Table 1: Enrolment – Graduation Data

Supply in the table below the undergraduate enrolment statistics for the last three years for the programme/sub-discipline to be accredited.

(a) Full Time Enrolment

Academic year	Title of programme/Sub-discipline	ENROLMENT				
		200 Level	300 Level	400 Level	500 Level	Total
2020/2021	B.Eng. Chemical Engineering	56	62	51	69	238
2021/2022		43	41	54	69	207
2022/2023		64	43	43	17	167

Supply in the table below the graduate output in the programme/sub-discipline/discipline in the last three years.

(b) Graduate output – Full Time.

Academic year	Title of programme/Sub-discipline	GRADUATION OUTPUT					
		1st Class	2nd Class Upper	2nd Class Lower	3rd Class	Pass	Remarks (% pass)
2019/2020	B.Eng Chemical Engineering	3	11	12	1	0	
2020/2021		3	24	23	8	0	
2021/2022		8	28	21	4	0	
2022/2023		4	32	15	2	0	

HARMONIZATION OF PART – TIME AND FULL – TIME PROGRAMME

Describe briefly the administrative and academic procedures adopted to harmonize the requirement for graduation in part-time and full-time programmes.

Not applicable

STUDENT GUIDANCE AND COUNSELLING

Does the university have a students' Counsellor?

State what influence the services of the Counsellor has on the student choice of career and their general well-being with particular reference to the programme/sub-discipline/discipline to be accredited.

YES

The university has a Counseling and Human Development Centre which operates as a directorate. Also, there are counselors in the students Affairs' Office for the use of students. Recently, a counselor dedicated to the Faculty of Engineering and Technology has been appointed. To complement these, the Department has a standing Monitoring and Counseling committee to attend to immediate needs of students. In addition to this, the Department allocates advisers to each level. The services of academic advisers are very useful to the students in terms of their choice of carrier and general well-being.

NATIONAL UNIVERSITIES COMMISSION

SECTION B

B.ENG. CHEMICAL ENGINEERING

SECTION B

GENERAL INFORMATION ON THE PROGRAMME

1.0 PROGRAMME/SUB-DISCIPLINE/DISCIPLINE TO BE ACCREDITED

Title of programme/sub-discipline/discipline to be accredited:

B.Eng. Chemical Engineering

Name of Faculty/School/College in which the programme/sub-dicipline/discipline to be accredited is offered:

Faculty of Engineering & Technology

Name of Department ……**Chemical Engineering**…….

Date of Establishment of Department ..... **June 2008**

Name and Qualification(s) of Dean of Faculty/or Provost/Dean of College/School:

Prof. J.K. Odusote B.Sc., M.Sc., Ph.D, R.Engr.

Name and qualification(s) of Head of Department offering the programme to be accredited

E.O. Ajala B.Tech., M.Sc., PhD., R.Engr.

2.0 TYPE OF ACCREDITATION REQUIRED:

Indicate below the type of accreditation required

Please tick (√) one

Initial Accreditation _____

Re-accreditation _____√_____

3.0 PRE-ACCREDITATION VISIT

Has any NUC Accreditation Panel visited the University to determine if the Programme/sub-discipline/discipline can be accredited?

Please tick (√) one	
Yes	No
____	√

If answer to item 2.0 above is YES, please attach to the completed Form a photocopy of main decision and recommendations of the Commission.

4.0 HISTORY OF THE PROGRAMME/SUB-DISCIPLINE/DISCIPLINE

Write below, a brief history of the development of the programme/sub-dicipline/Discipline to be accredited.

The Department of Chemical Engineering was formally established in August of 2008. Prior to its establishment, the University of Ilorin had been enrolling aspiring Chemical Engineers in the Departments of Chemistry and Mechanical Engineering. This approach ensured a smooth start for the department, as existing Chemical Engineers within the university were reassigned to initiate the program. Professor Sulayman Age Abdulkareem and Professor D.S. Ogunniyi were the pioneer professors of the Department. Prof. D.S. Ogunniyi assumed the role of the pioneer Head of the Department while Prof. Sulayman Age Abdulkareem was the Dean of Students' affairs after which he later became the Vice Chancellor of AlHikmah University between June 2010 and June 2015.

Presently, the Department comprises five levels with student enrollment as follows: 69 students at the 500 level, 54 at the 400 level, 41 at the 300 level, 43 at the 200 level, and 63 at the 100 level. Each academic session anticipates the enrollment of around 100 candidates at the 100 level, who will undergo classes under the Faculty of Science for their first year. Upon meeting specific requirements including a CGPA of 2.0, along with credit passes in Physics (9 credits), Mathematics (9 credits), and Chemistry (6 credits), these students transit to take courses the Faculty of Engineering and Technology.

The Department has successfully hosted two significant departmental lectures. The first took place on May 31st, 2010, featuring Late Prof. B.O. Solomon, the CEO of the National Biotechnology Development Agency (NABDA) in Abuja, as the esteemed guest lecturer. The second lecture spanned from April 17th to 20th, 2011, with Dr. James O. Titiloye, an Associate Professor from the ASTON University, UK (Department of Applied Chemistry and Chemical Engineering), delivering an insightful lecture.

The Department's primary objective is to nurture world-class engineers capable of excelling across various professional realms, including teaching, research and development, design, manufacturing, testing and commissioning, maintenance, operation, marketing, sales, and management. This ambition entails offering a comprehensive range of foundational courses, encompassing disciplines like mathematics, computer methods, other engineering fields, chemistry, ethics, and more.

To realize this goal, the Department operates an academic curriculum culminating in a B.Eng. degree. The program spans five academic sessions for students admitted through the Unified Tertiary Matriculation Examination (UTME), and four academic sessions for those entering through direct entry (DE) admission. The Department commenced postgraduate programmes (M.Eng., and Ph.D.) in year 2017 in core research areas of Environmental Engineering, Process and Product Development, Polymer processing and composites development, Nanotechnology, Process Systems Engineering and Biochemical and Reaction Engineering.

5.0 ADMINISTRATION IN GENERAL OF PROGRAMME/SUB DISCIPLINE/DISCIPLINE

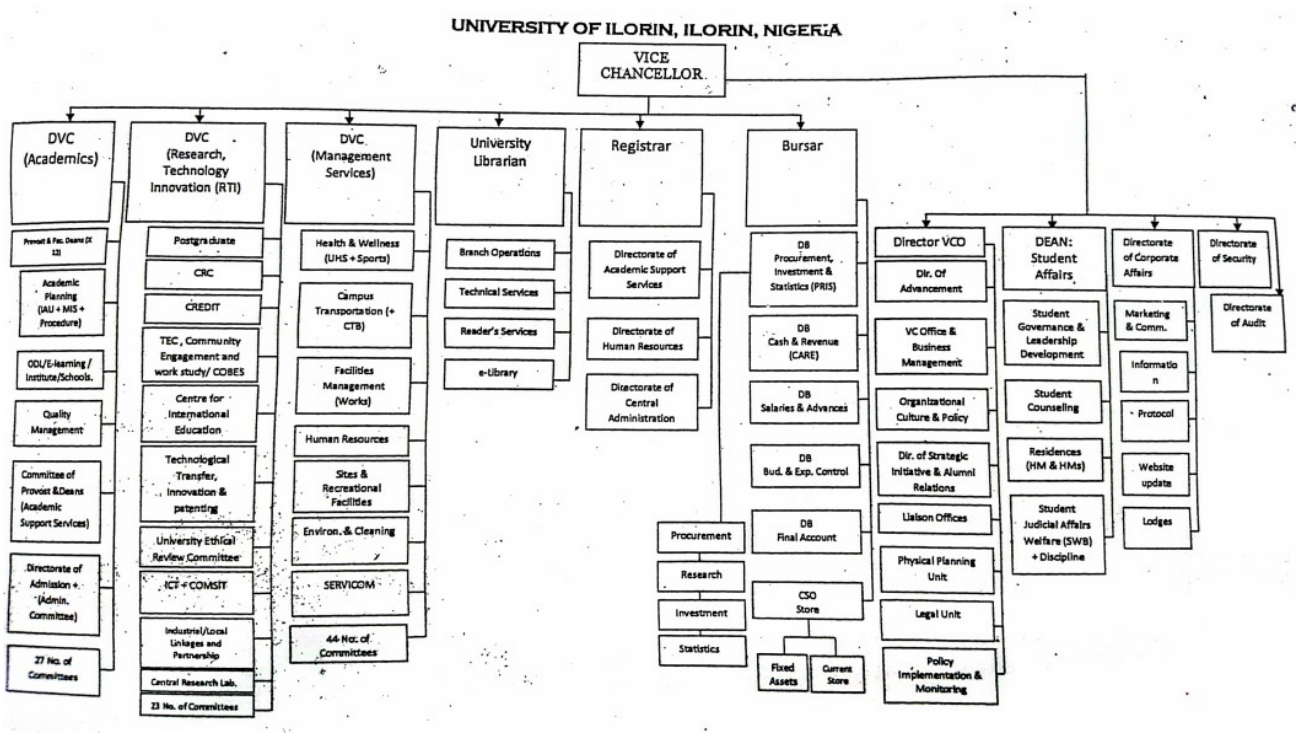
Describe how the programme/sub-discipline/discipline is administered. Use separate sheets. The description should highlight the following:

5.1 Personnel Administration

(a) Organizational structure (Use chart if necessary)

The Department is usually headed by an academic staff of the rank of a Senior Lecturer and above, a Ph.D. degree holder, who should be a Chemical Engineer and registered with the Council for Regulation of Engineering in Nigeria (COREN). He directs, supervises and coordinate the day-to-day activities of the Department. He reports to the Vice Chancellor through the Dean of the Faculty of Engineering and Technology.

The Head of Department has three categories of staff under him as well as students of the Department. One category is made up of Secretarial and administrative staff which includes typists, messengers, clerical officers, etc, and headed by the Secretary to the Head of Department. The other category of staff is the technical staff made up of technologists, technicians and laboratory attendant/assistants who work in the laboratories and assist students in practical trainings and assignments. The last category of staff is teaching or academic staff made up of lecturers.



(b) How staff are involved in the decision-making process and in general administration:

All academic staff and technologists in the Department participate in decision making through regular meetings, vis-à-vis freedom to discuss informally with colleagues and Head of Department in between meetings. The Head of Department appoints an examination officer, level advisers, SIWES coordinator and undergraduate project coordinator among academic staff members to assist in the administration of the Department. These coordinators direct the activities of the Department in consultation with the Head of Department. Departmental meetings are held usually at the beginning

of the semester and at any other occasion when the need arises to discuss issues affecting the Department. At Departmental meetings, members are allowed to make suggestions and make their opinion on issues known. However the Head of Department presides over the meetings and takes final decisions as he deems fit for the Department.

(c) Policy and Practice on Staff Development:

Since Ph.D. degree is the de facto minimum academic qualification for teaching and researching effectively in a 21st century university, an aggressive staff development policy is in place in the University. For instance, any academic staff who has no Ph.D. at the point of appointment into the Department is encouraged to commence immediately a postgraduate programme. Table 2 shows an impressive positive response of those that have benefited from staff development scheme in the Department in the past three years.

Table 2: Academic staff members that have benefited or are benefiting from SDA.

2019/2020 Session

S/N	NAME	PRESENT RANK	QUALIFICATION BEFORE SDA	SDA AWARDED	PLACE OF THE SDA
1	Prof D. S Ogunniyi	Prof	PhD	NSE Conference	Abuja
2	Prof D. S Ogunniyi	Reader	PhD	NSChE Conference	Abuja
3	Dr R. O. Yusuf	Reader	PhD	NSChE Conference	Lagos
4	Mary A. Ajala	Lecturer I	M Eng	SDA Award for PhD	FUT Minna
5	M.A. Amoloye	Lecturer I	M Eng	SDA Award for PhD	Unilorin

2020/2021 Session

S/N	NAME	PRESENT RANK	QUALIFICATION BEFORE SDA	SDA AWARDED	PLACE OF THE SDA
	Prof Eletta	Prof	PhD	NSChE Conference	DE Peace Hotel
	Dr. F. A. Aderibigbe	Reader	PhD	NSChE Conference	DE Peace Hotel
	Dr. E. O. Ajala	Reader	PhD	NSChE Conference	DE Peace Hotel
1	Tunmise L Adewoye	Senior Lecturer	PhD	NSChE Conference	DE Peace Hotel
	E. I. Muhibbuddin	Lecturer I	M Eng	SDA Award for PhD	Obafemi Awolowo University

2021/2022 Session

S/N	NAME	PRESENT RANK	QUALIFICATION BEFORE SDA	SDA AWARDED	PLACE OF THE SDA
1	Omodele A.A. Eletta	Prof	PhD	FETICON 2023 Conference	Ilorin
2	Omodele A.A. Eletta	Prof	PhD	COREN OBE	Abuja
3	Omodele A.A. Eletta	Prof	PhD	NSE Workshop on Codes and Standards	Abuja
4	Tunmise L Adewoye	Senior Lecturer	PhD	FETICON Conference	Ilorin
5	Tunmise L Adewoye	Senior Lecturer	PhD	Symposium	Online
6	Tunmise L Adewoye	Senior Lecturer	PhD	Cert in University Law	NOUN
7	Tunmise L Adewoye	Senior Lecturer	PhD	Unilorin PG Retreat	NCAM, Ilorin

2022/2023 Session

S/N	NAME	PRESENT RANK	QUALIFICATION BEFORE SDA	SDA AWARDED	PLACE OF THE SDA
1	Omodele A.A. Eletta	Prof	PhD	FETICON 2024 Conference	Ilorin
2	Omodele A.A. Eletta	Prof	PhD	COREN Assembly	Abuja
3	Omodele A.A. Eletta	Prof	PhD	ARSO Webinar	Online
4	Omodele A.A. Eletta	Prof	PhD	AI Cert	NOUN
5	J.A. Adeniran	Reader	PhD	FETICON 2024 Conference	Ilorin
6	F.A. Aderibigbe	Reader	PhD	FETICON 2024 Conference	Ilorin
7	A.G. Adeniyi	Reader	PhD	FETICON 2024 Conference	Ilorin
8	E.O. Ajala	Reader	PhD	FETICON 2024 Conference	Ilorin
9	Tunmise L. Adewoye	Senior Lecturer	PhD	FETICON 2024 Conference	Ilorin
10	S.I. Mustapha	Senior Lecturer	PhD	Post Doc Research Fellowship	South Africa
11	H.U. Hambali	Senior	PhD	Post Doc Research	South

		Lecturer		Fellowship	Africa
12	Esther O. Babatunde	Senior Lecturer	PhD	Post Doc Research Fellowship	South Africa
13	Esther O. Babatunde	Senior Lecturer	PhD	FETICON 2024 Conference	Ilorin
14	Mary A. Ajala	Senior Lecturer	PhD	FETICON 2024 Conference	Ilorin
15	Zainab T. Yaqub	Lecturer 1	PhD	FETICON 2024 Conference	Ilorin
16	I. Muhibbuddin	Lecturer 1	M Sc	FETICON 2024 Conference	Ilorin
17	Tunmise L Adewoye	Senior Lecturer	PhD	Cert, Procurement	Ilorin
18	Tunmise L Adewoye	Senior Lecturer	PhD	Conference	Ilorin
19	Tunmise L Adewoye	Senior Lecturer	PhD	AI Cert	NOUN
20	Tunmise L Adewoye	Senior Lecturer	PhD	External Examiner	DUT, South Africa

(d) Staff Promotion:

The staff promotion process is in line with the university policy on promotion. The Department operates according to the University wide guidelines on promotion of academic and non-academic staff, as stipulated in the revised regulations of December, 2003 governing the conditions of service of University staff. Under this policy, the Departmental promotion review committee recommends desirous and deserving Departmental staff to the University Appointment and Promotions Committee, through the Faculty Promotion Review Committee. The final decision on staff promotions rests with the University Appointments and Promotions Committee, which comprises of Faculty Deans, Departmental Heads and Members of Council. However, any staff who is not put forward for promotion is free to put himself forward for the promotion exercise if he/she so wishes.

5.2 Student's Welfare

(a) Handling of Academic Grievances:

The academic advisers are the first layer of contact to which academic grievances are reported. Where such grievances are not satisfactorily resolved at that level, the student can appeal to the relevant sectional head, where appropriate or to the Head of Department, sub-dean, and even the Dean, where appropriate.

The Department encourages and offers active support to professional students associations – NUESA and NSChE, some of who take up students' academic grievances with the Head of Department, relevant level advisers, sectional heads, sub-dean and dean, as the case may be.

(b) Student Academic Advising:

The Department operates an effective and interpersonal student advisory system in which advisers are appointed for students at each level (100-500 levels). Upon entry into the Department, i.e. at 100 level, the new intakes are assigned a level adviser, who advises them on all academic, non-academic (official) and sometimes personal matters all through their stay in the University.

5.3 Examination

(a) Setting, conduct, evaluation schemes, moderation schemes – internal and external for degree examinations and the issuance of results.

(a) Setting:

The examination questions are set by the lecturer(s) assigned to teach the course(s). Lecturers submit their question papers along with model answers under strict confidential cover to the head of the Department (the Departmental Chief Examiner) who, together with the concerned lecturer(s) and his/her sectional head, review the question papers to ensure that it conforms to standard.

(b) Conduct:

All examinations are conducted at the time specified by the University Senate. Invigilators are drawn from members of faculty staff and the examinations are conducted under strict rules to avoid any form of examination malpractice.

(c) Evaluation Scheme:

The exam questions are vetted against the approved syllabus by the NUC.

(d) Moderation Schemes – Internal and External for degree examinations

It is mandatory for the examination questions in all courses to be internally reviewed. Once satisfactorily reviewed and corrected, the question papers are processed under strict confidentiality by the Head of Department, with the assistance of the Departmental Examinations Officer.

(e) Issuance of Results:

The result for each course is usually submitted by each course lecturer to the Department between two to three weeks after the conduct of the examination. The results are then considered by the Departmental Board of Examiners, Faculty Board of Examiners and finally, by the Senate of the University. After ratification by the above bodies, the results are published in the students' individual portals. Hardcopy of the results are only issued to students on request.

5.4 Academic Atmosphere

(a) Any policy adopted and practised by the College/ School/ Faculty/ Department in pursuit of academic standards xsq

(b) and maintenance of academic atmosphere.

- Training of Final year students on research methodologies and academic report writing
- Participation in technology exhibitions and competitions
- Encouraging technology incubation and startups among students
- Availability of Free Internet Access for research and teaching
- Provision of e-library services for staff and students
- Provision of secured online portal for staff and students.

- Provision of free counselling services for students
- Provision of sports facilities for staff and students
- Provision of medical screening services for staff

6.0 ACADEMIC CONTENT: Existing Curriculum for the Programme/ Sub-Discipline/Discipline

Attach to this Form, the complete and current prospectus which should include:

6.1 Programme Title: ……Chemical Engineering……

6.2 Programme/Sub-Discipline/Discipline Philosophy and Objectives

(a) Philosophy:

The general philosophy of the Chemical Engineering CCMAS is to produce graduates with high academic and soft skills competence, capable to adequately participate, transform, impact on the engineering and allied industries in consonance with National and Global community values, including National Policy on Industrialisation and Self-Reliance.

Chemical Engineering is a very diverse profession that finds application in many knowledge areas such as science, technology, finance, management and ICT. In Science, there are applications in areas from Biology to Chemistry and Mathematics and Engineering Science. The skills needed in process industries even in cutting edge ones such as Environment, Biotechnology, Nanotechnology, etc. are found in chemical engineers. These industries depend on chemical engineers to make their products and processes a reality. Hence an appropriate CCMAS must establish a broad knowledge base upon which the required skills can be built. This begins with foundational knowledge in chemistry, biology, physics, and mathematics. From this foundation, a core expertise in engineering is developed in areas such as thermodynamics, transfer and separation processes, chemical reaction, process modelling and simulation. To be equipped for the challenges of the 21st Century complex and real national and world problems, chemical engineers must develop engineering problem-solving skills, strong synthetic and analytical skills. The modern-day chemical engineer must thus find relevance in the application of these knowledge and skills to create innovative solutions to the 21st Century industrial and societal problems in areas such as environmental responsibilities, clean energy sources, sustainable system, and discovery, processing and production of new materials and products.

(b) Objectives:

The objectives of the programme are, among others, to:

1. apply knowledge of Science, Technology, Engineering and Mathematics (STEM) fundamentals to the solution of Chemical Engineering related problems;
2. design solutions for Chemical Engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, environmental and other ethical considerations;
3. conduct investigations of complex problems using research-based knowledge and research methods including design of experiments, analysis and interpretation of data and synthesis of information to provide valid conclusions;

4. create, select and apply appropriate techniques, resources and modern engineering and IT tools: including prediction and modeling, to complex engineering activities, with an understanding of the limitations;
5. function effectively both as an individual and as a team member or leader in diverse and in multi-disciplinary settings;
6. communicate effectively on complex engineering activities with the engineering community and with society at large;
7. apply the knowledge and understanding of engineering and management principles in managing multi-disciplinary projects;
8. create awareness and understanding of the moral, ethical, legal, and professional obligations needed to function as part of a professional enterprise while protecting human health and welfare and the environment in a global society; and
9. develop entrepreneurial skills and knowledge, in addition to adequate training in human and organisational with a spirit of self-reliance so that they can set up their own businesses.

6.3 Admission Requirements:

(i) Unified Tertiary Matriculations Examinations (UTME)

For the five-year degree programme, in addition to acceptable passes in the Unified Tertiary Matriculation Examination (UTME), the minimum admission requirement is credit level passes in Senior School Certificate (SSC) in at least five subjects, which must include English Language, Mathematics, Physics, Chemistry and other acceptable science subjects at not more than two sittings.

(ii) Direct Entry (DE) Candidates into 200L:

For four-year Direct Entry, in addition to five (5) Senior School Certificate (SSC) credit passes which must include English Language, Mathematics, Physics and Chemistry, candidates with at least two passes in relevant subjects (Mathematics, Physics and Chemistry) at the GCE Advanced Level or IJMB or JUPEB may be considered for admission. Candidates who have good National Diploma (ND) result in relevant Engineering Technology programmes may also be considered for admission into 200 level.

(iii) Direct Entry (DE) Candidates into 300 Level

In addition to (i) and (ii) above, DE candidates in this category are required to possess a Higher National Diploma (HND) in Chemical Engineering or a relevant Engineering Discipline at distinction or upper credit level from a recognized Polytechnic or College of Technology. Candidates with first degree in Engineering Discipline may be admitted into 300L of any other Engineering Programme.

6.4 Programme/Sub-discipline/Discipline Structure to include period of formal studies in the Universities Industrial training planned visit and projects:

Table 3: Chemical Engineering Programme

S/N	DEGREE/ DURATION (Years)	NO. OF SEMESTERS ON CAMPUS	SWEPAfter 200L	SIWES 400 level
1.	B.Eng Chemical Engineering 5 years	9	12 weeks	12 months

6.5 Course content specifications/syllabus of all courses in the Programme/ Sub-Discipline/Discipline:

COURSE STRUCTURE

Courses to be registered for by 100 Level Students

100 LEVEL HARMATTAN SEMESTER

COURSE CODE	COURSE TITLE	STATUS	NO OF CREDITS
MAT 111	Elementary Mathematics I	E	3
MAT 113	Elementary Mathematics II	E	3
PHY 115	Mechanics and Properties of Matter I	E	2
PHY 125	Heat, Sound and Optics	E	3
PHY 191	Practical Physics I	E	1
CHM 101	General Physical Chemistry	E	3
CHM 115	General Practical Chemistry I	E	2
STA 131	Introduction to Statistical Inference I	E	2
GNS 111	Reading and Study Skills	R	2
Total			21

100

LEVEL RAIN SEMESTER

COURSE CODE	COURSE TITLE	STATUS	NO. OF CREDITS
MAT 112	Elementary Mathematics III	E	3
MAT 114	Elementary Mathematics IV	E	3
PHY 142	Atomics Physics	E	2
PHY 152	Electricity and Magnetism I	E	3
PHY 192	Practical Physics II	E	1
CHM 112	General Organic Chemistry	E	2
CHM116	General Practical Chemistry II	E	1
CHM 132	General Inorganic Chemistry	E	2
STA 124	Introduction to Probability Distribution	E	2
GNS 112	Use of English	R	2
GNS 114	Digital Literacy	R	1
Total			22

200 LEVEL HARMATTAN SEMESTER

COURSE CODE	COURSE TITLE	STATUS	NO. OF CREDITS
GNS 211	Philosophy, Logic &Culture	R	2
ELE 201	Applied Electricity I	R	3
MEE 217	Engineering Graphics I	R	2
MEE 235	Engineering Technology	R	2
CHE 241	Fundamental of Fluid Mechanics	C	3
CVE 253	Engineering Mechanics I	R	3
ABE 263	Engineering Mathematics I	R	3
ELE 275	Computer Programming I	R	1
CHE 283	General Engineering Lab. I	C	2
Total			21

200 LEVEL RAIN SEMESTER

COURSE CODE	COURSE TITLE	STATUS	NO. OF CREDITS
GNS 212	Introduction to Social Science and Citizenship Education	R	2
GSE 202	Introduction Entrepreneurship Skills (Theory)	R	2
MEE 218	Engineering Graphics II	R	2
ELE 202	Applied Electricity II	R	3
CHE 242	Fundamentals of Engineering Thermodynamics	C	3
CVE 254	Engineering Mechanics II	R	3
CHE 264	Engineering Mathematics II	C	3
ELE 276	Computer Programming II	R	2
MEE 272	Engineering Materials	R	2
ABE 206	Introduction to Engineering Disciplines	R	2
CHE 284	General Engineering Lab. II	C	2
Total			26

Note: Direct Entry Students are to take GNS111 (2) and GNS 112(2) in addition to the above courses

200 LEVEL LONG VACATION

COURSE CODE	COURSE TITLE	STATUS	NO. OF CREDITS
CHE222	Students Work Experience Programme (SWEP)	C	6
Total			6

300 LEVEL HARMATTAN SEMESTER

COURSE CODE	COURSE DESCRIPTION	STATUS	NO OF CREDIT
CHM 235	Basic Organic Chemistry	R	3
CHE 311	Chemical Engineering	C	3

	Thermodynamics		
CHE 333	Transport phenomena I	C	3
CHE 341/343	Introduction to Chemical Engineering	C	3
CHE 383	Chemical Engineering Laboratory I	C	2
CHM 325	Experimental Physical Chemistry	R	2
MEE 361	Engineering Mathematics III	R	3
GNS 311	History and Philosophy of Science	R	2
GSE 301	Graduate Entrepreneurship Skill	R	2
Total			23

300 LEVEL RAIN SEMESTER

COURSE CODE	COURSE DESCRIPTION	STATUS	NO OF CREDITS
CHM 212	Basic Physical Chemistry	R	3
CHE 312	Process Instrumentation	C	2
CHM318	Industrial Chemical Processes I	R	2
CHE 324	Transport phenomena II	C	2
CHE 342	Chemical Kinetics and Catalysis	C	3
CHE 344	Particle Technology	C	2
CHE 382	Chemical Engineering laboratory II	C	2
ABE 306	Engineering Economics	R	2
MEE 362	Engineering Mathematics IV	R	3
ABE 376	Technical writing for Engineers	R	1
CHE 362	Polymer Engineering I	C	2
Total			24

300 LEVEL LONG VACATION

COURSE CODE	COURSE TITLE	STATUS	NO. OF CREDITS
CHE 392	Industrial Training I	C	6
Total			6

400 LEVEL HARMATTAN SEMESTER

COURSE CODE	COURSE DESCRIPTION	STATUS	NO. OF CREDITS
CHE 411	Loss Prevention in the Process Industry	C	2
CHE 421	Transport Phenomena III	C	3
CHE 431	Process Design I	C	2
CHE 441	Separation Processes I	C	3
CHE 451	Chemical Engineering Computer Application and Analysis	C	3
CHE 461	Biochemical Engineering I	C	3
CHE 471	Chemical Reaction Engineering I	C	3
CHE 481	Laboratory Workshop Practice	C	2
ABE 463	Engineering Statistics	R	2
Total			24

400 LEVEL RAIN SEMESTER AND LONG VACATION

COURSE CODE	COURSE TITLE	STATUS	NO. OF CREDITS
CHE 492	Industrial Training III	C	12
Total			12

500 LEVEL HARMATTAN SEMESTER

COURSE CODE	COURSE DESCRIPTION	STATUS	NO. OF CREDITS
BUS 501	Engineering Management	R	3
CHE 521	Process Optimization	C	2
CHE 531	Process Design II	C	2
CHE 541	Separation Processes II	C	3
CHE 571	Chemical Reaction Engineering II	C	3
CHE 593	Chemical Engineering Project I	C	4
ABE 573	Engineer-in-society	R	1
	*Elective Courses	E	4
			21

*Elective Courses for Harmattan Semester: (students are expected to choose any two of the following

COURSE CODE	COURSE DESCRIPTION	STATUS	NO. OF CREDITS
CHE 511	Biochemical Engineering II	E	2
CHE 513	Petroleum Processes	E	2
CHE 523	Technology of Inorganic Chemicals	E	2
CHE 533	Technology of Household Chemical Products	E	2

500 LEVEL RAIN SEMESTER

COURSE CODE	COURSE DESCRIPTION	STATUS	NO. OF CREDITS
CHE 526	Process Integration	C	2
CHE 532	Process Design III	C	3
CHE 552	Process Dynamics and Control	C	3
CHE 594	Chemical Engineering Project II	C	4
BUL 506	Engineering Law	R	2
CHE 544	Environmental Pollution and Control	C	2
	**Elective Courses	E	4
Total			19

**Elective Courses for Rain Semester: (students are expected to choose any two of the following

COURSE CODE	COURSE DESCRIPTION	STATUS	NO. OF CREDITS
CHE 514	Technology of Coal Processing	E	2

CHE 524	Technology of Pulp and Paper	E	2
CHE 534	Sugar Technology	E	2
CHE 564	Polymer Engineering II	E	2

Note 1:
C – Compulsory; E – Elective; R- Required
Note 2:
ABE Courses are courses domiciled in the Department of Agricultural & Biosystems Engineering and are required for all Engineering students.
CHE Courses are core Chemical Engineering courses.
CVE Courses are courses domiciled in the Department of Civil Engineering and are required for all Engineering students.
BUL Courses are Faculty courses domiciled in the Faculty of Law and are required for all Engineering students.
ELE Courses are courses domiciled in the Department of Electrical and Electronics Engineering and are required for all Engineering students.
MEE Courses are courses domiciled in the Department of Mechanical Engineering and are required for all Engineering students.
GNS are general study courses and compulsory for all Engineering students

1.2.2 COURSE DESCRIPTION FOR CHEMICAL ENGINEERING PROGRAMME

100 LEVEL

There are no Engineering and Technology Courses at the 100 Level. Students at this level take prescribed courses at the Faculty of Science and from the General studies programme in preparation for entry into the Engineering programmes. The preparatory courses prescribed are:

COURSE DESCRIPTION

CHE 222 Students Work Experience Programme I 6 Credits

Introduction to practices, and skills in general engineering through instruction in operation of hand and powered tools for wood and metal cutting and fabrication. Supervised hands- on experience in safe usage of tools and machines for selected tasks.

270h (P);C

CHE 241 Fundamentals of Fluid Mechanics 3 Credits

Dimensions and Unit, Properties of fluids, Fluids Statics, Newtonian and Non-Newtonian fluids, Fluids statics and application, Bernoulli equation, fluid measurement, types of flow and flow regimes, Basic conservation laws, friction effect and losses in laminar and turbulent flows in ducts and pipes. Dimensional analysis and dynamic similitude, principles of construction and operation of selected hydraulic machinery. Hydropower systems.

45h (T); C

CHE 242 Fundamentals of Thermodynamics 3 Credits

Basic concepts, quantitative relations of zeroth, first, second and third laws of thermodynamics. Behaviour of pure substances and perfect gases. Ideal gas cycles. Isothermal isentropic and polytropic expansion. Carnot cycle. Thermodynamic cycles. Refrigeration. Steam and gas turbines.
45h (T); C

CHE 264 Engineering Mathematics II 3 Credits

Second order differential equations, linear integral, multiple integral and their applications. Analytical functions of complex variables. Transformation and mapping. Special functions.
45(T); C

CHE 283 General Engineering Laboratory Course I 2 Credits

Laboratory investigations and report submission for selected experiments and projects in Applied Mechanics, Applied Electricity I and Fundamentals of Fluid Mechanics.
90 (P); C

CHE 284 General Engineering Laboratory Course II 2 Credits

Laboratory investigations and report submission for selected experiments and projects in Fundamentals of Thermodynamics, Engineering materials, Applied Mechanics II and Applied Electricity II
90 (P); C

CHE 312 Process Instrumentation 2 Credits

Measuring instruments for level, pressure, flow, temperature and physical properties. Chemical composition analyzers. Gas Chromatography. Mass Spectrometry, Sampling systems. Elements of Process Instrumentation Diagram (PID).
30h (T); C

CHE 311 Chemical Engineering Thermodynamics 3 Credits

Systems of variable composition. Ideal and non-ideal behaviours. Gibbs–Duhem equation. Phase behaviour at low to moderate pressures. Partial molar quantities. Vapour Liquid Equilibrium (VLE) from equation of state. Chemical reaction equilibria. Multi component system. Non ideal systems. The Euler equation.
45h (T); PR CHE 242; C

CHE 322 Transport Phenomena II 2 Credits

Introduction and concepts on the mechanism of heat flow. Steady state conduction (one direction). Steady state conduction (multiple directions). Heat transfer to fluids without phase change. Heat transfer to fluids with phase change. Radiation heat transfer. Heat transfer equipment. Calculation of heat transfer coefficients. Evaporators, Re - boilers, Condensers and furnaces.

45h (T) PR: CHE 242 C

CHE 333 Transport Phenomena I 3 Credits

Introduction, definitions and principles. Fluid statics and its applications. Basic equations of fluid flow. Bernoulli's equation. Flow of incompressible fluids. Flow past immersed bodies. Fluid frictions in one dimensional flow. Momentum balance. Transportation and metering of fluids. Agitation and mixing of fluids. Pumps, compressors and turbines. Flow through porous media. Non-Newtonian fluids. Normal shock waves. Laminar and turbulent flows. Shell and momentum balances and velocity, Interphase mass transfer.

45h (T); PR CHE 241; C

CHE 343 Introduction to Chemical Engineering 3 Credits

Introduction to equipment of chemical plants. The chemical equation and stoichiometry: limiting reaction, excess reactant, conversion, selectivity and yield. Material balances. Calculations for steady state systems involving inert recycle, by pass and purges. Energy balances: Forms of energy and overall energy balance for a chemical system. Heat capacities. Calculation of enthalpy changes: heat of fusion, vaporization, reaction, formation and combustion. Solution and mixing. Combined material and energy balances. Enthalpy concentration charts application and construction. 45h (T); PR CHM212; C

CHE 342 Kinetics and Catalysis 3 Credits

Introduction, classifications of reaction, Variables affecting reaction rate, Definition of reaction rate; Rate equations and constants; Arrhenius relationships, orders of reaction, activation energy, frequency factors and determinations. Introduction to catalysis. Kinetics of homogenous reaction. Kinetics of heterogeneous catalytic non-catalytic reaction. Heterogeneous Catalysis Characterization of the physiochemical properties of deactivation models. 45h (T); C

CHE 344 Particle Technology 2 Credits

Properties of particles. Motion of particles in a fluid. Stokes and Newton's law. Flow through packed beds. Fluidization, sedimentation and flocculation, filtration, screening, classification and size reduction.

30h (T); C

CHE 362 Polymer Engineering I 2 Credits

Introduction of polymer and their characteristics. Sources of monomers. Condensation and chain growth polymerization. Ziegler–Natta polymerization systems. Metallocene–induced polymerization. Molecular weight and its distribution and their measurement. Structure and properties of polymers. Plasticity and elasticity.
30h (T); PR CHM 112; C

CHE 381 Chemical Engineering Laboratory I 2 Credits

Laboratory investigations and report submission for selected experiments in distribution coefficient, cooling tower, sedimentation, fluid flow in packed columns and flow measuring apparatus. 30h (P); C

CHE 382 Chemical Engineering Laboratory II 2 Credits

Laboratory investigations and report submission for selected experiments in fluid circuit system, saponification in a batch reactor, vortex tube, fluid particle system and double pipe heat exchanger.
45h (P); C.

CHE 411 Loss Prevention in the Process Industries 2 Credits

Hazard in chemical process industries. Safety in process plants. Causes of accidents in process plants. Prevention of accident. Safety and risk assessment. Maintenance of plants to minimize losses. Waste disposal and effluent treatment. Pollution and corrosion control.
30h (T); C

CHE 421 Transport Phenomena III 3 Credits

Boundary layer theory and turbulence. Navier Stokes' equation. Universal velocity profile, Eddy diffusion, numerical solution of Navier–Stokes' equation, condensation and boiling. Theory of mass transfer. Fick's law, Fourier's and Newton's. Mass transfer with chemical reaction.
45h (T); PR CHE 331 ; C

CHE 461 Biochemical Engineering 3 Credits

Chemicals of Life. Kinetics of enzyme–catalyzed reactions. Applied enzyme catalysis. Metabolic stoichiometry and energetic. Molecular genetics and control systems. Kinetics of substrate utilization. Product yield and biomass production in cell cultures. Transport phenomena in microbial systems.
45h (T); PR: CHM 212; C

CHE 431 Process Design I 2 Credits

Introduction to factors relating to process design. Process diagrams: block diagrams, process flow diagram. Process engineering diagrams. Process instrumentation Diagrams (PID). Heat balances. Use of Microsoft excels in calculating material and energy balances. Use of commercial software (Chem. CAD or Design 2000) in material and heat balances calculations. Use of Auto CAD to generate process flow diagrams. Specification and selection of process equipment. Specification of process utilities: water, air, electricity, steam. Economic analysis: capital and manufacturing cost estimation break – even analysis; depreciation, discounted cash flows, rate of return on investment, discounted cash flow rate of return, sensitivity analysis.
30h (T); PR CHE 341; C

CHE 441 Separation Processes I
3 Credits

Equilibrium stage operations. Distillation: binary distillation, McCabe-Thiele method of determining number of stages. Plate and packed column; simplified binary equation. Humidification operations and water cooling. Drying of solids, evaporation: multiple effect evaporators. 45h (T); C

CHE 451 Chemical Engineering Computer Applications and Analysis
3 Credits

Use of mathematical tools for the analysis of chemical engineering operations, Process modeling and dynamics. Design of Experiments: Statistical tests, regression analysis using statistical packages. Solution of chemical engineering problems using computer packages. User defined functions and other advanced calculation options in Microsoft excel. Optimization of chemical processes using excel. Process simulation using commercial computer packages (ChemCAD, Hysys, etc.). Computer aided drawing of process equipment, flow diagrams and process instrument diagrams. Neural Networks.
30h (T) ;45h (P), PR ELE 276; C

CHE 471 Chemical Reaction Engineering I 3 Credits

Classification and types of reactions and their rate equations. Kinetics of reaction in gas and liquid phases. Design equations of single reactors. Single ideal reactors: Batch, mixed flow and plug flow reactors. Space time, Space velocity, holding time, mean residence time. Size comparison of single reactors. Design of multiple reactors. Rate equation for heterogeneous reactions. Fluid particle reactions, progressive conversion model, unreacted core (shrinkage core) model.
45h (T); PR CHE 342; C

CHE 481 Laboratory Workshop Practice 2 Credits

Laboratory experiments designed to teach basic and advanced laboratory techniques and practice in chemical engineering. Design of experiments. Errors in measurement of experimental results. Selected experiments in heat transfer, mass transfer, simultaneous heat and mass transfer, chemical reaction engineering, biochemical engineering process. Environmental management and assessment. 45h (P); PR CHE 382; C

CHE 492 SIWES II
12 Credits
On the job experience in the industry at a higher level of responsibility than CHE 392. (During the second Semester of 400 level)
270h (P); C

CHE511 Biochemical Engineering II 2 Credits
Design and analysis of biological reactor. Instrumentation and control of bioreactors. Microbial culture processes in manufacturing processes. Product recovery operations. Bioprocess economics. Microbial populations. Reaction with multiple cell populations.
30h (T) PR; E

CHE 513 Petroleum Processes 2 Credits
Terminologies employed in the petroleum industry. A typical refinery flow sheet overall refinery operation. Properties and types of crude oils and the effects on refinery operations. Refinery products. Crude oil processing: desalting, atmospheric vacuum distillation. Processes for improving motor fuel yields: reforming, catalytic cracking, hydro – cracking, alkylation, polymerization and isomerisation. Product blending to meet specification: Octane and octane number, flash point and viscosity. Sulphur removal and recovery in refineries. Processing sour crudes. Water and air pollution control.
30h (T); PR: CHM235, E

CHE 514 Technology of Coal Processing 2 Credits
Introduction to coal formation. Physical and chemical properties of coal. Carbonization of coal. Gasification of coal. Liquefaction of coal. Environmental aspect of coal utilization. 30h (T); E

CHE 521 Process Optimization
2 Credits
Maximizing of functions through the use of calculus. Unconstrained peak seeking methods. Single and multi – variable search techniques. Constrained optimization techniques. Linear programming application to Chemical processing. Numerical optimization techniques. Discrete events.
30h (T); PR: MEE 362; C

CHE 522 Process Integration
2 Credits

Introduction to process integration, role of thermodynamics in process design, targeting of energy, area, number of units, and cost, super targeting, concept of pinch technology and its application. Heat exchanger networks analysis, Maximum Energy Recovery (MER) networks for multiple utilities and multiple pinches, design of heat exchanger network. Heat integrated distillation columns, evaporators, dryers, and reactors. Waste and waste water minimisation, flue gas emission targeting, heat and power integration. Case studies.
30h (T); C

CHE 523 Technology of Inorganic Chemicals 2 Credits

Manufacture of soda ash, chlorine and caustic soda. Sodium chloride and other sodium salts. Portland cement. Lime and gypsum. Sulphuric and phosphoric acid. Types and chemical conversion of clays. Ceramic products from clay and their structures. Refractoriness. Kilns for clay processing. Design of kilns ceramic composites. Ferroelectric and ferromagnetic ceramics. Porcelain. Energy saving in furnaces.
30h (T); E

CHE 524 Technology of Pulp and Paper
2 Credits

Properties of raw materials for pulp and paper. Preparation of pulp wood. Pulping processes. Bleaching of pulp and stock preparation. Utilization of by – products. Energy recovery.
30h (T); E

CHE 531 Process Design II 2 Credits

Scope of design project. Source of design data. Equipment design and specification. Mechanical design of process and piping. Site location and lay – out. Process services. Environmental consideration.
30h (T); PR: CHE 431; C

CHE 532 Process Design III (Project)
2 Credits

Students are divided into groups. Each group is assigned a chemical engineering design problem involving the study of a process. Each group is allowed two months to complete the design project. The project will involve the choice and preparation of process flow sheet, calculation of material and energy balances, equipment selection and specification, detailed design of some plant items, plant layout and instrumentation, economic analysis and safety considerations. A design report is required to be submitted by each individual student at the end of the two months period.
30 h (T); PR: CHE341 ; CHE 431; CHE 451; C

CHE 533 Technology of Household Chemical Products 2 Credits

The chemical composition, equipment selection and design of some household products: paint, adhesives, cosmetics, food and beverages, disinfectant, polish, soap and detergents, etc.
15h (T); 45h (P); PR: CHM 318; C

CHE 534 Sugar Technology 2 Credits

Description of the equipment and the consideration of the processes involved in the manufacture of the refined sugar from cane. Utilization of the by-products of the refining operations. Safety, economics and environmental considerations. Energy recovery.
30h (T); E

CHE 564 Polymer Engineering II 2 Credits

Polymerization reactions and manufacturing methods. Rheology of polymer melts. Practical Rheometer and the analysis of flow data. Batch and continuous mixers. Extrusion principles and practice: extrusion processes profile, wire – covering film blowing. Injection moulding, Blow moulding, Compression moulding, Calendering joining, plating, machining and finishing.
30h (T); PR CHE 362; E

CHE 541 Separation Processes II 3 Credits

Gas absorption, Solvent extraction, Multicomponent gas absorption, Extractive and azeotropic distribution, Evaporation: Multiple effect evaporator, Adsorption. Crystallization. Ion exchange. Reverse osmosis. Membrane separation processes.
45h (T); PR: CHE 442; C

CHE 544 Environmental Pollution and Control 2 Credits

Water pollution. Types and sources. Analysis of dispersed pollutants in water. Effects of water pollutants on the environment. Streams and effluent standards. Water treatment processes for domestic and industrial uses. Air pollution: the theory, principles and practices related to engineering control of particulate and gaseous emissions from natural, industrial, agricultural, commercial and municipal sources of atmospheric pollution. Effect of atmospheric pollution on the various forms of life. Atmospheric pollutant dispersal modeling. Solid waste collection and management. Refuse processing: recovery and conversion to useful products. 30h (T); C

CHE 552 Process Dynamics and Control 3 Credits

Introduction: introduction to process dynamics and control. Process dynamics: Review of Laplace transforms and transient behaviour of 1st, 2nd and higher order systems. Process control: Transfer functions. Block algebra, feed forward and feedback control. Frequency response analysis. Proportional Integral Derivative (PID) algorithm. PID controller

tuning. Introduction to multi - variable control.
45h (T); PR; ELE202, MEE362; C

CHE 571 Chemical Reaction Engineering II 3 Credits

Determination of rate controlling steps, modeling and simulation of polymerization reactors. Design of fixed and fluidized bed reactors. Fluid – Fluid reactions. Slurry reactor. Choice of reactors. Temperature and pressure effects. Single reaction heat effect, optimum temperature progressions. Adiabatic operations and non-adiabatic operations. Exothermic reactions in mixed flow reactor. Multiple reactions: product distribution and temperature. Temperature and vessel size for maximum production. Non ideal flows: Residence time distribution of fluids in vessel. Models for non-ideal flow. Tank in series models. Mixing of fluids.
30h (T); PR: CHE 342, CHE 472 ; C

CHE 593 Research Project I 4 Credits

Original individual student project related to a prescribed Chemical Engineering problem involving literature review, identification, definition and formulation of the problem, theoretical investigations, modelling simulation, analysis and design.
180h (P); C

CHE 594 Research Project II 4 Credits

Second phase of investigations involving the implementation of the designed model. Debugging, calibration, testing, data collection, analysis and presentation of a comprehensive written report of the investigations.
180h (P); C

COURSE SUMMARY

100 Level

There are no Engineering and Technology courses at the 100 level. Students at this level take courses at the Faculty of Physical Sciences and from the General Studies Programme. These are:

Compulsory courses: Nil
Required courses: GNS 111 (2), GNS 112 (2), GNS 114(1)
Elective courses: CHM101(3), CHM112(2), CHM115(2), CHM116(1), CHM132(2), MAT 111(3), MAT 112(3), MAT 113(3), MAT 114(3), PHY115 (2), PHY125 (3), PHY 142 (2), PHY152 (3), PHY 191 (1), PHY 192 (1), STA 124 (2), STA 131 (2) = 38 credits
At least nine (9) credits must be passed out of the following mathematics courses;
MAT 111(3), MAT 112(3), MAT 113(3), MAT 114(3)
At least nine (9) credits must be passed out of the following physics courses;

PHY115 (2), PHY125 (3), PHY 142 (2), PHY152 (3), PHY 191 (1), PHY 192 (1)
At least six (6) credits must be passed out of the following Chemistry Courses;
CHM101 (3), CHM 112 (2), CHM 115 (2), CHM 116 (1), CHM 132 (2).

200 Level
Compulsory courses:
CHE 222 (6), CHE 241 (3), CHE 242(3), CHE 264 (3), CHE 283 (2), CHE 284 (2) = 19 credits
Required courses:
ABE 206 (2), ABE 263 (3), CVE 253 (3), CVE 254 (3), ELE 201 (3), ELE 202 (3), ELE 275 (1), ELE 276 (2), MEE 217 (2), MEE 218 (2), MEE 235 (2), MEE 272 (2), GNS 211 (2), GNS 212 (2), GSE 202 (2) = **34 credits**
NOTE: Direct Entry students into 200L have additional required courses and these are GNS 111 (2), GNS 112 (2), GNS 114 (1) =**4 credits.**

300 Level
Compulsory courses:
CHE 311 (3), CHE 312 **(3),** CHE 321 (2), CHE 322 (2), CHE 331 (3), CHE 341 (3), CHE 342 (3), CHE 344 (2), CHE **362 (2),** CHE **381 (2**), CHE **382 (2),** CHE 392 (6) = **24 credits**
Required courses: ABE 206 (2), ABE 306 (2), ABE 376 (1), CHM 212 (3), CHM 235 (3), CHM 318 (2), CHM 325 (2), MEE 361 (3), MEE 362 (3), GNS 311 (2), GSE 301 (2) = **23 credits**
NOTE: Direct entry students into 300L have additional required courses and these are: GNS 111 (2), GNS 112 (2), GNS 211 (2), GNS212 (2) = **8 credits.**

400 Level
Compulsory courses:
CHE 411 (2), CHE 421 (3), CHE 431 (2), CHE 441 (3), CHE 451 (3), CHE 461 (3), CHE 471 (3), CHE 481 (2), CHE 492 (12) = **21 credits**
Required course: ABE 463 (2) = **2 credits.**

500 Level
Compulsory courses:
CHE 521 (2), CHE 522 (2), CHE 531 (2), CHE 532 (3), CHE 541 (3), CHE 544 (2), CHE 552 (3), CHE 571 (3), CHE 593 (4), CHE 594 (4) = 34 credits
Required Courses:
ABE 573 (1), BUL 506 (3), BUS 501(3) = **6 Credits**
Elective courses:
CHE 511 (2), CHE 513 (2), CHE 514 (2), CHE 523 (2), CHE 524 (2), CHE 533 (2), CHE 534 (2), CHE 562 (2) = **16 credits**
(Students are expected to pass minimum of 8 credits)

GRADUATION REQUIREMENT

Major Engineering courses (ABE, CHE, CVE, ELE & MEE)	124 Credits
Courses from Chemistry Department	10 credits
Minimum Electives	8 credits
General Studies Courses	11 credits

Students Work Experience Programme (SWEP)	6 credits
Economics, Law, Management and Entrepreneurship courses	6 credits
SIWES	18 credits
	182 credits

Total Credits Required for Graduation

To qualify for the award of B. Eng (Chemical Engineering) a student for 4/5 years programme must register for a total of 182 credits. Only **168** credits will be used for the computation of final grade.

100 Level	-	5 credits
200 Level	-	51 credits
300 Level	-	48 credits
400 Level	-	23 credits
500 Level	-	42 credits
Total		**168 credits**

i)	Minimum number of Earned Credit Hours for graduation:	168
ii)	Minimum number of years for graduation:	3, 4, 5 years depending on mode of entry
iii)	Minimum residency requirement in years, if any:	**not Applicable**
iv)	Minimum CGPA for graduation:	**1.0**
v)	Other requirements (please specify):	**None**

Minimum academic standards

Same with NUC-CCMAS requirements for facilities

OPTIONS: NOT APPLICABLE

6.6 Course outline for all courses taught for the last three (3) years in the Programme/Sub-Discipline/Discipline:

Available in separate document

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N.B: Copies of 6.6 above should be presented to the panel for assessment

6.7 Titles of Degree projects, if any, carried out by the students in the Programme/Sub-Discipline/Discipline in the last three years

Available in separate document

6.8 Appraisal of Standard of Degree Examination

Appraisal of Standard of Examination based on:

(a) Adequacy of coverage of the syllabus content

The coverage of the syllabus content is generally very adequate.

(b) Quality of students answer to the various questions:

Majority of the students are able to respond well to various questions.

(c) Quality of practical work, continuous assessment and degree project:

The quality of practical work is very satisfactory. On the average, the students do well in their continuous assessment tests.

(d) Student's readiness for the level of manpower he/she is being trained for:

The students are generally ready for the level of manpower development they are being trained for.

(e) External Moderation Scheme:

The University appoints External Examiners for the Department on a tenure of two (2) academic sessions. Examination questions are sent to the Examiner before the commencement of each semester examinations for moderation. The External Examiner also conducts onsite assessment of graduating students at the end of each academic session. A report of the process is submitted to the Vice-chancellor by the External Examiner on completion of his/her duties at the end of the session.

Table 1:Programme/Sub-Discipline/Discipline Workload by students

Grouping	Course No/Level	Course / Subject	PreRequisite	Contact Hours / Week			Total Load/ Week
				Lecture	Practical	Tutorial	
General Studies	GNS 111	Reading and Study Skills		2			
Elective Courses	MAT 111	Elementary Mathematics I		3			3
	MAT 113	Elementary Mathematics II		3			3
	PHY 115	Mechanics and Properties of Matter I		2			2
	PHY	Heat, Sound and		3			3

	125	Optics					
	PHY 191	Practical Physics I			1		1
	CHM 101	General Physical Chemistry		3			3
	CHM 115	General Practical Chemistry I			2		2
	STA 131	Introduction to Statistical Inference I		2			2

Grouping	Course No/Level	Course / Subject	PreRequisite	Contact Hours / Week			Total Load/ Week
				Lecture	Practical	Tutorial	
General Studies	GNS 112	Use of English		2			2
Elective Courses	MAT 112	Elementary Mathematics III		3			3
	MAT 114	Elementary Mathematics IV		3			3
	PHY 142	Atomics Physics		2			2
	PHY 152	Electricity and Magnetism I		3			3
	PHY 192	Practical Physics II			1		1
	CHM 112	General Organic Chemistry		2			3
	CHM116	General Practical Chemistry II			1		1
	CHM 132	General Inorganic Chemistry		2			2
	STA 124	Introduction to Probability Distribution		2			2

Grouping	Course No/Level	Course / Subject	PreRequisite	Contact Hours / Week			Total Load/Week
				Lecture	Practical	Tutorial	
General Studies	GNS 211	Philosophy, Logic &Culture		2			2

Core Courses	CHE 241	Fundamental of Fluid Mechanics		3			3
	CHE 283	General Engineering Lab. I			2		2
Elective Courses	ELE 201	Applied Electricity I		2			2
	MEE 217	Engineering Graphics I		2			2
	MEE 235	Engineering Technology		2			2
	CVE 253	Engineering Mechanics I		3			3
	ABE 263	Engineering Mathematics I		3			3
	ELE 275	Computer Programming I		1			1

Grouping	**Course No/Level**	**Course / Subject**	**Prerequisite**	**Contact Hours / Week**			**Total Load/ Week**
				Lecture	**Practical**	**Tutorial**	
General Studies	GNS 212	Introduction to Social Science and Citizenship Education		2			2
Core Courses	CHE 242	Fundamentals of Engineering Thermodynamics		3			3
	CHE 264	Engineering Mathematics II		3			2
	CHE284	General Engineering Lab. II			2		
	CHE222	Students Work Experience Programme (SWEP)			6		6
Elective	MEE	Engineering		2			2

Courses	218	Graphics II					
	ELE 202	Applied Electricity II		3			3
	CVE 254	Engineering Mechanics II		3			2
	ELE 276	Computer Programming II		2			3
	MEE 272	Engineering Materials		2			3
	ABE206	Introduction to Engineering Disciplines		2			1

Grouping	**Course No/Level**	**Course / Subject**	**PreRequisite**	**Contact Hours / Week**			**Total Load/ Week**
				Lecture	**Practical**	**Tutorial**	
General Studies	GNS 311	History and Philosophy of Science		2			2
	GSE301	Graduate Entrepreneurship Skill		3			3
Core Courses	CHE 311	Chemical Engineering Thermodynamics		3			3
	CHE 333	Transport phenomena I		3			3
	CHE 341/343	Introduction to Chemical Engineering		3			
	CHE 383	Chemical Engineering Laboratory I			2		2
Elective Courses	CHM 325	Experimental Physical Chemistry		2			2
	MEE 361	Engineering Mathematics III		3			3

Grouping	**Course No/Level**	**Course / Subject**	**PreRequisite**	**Contact Hours / Week**			**Total Load/ Week**
				Lecture	**Practical**	**Tutorial**	

Core Courses	CHE 312	Process Instrumentation		2			2
	CHE 324	Transport phenomena II		2			2
	CHE 342	Chemical Kinetics and Catalysis		3			3
	CHE 344	Particle Technology		2			2
	CHE 382	Chemical Engineering laboratory II		2			2
	CHE 362	Polymer Engineering I		2			2
	CHE 392	Industrial Training I			6		
Elective Courses	CHM 212	Basic Physical Chemistry		3			3
	CHM318	Industrial Chemical Processes I		2			2
	ABE 306	Engineering Economics		2			2
	MEE 362	Engineering Mathematics IV		3			3
	ABE 376	Technical writing for Engineers		1			1

Grouping	**Course No/Level**	**Course / Subject**	**PreRequisite**	**Contact Hours / Week**			**Total Load/Week**
				Lecture	**Practical**	**Tutorial**	
Core Courses	CHE 411	Loss Prevention in the Process Industry		2			2
	CHE 421	Transport Phenomena III		3			3
	CHE 431	Process Design I		2			3
	CHE 441	Separation Processes I		4			4
	CHE 451	Chemical Engineering Computer Application and Analysis		3			3
	CHE 461	Biochemical Engineering I		3			3

	CHE 471	Chemical Reaction Engineering I		3			3
	CHE 481	Laboratory Workshop Practice			2		2
	CHE 492	Industrial Training III			12		12
Elective Courses	ABE 463	Engineering Statistics		2			2

Grouping	Course No/Level	Course / Subject	PreRequisite	Contact Hours / Week			Total Load/ Week
				Lecture	Practical	Tutorial	
Core Courses	CHE 521	Process Optimization		2			2
	CHE 531	Process Design II		2			3
	CHE 541	Separation Processes II		3			3
	CHE 571	Chemical Reaction Engineering II		3			4
	CHE 593	Chemical Engineering Project I			4		3
		Elective Courses		4			
Elective Courses	BUS 501	Engineering Management		3			2
	ABE 573	Engineer-in-society		1			

Grouping	Course No/Level	Course / Subject	PreRequisite	Contact Hours / Week			Total Load/Week
				Lecture	Practical	Tutorial	

Core Courses	CHE 526	Process Integration		2			2
	CHE 532	Process Design III		2			3
	CHE 552	Process Dynamics and Control		3			3
	CHE 594	Chemical Engineering Project II		3			4
	CHE 544	Environmental Pollution and Control			4		3
		**Elective Courses		4			
Elective Courses	BUL 506	Engineering Law		3			2

7.0 STAFFING

Table 2: Teaching Staff Turnover: Summary of teaching staff Turnover for the programme/Sub-Discipline/Discipline to be accredited

Complete the table below

Staff Category/Designation	No. On Payroll	Salary Scale/-Step	No. of Resignations or Dismissals in the preceeding three years	Reasons for Resignation or Dismissal
Professor	10	A07	nil	Not applicable
Reader/Associate Prof.	7	A06	nil	Not applicable
Senior Lecturer	8	A05	nil	Not applicable
Lecturer I	8	A04	nil	Not applicable
Lecturer II	2	A03	nil	Not applicable
Assistant Lecturer	nil	A02	nil	Not applicable
Others	2	nil	nil	Not applicable

*** Note: The category "Others" refers to Graduate Assistants where they exist**

Table 3: Personal Data for Staff Teaching All Courses of the Programme/Sub-Discipline/Discipline to be accredited

Supply the information in the table. Use additional sheets with the headings given below.

Note: Take 3 hours of laboratory/Clinical Practical as 1 lecture full time

S/N	Name of Staff	Rank/Designation Salary Scale, Date of First Appointment	Full Time	Qualification, Dates obtained and Specialization, Membership of Professional Association and Number of Publications	Post Qualification Work/Teaching	Course/Subjects Taught	Teaching Load/Lecturing	Other responsibilities/interest in curricular and extracurricular activities
1.	E.O. Ajala	Reader, A06 19/06/2008	Full time	**Qualifications:** B. Tech. Chemical Engineering, Ogbomoso, 2004; M.Sc. Chemical Engineering, Ile – Ife, 2011; Ph.D. Chemical Engineering, Minna, 2016; R.Engr. **Membership of Professional Organization:** Member, Nigeria Society of Chemical Engineers (NSChE) **No of publications**: 60	Graduate Assistant 2008 -2011 Unilorin, Assistant Lecturer 2011 - 2012 Unilorin, Lecturer II 2012 - 2016 Unilorin, Lecturer I 2016 - 2019 Unilorin, Senior Lecturer 2019 - 2022 Unilorin, Reader 2022 - Till date Unilorin	ABE206 CHE241 CHE322 CHE342 CHE383(P) CHE382(P) CHE431 CHE483(P) CHE461 CHE511 CHE571 CHE531 CHE532 CHE526	18	❖ Undergraduate Level Adviser (2009-2014, 2016-2020) ❖ Final Year Project Coordinator (2015-2019) ❖ Faculty SWEP Coordinator (2017-2021) ❖ Departmental Examination Coordinator (2015-2019) ❖ Associate Editor: Uniosun Journal of Engineering and Environmental Sciences (2021-Till date) ❖ Reviewer: Umudike Journal of Engineering and Technology, Published by College of Engineering and Engineering Technology, Michael Okpara University of Agriculture, Umudike (2023 - Till date) ❖ Ag Head of Department, Chemical Engineering (2024-Till Date)

2.	D.S. Ogunniyi	Professor, UASS 7, Step 10; Date of first appointment: 14th February, 1986	Full time	**Qualifications:** C. Sc Chemical Engineering, Lagos, 1977; M.Sc. Polymer Technology, Loughborough, 1982; Ph.D. Polymer Technology, Loughborough, 1985; R.Engr. **Membership of Professional Organization:** Fellow, Nigeria Society of Chemical Engineers (FNSChE 0361); Fellow, Nigerian Society of Engineers (FNSE)	Lecturer II 1986 - 1988 Unilorin, Lecturer I 1988 - 1991 Unilorin, Senior Lecturer 1991 - 2005 Unilorin, Professor 2005 – To date Unilorin	CHE 322 CHE 362 CHE 513 CHE 523 CHE 564	12	❖ August 2008 – January 2009. Head, Department of Chemical Engineering; ❖ January 2009 – July 2012, Director, School of Preliminary Studies, ❖ July 2012 – July 2014. Director, Unilorin Consultancy Services; ❖ August 2014 – December 2015. Director, Central Research Laboratory; ❖ August 2017 – July 2021, Dean, Faculty of Engineering ❖ 2019 – 2023, Member, Unilorin Governing Council (representing Senate)
3.	Omodele A.A. Eletta	Professor, A07 Date of first Appointment 1997	Full time	**Qualifications:** D. Sc. Chemical Engineering, Lagos, 1986; M.Sc. Chemical Engineering, Lagos, 1996; Ph.D. Chemistry, Ilorin, 2005; R.Engr. **Membership of Professional Organization:** Fellow, Nigeria Society of Chemical Engineers (NSChE) Member, Nigeria Society of Engineers (NSE) Member , Association of Professional Women Engineers (APWEN) Member, Chemical Society of Nigeria. Member, Association of African Engineers	Graduate Assistant 1993 -1997 Ogbomoso, Assistant Lecturer 1997- 2001 Unilorin, Lecturer II 2003 - 2006 Unilorin, Lecturer I 2006 - 2009 Unilorin, Senior Lecturer 2009 - 2012 Unilorin, Reader 2012 - 2019 Unilorin, Professor, 2019 to date	ABE206 CHE242 CHE 283 CHE 284 CHE321 CHE 341 CHE342 CHE343 CHE382 (P) CHE422 CHE441 CHE541 CHE544 CHE471 CHE591 CHE592	12	❖ Undergraduate Level Adviser 1993- 1996,1997-2003, 2006-2008) ❖ Examination Officer (2002-2005) ❖ Copy Editor NJTD 2020 to date ❖ Chairman, APWEN Ilorin Branch 2008 -2010 ❖ House Mistress Zamfara Hostels 2018 – 2023 ❖ House Mistress Abuja Hostel 2023 to date ❖ Vice Chairman, NSChE Oyo/Osun/Kwara (2018 to date. ❖ Ag Head of Department, Chemical Engineering (2009- 2014) ❖ Ag Director Unilorin Consultancy Services (2017-2019) ❖ Chairperson Unilorin Sports Council 2022 to date

								❖ Chairperson, Standard Organization of Nigeria (SON) Technical Committee on Metrology and Measuring Instruments 2024 to date ❖ External Examiner to many tertiary institutions 2013-date
4.	R.O. Yusuf	Professor, A07	Full time	**Qualifications:** E. Sc. (Hons) Chemical Engineering, UNILAG, 1981; M.Sc. Chemical Engineering, Ile – Ife, 2008; Ph.D. Chemical Engineering, Johor Bahru, Malaysia, 2013; R.Engr. **Membership of Professional Organization:** Fellow, Nigeria Society of Chemical Engineers (NSChE); Member, Nigerian Society of Engineers (NSE); Member, Association of Environmental Impact Assessment of Nigeria (AEIAN)	Master II, Kwara State Education Management Board, Ilorin 1982-1985; Paper Production Superintendent (PPS), Nigerian Paper Mill Ltd, Jebba 1985-1988, Senior PPS, 1988-1991, Senior Process Engineer, 1991 Senior Production Engineer (SPE), Cement Company of Northern Nigeria Plc, Sokoto, 1991-1994, PPE, CCNN 1994-1997, Shift Manager, CCNN 1997-2001 Assistant Lecturer, LAUTECH, 2001-2004, Lecturer II, LAUTECH 2004 2008; Lecturer II UNILORIN 2008-2012; Lecturer I 2012-2015; Senior Lecturer, 2015-2018; Reader, 2018-2022; Professor 2022-to date.	CHE 241 CHE 381 CHE 341 CHE 411 CHE 412 CHE 482 CHE 512 CHE 531 CHE 523 CHE 524 CHE 532 CHE 541 CHE 544	18	❖ Special Marshall, FRSC, 1995-1999 ❖ Assistant Auditor NSE, Sokoto Branch, 1997-2001 ❖ Member, Faculty Board of Examiners, LAUTECH, 2001-2008 ❖ Member, Investment and Properties Committee, NSE, 2002 ❖ Member, Budget Monitoring Committee, NSE, 2003 ❖ Member, Welfare and Growth Committee, NSE, 2004 ❖ Member, Faculty Board of Examiners, UNILORIN, 2008 – date ❖ FET representative to Faculty of Business and Social Sciences. 2009 ❖ Member, Low Carbon Cities Research Group, UTM, Johor Bahru, 2010-2013. ❖ Reviewer for Journals – MEQ, JCP, NJTD, Cogent, JEM, etc. 2013 –date. ❖ Undergraduate Level Adviser (2009 and 2013/2014). ❖ Ag Head of Department, Chemical Engineering (2014 - 2016) ❖ Member, Technical Committee, NSChE, Oyo/ Osun/Kwara/Ekiti Chapter, 2019 – date.

								❖ Secretary, Education and Research Sectorial Group, NSChE, 2019 – 2022. ❖ Member, Virtue Vanguard Group for JAMB UTME, 2019-2021. ❖ Member, NSChE/NCDMB Collaboration on Domestication of Barite and Bentonite for the Oil Industry, 2019 – 2022. ❖ Deputy Kwara State Coordinator, Islamic Welfare Foundation, 2021 – date ❖ Faculty Representative, University Admissions Committee, 2021 – date. ❖ Member, Local Organising Committee, 2022 Nigerian Society of Engineers Annual Conference/AGM, Ilorin, 2022. ❖ Member, Bwari Call Room Group, JAMB UTME, 2022 – date
5.	Temitope E. Odetoye	Professor, A07	Full time	**Qualifications:** B.Tech. Chemical Engineering, Ogbomoso, 1998; M.Sc. Industrial Chemistry, Ilorin, 2003. Ph.D. Chemistry, Ilorin, 2008 Ph.D. Chemical Engineering, Ogbomoso, 2016; **Membership of Professional Organization:** Fellow, Nigeria Society of Engineers (NSE); Member,Nigeria Society	Assistant Lecturer 2008 Unilorin, Lecturer II 2008 - 2012 Unilorin, Lecturer I 2012 - 2016 Unilorin, Senior Lecturer 2016 - 2019 Unilorin, Reader 2019-2022 Professor 2022- Till date, Unilorin	CHE 241 CHE 242 CHE 312 CHE 331 CHE 361 CHE 362 CHE 381 CHE 382 CHE 422 CHE 431 CHE.432 CHE 482 CHE 513 CHE 531 CHE 532 CHE 564 CHE 589 CHE 590	18	❖ Undergraduate Level Adviser (2009-2014, 2014-2017) ❖ Chairman Organizing Committee on 1st Departmental Lecture of the Department of Chemical Engineering, University of Ilorin. 2010 ❖ Ag. Head of Department, Chemical Engineering (2018- 2020) ❖ Member, Editorial Board, Nigerian Journal of Technological Development, February 2013 -2022 ❖ Business Manager, Nigerian Journal of

				of Chemical Engineers (NSChE); Fellow, Nigerian Young Academy; Member, Institute of Chartered Chemists of Nigeria- ICCON Member, Chemical Society of Nigeria, CSN Member, Association of Professional Women Engineers of Nigeria; Member, Organization for Women in Science for Developing World. **No of publications**: 45		ABE206 FBE405 FBE411		Technological Development, February 2013 - 2022 ❖ Chairman, FET COREN-Outcome-Based Engineering Education Implementation Committee, 2023 till date ❖ Member, Ilorin Business School Board/ Committee- December, 2021- till date ❖ Chairman, NSE, Ilorin Branch, 2020-2022
6.	A.S. Osunleke	Professor, A07	Sabbatical	**Qualifications:** B. Sc. Chemical Engineering, Ife, 1995; M.Sc. Chemical Engineering, Ife, 2001; Ph.D. Industrial Innovation Sciences, Okayama, 2010; R.Engr. **Membership of Professional Organization:** Member, Nigeria Society of Chemical Engineers (NSChE), Member, Nigeria Society of Engineers, Fellow, Society for Automation, Control and Instrumentation in Nigeria.	Graduate Assistant, 1998 -2001, OAU; Assistant Lecturer, 2001 - 2006, OAU; Lecturer II, 2006 - 2010, OAU; Lecturer I, 2010 - 2013, 0AU; Senior Lecturer, 2013 - 2016, OAU; Reader, 2016 - 2019, OAU; Professor, 2019 - Till Date, OAU.	CHE451 CHE521	5	❖ Undergraduate Level Adviser (1999-2007, 2011-2024) ❖ Final Year Project Coordinator (2001-2007) ❖ Departmental Examination Coordinator (2001-2007) ❖ Ag Head of Department, Chemical Engineering (2013 - 2015, 2019 - 20121) ❖ Representative of Congregation in Senate (2015 - 2017) ❖ Vice-Dean, Faculty of Technology, OAU (2022 - 2023). ❖ Senate Representative in A&PC, OAU (2023 - Till Date)
7.	Funmilayo N. Osuolale	Professor, A07 2nd November, 2006	Sabbatical	**Qualifications:** B.Tech. Chemical Engineering, Ogbomoso, 1998; M.Sc. Chemical Engineering, Ile – Ife,	Assistant Lecturer 2006 -2007 LAUTECH, Lecturer II 2007 - 2009 LAUTECH,	CHE 301 CHE 302(P) CHE 306(P) CHE 411 CHE 502	6	❖ Final Year Project Coordinator (2015-2019) ❖ Departmental Examination Coordinator (2018-2021)

				2006; Ph.D. Chemical Engineering, Ile-Ife, , 2011; Ph.D. Chemical Engineering, United Kingdom, 2015; R.Engr. **Membership of Professional Organization:** Member, Nigerian Society of Engineers (NSE); Member, Nigeria Society of Chemical Engineers (NSChE); Member, American Institute of Chemical Engineers (AIChE); Member, Chemical Institute of Canada (CIC) and Canadian Society of Chemical Engineering (CSChE); Member, Association of Professional Women Engineers (APWEN); Member, Society of Women Engineers, USA;	Lecturer I 2009 - 2016 LAUTECH, Senior Lecturer 2016 - 2019 LAUTECH, Reader 2019 - 2022 LAUTECH, Professor 2022 - Till date LAUTECH	CHE 713		❖ Associate Editor: Uniosun Journal of Engineering and Environmental Sciences (2021-Till date) ❖ Exam Moderation and Quality Control (2018-2023) ❖ Students' Affair and Discipline (20121-2023) ❖ Reviewer: Energy (Elsevier), Chemical and Biochemical Engineering Quarterly, Archives of thermodynamics, International Journal of Exergy, Brazilian Journal of Chemical Engineering, Innovative solutions in Engineering, Nigerian Society of Chemical Engineering Journal and Energy sources (Taylor and Francis), (2011 - Till date) ❖ Vice Chairman, Association of professional Women Engineers, Ogbomoso Chapter (2023-date) ❖ Financial Secretary, Nigeria society of Chemical Engineers (NSChE) Oyo/Osun/Kwara Chapter ❖ Technical Committee Chairman, Nigeria Society of Chemical Engineers (NSChE) Education and research Sectorial Group. (2019-2023) ❖ Coordinator, Education and Research Sectoral Group, Nigeria Society of Chemical Engineers (2023-date)
8.	Y. L. Shuaib Babata	Professor, A07, 1/7/2008	Full time	B.Eng. Mechanical Engineering (Ilorin) 1997; M.Eng. Mechanical	Senior Lecturer - Professor: Department of Materials &	ABE 206	2	National Auditor, Materials Science & Technology Society of Nigeria (MSN).

				Engineering (Ilorin) 2005; Certificate in Data Processing & Management Information System (Ilorin) 2003; Postgraduate Diploma in Education (PGDE) – National Teachers' Institute / National Open University of Nigeria (NOUN) 2015; Ph.D Mechanical Engineering (Materials & Metallurgy Engineering) (Minna) 2015 R.Eng (COREN) - 2002 **Membership of professional association** Fellow, Materials Science and Technology Society of Nigeria (FMSN), November 2022; Fellow, The Academy of Technology Innovation Management and Entrepreneurship (FTIME), October 30, 2021; Member, International Association of Engineers (MIAENG), 2016 Professional Member, Fisheries Society of Nigeria (Mfs), 2013 **Number of Publication**: 82	Metallurgical Engineering, University of Ilorin, Ilorin, Ilorin, Nigeria. September 2016 2019 to date Acting Head, Department of Materials & Metallurgical Engineering, University of Ilorin, Ilorin August 2018 – August 2020 Department of Materials & Metallurgical Engineering. 2018 - 2023 (10) Chairman (NUC & COREN) Accreditation Committee, Department of Materials & Metallurgical Engineering Committee. 2017– 2019			National Program Coordinator & Council Member, Nigerian Institution of Metallurgical,Mining& Materials Engineers (NIMMME) Nov. 2021 to date State Headquaters Commissioner (Finance), Boy Scouts Association of Nigeria, Kwara State Scout Council. Nov. 2021 to date Governing Board Member, Academy of Technology Innovation Management and Entrepreneurship (ATIME). Nov. 2021 to date State Headquaters Commissioner (Finance), Boy Scouts Association of Nigeria, Kwara State Scout Council. Nov. 2021 to date Governing Board Member, Academy of Technology Innovation Management and Entrepreneurship (ATIME). Nov. 2021 to date Vice President (Programmes & Membership) and Member of the Governing Board, The Academic of Science, Technology, Entrepreneurship & Management (GLASTEM) July 2021 to date

9.	K. O. Yusuf	Professor, A07, 20th June, 2008	Full Time	B.Eng (Agric. Engrg)-2000, M.Eng (Agric. Engrg)-2006, Ph.D. 2016. MNIAE-2007, MASABE- 2012, MISTRO-2012 COREN-2010 Publication - 45	Lecturer III at Kwara State Poly. Ilorin-2005-2008, Assistant Lecturer 2008 - 2011 Unilorin, Lecturer II 2011 - 2014 Unilorin, Lecturer I 2014 – 2017 Unilorin, Senior Lecturer 2017 - 2020 Unilorin, Reader 2020 - 2023 Unilorin Professor 2023 – date Unilorin-	ABE263 ABE528	5	Acting HOD (Agric. & Biosystems Engrg) (2022 – 2024) Sub-Dean Faculty of Engineering & Technology (2018 – 2022) PG Coordinator (2016 – 2019) Level Adviser (2008 – 2024)
10	Abdulkareem, S.	Professor, A07, 2012	Full Time	B.Sc. (Unilag), 1995 M.Eng. 2008, Ph.D, IIU, Malaysia, 2009 R.Eng (COREN) 40 Pulications	See table below	MEE217 MEE218	4	As contained in the C. V.

11.	J.A. Adeniran	Reader, A06 November 10, 2014	Full time	**Qualifications:** B.Tech. Chemical Engineering, Ogbomoso, 2006; M.Sc. Chemical Engineering, Lagos, 2010; Ph.D. Chemical Engineering, Ogbomoso, 2014; R.Engr. **Membership of Professional Organization:** Member, Nigeria Society of Chemical Engineers (NSChE), American Geophysical Union, Nigerian Society of Engineers (NSE), International Association of Engineers (IAENG)	Lecturer II 2014 - 2014 Unilorin, Lecturer I 2014 - 2018 Unilorin, Senior Lecturer 2018 – 2021, Postdoctoral Research Fellow, Peking University, Beijing, China 2019 – 2021, Unilorin, Reader 2021 - till date Unilorin	CHE 264 CHE341/343 CHE344 CHE412 CHE451 CHE431 CHE 522 CHE533 CHE534 CHE531 CHE532 CHE 541 CHE 544 CHE593 CHE 594	16	Member, Festschrift Committee in honour of Prof. S.A. Abdulkareem 2023 – 2024 Member, Departmental Postgraduate Committee, 2015 – date Level Adviser 2015 –2019 Faculty Postgraduate Seminar Coordinator 2022 – 2023 Faculty Representative to the Faculty Board of Clinical Sciences 2016 – 2019 Member, Faculty NLNG and TETFUND workshops Committee 2015 – 2018 Member, Faculty Certificates Screening Committee 2018 Acting Head of Department 2022 -2024 Board Member, Unilorin Sugar Research Institute (USRI) 2023 – 2024 Member, University Committee on Waste to Wealth 2024 - date Member, University Committee on the Use of Illegal Substances 2022 – date

12.	F.A. Aderibigbe	Reader, A06, 05:01:2015	Full time	**Qualifications:** B.Sc. Chemical Engineering, Ife, 1989; M.Sc. Chemical Engineering, Ife, 2005; Ph.D. Chemical Engineering, Ife, 2011; R.Engr. (Nig.), 2002. **Membership of Professional Organization:** Member, Nigeria Society of Chemical Engineers (NSChE); Nigeria Society of Engineers (NSE).	Lecturer I 2012 - 2014 OAUSTECH, Senior Lecturer 2015 - 2022 Unilorin, Reader 2022 - Till date Unilorin	CHE242 CHE311 CHE344 CHE431 CHE441 CHE461 CHE511 CHE531 CHE532 CHE534 CHE593 CHE594	12	❖ SIWES coordinator (2016-2018). ❖ Students Level Adviser (2016-2018). ❖ Ag Head of Department, Chemical Engineering (2016- 2018). ❖ Design Project Coordinator (2018 to Date). ❖ Faculty Representative at the Centre for International Studies (2023 to Date). ❖ Reviewer: (NJTD) Nigeria Journal of Technological Development, Published by the Faculty of Engineering and Technology, University of Ilorin, (2023 - Till date.) ❖ Reviewer: Journal of Biotechnology, Published by Elsevier, (2022 to Date). ❖ Reviewer: Iranian Journal of Chemistry and Chemical Engineering, Published by Iranian Journal of Chemistry and Chemical Engineering. (2021 to Date). ❖ Reviewer: Heliyon, Published by Elsevier, (2022 to Date) ❖ External Examiner, University of Witwatersrand, Johannesburg, South Africa.

13.	A.G. Adeniyi	Reader, A06	Full time	**Qualifications:** B.Tech., 2004, M. Tech., 2012, PhD, 2015, Chemical Engineering, Ogbomoso,; R.Engr. **Membership of Professional Organization:** Member, Nigeria Society of Chemical Engineers (NSChE), Nigeria Society of Engineers,NSE, Material Science and Technology Society of Nigeria (MSN)	Graduate Assistant 2008 -2012 Unilorin, Assistant Lecturer 2012 - 2015 Unilorin, Lecturer II 2015 - 2015 Unilorin, Lecturer I 2015 - 2019 Unilorin, Senior Lecturer 2019 - 2022 Unilorin, Reader 2022 - Till date Unilorin	CHE331 CHE421 CHE451 CHE521 CHE589 CHE264 CHE422 CHE452 CHE552 CHE590	12	Acting Head of Department, 2020- 2022 Assistant Director, LABTOP, 2019- 2024 Departmental Postgraduate Coordinator, 2016 – 2020 Staff/Students Welfare Officer, 2016 – 2019 Member, Departmental Postgraduate Committee, 2015 – date Staff Adviser, Nigerian Society of Engineers (Unilorin Student Chapter), 2015 – 2020 Student Level Adviser, Chemical Engineering Department, 2012 -2016 Student Work Experience Programme (SWEP) Coordinator, 2009 – 2018 SIWES Coordinator, Department of Chemical Engineering, 2009 – 2018 Examination Officer, Chemical Engineering Department, 2009-2016 Member of Departmental Maintenance Committee, 2009 – 2012
14.	T.A. Ishola	Reader/CONUASS 06, 1999	Full time	B.Eng. M.Eng. Ph.D. 2013 R.Eng (COREN)	As contained in the C. V.	ABE 463	As contained in the C. V.	As contained in the C. V.

15	O.O. Olofintoye	Reader /CONUASS 06, 2008	Full Time	B.Eng. M.Eng. Ph.D. 2014 R.Eng (COREN)	As contained in the C. V.	CVE 254	As contained in the C. V.	As contained in the C. V.
16	Okeola, O. G.	Reader/CONUASS 06	Full Time	B.Eng. 1989 M.Eng. 2001 Ph.D. 2010 R.Eng (COREN)	As contained in the C. V.	ABE 376	As contained in the C. V.	As contained in the C. V.
17.	Tunmise L. Adewoye	Senior Lecturer, A05	Full time	**Qualifications:** B. Eng. Chemical Engineering, Minna, 2004; M. Tech Chemical Engineering, Ogbomoso, 2012; Ph.D. Chemical Engineering, Ogbomoso, 2019; R.Engr. **Membership of Professional Organization:** Member, Nigerian Society of Engineer (NSE); Member, Nigerian Society of Chemical	Graduate Assistant 2008 -2012 Unilorin, Assistant Lecturer 2012 - 2016 Unilorin,, Lecturer II 2016 - 2019 Unilorin, Lecturer I 2019 - 2022 Unilorin, Senior Lecturer 2022 - Till date Unilorin	CHE242 CHE 311 CHE 341 CHE 343 CHE342 CHE383(P) CHE382(P) CHE471 CHE483(P) CHE571 CHE593 CHE594 CHE514	18	❖ Undergraduate Level Adviser (2010-2015, 2018-2024) ❖ Staff welfare officer (2010-2017; 2019-2022) ❖ Faculty Representative to Faculty of Pharmaceutical Science (2011) ❖ General Secretary, Association of Professional Women Engineers, Ilorin Branch (2013-2015) ❖ Member, Faculty of Engineering Dress Code Committee (2014-2016) ❖ Finance Secretary, Association of Professional

				Engineers (NSChE)				Women Engineer of Nigeria (APWEN), Ilorin Branch (2022-2023) ❖ Departmental Postgraduate coordinator (2020- 2024) ❖ Departmental Examination Officer (2023-2024) ❖ Member, Board of Technical and Entrepreneurship Center (2021-Date) ❖ Member, Faculty of Engineering Ethical committee (2024-Date) ❖ Departmental Final Year Project Coordinator (2024- Till Date)
18.	S. I. Mustapha	Senior Lecturer, A05	Full time	**Qualifications:** B.Eng. Chemical Engineering, FUTMinna, 2005; M.Sc. Chemical Engineering, ABU, Zaria, 2012; Ph.D. Chemical Engineering, DUT, South Africa 2021; R.Engr. **Membership of Professional Organization:** i. Member, Nigeria Society of Chemical Engineers (NSChE) COREN Registered Engineer (R.25,421) ii. Member, Nigerian Society of Engineers (30913) iii. Member, Nigerian Society of Chemical Engineers (M2061) iv. Associate Member, Institute of Chemical	Unilorin, Lecturer II 2015 - 2019 Unilorin, Lecturer I 2019 - 2022 Unilorin, Senior Lecturer 2022 - Till date	CHE 242 CHE322 CHE 333 CHE383 (P) CHE382 (P) CHE 451 CHE 452 CHE 462 CHE 471 CHE483 (P) CHE 531 CHE 532	18	❖ Undergraduate Level Adviser (2016-2018, 2020-2024) ❖ Final Year Project Coordinator (2016-2017) ❖ Faculty SIWES Coordinator (2022-2024) ❖ Departmental Examination Coordinator (2020-2022) ❖ Supervisor, Community-Based Education and Service (2022-2023)

				Engineers, IChemE (200099817)				
19.	H. U. Hambali	Senior Lecturer/ A05, Mar 13, 2019	Full time	**Qualifications:** F. Eng. Chemical Engineering, Maiduguri, 2011; M.Sc. Chemical Engineering, Zaria, 2016; Ph.D. Chemical Engineering, Johor Bahru, 2020; R.Engr. **Membership of Professional Organization:** Member, Nigerian Society of Engineers ; Member, Nigeria Society of Chemical Engineers (NSChE)	Assistant Lecturer, 2017 – 2018 Unilorin, Lecturer II 2018 - 2020 Unilorin, Lecturer I 2020 - 2024 Unilorin, Senior Lecturer – 2024 Till date Unilorin	CHE242 CHE342 CHE342 CHE383(P) CHE531 CHE451 CHE483(P) CHE513 CHE311 CHE 343	10	❖ Managing Editor, Nigerian Journal of Technological Development, FET 2022-Date ❖ Section Editor, Nigerian Journal of Technological Development, Faculty of Engineering and Technology, FET 2020–2022 ❖ Examination Officer, CHE 2021/2022 to Date ❖ 500L CHE Level Adviser 2021/2022 ❖ 400L CHE Level Adviser 2020/2021 ❖ 100L CHE Level Adviser 2017/2018 ❖ Chairman Technical Committee, 2nd Faculty of Engineering and Technology International Conference, Unilorin 2024 ❖ Chairman Publication Committee, 1st Faculty of Engineering and Technology International Conference, Unilorin 2023 ❖ Rapporteur, 1st Faculty of Engineering and Technology International Conference, Unilorin 2023 ❖ Rapporteur, Nigerian Society of Chemical Engineers

								Annual Conference/AGM, Ilorin, NSChE 2022 ❖ Reviewer, Nigerian Journal of Technological Development 2020 to Date ❖ Ameer Da'awah Committee, Ibrahim Taiwo Estate Mosque, ❖ Line D, Maiduguri 2017
20.	Esther O. Babatunde	Senior Lecturer, A05	Full time	**Qualifications:** B.Tech. Chemical Engineering, Ogbomoso, 2006; M.Eng. Chemical Engineering, Minna, 2015; Ph.D. Chemical Engineering, Minna, 2021; R.Engr. **Membership of Professional Organization:** Member, Nigeria Society of Chemical Engineers (NSChE)	Assistant Lecturer Nov. 2017 – Dec. 2017, Unilorin, Lecturer II 2017 – 2021, Unilorin, Lecturer I 2021 – 2024, Unilorin, Senior Lecturer 2024 - Till date, Unilorin,	CHE241 CHE264 CHE312 CHE342 CHE383(P) CHE421 CHE483(P) CHE461 CHE571 CHE593 CHE594	26	❖ Undergraduate Level Adviser (2021-2024) ❖ Final Year Project Coordinator (2017-2019) ❖ Departmental Welfare officer (2021-2024) ❖ Guest Editor: Nigerian Journal of Technological Development. Published by Faculty of Engineering and Technology, Unilorin (2023 - 2024). ❖ Reviewer: Nigerian Journal of Technological Development. Published by Faculty of Engineering and Technology, Unilorin (2021 - Till date)

21.	Mary A. Ajala	Senior Lecturer, A05	Full time	**Qualifications:** B.Tech. Chemical Engineering, Ogbomoso, 2008; M.Sc. Chemical Engineering, Ogbomoso, 2014; Ph.D. Chemical Engineering, Minna, 2023; R.Engr. **Membership of Professional Organization:** Member, Nigeria Society of Chemical Engineers (NSChE)	Assistant Lecturer 2017 Unilorin, Lecturer II 2017 - 2021 Unilorin, Lecturer I 2021 - 2024 Unilorin, Senior Lecturer 2024-Till date Unilorin	CHE242 CHE264 CHE311 CHE333 CHE343 CHE344 CHE383(P) CHE382(P) CHE441 CHE483(P) CHE593 CHE594 CHE526 CHE532(P) CHE831	36	❖ Undergraduate Level Adviser (2018-2019, 2022-TillDate) ❖ Departmental Clearance Officer (2023-2024) ❖ Departmental Staff Secretary (2018-2020) ❖ Departmental SWEP Coordinator (2024-TillDate) ❖ Departmental SIWES Coordinator (2024-TillDate) ❖ Reviewer: Reaction Mechanism, Kinetics and Catalysis Journal (2023 - Till date) ❖ Reviewer: Water, Air and Soil Pollution Journal (2024 - Till date)
22.	O.S. Zakariyya	Senior Lecturer/CONUASS 05, 2015	Full Time	B.Eng. 2011 M.Eng. 2015 Ph.D. 2023 R.Eng (COREN)	As contained in the C. V.	ELE 201	As contained in the C. V.	As contained in the C. V.

23.	O.T. Popoola	Senior Lecturer /CONUASS 05, 2001	Full time	B.Sc. BUK, 1998 M.Eng. Unilorin 2008, Ph.D. Unilorin, 2022 R.Eng (COREN) 13 Publications	As contained in the C. V.	MEE 361 MEE 362 MEE 591 MEE592	As contained in the C. V.	As contained in the C. V.
24	Abdulrahman, K.O.	Senior Lecturer /CONUASS 05, 2009	Full time	B.Eng. FUTMinna, 2008 M.Sc. Uni of Derbyshire, 2014 Ph.D. Johannesburg, 2019 R.Eng. (COREN) 20 Publications	See table below	MEE 217, MEE 218 MEE 591 MEE592	As contained in the C. V.	As contained in the C. V.

25.	M.A. Amoloye	Lecturer I, A04	Full time	**Qualifications:** B.Eng. Chemical Engineering, Bauchi, 2010; M.Tech. Chemical Engineering, Ogbomoso, 2019; Ph.D. Chemical Engineering, Ilorin, 2024; R.Engr. **Membership of Professional Organization:** Member, Nigeria Society of Chemical Engineers (NSChE)	Graduate Assistant 2012 -2019 Unilorin, Lecturer II 2019 - 2022 Unilorin, Lecturer I 2022 – Till date Unilorin,	CHE241 CHE242 CHE283(P) CHE284(P) CHE383(P) CHE382(P) CHE471 CHE483(P) CHE571 CHE593 CHE594 CHE552	18	❖ Undergraduate Level Adviser (2012-2017, 2020-Till date) ❖ Final Year Project Coordinator (2020-2024) ❖ Departmental SIWES Coordinator (2018-2022) ❖ Departmental Examination Coordinator (2016-2017) ❖ Undergraduate Project Coordinator (2020-2024) ❖ Departmental Postgraduate Coordinator (2024-Till date) ❖ Reviewer: Nigeria Journal of Technological Development, Published by Faculty of Engineering and Technology, University of Ilorin, Ilorin (2022 - Till date)
26.	E.I. Muhibbu-Din	Lecturer I, GL04, 19 Sept,2008	Full time	**Qualifications:** B.Sc. Chemical/Polymer Engineering, LASU, 2004; MPE, Lagos, 2010; M.Tech.Chemical Engineering, Ogbomoso, 2017; R.Engr. **Membership of Professional Organization:** Member, The Electrochemical Society (ECS)	Technologist II 2008 -2013 Unilorin, Technologist I 2013 - 2016 Unilorin, Senior Technologist 2016 - 2019 Unilorin, Lecturer I1 2019 - 2021 Unilorin, Lecturer I, 2022 - Till date Unilorin	CHE241 CHE264 CHE312 CHE333 CHE322/324 CHE421 CHE381 CHE382 CHE483		❖ Undergraduate Level Adviser (2019-2021) ❖ Clearance Officer of Fresher for 2019/2020 academic session

27.	Zainab T. Yaqub	Lecturer 1, Conuass 4 step 1, 11th December 2023	Full time	**Qualifications:** B.Sc. Chemical Engineering, Unilag, 2016; M.Tech. Chemical Engineering, Johannesburg, 2020; Ph.D. Chemical Engineering, Johannesburg, 2024. **Membership of Professional Organization:** Member, Nigeria Society of Chemical Engineers (NSChE)	Unilorin, Assistant Lecturer 2023-2024 Unilorin, Lecturer II 2024 Unilorin, Lecturer I 2024-Till Date	CHE241 CHE 242 CHE383(P) CHE382(P) CHE451 CHE483(P)	14	Undergraduate Level Adviser (2024)
28.	I.A. Mohammed	Lecturer I, A04	Full time	**Qualifications:** B.Eng. Chemical Engineering, Minna, 2008; M.Eng. Chemical Engineering, Minna, 2016; R.Engr. **Membership of Professional Organization:** Member, Nigeria Society of Chemical Engineers (NSChE) Member, Nigeria Society of Engineers (NSE)	Assistant Lecturer 2017 - 2021 Unilorin, Lecturer II 2021 - 2024 Unilorin, Lecturer I 2024 – Date Unilorin	CHE 383 CHE 483 CHE 451 CHE 532 CHE 532 CHE 382 CHE 241 CHE 242 CHE 242	12	❖ Member, Committee on development of Laboratory practical manuals (2019 – 2020) ❖ Assistant Examination Officer (2019 – 2020) ❖ Students' Adviser, Nigerian Society of Chemical Engineers (NSChE) (2018-2020) ❖ Project Coordinator, Undergraduate Research (2018-2020) ❖ Level Adviser to 300 and 400 Level Students (2018-2020) ❖ Reviewer, Nigerian Journal of Technological Development (NJTD), Faculty of Engineering & Technology ❖ Reviewer, Scientific African (Elsevier) (2019 – Date) ❖ Reviewer, IOP Conference Series: Materials Science and Engineering (2019 – Date)

29.	Aremu, I.N.	Lecturer I/CONUASS 04, 2005	Full time	M.Sc. Donesk, Russia 1992 R.Eng. (COREN) 8 Publications	As contained in the C. V.	MEE 272	As contained in the C. V.	As contained in the C. V.
30.	Y. O. Babatunde	Lecturer I	Full Time	**Qualifications:** B.Eng. Civil Engineering, Unilorin, 2013; M.Eng. Civil Engineering, Unilorin, 2018; Ph.D. Civil Engineering, PAUSTI, Kenya, 2024; R.Engr. **Membership of Professional Organization:** Member, Nigeria Society of Engineers (NSE), RILEM	Lecturer II 2019 - 2023 Unilorin, Lecturer I 2023 - Till date Unilorin	CVE 253 CVE 254 ABE 206 CVE 363 CVE 362 CVE 584	18	❖ Undergraduate Level Adviser (2023-Till date) ❖ Final Year Project Coordinator (2023-Till date) ❖ Faculty SWEP Supervisor (2024) ❖ Departmental Examination Coordinator (2024) ❖ Sectional Editor: Nigerian Journal of Technological Development (2024)
31	Omoniyi, P.O.	Lecturer I/CONUASS 04, 2016	Full time	B.Eng. Unilorin, 2014 M.Eng. Unilorin, 2018 Ph.D. Johannesburg, 2022 R.Eng (COREN) 29 publications	See table below	MEE 217 MEE 311 MEE 591 MEE592	As contained in the C. V.	As contained in the C. V.
32	Ibitoye, S.E.	Lecturer I/CONUASS 04, 2016	Full time	B.Eng. Unilorin, 2014 M.Eng. Unilorin, 2019 R.Eng (COREN) 27 publications	As contained in the C. V.	SDA	As contained in the C. V.	As contained in the C. V.
33	Adewuyi, O.A.	Lecturer II/CONUASS 03, 2017	Full time	M.Sc. Kursk, Russia, 2011 R.Eng (COREN) 5 publications	As contained in the C. V.	MEE591 MEE592	As contained in the C. V.	As contained in the C. V.

34	Ibrahim I.B	Lecturer II/CONUASS 03, 2023	Full time	B.Eng., Unilorin 2014 M.Eng. Unilorin 2018 R.Engr (COREN) 6 Publications	As contained in the C. V.	MEE 384, MEE 443	As contained in the C. V.	As contained in the C. V.
35	O. A. Adetunji	Director, CONRAISS 15	Part time	**Qualifications:** B.Tech. Chemical Engineering, Ogbomoso, 1999; M.Sc. Chemical Engineering, Ile – Ife, 2004; Ph.D. Chemical Engineering, Ile-Ife 2012; R.Engr. (2008) **Membership of Professional Organization:** Member, Nigeria Society of Chemical Engineers (NSChE)	Assistant Lecturer 2004 - 2005 LAUTECH, Ogbomosho Chief Scientific Officer (CSO) 2006 – 2014 National Biotechnology Research and Development Agency (NBRDA), Assistant Director (Research) 2015 - 2019 NBRDA, Deputy Director (Research) 2019 - 2023 NBRDA, Director (Research) 2023 - Till date National Biotechnology Research and Development Agency (NBRDA)	CHE303 CHE306 (P) CHE302 (P)	7	❖ Open Forum on Agricultural Biotechnology Programme Committee (2009-2013) ❖ Pioneer Coordinator, BIODEC Ilorin (2016-2024) ❖ Senior Staff Committee (2024-Till date) ❖ Head of Department, Environment Biotechnology & Bio-conservation (2024- Till Date) ❖ Interest in Football, Squash and Table Tennis ❖ Interest in Gymnastics and drama

36.	J. O. Hamed	Research Fellow 1, A04	Part time	**Qualifications:** B.Tech. Chemical Engineering, Ogbomoso, 2002; M.Tech. Chemical Engineering, Ogbomoso, 2011; Ph.D. Chemical Engineering, Ogbomoso, 2015; R. Engr. **Membership of Professional Organization:** Member, Nigeria Society of Engineers (MNSE)	Senior Engineer 2015 -2015 NASRDA, Principal Engineer 2016 - 2018 NASRDA, Assistant Chief Engineer 2019 - 2021 NASRDA, Resource Person 2017 - 2023 ARCSSTE-E, Chief Research Engineer 2022 - Date NASRDA, Adjunct Research Fellow 1 2022/2023 - Till Date Unilorin	CHE311 CHE461 CHE571	9	❖ External Moderator, LASPOTECH (2016-2020) ❖ Member, Academics Committee, ARCSSTE-E (2018 - 2023) ❖ Head, Space Engineering Division, ARCSSTE-E (2018-2023) ❖ UNOOSA Advisory Group Member for Access to Space for All Curriculum Development (2022-2023) ❖ National Composite Policy Development Committee Member (2022-Date) ❖ Vice Chairman, Nigerian Navy Secondary School Parent Teacher's Association (2023 - Date)

Table 4: Laboratory Staff

Complete the table below in respect of laboratory staff available for the various laboratories used for teaching the Programme/Sub-discipline/Discipline

S/N	Name of staff	Rank/designation, Scale and Date of 1st Appointment	Qualification and date obtained	Remarks
1	I.A. Tijani	Principal Technologist	OND, HND (Kaduna), MNSChE, R.Engr. (COREN)	Overseas laboratory practicals
2	Eunice O. Egbanubi	Technologist II	OND. (Ilorin); HND. (Effurun), P.G.D. (Ilorin).	Overseas laboratory practicals
3	Y. Ajidagba	Head Lab Attendant	OND, HND (Ilorin)	Overseas laboratory practicals

Table 5: Administrative Non-teaching Staff Disposition in the College/School/Faculty/Department where programme/Sub-discipline/Discipline to be accredited is offered

Supply the information in the table below:

Use additional sheets, if necessary

S/N	Name of staff	Rank/designation, Scale and Date of 1st Appointment	Qualification and Date	Remarks
1	Idiat O. Balogun	Higher Executive Officer	OND, HND (Kwara Poly)	Secretariat duties
2	Grace I. Anjorin	Caretaker	SSCE (Ilorin)	Takes care of the cleaning

Table 6: Programme/Sub-Discipline/Discipline Workload by Staff

Table 1: Programme/Sub-Discipline/Discipline Workload by students

Complete the table below: Arrange per semester

Workload by Staff is captured in the university CV format and duly listed in the attached CV of each staff in the appendix

7.1 Staff Appraisal: Appraise the entire academic staff of the programme/Sub-Discipline/discipline

(a) Adequacy in number, qualification and experience (State average student to staff ratio):

The programme has a total number of 36 full time academic staff members, and an average number of 204 students with staff to students ratio of 1:6.

Qualification and Experience: Very adequate, with 89% of the lecturers holding PhD degree.

(b) Effectiveness of lecturers

All lecturers in the Department are very effective in their academic and administrative duties.

(c) Professional achievements

Dr. Adewale George Adeniyi is an Associate Professor of Chemical Engineering at the University of Ilorin, with research expertise in sustainable product development, solid waste management, and chemical process optimization. He has authored over 290 publications, garnering more than 8,085 citations on Google Scholar and holding an h-index of 49. Recognized as one of the top 2% scientists in Nigeria by Stanford University in 2022, he has two patents, including innovations in ballistic protection and wood plastic composites. Dr. Adeniyi has received notable awards, including the University of Ilorin's Best Researcher of the Year (2021) and a Ballistic Product Development Award (2020). His interdisciplinary research emphasizes biochar, biocomposites, and environmental pollution control, contributing to the advancement of eco-friendly materials and processes in Nigeria and beyond. Additionally, he has held significant administrative roles, including Head of the Chemical Engineering Department and Deputy Director of LABTOP

Dr. Mubarak Adewale Amoloye is a dedicated Lecturer II in Chemical Engineering at the University of Ilorin, with over a decade of experience. His research focuses on environmental engineering, solid waste management, and process modeling. Dr. Amoloye has contributed to numerous journals, exploring adsorption techniques, phytoremediation, and biochar production. He holds both M.Tech and B.Eng. degrees in Chemical Engineering and is a registered engineer with the Council for Regulation of Engineering in Nigeria. Additionally, he actively participates in academic and community roles, serving as a project coordinator, academic advisor, and committee member for engineering and environmental initiatives

Dr. Hambali Umar Hambali is a Senior Lecturer in Chemical Engineering at the University of Ilorin, specializing in catalysis and effluent treatment. His research focuses on methane reforming, wastewater treatment, and sustainable energy. Dr. Hambali has published extensively in high-impact journals, receiving international recognition, including an International Doctoral Fellowship from Universiti Teknologi Malaysia. He holds a Ph.D. in Chemical Engineering and is a registered engineer with COREN. In addition to his research, he has made significant contributions to academic and

professional communities, serving on editorial boards and leading technical committees for engineering conferences

8.0 PHYSICAL FACILITIES

Table 7: Facilities Available to the College/School/Faculty/Department Offering Programme/Sub-Discipline/Discipline to be accredited

Complete the table shown below.

The Department uses five lecture theatres and five lecture rooms to hold classes. The theatres and lecture rooms are listed below:

1. New Engineering Lecture Theatre I
2. New Engineering Lecture Theatre II
3. New Graphic Studio
4. Lecture Theatre III
5. Lecture Theatre IV
6. Engineering Lecture Theatre
7. Engineering Lecture Hall
8. Lecture Room (CHE1)
9. Lecture Room (CHE 2)
10. Lecture Room (CHE3)
11. Lecture Room (CHE 4)
12. Simulation room
13. Graphics room
14. Other Classrooms (Block 10)

It is, however, the policy of the university to use the classrooms and lecture theatres on shared basis within the Faculty.

S/N	Type	Number Exclusively Available for the Programme	Average Area m2	Capacity (number of students that can be accomodated)	Facilities Jointly Used
1	New Engineering Lecture Theatre I	1		504	Yes
2	New Engineering Lecture Theatre I	1		504	Yes
3	New Graphic Studio	1		250	Yes
4	Lecture Room	4		100 each	No
5	Engineering Lecture Theatre	1		400	Yes
6	Lecture Theatre III	1		300	Yes
7	Lecture Theatre IV	1		300	Yes
8	Engineering Lecture Hall	1		200	Yes
9	Graphic Studio	1		200	Yes

10	Simulation Lab	1		20	No
11	Reading room	1		10	No
12	Other Classrooms (Block 10)	2		60	Yes

55. Laboratories

Describe the various laboratories available for teaching the programme. Indicate, if the laboratories belong to the Department or shared with other departments. List the equipments in each laboratory using the table in APPENDIX II of this Form.

1. Unit Operation Laboratory
2. Reaction Engineering Laboratory
3. Mechanics of materials laboratory
4. Metallurgy laboratory (Shared with Material and Metallurgy Engineering. Dept.)
5. Energy laboratory.
6. Applied Heat laboratory
7. Instrumentation laboratory
8. Mechanics of Machines laboratory
9. Thermofluids laboratory
10. Control laboratory
11. Central mechanical workshop (production laboratory)
12. Departmental Computer Simulation laboratory
13. Hydraulics laboratory (shared by Civil Engineering, Agric. Engineering and Mechanical Engineering)

In addition workshops which belong to the Faculty are available for teaching the Mechanical Engineering programme. These include:

1. Wood workshop
2. Machine workshop
3. Fitting workshop
4. Welding workshop

Apart from core chemical engineering laboratories, others are shared with other Departments List of Equipment in each laboratory are attached herewith.

8.1 Laboratories

Describe the various laboratories available for teaching the programme. Indicate, if the laboratories belong to the Department or shared with other Departments. List the equipment in each laboratory using the table in APPENDIX 1 of this Form

Describe the various laboratories available for teaching the programme. Indicate, if the laboratories belong to the Department or shared with other departments. List the equipments in each laboratory using the table in APPENDIX II of this Form.

14. Unit Operation Laboratory
15. Reaction Engineering Laboratory
16. Mechanics of materials laboratory
17. Metallurgy laboratory (Shared with Material and Metallurgy Engineering. Dept.)
18. Energy laboratory.
19. Applied Heat laboratory
20. Instrumentation laboratory
21. Mechanics of Machines laboratory
22. Thermofluids laboratory
23. Control laboratory
24. Central mechanical workshop (production laboratory)
25. Departmental Computer Simulation laboratory
26. Hydraulics laboratory (shared by Civil Engineering, Agric. Engineering and Mechanical Engineering)

In addition workshops which belong to the Faculty are available for teaching the Mechanical Engineering programme. These include:

5. Wood workshop
6. Machine workshop
7. Fitting workshop
8. Welding workshop

Apart from core chemical engineering laboratories, others are shared with other Departments

List of Equipment in each laboratory are attached herewith.

8.2 Clinics/Studios

Describe the types of clinics/studios, if any, available for the programme, indicating if they are specific to the Department or shared with other Departments.

List the equipment etc, in each clinic/studio using the table in APPENDIX 1 of this Form.

This programme makes use of a shared drawing studio for engineering drawing courses that is designed to accommodate 400 students.

8.3 Office Accommodation for Staff

Comment on the office accommodation situation for academic staff, stating the size of accommodation, list of furniture items and how many lecturers share the rooms.

Office accommodation for staff members is adequate in terms of space and are reasonably well-equipped.

8.4 Appraisal of Facilities

Appraise the existing facilities in terms of quality and quantity for current and projected enrolment period.

The Nigeria Liquefied Natural Gas (NLNG) donated a multi-million naira building to the faculty. In the building, the Department has dedicated laboratories which are being currently populated with the state-of-the-art equipment. Some other facilities in the building are shared with other Departments in the faculty.

9.0 FUNDING

Table 8: College/School/Faculty/Department Finances: Recurrent Income and Expenditure

Complete the Table shown below for the College/School/Faculty/Department in the three years preceding the one in which the programme to be accredited is offered.

These details are with the bursary department of the university as it centrally handled

Sources of funds	**Academic Year**			**Cost Category**	**Year 2020/2021**		**Year 2021/2022**		**Year 2022/2023**	
	Amount in ₦ 2019/2020	**Amount in ₦ 2020/2021**	**Amount in ₦ 2021/2022**		**Provision ₦**	**Actual Expenditure ₦**	**Provision ₦**	**Actual Expenditure ₦**	**Provision ₦**	**Actual Expenditure ₦**
University's Budgetary Allocation to the College/School/Faculty/ Department				1. Staff Salaries						
				2. Staff Development						
				3. Library						
				4. Laboratory Equipment						
Consultancy	-	-	-	5. Studio Equipment						
Voluntary Public support	-	-	-	6. Office & Classroom						
Seminar Fees	-	-	-	7. Maintenance						

Tuition fees where applicable	-	-	-	8. Supplies/ Training Consumable						
Others (Specify)				9. Vehicles Maintenance						
Total										
				10. Utility Services						
				11. Research						
				12. Others Specify						
				Recurrent						

Table 9: Capital Funds: Provision and Expenditure

Complete the Table shown below for the four years preceding the one in which the accreditation is being undertaken.

These details are with the bursary, procurement and store units of the university

Category	2020		2021		2022		2023	
	Provision	**Expenditure**	**Provision**	**Expenditure**	**Provision**	**Expenditure**	**Provision**	**Expenditure**
1. Expansion to Physical Facilities a. Classroom Lecture Theatre b. Laboratory/ Workshop								

Studio 2. Machines and Equipment 3. Others (Specify)								

9.1 Assets and Labilities

State below the current Assets and Liabilities of the College/School/Faculty /Department.

Asset and Liabilities

- Departmental building with furniture
- 5 Laboratories (including GCMS instrument)
- KVA petrol Honda generator
- 25 computers (including simulation lab)
- 5 Printers
- 11 refrigerators
- Air conditioners, ceiling fans in offices
- 2 Public Address systems
- 2 Slide projectors
- Wall clocks and more

There are no liabilities.

9.2 Financial Appraisal

Appraise the adequacy of the operating Funds for the College/School/Faculty/Department for recurrent expenditure also indicate the expenditure per annum per student
The operating funds for the Department are drawn from the way and means budget allocation to the department at the beginning of each session. While the funds are somewhat inadequate to cover all the operating expenses of the Department, the University Management covers any shortfall upon request from the Department.

10.0 RESEARCH AND DEVELOPMENT

10.1 Research and Collaboration.

The department should provide evidence of research collaboration by staff and students with other institutions within and outside the country. The research should be multidisciplinary (transdisciplinary). The department should also provide at least one educational project/research that the programme has created to serve the host community.
Documents are available on request for the following:
AVAILABLE ON REQUEST!

10.2 Research policy and Implementation

The department should provide a documented institutional research policy guiding the conduct of research in postgraduate programmes. There should be a committee in place to manage the institutional research activities to ensure compliance in the implementation of the research. The department should provide a list of names and ranks of the research implementation committee.

The Centre for Research Development & In-house Training (CREDIT), established in 2008, coordinates the research activities in the University. The purpose of the Centre is to promote excellence in research, development and innovation and training that will enhance optimum performance of the University staff and students in its bid to attain a world-class status. The Management Board of the Centre comprises the following:

i.	DVC (RTI)	- Chairman
ii.	DVC (Academics)	- Member
iii.	Registrar	- Member
iv.	Bursar	- Member
v.	University Librarian	- Member
vi.	Dean, Postgraduate School	- Member
vii.	Director, CREDIT	- Member
viii.	Director, Academic Planning Unit	- Member
ix.	Faculty Research Managers	- Member
x.	Centre Secretary	– Secretary

From the Board, three major committees, which include the Central Research Committee (CRC), University Ethical Review Committee (UERC), and Innovation and Patenting Committee (IPC) were formed.

The CRC is the Senate Research Grant Committee. All research proposals are submitted, in the first instance, to the Departmental Research Committee which will recommend to the Faculty Research Committee, which also recommends to the Director of CREDIT, who will finally refer them to the Central Research Committee. Comments from the Central Research Committee are sent to the Director, CREDIT, who forwards them back to the initiating Principal research applicants for revision, based on the reviewers' comments. Principal research applicants then send revised versions of proposals to the Director for the consideration and approval of the CRC. Applications for externally funded research are also processed through the Director, CREDIT on behalf of the CRC to the Deputy Vice Chancellor (RTI) for consent.

The University of Ilorin subscribes to the National Ethics and Operational Guidelines for Research on Human Subjects and the various international guidelines and Principles on researches involving human subject such as the Nuremberg code (1947); the World Medical Association Declaration of Helsinki (1964) and its amendments, and the Council for

International Organization of Medical Sciences (CIOMS) guidelines of 1993. The University UERC is charged with the responsibility of ensuring that human subjects are handled in accordance with National and International Regulations. In addition, the UERC develops an Ethical Handbook to provide guidelines on how human subjects should be handled.

The objectives of the IPC are as follow:

i. identify the innovations generated from research projects carried out within the University for their worth, using national and international criteria;
ii. evaluate the innovations generated from research projects carried out within the University for their intellectual property and copyright values; and
iii. assist researchers in patenting and copyrighting procedures; and protect the innovations, intellectual property, copyrights and trademarks of researchers in the University.

A Centre named Laboratory-to-Product Centre was created to process applications received from inventors to the Patent Office via NOTAP. The Centre, headed by a Director, has a Deputy Director and an Assistant Director, with other administrative staffers.

10.3 Research funding and grants

The department should provide evidence of research funding by the university and the quantum of research grants won by the department.

Evidence of grants available on request:

10.4 Linkages and Collaborations

The department should provide evidence of cooperation with other programmes, disciplines, institutions of learning, research institutions and industries in the last 3 years.

Evidence of industry collaboration available on request:

10.5 Research Output

The department should provide titles of publications made in reputable local and international journals by the academic staff of the programme in the last three years.

List of publications are available in the curriculum vitae of academic staff members

10.6 Engagement, Community Development and Impact

The department should provide evidence of engagement with the community for its development including addressing local and global challenges through research output in the last three years.

Evidence of the following research and development output is available on request.

11.0 EMPLOYER'S RATING

Table 10: Employer's Rating of Graduates of Programme/Sub-Discipline/Discipline to be accredited

Complete the Table below for 10 graduates of Programme/Sub-discipline to be accredited for each of the three years preceding the accreditation visit

No.	Year of Graduation	Name of Graduates	Programme	Name of Employers or Universities attended by Graduates	Appointment	Summary of Employers' Remark
1.	2014	Owoyemi Muritala	B.Eng. Chemical Engineering	ARIOSH	Engineer	Outstanding job performance
2.	2014	Alimi Mutiu	B.Eng. Chemical Engineering	ARIOSH	Engineer	Outstanding job performance
3	2015	Olutoye Kabiru	B.Eng. Chemical Engineering	Bureau Veritas Nigeria	Analytical Chemist	Outstanding job performance
4	2016	Lawal Ayinde	B.Eng. Chemical Engineering	ARIOSH	Field Services Engineer	Outstanding job performance
5	2016	Ahmed Babatunde	B.Eng. Chemical Engineering	Access Bank Plc	Senior Data Analyst	Outstanding job performance
6	2018	Idongesit Akpan	B.Eng. Chemical Engineering	EAP Complex Engineering Lead	Mechanical & Piping Engineer	Outstanding job performance
7	2018	Ogunjewo Emmanuel	B.Eng. Chemical Engineering	KAM Industries Nigeria Limited	Executive Technical & Project Officer	Outstanding job performance
8	2019	Tayo-Alabi Anuoluwapo	B.Eng. Chemical Engineering	Egbin Power Plc	Instrumentation & Control Engineer	Outstanding job performance
9	2021	Opawoye Silas	B.Eng. Chemical Engineering	Inter-switch Nigeria	Software Engineer	Outstanding job performance
10	2020	Olonade Samuel	B.Eng. Chemical Engineering	Schlumberger Limited	Senior Field Engineer	Outstanding job performance

Table 11: List of Principal Tools, Machines, Instruments and Equipment Available

Complete the table below in respect of the above. Use separate sheets with the same headings inecessary

Name of Laboratory/Clinic/Studio: Unit Operations, Physiochemical, Analytical Laboratories.

LABORATORY AND WORKSHOPS

S/N	DESCRIPTION OF EQUIPMENT	QTY	YEAR SUPPLIED	SUPPLIER	FUNCTIONAL STATUS	REMARK
1	Sedimentation apparatus	1	2010	Fabricated	Functioning	CHE Main Lab
2	Terminal Flow apparatus	1	2010	Fabricated	Functioning	CHE Main Lab
3	Double pipe heat exchanger	1	2010	Fabricated	Functioning	CHE Main Lab
4	Fume cupboard	1	2011	WAADE	Functioning	CHE Main Lab
5	Water bath	1	2011	WAADE	Functioning	CHE Main Lab
6	Water bath	1	2011	SUNAF	Functioning	CHE Main Lab
7	Water bath with shaker	1	2017		Functioning	CHE Main Lab
8	Mechanical Shaker	1	2011	WAADE	Functioning	CHE Main Lab
9	Muffle Furnace	1	2017	Emeka Nig Ltd	Functioning	CHE Main Lab
10	Oven	1	2011	GENLAB	Functioning	CHE Main Lab
11	Concentric Tube Heat Exchanger	1	2012	Donation	Not Functioning	Under Repair
12	Osborne Reynolds Apparatus	1	1986	Armfield	Not Functioning	Block 7
13	Flow meter demonstration Unit	1	2013	Armfield	Functioning	CHE Main Lab
14	Continuous stirred Tank Reactor	1	2013	Armfield	Functioning	CHE Main Lab
15	Transparent Batch Reactor	1	2013	Armfield	Functioning	CHE Main Lab

16	Basic Water cooling Tower	1	2013	Armfield	Functioning	CHE Main Lab
17	Hydraulic Bench	1	2012	Armfield	Functioning	CHE Lab NLNG
18	Time Efflux Apparatus	1	2011	Locally made	Functioning	CHE Main Lab
19	Terminal Velocity Apparatus	1	2014	Locally made	Functioning	CHE Main Lab
20	Firepoint testing apparatus	1	2017	Locally made	Functioning	CHE Main Lab
21	Gas Absorption Column	1	2016	Argonaut	Functioning	CHE Main Lab
22	Centrifuge	1	2016	Axion Medical	Functioning	CHE Main Lab
23	Water Distilation Unit	1	2016		Functioning	CHE Main Lab
24	Rising Evaporator	1	2016	Argonaut	Functioning	CHE TETFUND Lab
25	Controlled Heat Exchanger	1	2016	Armfield	Functioning	CHE NLNG Lab
26	Atomic Absorption Spectrometer	1	2016	AGILENT	Functioning	CHE NLNG Lab
27	Controlled Heat Exchanger	1	2016	Armfield	Functioning	CHE NLNG Lab
28	Liquid-Liquid Extration Unit	1	2016	Armfield	Functioning	CHE NLNG Lab
29	Corosion Study Kit	1	2016	Armfield	Functioning	CHE NLNG Lab
30	Digester Unit	1	2016	Armfield	Functioning	CHE NLNG Lab
31	Controlled Heat Exchanger	1	2016	Argonaut	Not Functioning	Under installation CHE TETFUND Lab

22	Permeability Apparatus	1	2016	Argonaut	Not Functioning	Under installation CHE TETFUND Lab
25	Laminar Flow Demonstration Unit	1	2016	Argonaut	Not Functioning	Under installation CHE TETFUND Lab
26	Atomic Absorption Spectrometer	1			Not functioning	Under installation CHE TETFUND Lab
27	Set of particle size distribution sieves	1	2012		Functioning	
28	pH Meter	1	2015		Functioning	CHE Main Lab
29	Laminar Flowmeter demonstration unit	1	2016		Functioning	Under installation

RESEARCH EQUIPMENT

S/N	EQUIPMENT	MODEL	QTY	STATUS	REMARK
1	Gas Chromatography-Mass Spectometer	1	1	Functioning	CHE Lab
2	Gas Chromatography-	GC 112A	1	Functioning	In CRL
3	Digital Oxygen Bomb Calorimeter		1	Functioning	In CRL
4	Digital Oxygen Bomb Calorimeter		3	Functioning	CHE Lab
5	Atomic Absorption Spectrometer		2	Functioning	In CRL
6	Centrifuge		1	Functioning	In CRL

7	Freeze dryer		3	Functioning	In CRL
8	UV Spectrophotometer		1	Functioning	CHE Main Lab
9	KjelFlex	Kjelflex K-360	1	Functioning	In CRL
10	Incubator		1	Functioning	In CRL

Name of officer completing the Form:

Name of Officer completing the Form: Engr Dr E. Olawale Ajala

Rank: Reader

Signature: ……

Date: ……