
|------------------------|-------------|------------------------------------|---------------------|---------------------|
| Covenant University    | Lecturer II | Level Adviser/ Assist Exam Officer | <b>2016-Present</b> | Full Time           |
| Lagos city Polytechnic | Lecturer    |                                    | 2012-2015           | Part Time           |

### 3. NON-ACADEMIC EXPERIENCE

| Organisation                              | Title             | Description of Position          | Dates     | Full Time/Part Time |
|---|-------------------|----------------------------------|-----------|---------------------|
| Nigeria Telecommunications Limited Lagos. | Telecoms Engineer | Exchange monitoring and control. | 2001-2010 | Full Time           |

### 4. Certifications or professional registrations

- Corporate Member, Nigerian Society of Engineers (M.N.S.E). No 17160
- The Council for the regulation of engineering in Nigeria (COREN) No. R.14,104

### 5. Current membership in professional organizations

- Member, Nigerian Society of Engineers (M.N.S.E). No 17160
- COREN, Registered Engineer (R.14, 104)

### 6. Service Activities (Within and outside of the Institution)

- Member Covenant University Road Safety 2017-till date
- Covenant University Academic Success Plan Team 2017-till date
- Member, College Chaplaincy Committee, College of Engineering, Covenant University, Ota, Ogun State (2017– Till date).
- Level Electrical electronic Engineering Students' Adviser 2019 till date
- Examination Officer 2020/2021 section

#### 7. Selected Publications and Presentations in the Past 5 Years

- **Amuta E**, Wara S.T, Agbetuyi F, and Matthew S, "Hybridization of Biomass-Solar PV (Photovoltaic) Microgrid Power System Potentials for Kaduna in Nigeria" *International Journal of Mechanical Engineering and Technology (IJMET)*
- Aderibigbe Israel Adekitan , Isaac Samuel, **Amuta Elizabeth** (2019) "Dataset on the performance of a three phase induction motor under balanced and unbalanced supply voltage conditions" *ELSEVIER*  
<https://doi.org/10.1016/j.dib.2019.103947> 24
- Matthew S., Wara. S.T. Adejumobi I. A., and **Amuta E.** (2018). Minimization of Active Transmission Loss in Power Systems using Static Var Compensator, *International Journal of Applied Engineering Research* ISSN 0973-4562 Vol.
- **Amuta E.**, Wara S. T., Agbetuyi F., and Matthew S. (2018). Smart Grid Technology Potentials in Nigeria: an Overview. *International Journal of Applied Engineering Research* ISSN 0973-4562 Vol. 13(2), pp. 1191-1200.
- Okokpujie Kennedy, **Amuta Elizabeth**, Adekitan Aderibigbe, Okokpujie Imhade (2018) Efficient and Low Cost Implementation of a Single Axis Solar Tracking. *Journal of Electrical Engineering*, 18 (2). pp. 323-327. ISSN 1582-4594
- Okokpujie Kennedy, **Amuta Elizabeth** , Okonigene Robert, Samuel John (2017) Monitoring And Fault Detection System For Power Transmission Using Gsm Technology *Int'l Conf. Wireless Networks | ICWN'17 |*

#### 8. PROFESSIONAL DEVELOPMENT

1-Day Workshop on Anti-Plagiarism organized by the Nigerian Young Academy and School of Postgraduate Studies of Covenant University, Ota, February, 2018



## Engr. Dr. Somefun E. Tobiloba

### 1. EDUCATION QUALIFICATION

| INSTITUTION                    | DEGREE | DISCIPLINE   | YEAR |
|--------------------------------|--------|--------------|------|
| Covenant University            | Ph.D   | Elect. Elect | 2022 |
| University of Lagos            | M.Sc.  | Elect. Elect | 2015 |
| University of Lagos            | B.Sc   | Elect. Elect | 2011 |
| Federal Polytechnic Ilaro      | OND    | Elect. Elect | 2007 |
| Emmanuel Comprehensive College | SSCE   | Science      | 2004 |

### 2. ACADEMIC EXPERIENCE (FULL TIME)

| INSTITUTION                           | CLASS         | TITLE       | DATE        |
|---------------------------------------|---------------|-------------|-------------|
| Covenant University                   | Undergraduate | Lecturer    | 2016 - Date |
| Briggs' Gate<br>Comprehensive college | SSS1-SSS3     | Coordinator | 2013-2014   |
| Dan-Alf Secondary School<br>(NYSC)    | SSS1-SSS3     | Coordinator | 2012-2013   |

### 3. NON-ACADEMIC EXPERIENCE (FULL TIME)

| COMP ANY'S NAME           | POSITION         | RESPONSIBILITY  | DATE                |
|---------------------------|------------------|---|---------------------|
| Adcem Health Care Ltd.    | Project Engineer | i. Determines project specifications by studying product design, customer requirements, and performance standards; completing technical studies;<br>ii. Determines project responsibilities by identifying project phases and assigning personnel to phases.<br>iii. Prepare project status report. | June - October 2016 |
| Honeywell Flour Mills Plc | Volunteer        | i. Gas and diesel plant maintenance<br>ii. Diesel engine overhauling<br>iii. Power house operation  | March - June 2016   |
| Stag Enginee              | Intern           | i. Mapping of geographical location of buildings for generator installation<br>ii. Installation and maintenance of generator  | June -              |

|                            |                          |                      |
|----------------------------|--------------------------|----------------------|
| ring<br>Nigeria<br>Limited | iii. Team representative | No<br>v.<br>201<br>0 |
|----------------------------|--------------------------|----------------------|

## **CERTIFICATION OR PROFESSIONAL REGISTRATIONS**

1. NIIT
2. Mandatory Continuing Professional Education (MCPE)

## **CURRENT MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS**

1. Nigerian Society of Engineers (NSE)
2. Council for the Regulation of Engineering in Nigeria (COREN) **R.39527**
3. International Association of Engineers (IAENG)

## **HONOURS AND AWARDS**

1. Beneficiary of the NIIT Scholarship (Office and Desktop publishing)
2. Beneficiary of the Chevron Nigeria Limited Facilities Engineering Department, University Partnership Initiative seminar
3. Best Graduating Master Student in the Faculty of Engineering for 2015/2016 Session

## **SERVICE ACTIVITIES**

1. Academic Level Adviser, Information and Communication students 400L
2. Member of Covenant University Scholastic Aptitude Screen (CUSAS) 2019 – 2021
3. NUC Accreditation Committee (Computer Engineering)
4. Department of Electrical and Information Engineering Examination Officer, Covenant University
5. Chair College of Engineering Time-table Officer, Covenant University 2019 – 2021
6. Assistant Examination Officer, Department of Electrical and Information Engineering, Covenant University

## **SELECTED PUBLICATIONS AND PRESENTATIONS**

1. Abdulkareem, A., Alayande, A. S., Somefun, T.E., & Ette, E. V. (2021). Investigating the effects of bus numbering in a radial transmission network using load-flow study. *Heliyon*, 7(5).
2. Ayoade F. Agbetuyi, Owolabi Bango, Ademola Abdulkareem, Ayokunle Awelewa, Tobiloba Somefun, Akinola Olubunmi, Agbetuyi Oluranti (2021). Investigation of the Impact of Distributed Generation on Power System Protection. *Advances in Science, Technology and Engineering Systems Journal*, 6(2).
3. Alayande A.S, Somefun A.O., Somefun T.E., A. Ademola, Awosope C., Okoyeigbo O., Popoola O. (2021). Transient Stability Enhancement of a Power System Considering Integration of FACT Controllers Through Network Structural Characteristics Theory. *Advances in Science, Technology and Engineering Systems Journal*, 6(1).

4. Abdulkareem A., Somefun T.E., Chinedum O.K., Agbetuyi, F. (2021). Design and implementation of speech recognition system integrated with internet of things. *International Journal of Electrical and Computer Engineering (IJECE)*, 11(2).
5. Okoyeigbo, O., Ibhaze, A.E., Olajube, A., Shobayo, O., Somefun, T.E, Steve-Essi, O. (2021). Design and analysis of a broadband microwave amplifier. *Indonesian Journal of Electrical Engineering and Informatics*. 9(1).

#### **PROFESSIONAL DEVELOPMENT**

1. Participated in developing 2016/2017 Self-Study for NUC and COREN Accreditation
2. College based examination timetable and invigilation roster development.





**EDUCATION**

**Engr. Odu, Tiwalade Olubukola**

| Degree | Discipline           | Institution         | Year |
|--------|----------------------|---------------------|------|
| M.Eng  | Computer Engineering | Covenant University | 2012 |
| B.Eng  | Computer Engineering | Covenant University | 2007 |

**ACADEMIC EXPERIENCE**

| From – To      | Institution         | Rank/Title         | Full Time/Part Time |
|----------------|---------------------|--------------------|---------------------|
| 2015 - present | Covenant University | Lecturer II        | Full Time           |
| 2012 - 2015    | Covenant University | Assistant Lecturer | Full Time           |
| 2009 - 2012    | Covenant University | Graduate Assistant | Full Time           |

**NON-ACADEMIC EXPERIENCE**

| Company                        | Title            | Description of Position   | Year – Year | Full Time/Part Time |
|--------------------------------|------------------|---|-------------|---------------------|
| Zenith Bank Plc.               | IT Support Staff | Support and implementation of PayDirect, XPATH, Phoenix applications.   | 2008        | Full Time           |
| Zenith Bank Plc.               | Teller           | <ul style="list-style-type: none"> <li>▪ Posting of transactions on XPATH and Phoenix applications.</li> <li>▪ Management of cash centres.</li> </ul>   | 2007 – 2008 | Full Time           |
| 21st Century Technologies Ltd. | Intern           | <ul style="list-style-type: none"> <li>▪ Configuration of systems for dial – up internet connection.</li> <li>▪ Network Monitoring using WhatsUp Gold, HP OpenView, Huawei Quidview, The Dude softwares.</li> <li>▪ Cross – connection at the Main Distribution Frame (M.D.F).</li> <li>▪ Configuration of Digital Subscriber Line (D.S.L) modems.</li> </ul> | 2006        | Full Time           |

## **CURRENT MEMBERSHIP OF PROFESSIONAL ORGANISATIONS**

1. Corporate Member, Nigerian Society of Engineers (N.S.E.) – Registration Number - 44367
2. Registered Engineer with the Council for Regulation of Engineering in Nigeria (COREN) - R. 39,273

## **HONORS AND AWARDS**

2012, Recipient of IEEE (Biometrics Council) Travel Grant for the 9th International Summer School on Biometrics, Alghero, Italy.

## **SERVICE ACTIVITIES**

1. Chair, Covenant University Scholastic Aptitude Screening (CUSAS) 2019 Welfare Subcommittee.
2. Member, Covenant University Scholastic Aptitude Screening (CUSAS) 2019 Committee.
3. Member, Covenant University Students' Support Programme Committee; 2012 - 2018
4. Member, Souvenir Sub-Committee for 2011 Covenant University Convocation Ceremony.

## **SELECTED PUBLICATIONS AND PRESENTATIONS IN THE PAST 5 YEARS**

1. **Tiwalade Odu** and Joke Badejo “Development of a Recognition Algorithm for Newborn and Infant Fingerprints”, Proceedings of the 2017 International Conference on Computational Science and Computational Intelligence (CSCI), Las Vegas, U.S.A, 14 – 16 September, 2017.
2. Joke A. Badejo, **Tiwalade Odu** and Aderemi Atayero “Integrating Automated Fingerprint-based Attendance into a University Portal System”, Proceedings of the 2017 International Conference on Computational Science and Computational Intelligence (CSCI), Las Vegas, U.S.A, 14 – 16 September, 2017.

## **PROFESSIONAL DEVELOPMENT**

9<sup>th</sup> Summer School for Advanced Studies on “Biometrics for Secure Authentication: Understanding Man-Machine Interactions in Forensics and Security Applications.”  
June 8 – 15, 2012.



## Engr. Ifijeh Ayodele H.

### 1. **Education** – degree, discipline, institution, year

| Degree | Discipline   | Institution             | Year    |
|--------|--|-------------------------|---------|
| Ph.D   | Information & Communication Engineering  | Covenant University     | In view |
| M.Eng  | Electrical & Electronics Engineering<br>(Telecommunication option)                 | Ekiti State University  | 2017    |
| B.Eng  | Electrical & Electronics Engineering (Computer,<br>Control and Electronics option) | University of Ado-Ekiti | 2005    |

### 2. **Academic experience** – institution, rank, title (chair, coordinator, etc. if appropriate), when (ex. 1990-1995), full time or part time

| Institution  | Rank               | Title                  | Dates Held            | FT/PT |
|--|--------------------|------------------------|-----------------------|-------|
| Covenant University  | Assistant Lecturer | Academic Adviser       | 02/2021–<br>Till Date | FT    |
| Redeemer's College of<br>Technology and<br>Management<br>(RECTEM), Redemption<br>Camp , Mowe, Ogun<br>State, Nigeria | Lecturer II        | Ag. Head of Department | 05/2017 -<br>01/2021  | FT    |

### 3. **Non-academic experience** – company or entity, title, brief description of position, when (ex. 1993-1999), full time or part time

| Organisation                                  | Title                 | Duties                                       | Dates                | FT/PT |
|---|-----------------------|--|----------------------|-------|
| Covenant University                           | Senior Technologist 1 | Conduct and supervise practical classes.     | 10/2015 –<br>02/2016 | FT    |
| Covenant University                           | Technologist 1        | Conduct and supervise practical classes.     | 10/2012-<br>10/2015  | FT    |
| Covenant University                           | Technologist II       | Conduct and supervise practical classes.     | 06/2008-<br>10/2012  | FT    |
| Power Holding<br>Company of Nigeria           | Trainee Engineer      | Operations and Maintenance Support Services. | 05/2006 –<br>09/2007 | PT    |
| Nigerian National<br>Petroleum<br>Corporation | Trainee Engineer      | Telcoms Support Services.                    | 05/2003 –<br>10/2003 | PT    |

#### **4. Certifications or professional registrations**

- Registered Engineer by the Council for the Regulation of Engineering in Nigeria (R.Engr. COREN) - R.29,038

#### **5. Current membership in professional organizations**

- Member, Nigerian Society of Engineers (MNSE).
- Member, Institute of Information and Communication Engineering (MIEEE).
- Member, International Association of Engineers

#### **6. Honors and awards**

- World Bank Research Scholarship, CApIC-ACE Projects (Category 3).

#### **7. Service activities (within and outside of the institution)**

- Academic Adviser, Electrical and Information Engineering, College of Engineering, Covenant University, Nigeria - February 2021 till date.
- Support Staff for Project Coordination, Electrical and Information Engineering, College of Engineering, Covenant University, Nigeria - February 2021 till date.
- Research Assistant, Covenant Applied Informatics and Communication Africa Center of Excellence (CApIC-ACE), Covenant University, Ota, Nigeria – February 2021 till date

#### **9. Selected publications**

- **Ifijeh A. H.**, and Fagbohun O. O. (2018), “*Modelling and Simulation of Voice over Internet Protocol over Wireless Local Area Network (WLAN)*” published by International Journal of Scientific & Technology Research Volume 7, Issue 5 April 2018, pg 111 – 118.
- **Ifijeh A.H.**, Idachaba F.E., and Oluwafemi I.B. (2015), “*Performance Evaluation of the Quality of Voice over Internet Protocol over WLAN Codecs*” published in the proceedings of World Congress on Engineering in London, U.K. 1-3 July, 2015, Pp 387-392
- **Ifijeh A.H.**, and Oluwafemi I.B (2015), “*Analysis of Improved Quality of Service (QoS) of VoIP over Wireless Local Area Network (WLAN)*” International Conference on Networking, Information & Communications (ICNIC - 2015), 18 – 2 May 2015, Bangalore, India
- **Ifijeh A.H.**, Awosope C.O.A and Awelewa A.A. (2013), “*Innovative Practical Oriented Teaching Reforms in Engineering Education: A Key to Effective Capacity Building*” published in proceeding, **5<sup>th</sup> African Regional Conference on Engineering Education**, pp 242-251

#### **10. Professional Development**

- **1st HPC Workshop**, at the Covenant Applied Informatics and Communication Africa Center of Excellence (CApIC-ACE), 17<sup>th</sup> - 28<sup>th</sup>, May 2021.
- **Elsevier Workshop:** Writing without Plagiarism & Proper Reference Citations using Mendeley, Covenant University, Canaan land, Ota, Ogun State, Nigeria, 16<sup>th</sup> March, 2021
- **Elsevier Workshop:** How to Increase Visibility of My Work, Covenant University, Canaanland, Ota, Ogun State, Nigeria, 17<sup>th</sup> March, 2021
- School of Postgraduate Studies: Management of Reference in Thesis/Dissertations, Covenant University, Canaanland, Ota, Ogun State, Nigeria, 19<sup>th</sup> March, 2021



**Dr. LERAMO Richard Oluwafemi**

**Education**

| Degree | Discipline             | Institution          | Year |
|--------|------------------------|----------------------|------|
| Ph.D   | Mechanical Engineering | Covenant University  | 2017 |
| M.Sc   | Mechanical Engineering | University of Ibadan | 2002 |
| B.Eng  | Mechanical Engineering | University of Ilorin | 1995 |

**Academic Experience**

| Institution         | Rank               | Title  | Dates Held  | FT/PT |
|---------------------|--------------------|--|-------------|-------|
| Covenant University | Lecturer I         | Exam Officer/Project coordinator.  | 2017- Date  | FT    |
| Covenant University | Lecturer II        | Updating Mechanical Engineering Post Graduate Curriculum Departmental/Exam. Officer/Level Adviser/Project Coordinator. | 2009 - 2017 | FT    |
| Covenant University | Assistant Lecturer | Member of team for developing Mechanical Engineering Curriculum/Level Adviser/Assistant SWEEP coordinator              | 2005 - 2012 | FT    |

**Non-academic Experience**

| Organisation                                  | Title  | Duties   | Dates          | FT/PT |
|---|--|--|----------------|-------|
| Covenant University, Ota, Ogun State, Nigeria | i. Member of Consortium constituted by the Covenant University Management. | Supervision of the then on-going building Construction at Cannaland and Covenant University. | 2009/2010      | PT    |
|   | ii. Mechanical   | Drafting, design and preparing of the bill of quantities for the                             | October 2010 – | PT    |

|  |  |   |   |                            |
|--|--|---|---|----------------------------|
|  | Consultant to Living Faith Church (Winner Chapel)/Covenant University for the Dominion Airline Hangar project at Muritala International Airport, Ikeja, Lagos  | Mechanical Services (normal and compressed water supply, form and sprinklers fire extinguishers, HAVs, waste discharge, etc) and Consulting   | September 2011                            |                            |
|  | <p>iii. Mechanical Consultant to Living Faith Church (Winner Chapel)/Covenant University through our own Physical Planning and Development Unit.</p> <p>iv. In-House Task Force on Water Leakages at Senate Chamber and Building</p> | <p>a. Preliminary visit</p> <p>b. Inspection and schedule of dilapidation</p> <p>c. Priced BOQ and blank BOQ</p> <p>d. Preparation of contract documents</p> <p>e. Bidding for the contract</p> <p>f. Contract award</p> <p>g. Execution and supervision</p> <p>a. Investigate the immediate and remote causes of the water leakage at Senate Chamber.</p> <p>b. Test the structural integrity of the affected floor and the rest of the entire Senate building</p> <p>c. Recommended remedial actions to preserve the building</p> <p>d. Supervise the remedial action and necessary renovation</p> <p>e. Perform any other relevant assignment as directed by Management.</p> | <p>March 2011 – June 2011</p> <p>2020</p> | <p><u>PT</u></p> <p>PT</p> |
| Physical Planning and Development of Covenant University | Mechanical supervisor on the then on-going building constructions.   | Mechanical building services designing and drawings with AutoCAD/site supervision.  | 2004                                      | <u>FT</u>                  |
| Other Mechanical contracting and                         | i. Mechanical building services of proposed 4 bedroom bungalow for Mr. &   | Designing, drafting and preparing of the bill of quantity of HVAC (Heating, Ventilation and   | November 2008                             | <u>PT</u>                  |

|  |   |   |              |           |
|--|---|---|--------------|-----------|
| Consultancy services   | Mrs. Dr 'Sola Omoniyi at Oke tiri road, Addo town Eti Osa L.G.A., Lagos State.<br><br>Mechanical building services of proposed Soap factory/warehouse for GIVANAS NIG., LTD., at Amuwo Odofin, Lagos State. | Airconditioning), firefighting devices, water and drainage systems, borehole specifications, etc.<br><br>Designing, drafting and preparing of the bill of quantity of Chillers Pipe Network for 1- and 2-tons Soap Machines, HVAC (Heating, Ventilation and Airconditioning), firefighting devices, water and drainage systems, borehole specifications, etc. | January 2009 | <u>PT</u> |
| Advanced Software System Limited   | Computer System Instructor  | Computer Software Training of UBA personnel at UBA head office at Marina, Lagos   | 1998-1999    | FT        |
| Advanced Computer Solution Provider subsidiary of Richard Advanced Business Ventures | CEO   | Managing, training and directing the affairs of the company.  | 2001-2005    | PT        |

### **Certifications or Current Professional Membership**

- Member, Nigerian Society of Engineers (M.N.S.E), No. 18242
- Registered Member, Council for the Regulation of Engineering in Nigeria (COREN), No. R17,647

### **Service Activities**

- **Some of the Undergraduate Project Supervised:**
  - a. Design and Manufacture of a wind turbine – by Majekodunmi Ayodeji and Sobaeh Godspower Raphel – 2009.
  - b. Development of a Cowpea Dehauler – by Abe, Adedeji Olayemi, Fufeyin, Frederick and Kayode, Oluwagbemileke – 2010.
  - c. Development of a Yam Pounding Machine – by Awoniyi Timothy Adeyemi and Ofolue Chuka – 2011.
  - d. Design and Fabrication of Multi-Grain Dehauler – by Awoyele Emmanuel – 2012.
  - e. Design and Fabrication of Hammer Mill Pulverizer – by Akinrinade Akinola – 2012.
  - f. The Design and Fabrication of a – by Adegoke Cedric Adedayo – 2012.
  - g. Performance analysis of Multi-Grain Dehauler, Hammer Mill Pulverizer and a Plastic Crusher – 2013.
  - h. Design and fabrication of Briquetting Machine – 2013.

- i. Design and fabrication of Multi-Block Making Machine – 2013.
  - j. Design and fabrication of a Compactor or Bailing Machine – 2013
- **Community Development Services**
    - a. Teaching of the technologist in mechanical engineering department how to use spreadsheet (Using Ms-Excel) – Tuesday, July 12, 2011 to Wednesday, July 13, 2011.
    - b. Vice-Chancellor nomination as member of the committee of the Faculty Support Programme - Tuesday, 6th November, 2012.
    - c. Member of the HOD nominees to verify the viability of two inventions submitted to the chancellor through the Vice-chancellor, on the amphibious Jet 1 and the multi-purpose tractor in the Canaan land - November 2012.
    - d. Departmental welfare officer - 2008 - 2011
    - e. Course adviser for the first set of students in mechanical engineering (in-loco parentis) from 100 - 500level and again course adviser for present 400 level mechanical students from 100 level.
    - f. Chairperson- Logistic, Protocol and Transportation Committee for the International Conference for Clean Technology and Contemporary Engineering Management, 2012.
    - g. Assistant SWEP Coordinator 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012.
    - h. Member of Faculty Support Programme Inaugurated by Prof. C. K. Ayo VC Covenant University, Ota, Ogun-State - 2012
    - i. Chairperson – Automobile Commercialization Committee Inaugurated by Prof. Oyawale Festus HOD Mechanical Department, Covenant University Ota, Ogun-State – 2012.
    - j. Member – Mechatronics group Inaugurated by Prof. Oyawale Festus HOD Mechanical Department, Covenant University Ota, Ogun-State – 2012.
    - k. Member of Covenant University Purchasing Committee Inaugurated by Prof. C. K. Ayo VC Covenant University, Ota, Ogun-State – Friday 18th of January, 2012.
    - l. Trained both students and staff of Faith Academy, Canaanland Ota, Ogun-State: 2013
    - m. Consultant to Church/Covenant University, Ota, Ogun-State.
    - n. Departmental Project Coordinator – 2015 – till date.
    - o. Guest lecturer on procedure on Fire Fighting at Faith Academy School. Ota, Ogun State – 2016.
    - p. Guest Lecturer on important of engineering in our society at Kingdom heritage Model School Canaan Land, Ota, Ogun State - 2016
    - q. Member of committee to look into Mr. Ocheja's Proposal to the Covenant University (Production of Engineering Drawing Board) – 27th September, 2017.
    - r. Appointed as a chairman of equipment purchasing and technical staff development committee – 3rd October, 2017.
    - s. Appointed as a member of NUC accreditation committee – 3rd October, 2017.
    - t. Member into college equipment committee – 16th October, 2017.
    - u. Guest Lecturer on prospects of engineering in our society at Ambassadors schools - 2017
    - v. Guest lecturer The Ambassadors Mathematics Ambassadors schools - 2017
    - w. Appointed as a departmental examination officer for mechanical engineering



department – 2016/2117, 2017/2018.

- x. Appointed as a member for the 2018 CODET Engineering Competition Committee – January 25, 2018
- y. Chairperson Post Graduate Curriculum Committee – 31-01-18
- z. Officer in charge of accommodation and welfare for International Conference on Engineering for a sustainable World, organized by the department of mechanical engineering, Covenant University, Ota, Nigeria. July 9 – 13, 2018.
- aa. Given talk on Experimental Design at Department of Mechanical Engineering in University of Ibadan to their lecturers and post-Graduate students, this based on their HOD request – Thursday, April 9th, 2018.
- bb. Master of event at 13th convocation event of college of engineering – 10th July, 2018
- cc. Member of Higher Education Partnerships in Sub-Sahara African Programme (HEPPSA) Workshop Committee – August 21, 2018
- dd. Member of Departmental Accreditation Committee - August 21, 2018
- ee. Member of International Conference on Engineering for Sustainable World (ICESW) 2019 committee - August 21, 2018

### **Awards and Honours**

- Certificate of Merit from National Youth Service Corps Ogun State - 23rd of Oct. 1996.
- Certificate of Honours from Ogun State Corpers' Welfare Association – 22nd of Oct. 1996.
- Certificate of Chess Championship- 3rd place in chess competition at the first Unilorin inter-hall sports championship.
- Best Lecturer of the year in Engineering in year 2008/2009, 2009/2010, 2010/2011 and 2011/2012 sessions by the Engineering students during their Tech Week.
- Best lecturer in the department of mechanical Engineering, award giving by the students of mechanical Engineering, 2008/2009 session.

### **Recent Professional Development Activities**

- a. Working on setting up of plastic crushing and pelletizing for a client.
- b. Planning to publish some papers on highly reputable Engineering Journals
  - Best Lecturer of the year in Engineering in year 2008/2009, 2009/2010, 2010/2011 and 2011/2012 sessions by the Engineering students during their Tech Week.
  - Best lecturer in the department of mechanical Engineering, award giving by the students of mechanical Engineering, 2008/2009 session.

### **Publications and Presentations from the Past Five years**

- Loto, R. T., Leramo, R., Olowoyo, T., & Igwe, K. (2022). Study of the Corrosion Inhibition Reaction of Admixed Plant

- Distillates on Mild Steel. In Key Engineering Materials (Vol. 907, pp. 268-276). Trans Tech Publications Ltd.
- **Leramo, R. O.**, Adekoya, L. O., & Loto, C. A. (2018). Evaluation of surface geometries and physical properties of concrete reinforcement steel rods rolled in Nigeria. *Case studies in construction materials*, 8, 150-159.
  - Oyedepo, S. O., Anifowose, E. G., Obembe, E. O., Dirisu, J. O., Khanmohamadi, S., Kilanko, O., ... & Olawole, O. C. (2020). Assessment of Economic and Environmental Impacts of Energy Conservation Strategies in a University Campus. *Green Energy: Solar Energy, Photovoltaics, and Smart Cities*, 441-468.
  - Oyedepo, S. O., Fakeye, B. A., Mabinuori, B., Babalola, P. O., **Leramo, R. O.**, Kilanko, O., ... & Oyebanji, J. A. (2020). Thermodynamics analysis and performance optimization of a reheat–Regenerative steam turbine power plant with feed water heaters. *Fuel*, 280, 118577.
  - Ajayi, O. O., Agarana, M. C., Akinwumi, I. I., Okokpujie, P. I., Salawu, E. Y., Abioye, A. A., ... & **Leramo, R. O.** (2019). Modelling rate of traffic-induced building vibrations in Sango-Ota, Nigeria: an assumption based analysis. *WIT Trans Built Environ*, 182, 303-313.



**Dr. Kilanko Oluwaseun**

**Education**

| Degree | Discipline             | Institution          | Year |
|--------|------------------------|----------------------|------|
| Ph.D   | Mechanical Engineering | Covenant University  | 2015 |
| M.Sc   | Mechanical Engineering | University of Ibadan | 2003 |
| B.Sc   | Mechanical Engineering | University of Ibadan | 2000 |

**Academic Experience**

| Institution         | Rank            | Title                               | Dates Held  | FT/PT |
|---------------------|-----------------|-------------------------------------|-------------|-------|
| Covenant University | Senior Lecturer | Departmental SIWES Coordinator      | 2021 – Date | FT    |
| Covenant University | Lecturer I      | Departmental SIWES Coordinator      | 2015 – 2021 | FT    |
| Covenant University | Lecturer II     | Academic Students Adviser           | 2010- 2015  | FT    |
| Covenant University | Lecturer II     | Departmental Project Coord.         | 2008 – 2013 | FT    |
| IAR&T, Ibadan       | Lecturer II     | External Examiner for ND Programmes | 2009 – 2011 |       |

**Non-academic Experience**

| Organization                         | Title                     | Dates       | FT/PT |
|--------------------------------------|---------------------------|-------------|-------|
| Victory Grammar School, Ikeja, Lagos | Technical Drawing Teacher | 2000 - 2002 | FT    |
| FOBA Engineers Limited, Ibadan       | Fabrication Assistant     | 1998 – 1999 | FT    |

## **Certifications or Current Membership in Professional Organizations**

- Corporate Member, Nigerian Society of Engineers (M.N.S.E), 16955
- Registered Member, Council for the Regulation of Engineering in Nigeria (COREN), R14, 912

### **Engineering Software Certifications**

#### **SOLIDWORKS**

Certified SolidWorks Associate (CSWA 2018) - C-VUJRRRAWBL

Certified SolidWorks Professional (CSWP 2018) - C-Y89AQEKNN5

Certified SolidWorks Associate, Additive Manufacturing (CSWA-AM,2019) – C-AN6V7XLC35

Certified SolidWorks Professional Advance Drawing Tools (CSWPA-DT,2017) - C-YTEFYJ9YEC

#### **AUTODESK AUTOCAD**

AutoCAD Certified Associate (2010) - 00177640

AutoCAD Certified Professional (2014) – 00321366

AutoCAD Certified User (2019)

AutoCAD Certified Professional (2019)

#### **AUTODESK INVENTOR PROFESSIONAL**

Certified Instructor (2012)

Autodesk Inventor Certified User (2019)

Autodesk Inventor Certified Professional (2019)

Autodesk Certified Instructor (standard) 2019

#### **AUTODESK FUSION 360**

Autodesk Fusion 360 Certified User (2020)

## **Honors and Awards**

- Plaque Award, Academic Adviser, Mechanical Engineering, 2015
- 2002 – 2003 Federal Government of Nigeria National Scholarship Award (*For M.Sc. Programme*)

## **Service Activities**

- Co-Chair ICESW 2019 – International Conference on Engineering for A Sustainable World 2019, Organised by Department of Mechanical Engineering, Covenant University
- Co-Chair ICESW 2020 – International Conference on Engineering for A Sustainable World 2020, Organised by Department of Mechanical Engineering, Covenant University
- Member, Organising Committee, International Conference on Advances in Material Science 2020, Organised by Technology Research and Innovation Centre, India
- Departmental SIWES Coordinator, Mechanical Engineering, Covenant University (2008-Date)

- Departmental Project Coordinator, Mechanical Engineering, Covenant University (2008 – 2013)
- External Examiner (ND Programme) to Department of Agricultural Engineering, Institute of Agriculture, Research and Training, Moore Plantation, Ibadan, Oyo State. (2009 – 2011)
- Training of Staff of Nigeria Foundry Limited, Sango Ota on the use of SolidWorks for Engineering Designs (2015-2017).

## **Selected Publications and Presentations from the Past**

### **Five Years**

- Kilanko, O., Leramo, R.O., Fayomi, O.S.I., Oyedepo, S.O., Babalola, P.O., Ilori, T.A., Mozea, K.P., Onwordi, P.N. (2021). Design and construction of a manual food grinder. International Conference on Engineering for Sustainable World (ICESW 2020). IOP Conf. Series: Materials Science and Engineering 1107 (2021) 012218. doi:10.1088/1757-899X/1107/1/012218
- Kilanko, O., Fayomi, O.S.I., Akande, I.G., Shopeju, O., and Popoola, A.P.I. (2020). Examining the impact of quality failure in a controlled environment. International Conference on Technologies and Materials for Renewable Energy, Environment and Sustainability. AIP Conf. Proc. 2307, 020044-1–020044-5; <https://doi.org/10.1063/5.0033725>.
- Kilanko, O., Fayomi, O.S.I., Sode, A.A. (2020). Anticorrosion Effect of Silicon Nitride and Zirconium Diboride Composite on Ni–P–Zn Electroless Deposition on Mild Steel. Journal of Bio- and Tribo-Corrosion (2020) 6:95. <https://doi.org/10.1007/s40735-020-00392-5>.
- Oluwaseun Kilanko, Sunday J Ojolo, Richard O Leramo, Titus A Ilori, Sunday O Oyedepo, Phillip O Babalola, Ojo SI Fayomi, Patrick N Onwordi, Edidiong Ufot, Akaninyene Ekwere (2020). Dataset on physical properties of raw and roasted cashew nuts. Elsevier Data in Brief 33 (2020) 106514. <https://doi.org/10.1016/j.dib.2020.106514>.
- Chidera, M., Kilanko, O., Azeta, J., Bolu, C.A. (2020). An LDR Based Colour Sensor for Urine Analysis: A Review. International Journal of Emerging Trends in Engineering Research, 8(10), 7704-7711. <https://doi.org/10.30534/ijeter/2020/1618102020>.

### **Recent Professional Development Activities**

Conference Attendance: International Conference on Energy and Biochemical Engineering (ICEBE 2021), Covenant University, Sango Ota, Ogun State, Nigeria.



## Engr. Dr. Modupe Ojewunmi

### Education

| Degree | Discipline           | Institution                | Year |
|--------|----------------------|----------------------------|------|
| PhD    | Chemical Engineering | Covenant University        | 2016 |
| MSc    | Chemical Engineering | University of Lagos, Akoka | 2007 |
| BSc    | Chemical Engineering | LAUTECH, Ogbomosho         | 2001 |

### Academic Experience

| Institution         | Rank            | Title/Position  | Date Held        | FT/PT |
|---------------------|-----------------|---|------------------|-------|
| Covenant University | Senior Lecturer | -Examination officer<br>-Time table officer<br>-College seminar committee | 2010 – Till Date | FT    |

### Certifications or Current Membership in Professional Organizations

1. The Nigerian Society of Engineers {Reg. No : 25942} - Corporate Member
2. The Council for the Regulation of Engineering in Nigeria {Reg. No : R. 22,474}
3. American Institute of Chemical Engineers {AICHE} {Reg. No 9900108563}

### Honours and Awards

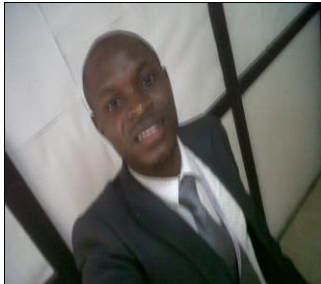
1. Covenant University award of Recognition as Time table Officer for the Department of Chemical Engineering, 2014/015 Academic session.
2. Supervisor of the 2nd position project in CODET competition, 2018 Abuja.

### Selected Publications and Presentations from the Past Five Years

1. **Modupe Elizabeth Ojewumi**, Kayode Gbolahan Oyeyemi, Moses Eterigho Emeteri, Joshua Olusegun Okeniyi (2018). Data on the rheological behavior of cassava starch paste using different models. Data in Brief, 19(2018), 2163-2177.
2. **Modupe Elizabeth Ojewumi**, Ejemen Valentina Anenih, Olugbenga Samson Taiwo, Bosede Temitope Adekeye, Olugbenga Olufemi Awolu, Emmanuel Omotayo Ojewumi (2018). A Bioremediation Study of Raw and Treated Crude Petroleum Oil Polluted Soil with *Aspergillus niger* and *Pseudomonas aeruginosa*. Journal of Ecological Engineering. 19(2), 226–235.
3. **Modupe Elizabeth Ojewumi**, Joshua Olusegun Okeniyi, Elizabeth Toyin Okeniyi, Jacob Olumuyiwa Ikotun, Valentina Anenih Ejemen, Esther Titilayo Akinlabi (2018). Bioremediation: Data on Biologically-Mediated Remediation of Crude Oil (Escravos Light) Polluted Soil using *Aspergillus niger*. Chemical Data Collections, 17 – 18: 196 – 204.

### Recent Professional Development Activities

1. Certificate in Leadership Development, African Development Center Covenant University, Ota. 2016
2. Training on the use of MATLAB, 2017. College of Engineering Covenant University, Ota, Ogun State.
3. TECHWOMEN Mentors from Silicon Valley, U.S.A. Professional Development workshop, 2018.
4. 10<sup>th</sup> AWARD Training on Grant writing. Covenant University, 2018.

|   |                           |  |
|---|---------------------------|--|
|  | <b>Title</b>              | Engr Dr.   |
|   | <b>Name</b>               | SANNI Samuel Eshorame  |
|   | <b>Sex/Marital Status</b> | Male / Married   |
|   | <b>Home Address</b>       | Opeyemi Community Iyana-Iyesi, Ota   |
|   | <b>Telephone</b>          | 08034332497  |
|   | <b>Email Address</b>      | <a href="mailto:samuel.sanni@covenantuniversity.edu.ng">samuel.sanni@covenantuniversity.edu.ng</a> |
|   | <b>Rank</b>               | <a href="#">Lecturer I</a>   |

### Education

| Degree  | Discipline           | Institution                              | Year |
|---------|----------------------|--|------|
| Ph.D.   | Chemical Engineering | Covenant University                      | 2018 |
| M.Sc.   | Chemical Engineering | Ahmadu Bello University                  | 2009 |
| B.Tech. | Chemical Engineering | Ladoke Akintola University of Technology | 2003 |

### Academic Experience

| From – To    | Institution         | Rank/Title         | Full time/Part time |
|--------------|---------------------|--------------------|---------------------|
| 2017-present | Covenant University | Lecturer I         | Full time           |
| 2015-2017    | Covenant University | Lecturer II        | Full time           |
| 2013-2015    | Covenant University | Assistant Lecturer | Full time           |

### Non-Academic Experience

| Company   | Title                       | Description of Position  | Year-Year | Full time/Part time |
|---|-----------------------------|--|-----------|---------------------|
| Kaduna Refining and Petrochemical Company Limited- KRPC | Trainee                     | Petroleum Processing for lube oil production, process monitoring and plant performance | 2002      | Part time           |
| Weam & Company, Port-Harcourt, Nigeria                  | Design and Process Engineer | Process design, modelling and simulation   | 2007      | Part time           |
| Kaduna Refining and Petrochemical Company Limited- KRPC |                             | Engineering Training Development; development of Process Information Diagrams (PIDs)   | 2011      | Part time           |

### Certifications and Current Membership in Professional Organisations

- i. Member, Nigerian Society of Engineers (MNSE), Reg. no: 33613, April 2014 to date
- ii. Member, Nigerian Society of Chemical Engineers (MNSChe), Reg. no: M1654, April 2014 to date
- iii. Member, Council for the Regulation of Engineering in Nigeria (COREN), R.30877, April 2015 to date
- iv. Fellow, Institute of Policy Management Development (FIPMD), Reg no: 1107, June 2018 to date
- v. International Association of Advanced Materials (IAAM), August 14, 2018 to date
- vi. Membership no: 791712343930

#### **i. Professional qualification(s)**

- ADAPTI Certificate for Proficiency in the use of Microsoft Office 2016
- Council for the Regulation of Engineering (COREN) in Nigeria 2015
- Nigerian Society of Engineers (NSE) Certificate 2014

- Nigerian Society of Chemical Engineers (NSChe) Certificate  
2014
- Health, Safety and Environment Certificate (HSE)  
2011
- Engineering Training and Development Programme Certificate (ETDP)  
2011
- Aspen HYSYS Certificate for Oil & Gas Process Simulation 2007

### **Honours and Awards**

#### **Scholarships, Fellowships and Prizes:**

- i. Nigerian Institute of Information Technology (NIIT) Scholarship Award to study JAVA, 2007, Cash Prize: N 137,000
- ii. Petroleum Technology Development Fund/Nigerian National Petroleum Corporation (PTDF/NNPC) Award: Scholarship for training & HYSYS Certification, 2007
- iii. PTDF/NNPC Scholarship Award/Prize: Scholarship to undergo Engineering Training and Development Programme (ETDP), 2011
- iv. 4th Position at the best presentation award: Intercontinental Research Competition of the Oil Trading and Logistics Conference, October 27-29, 2015
- v. Award of Fellowship, Institute of Policy Management Development (IPMD), June 2018 to date

### **Service Activities**

#### **(i) Adviser/advisor**

- 300 Level Students Chemical Engineering Department, Covenant University, 2013

#### **(ii) Examiner/coordinator**

- **Examiner:** Covenant University Scholastic Aptitude Screening (CUSAS) **Panelist** till date
- **Examiner:** Nigerian Society of Engineers, 2015 till date & **Staff Coordinator** for Chemical Engineering Department, Covenant University Chapter, 2015 to date



## 5.2 TECHNOLOGISTS PROFILES



**AFOLABI, Gbenga  
Ayobami**

### EDUCATION

| Degree | Discipline                        | Institution                                     | Year |
|--------|-----------------------------------|---|------|
| M.Eng  | Electrical/Electronic Engineering | Covenant University                             | 2018 |
| PGD    | Electrical/Electronic Engineering | Federal University of Technologist Akure (FUTA) | 2012 |
| HND    | Electrical/Electronic Engineering | Kwara state Polytechnic                         | 1999 |
| OND    | Electrical/Electronic Engineering | Ogun state Polytechnic                          | 1997 |

### ACADEMIC EXPERIENCE

| From-to      | Institution         | Rank/Title          | Fulltime/Part time |
|--------------|---------------------|---------------------|--------------------|
| 2015-Present | Covenant University | Senior Technologist | Full Time          |
| 2011-2015    | Covenant University | Technologist 1      | Full Time          |
| 2007-2011    | Covenant University | Technologist 11     | Full Time          |
|              |                     |                     |                    |
|              |                     |                     |                    |

### NON-ACADEMIC EXPERIENCE

| Company             | Title               | Description of Position | Year      | Full Time/Part time |
|---------------------|---------------------|-------------------------|-----------|---------------------|
| Universal Steel Ltd | Electrical Engr.    |                         | 2003-2007 | Full Time           |
| NISE Resources Ltd  | Operation Manager   |                         | 2001-2003 | Full Time           |
| United Spinners Ltd | Industrial Training |                         | 1997      |                     |

### CURRENT MEMBERSHIP OF PROFESSIONAL ORGANIZATIONS

1. Registered Engineer with Council for the Regulation of Engineering in Nigeria (COREN) in 2018. Registration number (R45648)
2. MNSE (Corporate Member, Nigerian Society of Engineers, 2016) – R37229

## **HONOURS AND AWARDS**

1. Award of recognition by the college as best Technologist in the department of EIE, 2014
2. Best Technologist in the University Award for the year 2016 session
3. Award of excellence by the college of Engineering as the best Technologist in EIE department for the year 2019 session.
4. Assistance chair, EIE Laboratory/Technical Committee
5. Member EIE IGR committee
6. Member College of Engineering Safety committee
7. Member University Equipment management and maintenance committee

## **PUBLICATIONS**

1. **Afolabi G.A, Orovwode H. Adoghe A.U “The Influence of Meteorological Features On The Performance Characteristics of Solar Photovoltaic Storage System” 4<sup>th</sup> ICESW IOP Conference 2019**
2. **Orovwode H, Afolabi G.A, Amuta E. “Development anf Performance Evaluation of a Solar Powered Tomato Storage. 3<sup>rd</sup> International Conference on Energy and Sustainable Environment, 2022**



## Adeyeye Kole Vincent Engn. Tech.

### 1. Education

| Degree | Discipline   | Institution                             | Year |
|--------|--|---|------|
| HND    | Electrical & Electronic Engineering (Power and Machine Option) | Rufus Giwa Polytechnic, Owo, Ondo State | 2008 |
| ND     | Electrical Electronic Engineering                              | Rufus Giwa Polytechnic, Owo, Ondo State | 2005 |

### 2. Academic Experience

| From – To      | Institution         | Rank/Title     | Full time/Part time |
|----------------|---------------------|----------------|---------------------|
| 2013-till date | Covenant University | Technologist 1 | Full time           |
| 2010-2013      | Covenant University | Technologist 2 | Full time           |

### 3. Non-Academic Experience

| Company                                   | Title                | Description of Position | Year-Year | Full time/Part time |
|---|----------------------|-------------------------|-----------|---------------------|
| Canaan Land Power House                   | Technician           |                         | 2009-2010 | Part time           |
| Government Junior Secondary School, Kwaka | Class Teacher        |                         | 2008-2009 | NYSC                |
| Triple 'T' Nigeria Enterprise             | Sales Representative |                         | 2005-2006 | IT                  |

### 4. Certifications or professional registrations

- Nigerian Association of Technologist in Engineering (NATE).
- COREN, Registered Engineering Technologist (R5132ET)

### 5. Current membership in professional organizations

- Nigerian Association of Technologist in Engineering (NATE).
- COREN, Registered Engineering Technologist (R5132ET)

### 6. Honors and awards

- 2014, Outstanding Technology, College of Engineering, Covenant University

### 7. Service activities (within and outside of the institution)

- 2021, Member, Departmental Research and Teaching Laboratory Committee
- 2016, Member, Laboratory Committee
- 2016, Member, Welfare Committee
- 2012, Member, Equipment Usage Committee; Covenant University

8. Conferences Attended With Date

Covenant University - OCIP Nigeria (CU-OCIP) Expo 2020 Webinar on Post COVID-19:  
Creativity & Innovation - The Pathway to Sustainable Development 23rd - 25th June, 2020



**ENGN.TECH. DARAMOLA Michael**

**Ademola**

**Education**

| Degree                    | Discipline  | Institution  | Year |
|---------------------------|---|--|------|
| <b>COURSE CERTIFICATE</b> | Project Management and Other Tools for Career Development | University of California, Irvine(UCI Division of Continuing Education, offer through Coursera) | 2020 |
| <b>MSc</b>                | Information Technology                                    | National Open University Nigeria   | 2017 |
| <b>PGD</b>                | Electrical / Electronic Engineering                       | Federal University of Technology Akure   | 2014 |
| <b>HND</b>                | Electrical / Electronic Engineering                       | Ondo State Polytechnic Owo   | 2001 |
| <b>OND</b>                | Electrical / Electronic Engineering                       | Ondo State Polytechnic Owo   | 1998 |

**Academic Experience**

| From - To             | Institution         | Rank /Title             | Full time / Part time |
|-----------------------|---------------------|-------------------------|-----------------------|
| <b>2015 - present</b> | Covenant University | Senior Technologist III | Full time             |
| <b>2011 - 2015</b>    | Covenant University | Technologist I          | Full time             |
| <b>2005 - 2011</b>    | Covenant University | Technologist II         | Full time             |

**Non-Academic Experience**

| Company   | Title                 | Description of Position | Year - Year | Full time / Part time |
|---|-----------------------|-------------------------|-------------|-----------------------|
| Covenant University<br>Project Phase III,<br>Canaan land, Ota,<br>Ogun state. | Trained<br>Technician |                         | 2004        | Full time             |

|  |                      |  |             |           |
|--|----------------------|--|-------------|-----------|
| Abitus Computer and Control Services, 117, Cameroun Road, Aba, Abia State. | Trained Technologist |  | 2002 - 2003 | Full time |
| Dabas Engineering Company, 42, Adegbola Street, Akure, Ondo State.         | Trained Technician   |  | 1990 - 2000 | Full time |

#### **Certifications or Current Membership in Professional Organizations**

- Registered Member, Council for the Regulation of Engineering in Nigeria (R5017ET)
- Corporate Member, Nigerian Association of Technologists in Engineering (C-10098)

#### **Service Activities**

- Officer In Charge of Electrical and Information Engineering Departmental Store, Covenant University (August 2018 to Date)
- Member, Equipment Committee for College of Engineering, Covenant University (2018-2019)
- Member, Electrical and Information Engineering Departmental Laboratory and Equipment Committee, Covenant University (2018-2019)

## AJAKAIYE Dereks Sunny



### Education

| Degree | Discipline   | Institution               | Year |
|--------|--|---------------------------|------|
| MBA    | Business Administration                                  | Bayero University, Kano   | 2002 |
| PGD    | Management Science                                       | Bayero University, Kano   | 2000 |
| HND    | Electrical / Electronic Engineering (Telecommunications) | Federal Polytechnic, Mubi | 1993 |

### Academic Experience

| From – To      | Institution         | Rank/Title          | Full time/Part time |
|----------------|---------------------|---------------------|---------------------|
| 2016 - present | Covenant University | Senior Technologist | Full time           |

### Non-Academic Experience

| Company                             | Title            | Description of Position | Year-Year  | Full time/Part time |
|-------------------------------------|------------------|-------------------------|------------|---------------------|
| Global Systems Resources Ltd, Lagos | Service Manager  |                         | 2009-2015  | Full time           |
| Omega Data Services, Kano           | Service Manager  |                         | 2001- 2009 | Full time           |
| Xerox H S (Nig) Ltd                 | Service Engineer |                         | 1996- 2001 | Full time           |

### Certifications and Current Membership in Professional Organizations

- Member, Nigerian Association of Technologists in Engineering (NATE)
- Member, International Facilities Management Association (IFMA)



Engr. Tech. Gabriel AMEH JAMES

**EDUCATION**

| Degree | Discipline                                    | Institution   | Year |
|--------|---|---|------|
| MIT    | Master Information Technology                 | Ladoke Akintola University of Technology (LAUTECH), Ogbomosho Oyo state | 2015 |
| PGD    | Computer Science                              | Ladoke Akintola University of Technology (LAUTECH), Ogbomosho Oyo state | 2012 |
| HND    | Electronics and Telecommunication Engineering | The Federal Polytechnic Bauchi State                                    | 2007 |
| ND     | Electrical and Electronic Engineering         | Ordinary National Diploma Electrical / Electronic Engineering           | 2004 |

**ACADEMIC EXPERIENCE**

| Institution         | Rank                  | Title                 | Dates            | FT/PT |
|---------------------|-----------------------|-----------------------|------------------|-------|
| Covenant University | Senior Technologist 3 | Senior Technologist 3 | 2021 – Till date |       |
| Covenant University | Senior Technologist 1 | Senior Technologist 1 | 2016 – 2019      |       |
| Covenant University | Technologist 1        | Technologist 1        | 2013 – 2016      |       |
| Covenant University | Technologist 2        | Technologist 2        | 2010 – 2013      |       |

**NON ACADEMIC EXPERIENCE**

| Organization              | Title               | Duties   | Dates       |
|---------------------------|---------------------|--|-------------|
| A & Y Enterprises Limited | Electrical Engineer | <ul style="list-style-type: none"> <li>Maintaining and repairs of electrical control panels</li> <li>Installation of industrial electrical machines</li> <li>Supervised the maintenance and repairs of diesel generators</li> <li>Laying of cables and tracing of electrical faults</li> </ul> | 2009 - 2010 |



|   |                                |   |              |
|---|--------------------------------|---|--------------|
|   |                                | <ul style="list-style-type: none"> <li>• Interpreting electrical design specifications</li> <li>• Scheduling routine maintenance</li> </ul>   |              |
| Everest Jouniel Elevator Company        | Electrical Elevator Technician | <ul style="list-style-type: none"> <li>• Installing elevators (Lift) cars</li> <li>• Maintaining and repairs of elevators</li> <li>• Interpreting electrical drawings</li> </ul>  | 2004 - 2005  |
| Zaranda Hotel, managed by Arewa Hotels  | Electrical Technician          | <ul style="list-style-type: none"> <li>• Repairing and installations of distribution boards</li> <li>• Replacing of faulty sockets, switches and all kinds of lamp holders</li> <li>• Maintaining of control panel room</li> <li>• Maintaining 800kva and 300kva generators</li> <li>• Maintaining intercom telephoning system</li> <li>• Electrical fault finding and rewiring</li> <li>• Maintaining industrial boiler</li> <li>• Coordinate shift roaster</li> </ul> | 1999 to 2004 |
| Akande Contractors, NITEL, Bauchi State | Assistant Facility Supervisor  | <ul style="list-style-type: none"> <li>• Keeping day to day records and statistic of activities</li> <li>• Assist in receiving supply of goods according to demand replenishment plan (DRP)</li> <li>• Ensuring clean and safe environment</li> </ul>   | 1996 -1998   |

### PROFESSIONAL REGISTRATIONS

- Member Council for the Regulation of Engineering in Nigeria (**COREN**)  
**Reg. No: R5042ET**
- Member Nigerian Association of Technologist in Engineering (**NATE**) **Reg. No. C-10107**

### CERTIFICATION


| S/N | Course  | Institution                          | Year |
|-----|---|--------------------------------------|------|
| 1   | WordPress Web design                          | African development bank Group       | 2021 |
| 2   | Visionary Leadership, Identity and Motivation | Macquarie University, Australia      | 2020 |
| 3   | Internet of Things (IoT) and Embedded System  | University of California Irvine, USA | 2020 |

|    |   |   |      |
|----|---|---|------|
| 4  | Initiating and Planning Project   | University of California Irvine, USA  | 2020 |
| 5  | Budgeting and Scheduling Projects                                       | University of California Irvine, USA -  | 2020 |
| 6  | Managing Project Risk and Changes                                       | University of California Irvine, USA  | 2020 |
| 7  | COVID-19 Contact tracing  | John Hopkins University Baltimore, USA -2020.   | 2020 |
| 8  | Artificial Intelligence Analyst Mastery Award Certificate               | IBM   | 2019 |
| 9  | Big Data Specialist with IBM Biginsight                                 | IBM   | 2016 |
| 10 | Advance Digital Appreciation Program for Tertiary Institutions (ADAPTI) | Digital Bridge Institute, Information Centre for Information and Communication Technology Studies | 2016 |
| 11 | Microsoft Packages (Word, Excel, Power Point)                           | Digital Bridge Institute-   | 2016 |
| 12 | Cisco Certified Network Associate (CCNA)                                | New Horizons Lagos  | 2009 |
| 13 | Diploma in Computer Maintenance and Repairs                             | Sonlight Computer Bauchi  | 2007 |

## SKILLS

- Internet of Things (IoT) Technology
- PIC microcontroller programing / Embedded System Technology
- Unmanned Aerial Vehicle Technology (Drone)
- Electronic circuit design using engineering automated software, Proteus, CircuitCAM, BoardMaster
- Fabrication of printed circuit boards using hi-tech automated PCB plotter machines,
- Professional production of surface mount technology (SMT) and through-hole technology (THT) printed circuit boards (PCB).
- Installation and repairs of 3 – phase industrial rolling machine
- Installation and repairs of Main breaker panel
- Electrical building wiring and supervising
- Electrical machine installations
- Able to effectively coordinate tasks to accomplish project with timeliness and creativity
- Good in both oral and written communication skill
- Highly organized and independent
- A self-starter and a team player

### Signature and Date

|                             |   |
|-----------------------------|---|
| <b>Name</b>                 | Engr. Tech. Gabriel AMEH JAMES  |
| <b>Signature &amp; Date</b> | <br><b>24<sup>th</sup> May, 2023</b><br>171 |



## ENGR.TECH. OLOMO, O. RACHAEL

### 1. Education

| Degree | Discipline                                 | Institution                          | Year |
|--------|--|--------------------------------------|------|
| M.sc   | Information Technology                     | National Open University of Nigeria. | 2016 |
| PGD    | Mobile (Wireless) Communication Technology | National Open University of Nigeria. | 2014 |
| HND    | Computer Engineering Technology            | Federal polytechnic Offa.            | 2007 |
| OND    | Computer Engineering Technology            | Federal polytechnic Offa.            | 2004 |

### 2. Academic Experience

| Institution                    | Rank         | Title        | Dates held     | FT/PT |
|--------------------------------|--------------|--------------|----------------|-------|
| Covenant University            | Technologist | Technologist | 2010-Till Date | FT    |
| Osun State Polytechnic Esa-Oke | Lecturer     | Lecturer     | 2009-2010      | PT    |

### 3. Non-Academic Experience

| Organization  | Title      | Duties  | Date      | FT/PT |
|---|------------|---|-----------|-------|
| Hood-speaks Theology Seminary Ndom-Ebom, Uruan LG. Area Akwa-Ibom State | Instructor | Teaching of computer software and hardware to theology students | 2008-2009 | FT    |
| ObafemiAwolowo University Ile - Ife Osun State.                         | Training   | Installation and Maintenance of Computer System.                | 2004      | FT    |
| Nigerian Television Authority Channel 39 Ile - Ife Osun State.          | Training   | Editing, Computer Graphic, Audio Mixing, Vision Mixing          | 2004-2005 | FT    |

#### **4. Certifications or Professionals Registration**

- Nigeria Association of Technologists in Engineering (NATE) Membership No C-10103
- Council for the Regulation of Engineering in Nigeria(COREN)  
COREN/REG/R5398ET

#### **5. Current Membership in Professional Organization**

Member, Nigeria Association of Technologists in Engineering (NATE)

#### **6. Service Activities (Within)**

- Member of departmental welfare committee for 2012/2013 academic session
- Member of departmental welfare committee for 2014/2015 academic session
- Member of laboratory committee for 2016/2017 academic session
- Member of NUC accreditation committee for 2020/2021 academic session

#### **7. Publications**

- **Rachael, O.**, Misra, S., Ahuja, R., Adewumi, A., Ayeni, F. and Mmaskeliunas, R., 2020. Image steganography and steganalysis based on least significant bit (LSB). In *Proceedings of ICETIT 2019: Emerging Trends in Information Technology* (pp. 1100-1111). Springer International Publishing.
- **Olomo, R.** and Osemwegie, O., 2019, December. Arduino Based Traffic Light System With Integrated LED Advertising Display. In *Journal of Physics: Conference Series* (Vol. 1378, No. 4, p. 042079). IOP Publishing.



## OWOSHO, YETUNDE OLAJUMOKE

### Education

| Degree      | Discipline                             | Institution                                | Year |
|-------------|--|--|------|
| <b>BENG</b> | Electrical and Electronics Engineering | BELLS University of Technology             | 2022 |
| <b>PGD</b>  | Computer Science                       | Federal University of Agriculture Abeokuta | 2017 |
| <b>HND</b>  | Electrical / Electronic Engineering    | Yaba College of Technology Yaba            | 2009 |

### Academic Experience

| From – To           | Institution         | Rank/Title      | Full time/Part time |
|---------------------|---------------------|-----------------|---------------------|
| <b>2017-present</b> | Covenant University | Technologist II | Full time           |

### Non-Academic Experience

| Company   | Title                                 | Description of Position  | Year-Year          | Full time/Part time |
|---|---------------------------------------|--|--------------------|---------------------|
| Covenant University   | Technologist                          | Student Workshop Experience Program(SWEP)  | 2017- till date    | Full                |
| Day Spring Model School, Camp, Abeokuta   | Consultant                            | Consultancy on General Administration  | 2016-2017          | Full Time           |
| Arish Nursery and Primary School, Camp, Abeokuta  | Supervisory Officer, and Head Teacher | General supervision of the school Administration, Teaching and Non-teaching staff, and Finance               | 2013-2016          | Full Time           |
| Ogun Osun River Basin Development Authority Operation and Maintenance (Electrical Unit) | NYSC                                  | Installation Generator, Electric motor, Electrical fittings and accessories. Maintenance of air-conditioner. | 2010-2011          | Full time           |
| Independent National Electoral Commission   | Assistant Registration Officer        | Voters registration  | Jan.15-Feb. 5 2011 | Full time           |
| Intercontinental Bank Plc I-  | Industrial Training                   | Resolution of  | 2006-2007          | Full time           |

|   |  |  |  |  |
|---|--|--|--|--|
| Direct Department, Lagos Island Regional Office |  | MasterCard, Debit card, Customer care personnel, Collection of reports, Issuance of card to Customers and Training on all cards issues |  |  |
|---|--|--|--|--|

**Certifications and Current Membership in Professional Organizations**

- Membership, Council for the Regulation of Engineering in Nigeria (COREN) (R5310ET)
- Membership, Nigerian Association of Technologist in Engineering (NATE) (C10105)

**Service activities (within and outside of the institution)**

- Member, College of Engineering Hooding Committee 2022 till date
- Member, Departmental Welfare Committee 2021-2023
- Member, Departmental Fellowship Committee 2021-2023

**Selected Publications and Presentations from the Past Six Years**

- **Owosho Y. O;**Abayomi-Alli A;Arogundade O. T;Adejuyigbe C. O and Olowe V. I. O.  
“Development of a Mobile Application for Small and Medium Scale Organic Vegetable Farming: A case Study of Organic Farming”, Proceedings of FUNAAB Journal of Natural Sciences, Engineering and Technology (JNSET) AIT 2017 conference Volume 17, No. 1 (2018).
- **Owosho Y. O;**Abayomi-Alli A;Arogundade O. T;Adejuyigbe C. O and Olowe V. I. O.  
“Development of a Mobile Application for Small and Medium Scale Organic Vegetable Farming: A case Study of Organic Farming”, Proceedings of 2017 AIT Conference 2017\_No\_29



**Moses Samuel kayode**

**Education**

| <b>Degree</b>  | <b>Discipline</b>                  | <b>Institution</b>         | <b>Year</b> |
|----------------|------------------------------------|----------------------------|-------------|
| <b>HND</b>     | Electrical /Electronic Engineering | The polytechnic Ibadan     | 2011        |
| <b>ND</b>      | Electrical /Electronic Engineering | The polytechnic Ibadan     | 2006        |
| <b>O LEVEL</b> | Science class                      | Prospect high school akure | 2000        |

**Academic Experience**

| <b>From – To</b>    | <b>Institution</b>                       | <b>Rank/Title</b> | <b>Full time/Part time</b> |
|---------------------|--|-------------------|----------------------------|
| <b>2016-present</b> | Covenant University                      | Technologist I    | Full time                  |
| <b>2013-2016</b>    | Covenant University                      | Technologist II   | Full time                  |
| <b>2011-2013</b>    | Amazing grace school Ota                 | Teacher           | Full time                  |
| <b>2007-2008</b>    | Asset nursery and primary school Ota     | Teacher           | Full time                  |
| <b>2001-2002</b>    | Apex nursery and primary school ota      | Teacher           | Full time                  |
| <b>2000-2001</b>    | Essence nursery and primary school akure | Teacher           | Full time                  |

**Non-Academic Experience**

| <b>Company</b>                          | <b>Title</b> | <b>Description of Position</b> | <b>Year-Year</b> | <b>Full time/Part time</b> |
|---|--------------|--------------------------------|------------------|----------------------------|
| Justrite superstore ota                 | technician   | Maintenance officer            | 2008-2010        | Full time                  |
| Lord's mints technology Ota             | technician   | Shift technician               | 2006-2007        | Full time                  |
| Evans medical company Agbara Ogun State | IT           | Trainee                        | 2003             | full-time                  |

1. Certifications or professional registrations
  - Member, Nigerian association of Technologists in Engineering (N.A.T.E , C-10113).
  - COREN, Registered Engineer (R5401ET)
2. Current membership in professional organizations
  - Member, Nigerian association of Technologists in Engineering (N.A.T.E , C-10113).
  - COREN, Registered Engineer (R5401ET)



## ENGN.TECH.ODETOLA Oyekunle Titus

### Education

| Degree                    | Discipline  | Institution  | Year |
|---------------------------|---|--|------|
| <b>COURSE CERTIFICATE</b> | <ul style="list-style-type: none"> <li>❖ Electrical power system</li> <li>❖ Solar energy system</li> <li>❖ Safety kin the Utility Industry</li> <li>❖ Natural Gas</li> <li>❖ Digitalization in the Aerospace Industry</li> <li>❖ Initiating and planning projects</li> <li>❖ Managing project Risk and changes</li> <li>❖ High Impact Business Writing</li> <li>❖ The Art of Negotiation</li> <li>❖ Effective Problem solving and decision making</li> <li>❖ American Contract Law 1</li> </ul> | University at Buffalo and the state of university of New York (offer through Coursera)<br><br>UCI, Division of continuing Education by University of Carlifornia | 2020 |
| <b>HND</b>                | Electrical/ Electronic Engineering(Power & Machine Option)  | Federal Polytechnic Offa, Kwara State  | 2003 |
| <b>OND</b>                | Electrical / Electronic Engineering   | Federal Polytechnic Ede, Osun State  | 1999 |
| <b>FCTC</b>               | Electrical Installation   | Government Technical Colledge, Ile-Ife   | 1995 |
| <b>NABTEB</b>             | National Business Technical Certificate   | Government Technical Colledge, Ile-Ife   | 1995 |
| <b>CITY &amp; GUILD</b>   | City & Guild Electrical Installation Course B   | Government Technical Colledge, Ile-Ife   | 1995 |

### Academic Experience

| From - To             | Institution                    | Rank /Title      | Full time / Part time |
|-----------------------|--------------------------------|------------------|-----------------------|
| <b>2019 - present</b> | Covenant University            | Technologist III | Full time             |
| <b>2017 - 2019</b>    | Covenant University            | Technologist II  | Full time             |
| <b>2016 - 2017</b>    | Gods'will international School | Technologist II  | Full time             |

### Non-Academic Experience



| Company   | Title              | Description of Position | Year - Year | Full time / Part time |
|---|--------------------|-------------------------|-------------|-----------------------|
| First Atlantic food & Industry Ltd, Plot 10372, Jikwoyi road, karu, Abuja | Trained Technician | Maintenance Manager     | 2008-2010   | Full time             |
| Electrical Technical Company Nig. Ltd. Plot 5222, Usman St. maitama       | Trained Technician | Electrical Supervisor   | 2007 - 2008 | Full time             |
| Davison Aluminum Company 169, Habert Macaulay way Ebute meta Lagos        | Trained Technician | Electrical Supervisor   | 2004 - 2006 | Full time             |

#### **Certifications or Current Membership in Professional Organizations**

- Registered Member, Council for the Regulation of Engineering in Nigeria (R5400ET)  
COREN
- Corporate Member, Nigerian Association of Technologists in Engineering (C-10122)  
NATE

#### **Training Attended**

- E-Certificate of Attendance for Covenant university –OCIIP Nigeria (CU-OCPIIP) ; Expo 2020.webinar on post COVID 19; Creativity & Innovation – The pathway to sustainable development
- E-Certificate of Attendance for Covenant university –OCIIP Nigeria (CU-OCPIIP) ; Expo 2020. And Digitive 360 Virtual Training on BOOST WITH FACEBOOK
- Autotronics Certificate, Industrial Training Fund 2013.

#### **Service Activities**

- Member of Defense Students Project Pannel (2019 till date)
- Assist in Design and building of test equipment and Prototype for Departmental Research including carrying out tests, Monitoring , recording Results
- The Decommissioning and Recycling of Equipments / Projects after use
- Member of SWEP (Student Work Experience Programme) Cordinator and Reports



**ENGN.TECH.ODETOLA JACOB**

**OYEDEJI**

**Education**

| Degree                    | Discipline  | Institution  | Year |
|---------------------------|---|--|------|
| COURSE<br>CERTIFIC<br>ATE | <ul style="list-style-type: none"> <li>❖ Electrical power system</li> <li>❖ Solar energy system</li> <li>❖ Safety in the Utility Industry</li> <li>❖ Solar Energy Codes, Permitting and Zoning</li> </ul> | University at Buffalo and the state of university of New York (offer through Coursera) | 2020 |
|                           | <ul style="list-style-type: none"> <li>❖ Initiating and planning projects</li> <li>❖ Managing project Risk and changes</li> </ul>   | UCI, Division of continuing Education by University of California                      |      |
| PGD                       | PGD (Education)   | National Teacher Institute, Kaduna   | 2011 |
| HND                       | Electrical / Electronic Engineering   | Osun State College of Technology Esa-Oke.  | 2007 |
| ND                        | Electrical /Electronic Engineering  | Osun State College of Technology Esa-Oke.  | 2004 |
| WASSCE                    | West African Senior School Certificate<br>Nov/Dec   |  | 1999 |
| Trade<br>Test11&111       | Radio/ Television   | Government Technical College, Osogbo.  | 1997 |

**Academic Experience**

| From - To      | Institution  | Rank /Title            | Full time / Part time |
|----------------|--|------------------------|-----------------------|
| 2010 till date | Covenant University  | SeniorTechnologist 111 | Full time             |
| 2007/8         | (NYSC) Girl's<br>Secondary school<br>Orifite, Ekwusigo LG,<br>Anambra State. | Class Teacher          | <u>Full time</u>      |
|                |  |                        |                       |

**Non-Academic Experience**

| Company        | Title             | Description<br>of Position | Year - Year | Full time /<br>Part time |
|----------------|-------------------|----------------------------|-------------|--------------------------|
| Skyienet Bengy | Field<br>Engineer | Maintenance<br>&           | 2009        | Full time                |

|   |  |                            |      |                  |
|---|--|----------------------------|------|------------------|
| <b>Technologists Apapa Lagos</b>  |  | Installation               |      |                  |
| <b>Global Electrical/Electronics Company, Sango-Ota Industrial Training</b>   |  | Training                   | 2005 | <u>Full time</u> |
| <b>Height &amp; Movies Technology Electrical Satellite installation&amp; Repairs, Yinka Oba shopping Complex Osogbo</b> |  | <u>Industrial training</u> | 2003 | <u>Full time</u> |

### **Certifications or Current Membership in Professional Organizations**

- Registered Member, Council for the Regulation of Engineering in Nigeria (R5064ET)  
COREN
- Corporate Member, Nigerian Association of Technologists in Engineering (C-10120)  
NATE

### **Training Attended**

#### **WORKSHOPS, SEMINARS, AND CONFERENCES ATTENDED WITH DATE:**

- **2 –Days Power Nigeria 2014 conference and Technical Seminal Programme,28<sup>th</sup>-29<sup>th</sup> October at Eko Hotel & Suites, Lagos State.**

Theme: Nigerian Electricity problems and Solutions.

- **3-Days Laboratory and Workshop Training 22<sup>nd</sup> and 24<sup>th</sup> September, 2015 Landmark University Omuaran, Kwara State.**

Theme: Enhancing Skills and Competences for Laboratory Equipment Users.

### **Service Activities**

- Member of Defense Students Project Panel (2010 till date)
- Assist in Design and building of test equipment and Prototype for Departmental Research including carrying out tests, Monitoring , recording Results
- The Decommissioning and Recycling of Equipments / Projects after use
- Member of SWEP (Student Work Experience Programme) Coordinator and Reports



**OGBODOR CHRISTOPHER IKECHUKWU**

**1. EDUCATION:**

| Year | Diploma/Degree                    | Institution                     | Duration |
|------|-----------------------------------|---------------------------------|----------|
| 2014 | Electrical(Power)Engineering      | Polytechnic, Ibadan, Oyo State. | 4        |
| 2010 | Electrical/Electronic Engineering | Polytechnic, Ibadan, Oyo State. | 0        |

**2. ACADEMIC EXPERIENCE:**

| Institution                     | Position/Designation | Period    | Fulltime/Part time |
|---------------------------------|----------------------|-----------|--------------------|
| Obafemi Awolowo University, Ota | Technologist 3       | 2016-2021 | Fulltime           |
| Obafemi Awolowo University, Ota | Technologist 2       | 2011-Date | Fulltime           |

**3. Non-Academic Experience:**

| Organisation  | Position         | Responsibilities  | Period               | Fulltime/Part time |
|---|------------------|---|----------------------|--------------------|
| Powermy Technologies Nig. Ltd. 2, Olufunmilola Okikiolu Street, Ikeja, Lagos. | Project Manager  | Current of Equipment/inventory taking and Maintenance of Power Plant. | Oct. 2008-Sept. 2008 | Parttime           |
| Powermy Technologies Nig. Ltd. Seinde Calisto Street, Oshodi, Lagos.          | Lead Engineer    | Technical site survey, Maintenance and Equipment upgrade              | Oct. 2008-Mar. 2009  | Parttime           |
| Abiodun Leather Products. Oshosho Street, Abule Egba, Lagos.                  | Product Designer | Design conceptualization/execution                                    | Oct. 2005-Nov. 2007  | Parttime           |

**4. CERTIFICATION/ PROFESSIONAL REGISTRATIONS**

- Registered Member, Council for the regulation of Engineering in Nigeria-  
COREN  
(R7435ET)
- Corporate Member, Nigerian Association of Technologist in Engineering-  
NATE  
(C-10123)

## **5. HONORS/AWARDS**

Award of Excellence, Best Technologist of the Department-2021/2022  
Academic Session.



## WEST, OLAJUMOKE PEJU

### Education

| Degree | Discipline                             | Institution                             | Year |
|--------|--|---|------|
| HND    | Electrical and Electronics Engineering | Yaba College Of Technology, Yaba, Lagos | 2016 |

### Academic Experience

| From – To    | Institution         | Rank/Title       | Full time/Part time |
|--------------|---------------------|------------------|---------------------|
| 2022-present | Covenant University | Technologist III | Full time           |

### Non-Academic Experience

| Company   | Title                         | Description of Position   | Year-Year | Full time/Part time |
|---|-------------------------------|---|-----------|---------------------|
| Foltechs Engineering Services<br>ABB & Legrand Channel (Lagos state). | Assistant Design Engineer     | -Preparing quotation for client on Electrical Distribution Panel.<br>-Assembling of low Voltage Distribution panel.<br>-Commissioning & testing of Low voltage switch gear Panel<br>-Assembling of Change over & Gear switch mechanism inside an Enclosure. | 2020-2022 | Full time           |
| Jikoop Nigeria Limited, Lagos State<br>Customer Relationship Office   | Customer Relationship Officer | -Attending to customer's enquiry & request on issues.<br>-Vending   | 2018-2019 | Full time           |

|   |                     |  |             |           |
|---|---------------------|--|-------------|-----------|
|   |                     | &generating of token for Pre-paid meter.   |             |           |
| Government Secondary School, Lafiagi, Kwara State.                | NYSC                | -Assisting in setting up Laboratory for physics practical &teaching.   | 2016 - 2017 | Full time |
| National Institute of Information Technology (NIIT), Lagos State. | Ad-hoc Staff        | -Creating awareness on NIIT professional course such as Java script, cisco networking academy.   | 2016        | Full time |
| West African Gas Pipeline Company, Ajido, Badagry, Lagos State.   | Industrial Training | (Instrumentation and Electrical Engineering)<br>-Performing routine maintenance on air compressor, turbine compressor, fire gas skid and liquid storage tank, to ensure proper start up and shut down operation of the plant.<br>-Troubleshooting and maintenance on electrical components such as smoke detecting devices, lightning fittings, etc.<br>-Monitoring production processes flow of instrument and plant in the | 2012– 2013  | Full Time |

|  |  |  |  |
|--|--|--|--|
|  |  | control room through the use of Human machine interface (HMI).<br>-Health, Safety and Environmental (HSE) procedures and activities. |  |
|--|--|--|--|

**Professional Certification and Training:**

- Smart Electrical Engineering Training (Siemen’s Certification)      **2019**  
Organized by: Nigerian Content Development and Monitoring Board (NCDMB)
- Introducing Routing and Networking for Home and Small Business (CCNA)  
**2014**





## CHINEDU, CHIDINMA JENNIFER

### Education

| Degree | Discipline              | Institution                     | Year |
|--------|-------------------------|---------------------------------|------|
| HND    | Physics and Electronics | Delta State Polytechnic ,Oghara | 2017 |

### Academic Experience

| From – To    | Institution         | Rank/Title       | Full time/Part time |
|--------------|---------------------|------------------|---------------------|
| 2022-present | Covenant University | Technologist III | Full time           |

### Non-Academic Experience

| Company                                | Title                     | Description of Position  | Year-Year                  | Full time/Part time |
|--|---------------------------|--|----------------------------|---------------------|
| UNITED BANK OF AFRICA (UBA) – Lagos    | Telerelationship Manager  | Reopening of dormant accounts<br>Opening account and selling of debit, credit or prepaid cards<br>Reactivation of accounts<br>Make call to customers using Avas and Avaya      | October 2022-December 2022 | Full Time           |
| UNITED BANK OF AFRICA (UBA) – Lagos    | Direct Sales Executive    | Opening of account and selling of debit, credit or prepaid card<br>Carrying out and assisting of customer service personnel on duties.   | 2020- 2022                 | Full Time           |
| PETMOZ LIMITED – Lagos                 | Health And Safety Officer | Updating the management on the dangers noticed and taking care of personal protective equipment PPE also, assigning of equipment to the staff before they carry out their Jobs | 2019 -2020                 | Full time           |
| Golden Age Academy, Bali, Taraba State | Mathematics Teacher-NYSC  | Teaching of students.  | November, 2017–            | Full time           |

|  |   |  |                              |           |
|--|---|--|------------------------------|-----------|
|  |   |  | October, 2018                |           |
| Zenith Medical centre– Iyana ipaja Lagos State | Assistant Laboratory technician (Industrial Training) | <p>Taking of blood samples from patients to detect the cause of their illnesses.</p> <p>Operation of various medical machines examples are spectrometer, microscope, centrifuge machine, etc</p> | November 2013- February 2014 | Full time |

**Certifications and Current Membership in Professional Organizations**

- Membership Environment and Safety Institute (HSE1,2&3)
- Membership, International Strategic Management Institute (ISMI)