



National Open University of Nigeria

Faculty of Computing
Department of Computer Science

STUDENT HANDBOOK
(2022-2027)

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Published by **NOUN PRESS**
January 2022

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Foreword from The Vice-Chancellor

One of the important documents usually requested by Faculty accrediting agencies is the handbook. This document contains all information on registration, available courses, course contents, examinations and staff.

In the case of the National Open University of Nigeria, the handbook must contain a brief history and modus operandi of the institution as well as the organisational structure of the university.



Being a unique university, it is imperative to avail all current and prospective students with information on quality assurance, strategic plan of the university at large and the objectives and philosophy of the school.

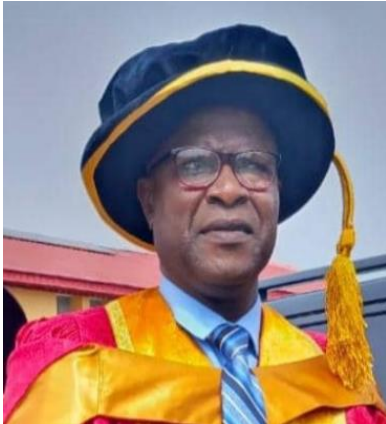
All these have been succinctly outlined in the document which has been put together by the Faculty of Computing. It is compulsory for every student to have a copy of this handbook. This edition is a review of the university-wide volume which was given to the students upon registration. The Faculty of Computing Handbook is due for review after five years. This means that on or before the expiration of this period, there must be a review having in mind developments in the faculty.

I, therefore recommend this handbook to all students and other persons interested in the programmes run by the Faculty of Computing.

Professor Olufemi Peters.

Vice-Chancellor, National Open University of Nigeria

Welcome Address from the Dean, Faculty of Computing



It is my pleasure to welcome you to the Faculty of Computing (FOC) of the National Open University of Nigeria (NOUN). FOC was established in 2023 following senate's approval at its hybrid 104th meeting held on Tuesday, 5th September 2023. The faculty is blessed with twenty-eight full time Academic staff and several Facilitators/part time academic staff with PHD and

specialisation in various fields of Computing.

FOC has three Departments namely:

1. Computer Science
2. Information Systems and Technology
3. Cyber Security

The curricula of our programmes are robust incorporating both theory and practical. Our mission is to develop graduates that are well grounded in computing such that they are industry ready; employable and can be employers of labour.

Our students have access to live facilitation sessions and recorded facilitation session (video lectures). This is in addition to course materials that are available to them both online and physical copies.

During their studies our students participate in discussion, chat forum as well as practicals.

Choosing to study Computing at NOUN is the best decision of a lifetime. NOUN is the foremost and best Open and Distance Learning (ODL) University in Nigeria. Our e-ticking platform is always available to attend to enquirers and complaints from students.

Once again welcome to a fruitful journey in your chosen programme in Faculty of Computing.

Dr. Greg Onwodi

Dean, Faculty of Computing.

Welcome Address from The Head of Department

I heartily welcome you to the department of computer



science. The engine that drives the University. As an Open and Distance Learning Institution, NOUN depends on IT tools and technologies to deliver its mandate. It is therefore safe to say that, the department of Computer Science is the soul of NOUN.

The department offers both undergraduate and postgraduate programmes. B.Sc. Computer Science and B.Sc. Information Technology are offered at undergraduate level. At postgraduate level, PGD Information Technology, M.Sc. Information Technology as well as PhD. Information Technology are being offered.

This student handbook serves as a compass that guides the students to easily navigate through the various programmes and courses offered by the department. It provides a summary of the course outline and details of the curriculum to be covered. It also contains information related to course registration, choice of course, programme duration, graduation requirements, and other relevant matters that will enhance the students' understanding of the department.

For this reason, it is pertinent that all students of this department get a copy of this handbook to serve as a guide in the pursuit of their respective programmes in the department.

I wish you the very best of luck in all your academic endeavours.

Dr. Francis Bukie Osang

Head of Department, Computer Science

Acknowledgements

This handbook is the maiden edition in the Department of Computer Science for the department's undergraduate and post graduate students. It is one of the efforts and contributions of the Departmental Committee on Curriculum Development chaired by Dr. Francis B. Osang assisted by Mr. Iliyasu Muhammad Sani and the support of several persons in the Department, Faculty and the University.

Our sincere appreciation goes to: the Vice-Chancellor, Professor Olufemi Peters, for the moral and financial support towards the production of this handbook; the Dean of the Faculty of Computing, Professor Saheed Ajibola, the former HOD, Dr Vivian Nwachoa, Directorate of Academic Planning (DAP), the Registry, the University Librarian, Academic Office, DICT, DMIS, and all other Directorates and Units within the University for their cooperation in providing information.

The contributions of the HOD and both academic and non-academic staff of the department of computer science is acknowledged. Similarly, we acknowledge the contributions of the Faculty of Science and our sister Department of Pure and Applied Sciences for providing us with copies of their handbook for guidance and adaptation purposes.

The handbook is designed for easy reference, and contains concise information on the Department and Programmes. It is hoped that the undergraduate and post graduate students will find this book quite useful.

Dr. Francis Bukie Osang

Chairman, CSD Curriculum Development

Part I – Overview

Overview of the National Open University of Nigeria

Vision

To be regarded as the foremost University providing highly accessible and enhanced quality education anchored by social justice, equity, equality and national cohesion through a comprehensive reach that transcends all barriers.

Mission

To provide functional, cost-effective, flexible learning which adds lifelong value to quality education for all who seek knowledge.

Objectives

In addition to the broad vision and mission statements, some of the major objectives of the Nation Open University of Nigeria are to;

- Ensure equity and equality of opportunities in education generally but specifically in university education;
- Provide wider access to education generally but specifically university education in Nigeria;
- Enhance education for all and lifelong learning;
- Entrench global learning culture;
- Provide instructional resources via the intensive use of information and communication technology;
- Provide flexible and quantitative education; and
- Reduce the cost, inconveniences and hassles militating against easy access to education and its delivery.

NOUN Anthem

National Open University of Nigeria
Determined to be the foremost university in Nigeria
Providing highly accessible
And enhanced quality education
Anchored on social justice

Equity, equality and national cohesion

Come to NOUN
For quality, cost-effective and flexible learning
That adds lifelong value
For all who yearn
For quality education
And for all who seek knowledge

Historical background

The National Open University of Nigeria was first established on the 22nd July 1983 by Act No. 6 of the National Assembly. It is the first and only single-mode university in Nigeria that is dedicated to the provision of higher education through the Open and Distance Learning (ODL) mode. Shortly after the National Open University Act of 1983 by which the University was established, it was on the 25th April 1984 suspended. In the Nation's search for a means of providing education, which is functional, cost-effective and flexible, for all her citizens, a National Workshop on Distance Education was held in September 2000. Consequently, eighteen years after the suspension, the University was resuscitated as the National Open University of Nigeria (NOUN) on 1st October 2002

NOUN operates the open and distance education system which the National Policy on Education describes as a system that encompasses education for all, education for life, lifelong learning, and self-learning among others. The rebirth of NOUN, which has served as a springboard

for ODL in Nigeria, is a demonstration of the country's irrevocable and unwavering commitment to education as a tool for personal and national development, and as a fundamental human right of her citizens.

The University's overall goal is to make education available to all who have the ability and are willing and ready to benefit from functional and quality education provided through flexible and affordable distance learning.

Studying through Open and Distance Learning at NOUN

Open and Distance Learning is a mode of learning that is characterised by the separation of the teacher in space and or time from the learner, and enables learners to exercise choice over their learning regarding what, how, where they learn, pace of learning, support for learning, when and where assessment of learning takes place. NOUN's approach to ODL has the following features:

Openness: Removal of all barriers or restrictions to learning that characterise traditional education. They include restrictions by age and location of study.

The flexibility of learning: The emphasis is on learning rather than teaching. It is students' responsibility to choose how they want to study, learn anywhere, anytime, and at their own pace mediated by technology. In other words, it is learner-centred rather than teacher-centred. Programmes can be completed up to double the normal duration of programmes.

Accessibility: Study centres are established at state and community levels, and special centres at the prison, paramilitary agencies and military units. These are among the many efforts to reach all segments, communities and individuals in the society who require a continuation of their education.

Affordability: Removal of financial barriers by allowing learners to pay as they study and by providing materials and other services on a cost-recovery basis.

Multi-Modal Instructional Delivery: This delivery method utilises a variety of media and technologies that is most easily available to learners. These include course materials in print and on the web as e-Courseware. They are also available in compact discs and in OER formats.

The instructional mode of delivery and learning provides the opportunity for learners who are employed or self-employed to acquire knowledge, skills and techniques relevant to their present employment or to improve their academic qualifications and aspire for higher positions in their jobs.

Overview of the Faculty of Computing

Vision

Our vision is to be the foremost Faculty in terms of quality and relevance of curriculum, research and instruction, making science training available to and accessible by all at a competitive yet affordable cost on the open distance learning platform.

Mission

The Faculty of Computing is committed to:

- providing a comprehensive and relevant distance learning curriculum in science-based programmes
- producing well-informed graduates for careers in academia, industry and government
- conducting high-quality research in science-related disciplines
- Encouraging and supporting strong cross-disciplinary, interdisciplinary, and multi-disciplinary collaborations both within and beyond the University (nationally and internationally)

Core Values

Excellence: We will continue to set our sights and standards high.

Achievement: We will capitalise on our distinctive strengths and unique opportunities to excel in an increasingly competitive world.

Collegiality: We will maintain an inclusive and supportive yet challenging environment that attracts the best students, staff and faculty, working together with mutual respect.

- Innovation:** We will be creative in our efforts to achieve our objectives.
- Relevance:** We will seek to continually improve our programs, ensuring that they are appealing and well suited to society and development, equipping our graduates for a successful career and future.
- Collaboration:** We will initiate mutually beneficial relationships with a variety of partners to ensure the development of facilities, programmes and research for community development and service.
- Sustainability:** We will maintain our self-sufficiency by seeking efficiencies and being entrepreneurial in our approach to challenges.

About the Faculty

The Faculty of computing is one of the faculties in the National Open University of Nigeria. It comprises three departments namely:

- i. Department of Computer Science (CIT) -
- ii. Department of Information Systems/Technology (IFT) -
- iii. Department of Cyber-Security (CYB) -

The department of Information Systems/Technology offers programmes at undergraduate and postgraduate levels, while the departments of Computer Science and Cyber-Security only offer undergraduate

programmes. We value excellence, achievement and innovation. Our dream is to provide leadership in readily accessible science training and dynamically sustaining it.

Historical Background

The Faculty of Computing was culled from the Faculty of Computing in 2023, following senate's approval at its hybrid 104th meeting held on Tuesday, 5th September 2023. This was necessitated by the growing demand for technological transformation in almost every Nigeria sector. The faculty is blessed with twenty-eight full time Academic staff and several Facilitators/part time academic staff with PHD and specialisation in various fields of Computing.

Programmes on Offer

The Faculty of Computing is located on the ground floor of the Faculty Block in National Open University Headquarters at Plot 91 Cadastral Zone, Nnamdi Azikiwe Expressway Jabi, Abuja. It is currently administering and coordinating eight undergraduate programmes and three postgraduate programmes namely:

Department of Computer Science

- B.Sc. Computer Science

Department of Information Systems/Technology

- B.Sc. Information Technology
- PGD. Information Technology
- M.Sc. Information Technology
- Ph.D. Information Technology

Department of Cyber-Security

- B.Sc. Cyber-Security

Administration

The faculty has a total number of two professors, four associate professors and twenty academic staff in ranks ranging from Senior Lecturer to Assistant Lecturers, in different areas of specialisation.

The faculty is headed by Dr. Greg Onwodi,. Each of the three departments is headed by academic staff as follows:

Dr Francis B. Osang - Department of Computer Science

Dr Francis B. Osang - Department of Information
Systems/Technology

Prof. Olayemi Mikail Olaniyi - Department of Cyber-Security

The Faculty of Computing holds its Academic Board meeting, statutorily, every month, where issues bordering on academic and student matters, the progress of the faculty and staff are discussed. All Academic staff are members of the Board while the head of the administrative unit is the Secretary to the Board.

Overview of the Department of Computer Science

Preamble

The Programmes in the Department of Computer Science are designed to equip the undergraduate students with the basic requirements for serving in a professional capacity in most areas of computing, as well as develop knowledge in the theories of computing. The degree programmes explore all the basic rudimentary or foundation knowledge of computer science not known to most of today's information users. It is also expected to equip students with the tools for computational techniques as well as their thinking patterns, as they would be exposed to the fundamentals of computing processes and principles.

Programmes Offered

The following are the undergraduate programmes offered in the department:

- B.Sc. Computer Science

Programme Duration

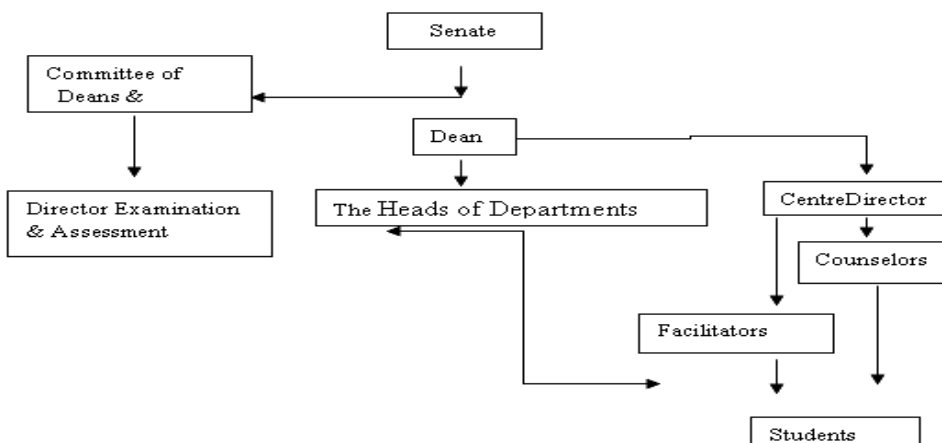
All undergraduate courses in the department run for a minimum of 4 years (8 Semesters) for 100 level entry and 3 years (6 Semesters) for 200 level entry.

General admission requirements

Candidates seeking for admission into all the programmes in the Department of Computer Science must have five credits in the SSCE/GCE O'Level/NECO/NABTEB or equivalent obtained at not more than two (2) sittings. The five credits required should include English Language and Mathematics. Specific requirements for the different programmes are detailed in **Part III**

Organisational Structure

The administrative structure of the department follows the organogram below:



General Administration

The department is coordinated by a Head of Department, supported by the academic and non-academic staff. The department conducts regular meetings, monthly academic board meetings and emergency meetings involving all the staff of the department to deliberate over departmental issues. Some members of staff are representatives of the department at various committees within the university.

Students' Welfare

Handling of academic grievances follows the University-wide SERVICOM charter as shown in the Appendix VI

List of all Staff in the Department

S/N	NAME	SEX	RANK	CONUASS	EMPLOYMENT STATUS
1.	Dr. Francis Bukie Osang	M	Senior Lecturer	CONUASS 5	Full time
3.	Dr. Gregory Onwodi,	M	Associate Professor	CONUASS 6	Full time

9.	Dr. Okunade A. Oluwasogo	M	Lecturer I	CONUASS 4	Full time
14.	Mr. Adebayo Adegboyega	M	Lecturer II	CONUASS 3	Full time
	Mrs. Jane Ukaigwe	F	Assistant Lecturer	CONUASS 2	Full time

Part II – Key Information

Information for New Students

Orientation Programme

Orientation for new students is organised at various study centres. The study centre will advise the student on the process accordingly.

Deferment of Admission

This is entertained only based on university policy and conditions.

Registration procedure

Student registration is done at their chosen study centres. The centre furnishes the candidate with the detailed registration process.

Course Registration portal

The opening and closing of course registration portal are specified by the university in the published university calendar for the year.

Add or Drop a Course

Student process “and/or drop courses” through study centres. The centre furnishes the candidate with details of the process.

Change of Programme of study

Registered students who wish to change their programme of study should initiate the process through their respective study centres. The students should collect the required form, fill and submit it through the same study centre.

Examination

Based on the courses assigned to PhD holders in the Department, each academic staff prepares examination questions and marking guides using the course material developed for each course. If the assigned courses are more than the maximum approved by the Senate of the University, the excess courses are outsourced to experts from other Universities for setting of questions using the conference setting scenario.

Upon completion of the setting of questions, all questions are subjected to internal moderation. This is followed by checks in by Directorate of Examinations and Assessment to avoid repetition of questions. The successful questions are then submitted for external moderation involving experts not below professorial cadre. When corrected, the questions are submitted to the DEA for administration to the students.

In addition, the academic Staff in like manner prepares Tutor-Marked Assignment (TMA) questions every semester involving external experts where appropriate. These questions are further internally moderated with the accompanying marking schemes before they are given to the students. Three sets of TMAs are expected to be set by each academic staff in every course constituting 30% of the course final grade and also serve as the continuous assessment for the course. The End of Semester Exams (ESE) constitutes 70%. Apart from the earlier examinations conducted in 2005, 2006, 2007, 2008 and 2009 respectively, all recent ESE for the 100 and 200 level students have been conducted using electronic examination system. The conduct of the end of semester examination is usually carried out at the various study centres. The University has in place guidelines for the conduct of examinations. Results are issued after Senate ratification of the semester results.

Research Projects

At the commencement of 400 Level, students are expected to submit their project topics for approval

Grading, Moderation and Mode of Submission of Projects:

Grading of research projects: Students projects are graded by the assigned supervisors, moderated during the zonal external moderation exercises. Master -of Science projects and above is subjected to project defence.

Mode of Submission of Projects: Projects and score sheets (hard and soft copies are submitted to the Faculty through the Study Centre. The study centres upload all softcopies of the submitted copies online on the PAS platform.

Results calculation and Progression

Grading System

Percentage Range	Description	Letter Grade	Point Grade
70.0% and above	Excellent	A	5
60.0% - 69.9%	Very Good	B	4
50.0% - 59.9%	Good	C	3
45.0% - 49.9%	Satisfactory	D	2
40.0% - 44.9%	Pass	E	1
00.0% - 39.9%	Fail	F	0

Source: (Senate Guideline on Grading Examinations, NOUN)

Grade Point Average (GPA) and Cumulative Grade Point Average (CGPA)

At the end of the examinations, they are graded and scored. The raw scores are recorded and are weighted to produce a single point average for each of the courses registered for, and for which students have written the Tutor-Marked Assignments and Examinations.

The formula for Calculation of GPA and CGPA

The Grade Point (GP) for each course shall be calculated by multiplying the Point Grade attained by the credit units for the course. The GPA is then calculated by dividing the total Grade Point of all the courses taken in that semester by the total number of credit units. The **GPA** is computed on a semester by semester basis. The formula for calculating the GPA is the following:

$$GPA = \frac{TGPE}{TCC}$$

The cumulative grade point average is the Total Grade Point Earned (TGPE) divided by the Total Credits Carried (TCC). The **CGPA** is calculated at the end of two (2) or more semesters. The formula for calculating **CGPA** is the following:

$$GPA = \frac{TGPE}{TCC}$$

KEY:

- TCC - Total Credit Carried
- TCE - Total Credit Earned
- TGPE - Total Grade Point Earned (Credit Point X Weighted Grade Point)
- CGPA - Cumulative Grade Point Average

WGP - Weighted Grade Point

An example of how to calculate the GPA is presented:

Course	Score (%)	Letter Grade	Credit Unit	Point Grade	Grade Point
CIT104	67	B	3	4	12
CIT108	75	A	3	5	15
CIT211	46	D	2	2	4
CIT215	54	C	3	3	9
CIT237	73	A	3	5	15
TOTAL			14		55

$$GPA = \frac{TGPE}{TCC} = \frac{55}{14} = 3.92$$

Good Academic Standing

In order to be in good standing, you must maintain a GPA of 1.0 and above. Any student that falls below 1.0 is not in good standing and will be advised to withdraw.

In addition, you must meet all degree award requirements that is, you must pass compulsory courses and electives up to the minimum total number of credit units required and pass all compulsory GST courses

End of Programme Clearance

Upon the release of the graduation list, graduating students are required to undergo a clearance process by doing the following:

Log into your portal, click on clearance form, which is on the left-hand side of the menu; Print out the form, and fill in the necessary information required, e.g. Name, Matric Number, etc. (student data)

Having done the above, you can return to the portal:

Click on Study Centre to clear any issues regarding the Centre. If there are none, an official stamp is required here for proof.

Click on Library for clearance on books if still having school books in your possession. If there are none, an official stamp is required here for proof.

Click on Bursary; here is the final process for clearance on Alumni, project fees, IT, etc. This part will also be stamped by the Faculty representative.

Having satisfied all the above, the student is ready for the graduation ceremony.

Maintaining an Academic Atmosphere

The maintenance of academic atmosphere is carried out as follows:

- The department ensures course materials are available in any of the formats (Print, CD, and internet) to all students at the time of the request.
- The Head of Department is aware that time-tables of tutorial hours and that of the semester examination are made available to students.

- The Head of Department is aware that classrooms/laboratories used for tutorials are cleaned and suitable for receiving lectures.

The department is focused on bringing the best quality course materials to the students. This would give them the opportunity to practice the profession anywhere. Students are also given the opportunity of visiting any mass media and the media adjuncts close to their study centres in order to associate themselves with media practices.

The reading and studying of the printed course materials can, of course, take place in the home, in an environment convenient to the student, or at some designated places called Study Centres. These are places located across the geopolitical zones of the country. At present, there are over 70 Study Centres across the country.

Part III – Programme specification

B.Sc. Computer Science

Programme Code: 5204

Admission requirements

Minimum O' Level Requirements

- i) Have at least credit level passes in five (5) subjects at the SSC or its equivalent NECO, GCE 'O' level or 6 merits in NABTEB or TC II examinations. The credit level passes must include English language, Mathematics, Physics to form the core subjects and any other two (2)-credit level passes from Chemistry, Biology, Further Mathematics and Computer Studies taken from a maximum of two (2) sittings.
- ii) Have the NCE level examination with merit pass in mathematics in addition to a credit pass in any other science subject preferably Physics or Chemistry for entry into 200 level of the programme in addition to (i) above for consideration into 200 level of the programme.
- iii) Have two (2) A level passes (graded A – E) at the GCE Advanced level in relevant subjects (Chemistry, Mathematics and Physics) or at least upper credit in OND, lower credit in HND or a pass in BSc, in addition to (i) above for consideration into a 200- level Computer Science programme.

A. Outlined Programme Proposal

100 Level

Course Code	Course Titles	Unit(s)	Status
GST101	Use of English and Communication Skills I	2	C
GST103	Computer Fundamentals	2	C
GST107	The Study Guide for the Distance Learner	2	C
BIO101	General Biology I	2	C
MTH101	Elementary Mathematics I	3	C
MTH103	Elementary Mathematics III	3	C
CIT191	Computer Laboratory I	1	C
CHM101	Introductory Inorganic Chemistry	2	C
CHM191	Introductory Practical Chemistry I	1	C
PHY101	Elementary Mechanics, Heat and Properties of Matter	2	C
PHY191	Introductory Practical Physics I	1	C
BIO191	General Practical Biology I	1	C
MTH 211	Introduction to Set theory and Abstract Algebra (Linear Algebra I)	2	E

	Total Credit Units – Compulsory	22	
	Total Credit Units – Elective	2	
	Total Credit Units	24	
2nd Semester			
GST 102	Use of English and Communication Skills II	2	C
GST104	Use of Library	2	C
CIT104	Introduction to Computer Science	3	C
MTH102	Elementary Mathematics II	3	C
CIT108	Introduction to Problem Solving	3	C
PHY102	Electricity, Magnetism and Modern Physics	3	C
PHY103	Geometric and Wave Optics	3	E
	Total Credit Units – Compulsory	16	
	Total Credit Units – Elective	3	
	Total Credit Units	19	

200 Level

1st Semester

Course Code	Course Titles	Unit(s)	Status
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1st Semester			
GST201	Nigerian Peoples and Cultures	2	C
GST203	Introduction to Philosophy and Logic	2	C
CIT211	Introduction to Operating Systems (Operating System I)	3	C
CIT215	Introduction to Programming Languages (Computer Programming I)	3	C
CIT217	Foundations of Sequential Program	3	C
MTH281	Mathematical Methods I	3	C
PHY308	Electronics	2	C
CIT213	Elementary Data Processing	2	E
MTH241	Introduction to Real Analysis	3	E
	Total Compulsory Units	18	
	Total Elective Units	3	
	Total Credit Units	20/21	
	<i>* Students are expected to offer at least one elective course per semester. Also they can only register a maximum of 25 units per semester</i>		
2nd Semester			
GST 202	Fundamentals of Peace Studies and Conflict Resolution	2	C

GST204	Entrepreneurship and Innovation I	2	C
CIT206	Discrete Structure	3	C
CIT210	Computer Hardware	3	C
CIT216	Fundamentals of Data Structure	3	C
CIT237	Computer Programming II (Programming & Algorithm)	3	C
CIT212	Systems Analysis and Design	3	C
CIT292	Computer Laboratory II (Hardware & Network)	1	C
MTH212	Linear Algebra II	2	E
STT211	Probability Distribution I	3	E
PHY202	Modern Physics I	2	E
	Total Compulsory Units	20	
	Total Elective Units	3	
	Total Credit Units	23	
	<p><i>* Students are expected to take two elective courses totaling 5 units . Also they can only register a maximum of 25 units per semester</i></p>		

300 Level

Course Code	Course Titles	Unit(s)	Stat
1st Semester			
CIT309	Computer Architecture and Organization I	3	C
CIT301	Structured Programming	3	C
CIT335	Computational Science & Numerical Methods	3	C
CIT315	Operating Systems II	3	C
CIT383	Introduction to Object-Oriented Programming	3	C
CIT389	Industrial Training /SIWES I	3	C
CIT353	Introduction to Human-Computer Interaction	2	C
CIT333	Software Engineering I	2	C
MTH381	Mathematical Methods III	3	
MTH307	Numerical Analysis II	3	

	Total Compulsory Units	22	
	Total Elective Units	3	
	Total Credit Units	25	
	<i>* Students are expected to register a maximum of 25 units per semester</i>		
	2nd Semester		
CIT310	Algorithms and Complex Analysis	3	C
CIT314	Computer Architecture and Organization II	3	C
CIT304	Data Management I	3	C
CIT316	Principles and Techniques of Compilers (Compiler Construction I)	3	C
GST302	Business Creation and Growth (Entrepreneurship and Innovation II)	2	C
CIT332	Survey of Programming Languages	3	C
CIT308	Formal Methods and Software Development	3	C
CIT398	Industrial Training /SIWES II	3	C
MTH382	Mathematical Methods IV	2	E
	Total Compulsory Units	23	
	Total Elective Units	2	
	Total Credit Units	25	
	<i>* Students are expected to register a maximum of 25 units per semester</i>		

400 Level

1st Semester

Course Code	Course Title	Units	Status
CIT401	Organization of Programming Languages	3	C
CIT403	Seminar on Emerging Technologies	3	C
CIT421	Net-Centric Computing	3	C
CIT423	Computer Networks and Communication	3	C
CIT427	Database Management II	3	C
	Electives: Any two of the following		
CIT411	Microcomputers and Microprocessor	2	E
CIT425	Operations Research	2	E
	Total Compulsory	15	
	Total Elective	4	
	Total	19	
	* Students are expected to offer two elective		

	courses per semester. Also they can only register a maximum of 25 units per semester		
2nd Semester			
Course Code	Course Title	Units	Status
CIT410	Introduction to Cyber-Security	2	C
CIT478	Artificial Intelligence	3	C
CIT474	Introduction to Expert Systems	2	C
CIT432	Software Engineering II	2	C
CIT499	Project	6	C
	Electives: Any two of the following		
CIT412	Modelling and Simulation	3	E
CIT484	Website Design and Programming	2	E
	Total Compulsory	15	
	Total Elective	4/5	
	Total	19/20	
	* Students are expected to offer two elective courses per semester. Also they can only register a maximum of 25 units per semester		

Degree Award Requirements

Eligibility for Graduation

To graduate, a student shall have undergone at least 6-8 semesters of study, depending on the entry point, including field practical training. Course workload must meet the graduation requirements of the University based on minimum academic standards. However, in doing so, the student must pass all the prescribed compulsory and elective courses for the four-year programme and the three years (Direct entry) programme. The submission of an undergraduate and post graduate project thesis based on supervised research is a graduation requirement which cannot be compromised

Appendices

Appendix I: Guidelines for Research Projects

Table of Content for the project

(For Structured Software Development Methodology)

The project report shall be structured as follows:

Title Page

Certification

Approval

Dedication

Acknowledgement

Abstract

Table of Contents

List of figures

List of tables

Chapter 1: Introduction

1.0 Introduction

1.1 Background of the study

1.2 Statement of the problem

1.3 Aim of the project

1.4 Specific objectives

- 1.5 Scope of the project
- 1.6 Significance of the study
- 1.7 Definition of terms
- 1.8 Organization of the project

Chapter 2: Literature Review

- 2.0 Introduction
- 2.1 Review of Related Literature

Chapter 3: Methodology

- 3.0 Introduction
- 3.1 Analysis of the existing system
- 3.2 Limitations of the existing system
- 3.3 Design of the proposed system
 - 3.3.1 Input Design
 - 3.3.2 Output Design
 - 3.3.3 Database Design
- 3.4 Data Dictionary
- 3.5 System Algorithm
- 3.6 Use Case Diagram

Chapter 4: System Implementation

- 4.0 Introduction
- 4.1 System Implementation
- 4.2 System Requirements
- 4.3 Hardware Requirements
- 4.4 Software Requirements
- 4.5 Choice of development environment.
- 4.6 Implementation Architecture.
- 4.7 System Testing and Evaluation
- 4.8 Software Testing
- 4.9 System Change over
- 4.10 Documentation
 - 4.10.1 User Manual
- 4.11 Source code listing (attach as named appendix)

Chapter 5: Summary and Conclusion

- 5.0 Summary.
- 5.1 Conclusion
- 5.2 Recommendations
- 5.3 Contributions to Knowledge (for MSc Students)
- 5.4 Future Research

References (APA style)

Appendix A: Source code

Appendix B: Any other relevant document

Table of Content for the project

(For Qualitative/ Quantitative/ Mixed Methodology)

The project report shall be structured as follows:

Title Page

Certification

Approval

Dedication

Acknowledgement

Abstract

Table of Contents

List of figures

List of tables

Chapter 1: Introduction

- 2.0 Introduction
- 1.1 Background of the study
- 1.2 Statement of the problem
- 1.3 Aim of the project
- 1.4 Specific objectives
- 1.5 Scope of the project
- 1.6 Significance of the study
- 1.7 Definition of terms
- 1.8 Organization of the project

Chapter 2: Literature Review

- 2.0 Introduction
- 2.1 Review of Related Literature
- 2.2 Theoretical Framework

Chapter 3: Research Methodology

- 3.1 Research Design
- 3.2 Population
- 3.3 Sampling Procedure/Sample Size
- 3.4 Research Instrument Development
- 3.5 Validity and Reliability Criteria
- 3.6 Procedure for Data Collection
- 3.7 Data Analysis Procedure
- 3.8 Ethical Considerations

Chapter 4: Results and Discussion of findings

- 4.1 Presentation of Results
- 4.2 Discussion on Findings

Chapter 5: Summary and Conclusion

- 5.0 Summary.
- 5.1 Conclusion
- 5.2 Recommendations
- 5.3 Contributions to Knowledge (for MSc Students)
- 5.4 Future Research

References (APA style)
Appendix: Any relevant document

Budget.

Appendix II: Policy on Deferment of Examination

In the spirit of Open and Distance Learning (ODL) and the flexibility that comes with the mode, a student is qualified to apply for deferment of examination(s). The deferment permits a temporary postponement of participation in examination(s).

The guidelines of the policy include and not limited to the following:

- A. Owing to the peculiarities of the Open and Distance Learning system which gives room for flexibility, students are allowed to defer their examinations as long as the following conditions are met:
 - i. Such students must have fully registered for the semester
 - ii. Such students must have registered for the Examinations
 - iii. An application for deferment must be received before the start of Examinations
- B. All applications are to be endorsed and forwarded to the Registrar through the Study Centre Directors.
- C. All applications should be backed with relevant documents and a desk officer in the Registry is assigned to check the authenticity of the documents.
- D. Students whose applications are received and approved and who have paid examination registration fees before the examinations are not to pay the registration fee for the same examinations when they are ready to take them.

- E. A dedicated portal would be opened within the time frame of one month before the commencement of examinations for deferment cases.
- F. The request for deferment attracts no fee.
- G. Applications for deferment as a result of emergencies such as illness, accident, Death or serious illness of person in the immediate family or another person with whom the student has a similarly close relationship, which requires the student's attention, etc. shall be addressed at the discretion of the Management.

This policy takes effect from March 2015.

Appendix III: Policy of Re-marking of Students' Examination Scripts and Re-computation of results.

An appeal against examination results should be made within 30 days from the date of publication of the results, in accordance with the following guidelines:

- A. All applications for re-marking should be addressed to the Registrar through the Study Centre Directors and a copy forwarded to the Dean in the School concerned;
- B. Applicants must submit the necessary application form (Annexure A) at the relevant Study Centre. Students must ensure that the course(s) code(s) title(s) are correct when completing the form;
- C. A non-refundable fee of ~~₦~~ **10, 000.00** is charged per course for the re-marking of scripts. The said amount should be paid to a bank account designated for the purpose.

(Annexure A)

Students should note that the evidence of payment of the fees must be attached to a completed application form. Also, payments without application forms would not be processed.

- D. A receipt must be issued as proof of payment for the service;
- E. Study Centre Directors should, in all cases, ensure and supervise that payment for applications are received, receipts are issued and that all the applications are recorded;
- F. Study Centre Directors are required to forward all applications to the Registrar electronically within three days of receipt of the application form. The e-mail address is academicoffice@noun.edu.ng;
- G. The decision to remark is a prerogative of the School Examinations Committee. Remarking shall be completed within two weeks. The new score awarded shall be approved by the Dean on behalf of the School's Academic Board;
- H. If a student decides to withdraw his/her appeal before it is considered by the Committee, a notice of withdrawal shall be done in writing to make it valid;
- I. The School Board shall communicate its decisions to the Senate within a period of 14 days for ratification.

Appendix IV: Students' Examination Guidelines and Regulations

Examination constitutes a very important aspect of the University's activities. The University wishes to state categorically that the conduct of its examinations is taken seriously. *Therefore, the University will not condone any form of examination misconduct.* Students are advised to abide by the following rule and guidelines:

1. A student's matriculation number serves as his/her examination number. Only matriculated students will be allowed to sit for examinations. A student must write his/her matriculation number on his/her answer booklet before commencing answering the questions.
2. Students should normally write examinations at their designated centres.
3. Students must bring to the examination hall their writing materials and any other material, which may be permitted by the University for a particular examination. These materials must have been listed as essential for a certain question(s).
4. Students arriving an hour after the commencement of an examination shall be allowed to sit for the examination only at the discretion of the Supervisor. Such a student will not be allowed at extra time.
5. Once a student is admitted into the examination hall, he/she may not leave the hall until he/she has finished with the examination. If for any cogent reason the student must leave the Hall, he/she must do so with the permission of the Supervisor.
6. A student must be accompanied by an invigilator if permitted to leave the examination hall temporarily (e. g. visiting the rest-room, etc.)
7. No answer booklets other than those supplied by the University are allowed in the examination hall. All rough works must be done in the supplied answer booklets and crossed out neatly. All supplementary answer sheets/booklets must be tied/attached to the Main answer booklet.
8. Silence must be observed in the examination hall. Any student requiring the attention of the invigilator should raise his /her hand.

9. Any activity or behaviour which may be construed as examination misconduct or malpractice (e.g. cheating, etc.) shall be liable to discipline in accordance with the university's rules and regulations governing examination as contained in the Student Handbook.
10. Communication between students is strictly forbidden during examinations. Any student found receiving or giving assistance would be sanctioned. Such a student may be required to withdraw from the examination and subsequently made to face the university examination malpractice panel.
11. Students are not permitted to smoke or sing or pray aloud or engage in any activity that may distract others in the examination halls.
12. Students are advised to leave their bags and briefcases at home as these items would not be allowed in the examination halls. The University will not be liable for any loss or damage to a student's personal effects/property.
13. Unauthorised materials (such as textbooks, course materials, notebooks, sheets/scraps of papers) in printed or electronic form are not allowed in examination halls.
14. Pagers and mobile phones are not permitted at all in examination halls.
15. Students must observe the Supervisor's instructions regarding the commencement and end of an examination. Students who start writing before being told to do so, or who continue writing after being asked to stop would be sanctioned.

Appendix V: Decree on Examination Malpractice

In order to check examination malpractices, a decree covering miscellaneous offences was promulgated in 1999. The main sections and points of the decree which every student should be familiar with are reproduced below. The information contained in this section is also provided in your handbook “*Getting to know Your University*”. The effort at reproducing here some pertinent aspects of the decree is to demonstrate the seriousness the university has attached to Examination malpractice. Please do read it carefully.

All students of the National Open University of Nigeria are reminded that the University takes very seriously the conduct of its examinations and frowns seriously on any examination misconduct. The Decree is very relevant to you as a reminder of what could happen if you allowed yourself to be tempted to cheat in any form whatsoever during examinations. Note also that except you are under 17, **for any examination misconduct, the decree does not give room for options of fine, the individual goes to JAIL.** The University has however put in place a series of quality assurance mechanisms to ensure the sanctity of her examinations, even including those ones you will take in your homes. In fact, the online examinations are easier to control than the face-to-face ones; when we get there you will see what we mean.

Excerpts of very useful sections and points: (Source: EXAMINATION MALPRACTICES DECREE, 1999).

THE FEDERAL MILITARY GOVERNMENT
hereby decrees *inter alia* as follows:

Part 1 - Offences

A person who, in anticipation of, before or at any Cheating at examination by any fraudulent trick or device or in abuse of his office or

with intent to unjustly enrich himself or any other person procures any question paper produced or intended for use at any examination of persons, whether or not the question paper concerned is proved to be false, not genuine or not related to the examination in question; or by any false pretence or with intent to cheat or secure any unfair advantage for himself or any other person, procures from or induces any other person to deliver to himself or another person any question paper intended for use at any examination or by any false pretence or with intent to cheat or unjustly enrich himself or any person buys, sells, procures or otherwise deals with any question paper intended for use or represented as a genuine question paper in respect of any particular examination; or fraudulently or with intent to cheat or secure any unfair advantage for himself or any other person or in abuse of his office procures, sells, buys or otherwise deals with any question paper intended for the examination of persons at any examination.

An offence

A person guilty of an offence under subsection (1) of this section is liable on conviction.

- (a) in the case of a person under the age of 18 years, to a fine of ₦100,000.00 or imprisonment; for a term not exceeding 3 years or to both such fine and imprisonment;
- (b) in the case of a principal, teacher, an invigilator, supervisor, an examiner, or an agent or employee of the examination body concerned with the conduct of an examination, to imprisonment for a term of 4 years without the option of a fine; and
- (c) in any other case, to imprisonment for a term of three years without the option of fine.

Where the person accused of the offence is an employee of an examination body concerned with the conduct of examinations or a head teacher, teacher or other person entrusted with the safety and security of question papers, he shall be proceeded against and punished as provided in this section, notwithstanding that the question paper concerned is proved not to be live, genuine or does not relate to the examination concerned.

Appendix VI: Charter of Service of the National Open University of Nigeria in response to Students' Needs

Charter of Service of the National Open University of Nigeria in response to Students' Needs					
S/N	Types of Services	Delivery Target	Redresses available to the Students	Official(s) Responsible for Handling Complaints in order of Sequence	Implementation Strategy
1	<p>Award of:</p> <p>Diploma</p> <p>1st Degree</p> <p>Post Graduate Diploma</p>	<p>2 years full time – 2 years flexible mode</p> <p>4 years full time, 8years flexible mode</p> <p>1½ years full time- 2/3years</p>	<p>Petition the</p> <p>Centre Director</p> <p>Dean</p> <p>University Senate</p> <p>Vice-Chancellor</p> <p>University Council</p>	<p>The Centre Director</p> <p>The HOD</p> <p>The Dean</p> <p>The University Senate</p>	

	Masters' Degree	flexible mode 1 1/2 years full time - 2/3years flexible mode	Seek redress at the Law Court	The Vice-Chancellor The University Council	
	PhD Degree	full time- 3years flexible mode – 6years		Seek redress at the Law Court	
2	Enquiries: Telephone Online Ticketing Email Correspondences	Within 1 day 3 working days 3 working days	The Dean/HOD The Dean/HOD The Dean/HOD	The Dean/Director	By making sure that all phones are working and manned between the hours of 8.00 a.m.– 4.00 p.m.

		14 working days			
3	Admission Process	Within 8 weeks of the conclusion of sales of forms	The Centre Director Dean/HOD Registrar	The Dean	Matching students' qualifications with admission criteria
4	Students' Orientation/Registration	Within 4 weeks	The Dean/Director Registrar The Centre Director	Registrar	Provide detailed information about course characteristics, fees,
5	Change of Programme	Within 1 week	Dean/HOD The Centre Director	The Dean	Matching students' qualifications with admission criteria
6	Addition and Dropping of Courses	Within 1 week	The Study Center Director	The Student Counsellor	To be completed within an acceptable period.

				Study Centre Director The Dean HOD/ Course Lecturer	Otherwise, students pay a specified levy after a period of grace.
7	TMA's and Tutorial classes	Within 2 weeks	Study Centre Director Programme Leader Course Coordinator	Centre Director HOD/ Course Lecturer The Dean	Effective monitoring of scheduled times Effective monitoring of personnel for tutorial classes
8	Administration of Examinations	Within stipulated time	The Dean/Director	Centre Director HOD/ Course Lecturer The Dean	Ensure Quality Security Mode of delivery
9	Collation of Results	Within 4 weeks of	The Study Centre Director	Course Lecturer HOD/	Release results

		Examination	The Dean	Dean	promptly through the academic Registry.
10	Review of Programmes / Courses	Normally every 5 years	The Dean/Director	Dean HOD/ Course Lecturer	Actual review, every 5 years. Errors detected in any course material would be corrected immediately via addendum in print and electronically.
11	The organisation of Field Trips/ Professional Experience	Within 4 weeks	Study Centre Director The Dean/Director	HOD/ Course Lecturer The Dean/Director	Ensure early and prompt contact with industries/

					institutions for learners' placements
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Disclaimer

Every effort has been made to ensure the accuracy of this Handbook. However, it should be noted that the information contained within is subject to change. Where such changes occur, we will endeavour to update this book as soon as possible.