Yusuf Maitama Sule University, Kano

School of Postgraduate Studies (SPS)

Prospectus

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School of Postgraduate Studies
Yusuf Maitama Sule University, Kano
www.yumsuk.edu.ng

Our Vision

"To be world class citadel of learning that provides practical education directed towards the training of highly knowledgeable, skilled and disciplined citizens."

Our Mission

"Provide educational training, research and community service for development taking cognizance of the cultural heritage of the host community."

Foreword

Professor Mukhtar Atiku Kurawa
Vice Chancellor

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Executive Governor, Kano State

Pro-Chancellor

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Dr. Muhammad Bilyaminu Ado

DEPARTMENT OF ISLAMIC STUDIES

PGD, M.A. & Ph.D. Islamic Studies

HEAD OF DEPARTMENT: Dr. Muhd Salisu Ismail

DEPARTMENT PG COORDINATOR: Dr. Nura Abubakar Gwadabe

Lecturers and Areas of Specialization

S/N	Name of Academic Staff	Area of Specialization	Qualification	Rank	Employment Status
1.	Prof. Umar Muhd Labdo	Islamic History, Muslim Sects, Conflict Resolution, Globalization and Islam	B.A, M.A., Ph.D.	Professor	Full time
2.	Prof. Aisha Garba Habib	Islamic moral Philosophy & Ethics, Islamic Education, Conflict Resolution and Islamic Civilization	B.A., M.A, Ph.D.	Professor	Full time
3.	Dr. Salihu Lawal	Hadith and Islamic Education	B.A., M.A, Ph.D.	Assoc. Professor	Visiting
4.	Dr. Muhd Salisu Isma'il	Fiqh and Usul	B.A., M.A, Ph.D.	Senior Lecturer	Full time
5.	Dr. Isma`il Idris Hassan	Islamic moral Philosophy & Islamic Education	B.A., M.A, Ph.D.	Lecturer I	Contract
6.	Dr. Yahaya Tanko	Islamic Economy	B.A., M.A, Ph.D.	Lecturer I	Contract
7.	Dr. Kasim Ramadan Ahmad	Hadith	B.A., M.A., Ph.D.	Lecturer I	Contract
8.	Dr. Nura Abubakar Gwadabe	Islamic Economics	B.A., M.A., Ph.D.	Lecturer I	Full time
9.	Dr. Ibrahim M. Maibushira	Fiqh and Usul	B.A., M.A., Ph.D.	Assoc. Professor	Sabbatical
10.	Dr. AbdulMuin M. Ali Gedi	Qur'an ,Fiqh and Usul	B.A., M.A., Ph.D.	Assoc. Professor	Visiting
11.	Dr. Sani Musa Ayagi	Tafsir and Quran	B.A., M.A., Ph.D.	Assoc. Professor	Visiting

COURSE CONTENT

PGD ISLAMIC STUDIES

Group A: Compulsory courses (2 Credits Each)

ISL7220Research Methods

ISL7222 the Qur'an

ISL7223 the Hadith

ISL7225 History of Islam

ISL7224 Advanced Studies of Fiqh

ISL7226 Advanced Studies of Tauhid and Ilm Al-Kalam

ISL7229Islamic Political Thought

ISL7228 Islamic Law of Succession (Mirath)

ISL7431Long Essay

Group B: Elective courses (2 Credits Each)

ISL 7227 Principles of Jurisprudence (Usul Al-Fiqh)

ISL 7204 Law of Evidence (Murafa'at) and Court System

ISL 7212 the Maliki School Of Law

ISL 7213Islamic Law and Contemporary Issues

ISL7221 Islamic Thought and Philosophy

ISL7236Islam and Enviromental Studies

ISL7237Islam and Gender

ISL7238Da'awa Methods

ISL7232Islamic Family Law

ISL7201 Jurisprudential Maxims and Objectives of Shari'ah (Qawa'idFiqhiyyah and Maqasid Al-Shari'ah)

ISL7233Islamic Finances (Islamic Economic Theories)

ISL7235 Orientalists and Islam

ISL7209Islamic Constitutional Law

ISL 7210Islamic Law of Wasiyya and Waqf (Will and Endowment)

ISL 7211Islamic Judicial System (Ilm Al-Qada')

ISL7234 Contributions of Indigenous Scholars to Islam

PGDIS Course Outline:

Group A: Compulsory courses

ISL7220 Research Methods 2 credits

The course is designed to acquaint the students with general research methodology, use of the e-library and archival sources, documentation of sources and how to conduct and record oral interview. In addition, the students will be taught the techniques and methods of collecting, editing and translating Arabic manuscripts and basic rules on long essay writing.

ISL7222 The Qur'an 2 credits

This course will cover the history and development, principles and types of Qur'anic exegesis (Tafsir) more especially the emerging trends. Emphasis will be given also to major themes of the Qur'an and texual studies of selected verses, particularly the verses dealing with general aspects of day-to-day affairs.

ISL7223 Hadith Studies 2 credits

This course will cover the history and development of Hadith literature including a highlight on important issues in Mustalah; a detailed study of the methods used by the traditionists in their hadith collections. Moreover, it will discuss the methodology of reconciliation between the apparent conflicting traditions and ways of hadith extraction. There will also be textual studies of (30) thirty selected traditions the collections. Special emphasis will be given to traditions dealing with aspects of general mu'amalatand ahadith al-Ahkam collections (legal-bearing traditions).

ISL7224 Advanced Studies of Fiqh (Jurisprudence) 2 credits

The course is designed with a view to give students a comprehensive knowledge about the concept of Islamic Jurisprudence (Fiqh), its developments, nature, characteristics, methods of different Schools of Law, qualities of contemporary faqih, contributions of indigenous Nigerian jurists to the Maliki School of Lawand biography of some prominent jurists (Fuqaha) and their books, classification of Islamic law: commercial, Contract, Civil, Criminal, legal terms such as, inquiry (manhaj/Tariqat al-Nazr), Scholastic method, dialectical method (Jadal), dialogue (Munazarah), it will also cover the history and development of Fiqh, the method of Juristic argument and counter

argument, the main functions and roles of argument for the challenged Juristic opinion, Masa'ilKhilafiyyah and cases attracting divergence of opinions, the junction roles of the Ustaz (Master) in disputation, intensities, the debate by citing authorities on both sides of the question; raises objections and finally gives solution; the procedure of disputation and so on.

ISL 7225 History of Islam 2 credits

The course tries to highlight some Islamic legislation in the context of Prophet Muhammad (SAW)'s biography, through his unique life style, his transactions with his wives, companions, his ghazwat, his conduct during the treaty of Hudaibiyyah, his farewell pilgrimage, and its thrilling lessons, etc.

ISL7226 Advanced Studies Of Tauhid and Ilm Al-Kalam 2 credits

This course is for a close study of the concept, origin and development of Tauhid and Ilm al-Kalam, their schools, exponents and proponents, kalam and philosophy, main tenets and differences between the Ash'arism and Muturidism, contributions of main Muslim theologians such as Al-Juwaini, Razi, Al-Iji and the like.

ISL7229 Islamic Political Thought 2 credits

This course discusses Islam as a comprehensive way of life and considers government as an essential part of it. The course also examines the qualities of good governance and general principles of government in the Qur'an and Sunnah, the historical development of Islamic political thought, concept and nature of an Islamic State, Resurgence of Islam and constitutional issues diplomacy in Islam, political parties and their rules and regulations. The course will critically study western political trends such as liberalism, democracy, socialism, communism, nationalism, racism, etc.

ISL7228 Islamic Law Of Succession (Mirath) 2 credits

This course intends to offer students a comprehensive knowledge of the Science of Succession or Islamic Law of Inheritance. It will cover the definition and significance of knowledge of succession, funeral costs, the conditions, legitimate reasons for succession and impediments to inheritance, the eligible heirs, methods of inheritance distribution, the schemes of exclusion, 'Awl,

returning, Munasakhat, and the relation among members etc. Special reference is to be made to the Qur'an, the Sunnah, Books of Fiqh, such as Mukhtasar, Tuhfah, HashiyatAqrab al-Masalik, and Risalah of Ibn Abi Zayd al-Qairawani, etc.

ISL7431 Long Essay **4 credits**

Group B: Elective courses (2 Credits Each)

ISL7227 Usul Al-Fiqh (Principles of Jurisprudence) **2 credits**

This course is designed to introduce students to the definition of Usul al-Fiqh, historical background of its emergence, development, compilation according to the methodology of Usuliyyun; primary and secondary sources of juristic rulings, methods of deduction; methodology of reconciliation between texts of apparent contradiction, Ijtihad and Taqlid, characteristics of both fully pledged jurist (Mujtahid) and rigid imitator (Muqallid), the concept of Fatwa; personal verdict on legal matters, differences between Fatwa and legal ruling (Qada'a). Special reference is to be made to *Kitab al-Waraqat Fi Usul al-Fiqh* of al-Juwaini or its equivalent.

ISL7204 Law Of Evidence (Murafa'at) **2 credits**

This course is mainly devoted to offer students a comprehensive knowledge about the textual basis of evidence, capacity and competence to give evidence and its retractions, legality and admissibility of confession, testimony (al-Shahada) and Oath, Purgation of witness, Caliph Umar Ibn Khattab's letter of appointment to judges, plaintiffs and defendant, **Hukm** al-da'wa (decree) its views and execution, dispute, arbitration, conciliation, mediation, and conflict resolution procedure, Special reference is to be made to Lamiyat al Zuqaq.

ISL7212 The Maliki School of Law **2 credits**

The course intends to offer a detailed biography of Imam Malik bnAnas, the establishment of Maliki School of Law, the spread of the Maliki School in West Africa, the spread of Maliki School in Nigeria. A 8 comprehensive Study will be given on sub-schools of the Mazhab (Madinan, Egyptian, Baghdadian, Maghribian and Andalusian sub-schools) as well as authoritative books of

the School like Muwatta, Mudawwanah al-Kubra and some of its commentaries, Risala of Imam Ibn Abi Zayd, Mukh

tasar Khalil and some of its commentaries, Irshad al-Salik of Ibn Askar, Akrab al-Masalik and Tuhfah al-Hukkam and some of its commentaries; etc.

ISL7213 Islamic Law and Contemporary Issues 2 credits

The course gives a very comprehensive idea on the dynamism of Islam, simplicity and its relevance with all times. It also gives the definition and nature of *al-Nawazil* (Contemporary/Burning issues) like Islamic banking, Insurance, taxation, cloning, blood and DNA tests, Scanning, marriage Wedding through internet, video coverage and photograph as evidences, Islamic ruling on impression, poster, doctoring, female genital mutilation, etc.

ISL: 7221 Islamic Thought and Philosophy 2 credits

The course intends to offer advanced studies on the concept, nature and development of Islamic thought and philosophical teaching of the Qur'an and Sunnah. The course traces also the main branches of philosophy i.e. ontology, eschatology, epistemology, a comparative study between Islamic thought and Western main trends of philosophy, the contributions of Muslim philosophers to moral thought.

ISL7236 Islam and Environmental Studies 2 credits

The course is designed to examine concept of environment and its components; Islam and Protection of natural resources; Islam and Environmental degradation; Islam and sustainable development; the moral status of animals and their equal considerations, species and extinction; Ethics of respect for nature, ecology and green theory and values; the contemporary challenges of environment with globalization, capitalism and consumer ethics, etc.

ISL7237 Islam and Gender 2 credits

The course focuses on definitions and concepts of key terms like: Gender, Gender Discrimination, Gender Gap, Gender and Sex, Women's Studies and Gender Studies, etc.; women in religions other than Islam; women in Islam, their rights and privileges; empowerment of women in Islam: educationally, socially, economically, politically, etc; Islamic perspective of Gender Equality; historical roots of feminism and feminists theories; Gender and the Shari'ah injunctions; Gender

and population; Gender and family: Child Marriage/Child Right's Act; Gender and International Relations; Gender and leadership and Politics; Women's Movement in Nigeria.

ISL7238 Da'awah Methods 2 credits

The course covers the concept of Da'awah, historical developments; the need for *Da'wah*; personality and qualities of *Da'i*; the methods, types of *Da'wah* and the challengesFacing *Da'wah* and *Da'iyah* today.

ISL7232 Islamic Family Law 2 credits

The course is designed with a view to offering a comprehensive knowledge about Islamic Family Law. The course will cover the definition and bases of the family, forms of family in Islam, the family positions, marriage and its position in Islam, the purpose of marriage, the conditions of marriage, dowry, marriage endowment and marriage gift, marriage guardianship, marriage of minors and lunatics, compulsion versus freedom in marriage, mate selection; equality (Kafa'ah) in marriage, Islam's position on different types of marriage, phirality, polyandry, Shigar, Mut'ah, polygamy, etc. In addition, the course will cover Islam and marriage dissolution – Talaq, dimensions of divorce, the grounds of divorce, revocable and irrevocable divorce, timing and preceding steps of divorce, basic variants of irrevocable divorce, Ila', Zihar, Li'an, Khul'u, divorce before marriage consummation, triple divorce and figurative pronouncement. Moreover, it will discuss in detail, the 'Iddah or waiting period of divorcee and widow, maintenance in the waiting period, Hadanah or custody of the children, the child's right, the parent's obligation, support and maintenance.

ISL7201 Jurisprudential Maxims and Objectives of Shari'ah 2 credits

This course intends to teach the nature of Islamic Law, the historical background, the rational for Islamic Law, functions and purpose, Contemporary relevance and significance of Islamic law, Objectives and goals of Shari'ah, its concept and importance, the Relationship between Maqasid and Qawa'idFiqhiyya, their emergence and development. In addition, the subject will cover the higher objectives as treated by Usuliyyun, the higher objectives of the Law-giver, How the Law-giver's intents may be known? Human objectives, Fundamental issues in Imam al-Shatibi's Theory

of the Higher objectives, the question of Ta'alil, the Legal Rulings between Ta'alil and Ta'abbud, Sources and Concepts of Benefit and Harm, Achieving Benefit and Preventing Harm, etc.

ISL7233 Islamic Finances (Islamic Economic Theories) 2 credits

This course intends to give students a detailed explanation about concepts and developments of Islamic economic and financial systems, money and monetary policy, contracts and financial instruments, Islamic banking and money market, accounting, auditing and taxation of Islamic financial institutions, prohibition of usury, insurance. The course also will touch upon on the economical implications of Zakat, Wasiyya, Waqf, etc.

ISL 7235 Orientalists and Islam 2 credits

The course is designed to cover the concepts of orientalism, its objectives and methods. Analysis and refutations of their criticisms of Islam, the Qur'an and the Prophet will be made. The course will also study main orientalists' works, critical evaluation of them, and orientalists' influence on some 'modern' Muslim scholars.

ISL7209 Islamic Constitutional Law 2 credits

This course discusses Islam as a comprehensive way of life and considers government as an essential part of it. The course also examines the general principles of government in the Qur'an and the Sunnah, the historical development of Islamic constitutional law, the textual bases of constitutional law in the Shari'ah, fundamentals of Islamic constitution, concept and nature of an Islamic State, resurgence of Islam and constitutional issues, Shari'ah issues and judicial practices in (Northern) Nigeria.

ISL7210 Islamic Law of Wasiyyah and Waqf (Will and Endowment) 2 credits

This course intends to give students a detailed explanation about the definition, formation, legality and condition of validity of Wasiyyah, Bequest of a third of the assets, the Executor, and also discusses the effects of death and sickness on the validity of bequest. Waqf (Endowment), its definition, significance, the condition of its validity and its administration, the terms of guarantor (Shurut al-Waqif), his legal personality and its conditions, etc.

ISL 7211 Islamic Judicial System (Ilm Al-Qada') 2 credits

The course is mainly devoted to the definition of Judiciary, its emergence and development; the judicial conducts; etiquettes of the judge his costume; court staff (registrar, his assistants and jurisconsults and their responsibilities); courts apparatus (diary, safe book, seal, etc); judicial record and its content; court structure, conditions and procedure of judging; procedure of Judging according to the Shari'ah; witness and condition of evidence; confession and admission; circumstantial evidence: its importance and conditions; presumptions: Concept and its legal implications; new Presumptions: like Video and Audio cassettes, finger print, social media, etc. the application of Shari'ah during the colonial period, the extent of its application in contemporary Nigeria. The introductory part of *Tuhfat al-Hukkam* of Ibn 'Asim shall be the course-book.

ISL7234 Contributions of Indigenous Scholars to Islam 2 credits

The course deals with early beginnings and introduction of Islam to West Africa, the contact with North Africa; the contributions of Al Maghili, the Kunta 'Ulama and the like; the contributions of indigenous scholars like AbdullahiSuka, Dan Marina and Dan Masani; the Borno 'ulamasuc as Shaykh Muhammad Abd al Rahman al Barnawi etc.; the rise of ShaykhUthmanbnFudi and his school; Shaykh Umar al Futi and al Bakka'i etc.; Islamic Scholarship in West Africa under colonial rule; Islamic Scholarship in formal Institutions such as the Schools for Arabic Studies; Islamic Scholarship in Nigeria today.

MASTERS IN ISLAMIC STUDIES

Candidates are required to offer all the seven courses listed in Group A and any two courses in Group B. Candidates are required to offer 27 units. There shall be written examinations in the courses offered.

ISL 8301 Research Methodology: Is a required examinable two unit course that will be graded either as passed or failed. The grade obtained by the students in this course will not be added to the GPA. The course will enable candidates to write essays and prepare dissertations.

Group A: Compulsory courses (3 Credits Each)

1. ISL 8301 Research Methodology
2. ISL 8302 History of Islam
3. ISL 8303 Qur'anic Studies (Dirasat Qur'aniyya)
4. ISL 8304 Hadith Studies
5. ISL 8305 Islamic Jurisprudence (Fiqh)
6. ISL 8309 Textual Studies of some selected surahs of the Qur'an
7. ISL 8310 Principles of Jurisprudence (Usul al-Fiqh)

Group B: Electives (3 Credits each)

1. ISL 8306 Islamic Thought and Philosophy
2. ISL 8307 Islamic Economic Thought
3. ISL 8308 Islamic Modern Development
4. ISL 8311 Islamic Development in Africa
5. ISL 8312 Selected Authors
6. ISL 8313 Islamic Logic

Group C: (Compulsory) (6 Credits)

1. ISL 8614 Dissertation 6 Credits

Courses Outline:
Group A: Compulsory courses

ISL 8301 Research Methodology 3 Credits
This course is designed to help students collect research data and analysis of the data collected; techniques of editing and translating Arabic manuscripts and basic rules on dissertation writing.

ISL 8302 History of Islam (period) 3 credits
The course will give critical and advanced studies on the History of Islam from the birth of the Prophet Muhammad to the end to the Abbasid Caliphate in 1258 A.D. Emphasis will be given to the expansion of Islam in North Africa and Spain. The course will also cover a survey of the Ottoman Sultanate and its relationship with the rest of the Muslim world.

ISL 8303 Qur'anic Studies (Dirasat Qur'aniyya) 3 credits
The course will cover the history and development of Qur'anic Exegesis (*Tafsir*). Emphasis will be given to the study of the Usul al-Tafsir, Sources of Tafsir, Consensus and Differences of Opinion about the Quranic Exegeses, fundamental pillars of Tafsir (Qawa'id al-Tafsir).

ISL 8309 Textual Studies of some selected surahs of the Qur'an 3 credits
The course deals with textual studies of *Surat Al-Baqarah* and *Ma'idah* particularly the verses dealing with aspects of Islamic Law i.e. verses dealing with legal issues in business transaction, civil and criminal areas, and implementing Usul al-Tafsir and fundamental pillars of Tafsir (Qawa'id al-Tafsir) in order to grasp them objectively. Candidates for this course will be required to be able to read *Juz'iAmma* according to the principles of *Tajwid*.

ISL 8304 Hadith Studies 3 credits
This course will cover the history and development of Hadith literature including detailed studies about Hadith Criticism and the method of al-Takhrij, taking into consideration the methods applied by Bukhari and Muslim of their Sahih collections, there will also be textual studies of 40 (forty) traditions from the *Riyad al-Salihin* of al-Nawawi and *al-Baa'ith al-Hatheeth* of Ibn Kathir.

ISL 8305 Islamic Jurisprudence (Fiqh) 3 credits

This course will focus attention on the study of the Chapters dealing with *Salat, Sawm, Zakat Hajj, Jihad, Mirath* from the various commentaries of the Muwatta of Imam Malik, *Mukhtasar* of Khalil and the Bidayah of Ibn Rushd. The course is designed with a view to giving students a comprehensive knowledge about Islamic Jurisprudence (Fiqh) and its legal terms such as, inquiry (manhaj/Tariqat al-Nazr), Scholastic method, dialectical method (Jadal), dialogue (Munazarah), it will also cover the history and development of Fiqh, the method of Juristic argument and counter argument, the main functions and roles of argument for the challenged Juristic opinion, Masa'ilKhilafiyyah and cases attracting divergence of opinions. The course will also touch on the history and development of *Fiqh*, the birth and development of the Makili School of jurisprudence.

ISL 8310 Principles of Jurisprudence (Usul al-Fiqh) 3 credits

This course is designed to acquaint students in the field of Usul al-Fiqh, historical background of its emergence, development, compilation according to the methodology of Usuliyyun; the Law-giver (Hakim), Legal rulings (Hukm) and their types, legally responsible person (Mukallaf), Subject matter (Mahkumalaih), primary sources of juristic rulings; (The Qur'an, Sunnah, Consensus and Analogy), Secondary sources (Jurists preference, Istihsan, Custom (Urf), Blocking the means to wrong doings (Sad al-Dhari'ah), methods of deduction; methodology of reconciliation between texts of apparent contradiction, Ijtihad and Taqlid, characteristics of both fully pledged jurist (Mujtahid) and rigid imitator (Muqallid), the concept of Fatwa; personal verdict on legal matters, differences between Fatwa and legal ruling (Qada'a).

Group B

ISL 8306 Islamic Thought and Philosophy 3 credits

The course is expected to cover the following: a detailed study of the sources of Islamic Thought derived from the Qur'an and Hadith, a comparative study of Islamic and Greek Philosophies as well as selected themes in Islamic thought starting from the period of al-Ghazali to the present. The course will also discuss the ideas of Ibn Khaldun as expounded in his Muqadimah.

ISL 8307 Islamic Economic Thought 3 credits

The course is designed to introduce the student to the basic principles of Islamic economic thought in comparison to modem economic theories. In addition, the Islamic view point in relation to insurance, banking and interest (Riba) will be studied. A survey of the birth and development of the Islamic Bank as operated throughout the world will also be discussed.

ISL 8308 Islamic Modern Development/Major Development in the Muslim World 3 credits

The course is designed to acquaint the student with the political and social developments in modern Muslim states including the rise and development of modern Islamic states in the Middle East, North Africa and Central Asia, the Indian Sub-continent and South East Asia.

ISL 8311 Islamic Development in Africa 3 credits

This course is designed to give a thorough grounding to the student on the introduction and development of Islam and its institutions into East and Central Africa including the Sudan

Republic, Islam in West Africa and the role played by Muslim scholars in disseminating Islam in Hausa land, Senegambia and Kanem-Borno

ISL 8312 Selected Authors 3 credits

The objective of this course is to give the student the chance to have a comprehensive conception of the intellectual output of a chosen philosopher, Mallam or scholar. A student would be required to choose one author from the list to be provided each year depending on the availability of the teachers who would shoulder the responsibility of teaching the course. The students are expected to come into contact with all the available writings of the thinker in addition to the critical writing on that thinker.

ISL 8313 Logic 3 credits

In this course logic would be taught as an adjunct of certain Islamic studies disciplines such as the principles of jurisprudence (Usul al-Fiqh). It further aims at teaching the student how to acquire a critical mind and achieve clarity in his thinking and writing. Aspects to be studied would include Modem logic and symbolic logic. Contributions of Muslim philosophers such as al-Farabi. Ibn Sina and Ibn Rushd in the field of logic will also be studied.

ISL 8614 Dissertation 6 credits

After successfully completing the course requirements, a candidate will write a dissertation proposal under the guidance of his/her supervisor appointed by the Department. The candidate will then submit the proposal to the Department and also give a seminar on the same. On the bases of comments, corrections and suggestions from the seminar committee, the candidate will write a research work, as outlined in the proposal, under close supervision of his/her supervisor.

After completion and approval of the research work by the Department, an internal examiner will be appointed to assess the dissertation. If any modification is suggested, the same will be incorporated in the dissertation by the candidate under the guidance of the supervisor.

Upon the completion of corrections, the revised dissertation will be submitted to the external examiner to be appointed by the postgraduate committee for external examination. After the successful viva voce, the candidate will affect all the corrections and suggestions raised by the external examiner. After approval by the external examiner, the dissertation will secure six (6) points for the candidate.

PhD ISLAMIC STUDIES

Group A: Compulsory courses (3 Credits Each)

i) ISL 9301 General Research Methodology 3 credits

ii) ISL 9303 Islam in the Modern World 3 credits

Group B: Electives (3 Credits each)

i) ISL 9302 Islamic Historiography 3 credits

ii) ISL 9307 Heresiology 3 credits

iii) ISL 9308 Objectives and Goals of Shari'ah (*Maqaasid Ash-Shari'ah*) 3 credits

iv) ISL 9309 Ethics in Islam 3 credits

v) ISL 9310 Islam and Gender Studies in Africa 3 credits

Group C: (Compulsory) (6 Credits)

i) ISL 9615 Thesis 6 credits

Ph.D. Courses Outline:

Group A: Compulsory courses (3 Credits Each)

ISL 9301 General Research Methodology 3 credits

This course is designed to acquaint the student with general research methodology of the use of library and archival sources, documentation of sources and how to conduct and record oral interview. In addition, the student will be taught the techniques and methods of collection, studying, scrutinizing, editing and translating Arabic manuscripts, institutional survey and development of Arabic script and art of literary composition; and the role copies of al-khatatun will be examined. In addition an in depth analysis of the methodology of the Fuqaha; Muhadithun, Mufassirun and Usuliyun will be carried out.

ISL 9303 Islam in the Modern World 3 credits

This course will survey the emergence of modern Muslim states such as Pakistan, Indonesia and Iran. It will also Study the socio-political development in the Muslim Arab countries such as Egypt, Saudi Arabia, Libya and the rest of the *Maghrib*. The resurgence of Islamic Institutions in many Muslim Societies will also be studied. Historical development of Muslim relations with non-Muslim nations and societies will also be examined; where attention will specifically be given to the following;

(i) The crusades

(ii) The colonial subjugation of Muslim People by the Western European nations

(iii) Orientalism and its effects on Muslim societies

(iv) The Palestinian question and related issues

(v) The American attitude to the Muslim world development

Group B: Electives (3 units each)

ISL 9302 Islamic Historiography 3 credits

This course will survey the depth of the historical writing in Islam from the 7^{th} – 14^{th} century CE. Attention will be focused on the role of Hadith, Sirah and Maghazi literature and Muslim history. In addition the works of prominent Muslim historians such as Ibn Ishaq, Ibn Hisham, al-Waqidi, Ibn Said, al-Balaguri, al-Tabari, Al-Masudi, Ibn Khatib and ibn Khaldun will also be studied. There will also be a general review of Islamic history and culture. Emphasis will also be given to the study of the works of indigenous writers such as Muhammad Bello's *Infaqual-Maisur*Abdulkadir Mustapha's Mansufa al-Sudan.

ISL 9304 Heresiology 3 credits

The objective of the course is to clarify the foundational principle in Islam as a call to unity and firm adherence to the Qur'an and Sunnah, emphasizing that division is always the product of extremism and deviant thought. Awareness of ancient sects which appeared in Muslim history enables the student do understand the present and the historical roots of contemporary sects. The course also provides students with an historical background of roles played by deviant sects during Islamic history and reasons for the appearance of sects. The groups to be examined include Khaarijites; their origin, opinions, and sub-sects Shi'ites: Twelvers, Zaydhtes, Ismailites; Baatinites past and present: Qaramantians, Babakites, Nusairites, Druze, Bahai, Qadianites. The Scholastic sects origins and teachings include Jabrites, Qadarites, Merji'ates, Mu'tazilites, Ash'arites and Maatureedites.

ISL 9305 Objectives and Goals of Shari'ah (Maqaasid Ash-Sari'Ah) 3 credits

The course examines the concept of Maqaasid al-Shari'ah and identifies the importance. The relationship between Maqaasid and Fiqhemergence, development, and analysis of main documented work in the domain ways of identifying the goals of Shari'ah. Kinds of goals: general and specific goals comprehensive and partial goals. Relationship between Bases of jurisprudence and public interest/unrestricted interest. Peculiarities of public interest/unrestricted interest, steps/stages of goals of Shari'ah According to its degree; essentials/necessities (daruriyyah), embellishment/comforts (Hajiyyat) and complementary/Luxuries (Tashniyyat), the course

concludes with goal of the Legislator in establishing Shari‘ah and the importance prioritizing benefits, balancing, determining the more correct when benefits conflict.

ISL 8306 Ethics in Islam 3 credits

The course examines ethics and basis of ethical teachings in Islam, The Qualities of believers in Qur’an, Muslim ethical teachings from Qur’an and Hadith, Muslim ethical teachings with reference to the work of Al-Ghazali. Muslim and ethical issues in Modern age; Cloning, Euthanasia, Suicide and Capital punishment. Islam and Public life; transparency, accountability, Justice, power and leadership, Human rights/injustice, rule of law and the problem of absolute/ dictatorial rulers among Muslim states. Ethical writings of Maududi and contemporary revivalist movements.

ISL 9307 Islam and Gender Studies in Africa 3 credits

The place of gender in Islam Humanity from the same source, equality of the two sexes before Allah, The Prophet examples and teachings on women in Islam, Modesty and Hijab of women. Feminism, gender and Islam, role of women, men in Islamic society, Women education, Muslim women and public life, freedom and liberty within Islam, family planning, contraception and Muslim women. Gender and discrimination, Polygamy in Islam, Female circumcision and Child marriage Muslim women and domestic violence, adultery and rape laws, Women Voices and Islamic movements in Africa, Muslim Women Organization and Islamic Activism in Sub Saharan Africa.

ISL 9615 Thesis 6 credits

GRADUATION REQUIREMENT S

PGD Islamic Studies (PGDIS)

The duration of the programme is a minimum of two (2) semesters and maximum of four (4) semesters

Master`s Islamic Studies

1. Minimum number for earned credit hours for graduation: 24
2. Minimum number of years of graduation ……. Full Time 18 Months
3. Maximum number of years of graduation ……. Full Time 36 Months
4. Minimum number of years of graduation ……. Part Time 24 Months

5. Maximum number of years of graduation……. Part Time 48 Months
6. Minimum CGPA for Graduation ……. 2.5

PhD Islamic Studies

DEPARTMENT OF LANGUAGES

M.A & PhD ARABIC COURSES

HEAD OF DEPARTMENT: Dr. Ayuba Shehu Ahmad Rufa'i

DEPARTMENT PG COORDINATOR: Dr. Usman Abubakar Muazu

Lecturers and Areas of Specialization

S/N	Name of Academic Staff	Area of Specialization	Qualification	Rank	Employment Status
1	Prof. A.M. Dawood	Professor of Arabic	B.A., M.A. Ph.D	Professor	Visiting
2	Prof. Haruna Al- Rashid Yusuf	Professor of Linguistics	B.A., M.A. Ph.D	Professor	Full Time
3	Prof. M.T. Sayid	Professor of Arabic	B.A., M.A. Ph.D	Professor	Visiting
4	Dr Ayuba Shehu Ahmad Rufai	Arabic Literature and Criticism	B.A., M.A., Ph.D	Associate Professor	Full Time
5	Dr. Said A. EL- Imam	Arabic Literature and Criticism	B.A., M.A., Ph.D	Senior Lecturer	Full Time
6	Dr. Musa Abdullahi Muhammad	Literature and Criticism	B.A., M.A., Ph.D	Senior Lecturer	Full Time
7	Dr. Usman Abubakar Mu'azu	Arabic Philology	B.A., M.A., Ph.D	Lecturer I	Full Time
8	Dr. Muhammad Khamisu Husaini	Arabic Literature	B.A., M.A., Ph.D	Lecturer I	Full Time
9	Nasiru Shuaibu	Arabic	B.A., M.A.	Lecturer I	Full Time
10	Aisha Bala Muhammad	Arabic	B.A., M.Ed.	Lecturer I	Full Time
11	Yusuf Hassan Gwarzo	Arabic Literature	B.A., M.A.	Lecturer I	Full Time

MA ARABIC CREDIT LOAD REGISTRATION

The MA Arabic (Language or Literature) programme is followed full-time over two sessions (four semesters). Students must earn a minimum of 30 credits, of which 24 are awarded for taught course work and 6 for a dissertation. There are four core or compulsory modules, each worth 3 credits. In addition, students must choose at least four of the optional modules, each of which is also 3 credits. However, students could register for more than four optional modules.

MA ARABIC

Compulsory/Core Courses

ARA8301: Major Theories of Language
ARA8202: Lexicography
ARA8303: Philosophy & Development of Literature
ARA8304: Development Survey of Arabic Literary Criticism
ARA8205: Translation
ARA8306: Arabic Structure
ARA8307: Arabic Structure II
ARA8208: Research Methodology
ARA8309: Modern Poetry
ARA8310: Modern Trends in Arabic Literary Criticism
ARA8211: Rhetoric
ARA8612: Thesis

Course Descriptions for the MA Programme

ARA8301: MAJOR THEORIES OF LANGUAGE

The subject aims at studying the effort s of the Arabic scholars and linking their thoughts with the modern linguistic theories, i.e. Structural Linguistics, transformational generative theories andother theories of modern linguistics.

ARA8202: LEXICOGRAPHY

This course aims at deepening knowledge of the student's historical background of lexicographical thoughts. Types of dictionaries, development in the study of some Arabic old and modern dictionaries and their features are included.

ARA8303: PHILOSOPHY & DEVELOPMENT OF LITERATURE

The course aims at advancing students' perception towards the philosophical foundations of literary theories. It will also present an overview of the history and development of Arabic literature from pre-Islamic period to modern time. Some selection of Arabic literary texts (both poetry & prosody) will be analyzed to highlight the development in terms of language, stile and ideas.

ARA8304: DEVELOPMENT SURVEY OF ARABIC LITERARY CRITICISM

This course surveys the emergence & development of Classical Arabic criticism. It also acquaints the students with contributions made by some scholars towards its development.

ARA8205: TRANSLATION

This course aims at studying the history and types of translation: Emphasis in this course is given to the practical aspects of the translation text from different fields of knowledge will be selected for translation.

ARA8306: ARABIC STRUCTURE: (Phonetics and Phonology)

This principles and practices of articulator phonetics and outline of Arabic phonemes including instruction in the use of phonetic symbols and diacritics. Comparative phonetic will also be a feature of the course where students have chance to compare sound system for different languages.

ARA8307: ARABIC STRUCTURE II (Morph syntax):

This course offers an in-depth study of morphology process, (such as inflation and derivation, blending, clipping acronyms etc.) and of methods of syntactic description: the fundamental units of meaningful linguistic structure such as the morpheme I larger and larger units such as the world, the phrase the clause and the sentence. There will be an emphasis on syntactic phenomena. Introduction to theoretical linguistics and alternative theories.

ARA8208: RESEARCH METHODOLOGY

This course deals with modern techniques of academic research. Topics to be treated include the concept of research, writing a research proposal, the techniques of data collection and analysis, the presentation of research finding and the ethics of research. There will be emphasis on the nature and method of research, the use of library and its research tools, the planning and the writing of research proposal, the writing of draft and the documentation of sources such as outline, citation, footnoting bibliography and appendix. The course will also deal with editing.

ARA8309: MODERN POETRY

This course deals with the key topics in modern Arabian poetry. It will discuss the development and characteristics of modern African poetry. This course will also engage the student in the student's debate about issues related to classical, romantic and other school of....

ARA8310: MODERN TRENDS IN ARABIC LITERARY CRITICISM

This course is designed to prepare students to the trends & issues in Modern Arabic criticism; thereby expose them to literary appreciation

ARA8211: RHETORIC

This course aims at giving an account of the origin, emergence and development of Arabic rhetoric, ranging from Jahiliyyah till the Jurjani, Assakaki and others. The Course will also highlight modern development or trends in Arabic rhetoric.

PhD ARABIC

COURSE DESCRIPTIONS FOR THE PhD PROGRAMME

ARA9301: PHILOSOPHY & DEVELOPMENT OF LITERATURE
The course aims at advancing students' perception towards the philosophical foundations of literary theories. It will also present an overview of the history and development of Arabic literature from pre-Islamic period to modern time. Some selection of Arabic literary texts (both poetry & prosody) will be analyzed to highlight the development in terms of language, stile and ideas.

ARA9302: MAJOR THEORIES OF ARABIC LITERATURE & CRITICISM
This course aims at studying modern theories of Arabic literature and criticism in as propounded by the classical and modern Arabic literates and critics.

ARA9303: LITERATURE& IDEOLOGY
This course attempts to expose students to the relationship between literature and identities. It also explains various ideological based literatures. Emphasis will be given to explain the theoretical frame works of al'adabul-'islami, as well as the contributions of modern day Muslim literates and critics.

ARA9304: ISSUES IN ARABIC GRAMMAR & MORPHOLOGY
This course is designed to study ideas of some Arabic scholars calling for revival of Arabic grammar, such as Ibn Muda'. The course wills also deals with controversial issues in Arabic grammar as contained in the writings of modern Arabic scholars.

ARA9305: PHILOSOPHY & HISTORY OF LANGUAGE
Issues to be studied in this course, include; definition of language, origin of language, types of languages, differences between human and animal languages, classification of world languages and contribution of Arab scholars on these areas

GRADUATION REQUIREMENTS

Master's Degree in Arabic

1) To qualify for the award of an MA Arabic degree, a candidate must take and pass all the requisite courses as prescribed in the MA course list and must also have satisfied the following conditions:
    i) Passed written examinations in the prescribed courses
    ii) Obtained a minimum of 24 credits from course work and seminars and 6 credits from dissertation
    iii) Obtained a minimum of 30 credits overall
    iv) Presented two seminar papers in the course of the programme, especially in the last semester of the programme
    v) A successful oral defense of the dissertation
    vi) Any other requirement approved by the Senate on the recommendation of the Board of Postgraduate School.

2) A dissertation for the award of the degree of MA Arabic shall be an original work displaying competence and rigorous research potentials in the particular field of study combined with the exercise of critical judgment, and containing material worthy of publication as definite contribution to knowledge. It must also be satisfactory with regard to literary presentation.
3) Every MA Arabic candidate must submit a dissertation on an approved topic, supervised by a two-member team of whose qualifications are not below the MA and who are not below the rank of Senior Lecturer. One of them will be the major supervisor. The MA dissertation must be defended before an external examiner duly nominated for that purpose and appointed by the Senate
4) Certification by the Department and Faculty that the dissertation is suitable for the MA degree examination (viva voce).
5) A candidate shall be required to sign a declaration that the dissertation is his or her own original work. The declaration must be countersigned by the supervisors.

PhD. Arabic

1) To qualify for the award of a PhD Arabic degree, a candidate must take and pass all the requisite courses as prescribed in the PhD course list and must also have satisfied the following conditions:

    a) Passed written examinations in prescribed courses;
    b) Obtained a minimum of 18 credits courses at the Doctoral level including 6 credits from course work and seminars and 12 credits from thesis;
    c) Must have presented at least two seminar papers in the course of the programme; one paper each in the 2nd and 3rd years.

2) Every PhD Arabic candidate must submit a thesis on an approved topic, supervised by a two-member team whose qualifications are not below the PhD and who are not below the rank of a Senior Lecturer. One of them will be the major supervisor. The PhD thesis must be defended before an external examiner duly nominated for that purpose and appointed by the Senate:

        a. Certification by the Department and Faculty that the thesis is suitable for PhD degree examination (viva voce);
        b. A successful oral defense of the thesis; and
        c. Any other requirement approved by the Senate on the recommendation of the Board of Postgraduate School.

(3) A thesis for the award of the degree of PhD Arabic shall be an original work displaying competence and rigorous research potentials in the particular field of study combined with the exercise of critical judgment, and containing material worthy of publication as definite contribution to knowledge. It must also be satisfactory with regard to literacy presentation.
(4) A candidate shall be required to sign a declaration that the thesis is his or her own original work. The declaration must be countersigned by the supervisors.

MODE OF STUDY

The MA and PhD degrees shall be on a full-time basis. In addition, all registered students must reside within the University at least during the first two Semesters of the programme.

DURATION
MA: a minimum of 4 semesters (2 years) and a maximum of 6 semesters (3 years)
PhD: a minimum of 6 Semesters (Three Years) and a maximum of 8 semesters (four years)

M.A & PhD ENGLISH COURSES

HEAD OF DEPARTMENT: Dr. Ayuba Shehu Ahmad Rufa'i

DEPARTMENT PG COORDINATOR: Dr. Yusuf Ahmad Gwarzo

Lecturers and Areas of Specialization

S/N	Name of Academic Staff	Area of Specialization	Qualification	Rank	Employment Status
1	Prof. B.M. Sambo	Professor of General Linguistics	B.A., M.A., Ph.D	Professor	Visiting
2	Prof. M.A. Yusuf	Professor of Language and Linguistics	B.A., M.A., Ph.D	Professor	Visiting
3	Prof. Ibrahim Bello Kano	Professor of English	B.A., M.A., Ph.D	Professor	Visiting
4	Prof. Mustapha Muhammad	Professor of English	B.A., M.A., Ph.D	Professor	Visiting
5	Prof. Umar Saje	Professor of English Literature	B.A., M.A., Ph.D	Professor	Visiting
6	Dr. A. Adamu				
7	Dr. Yusuf Ahmad Gwarzo	General and Cognitive Linguistics	B.A., M.A., Ph.D	Lecturer I	Full Time
8	Chibuzo Nathaniel Nwoko	English	B.A., M.A.	Lecturer I	Full Time
9	Ado Magaji Mansur	English Literature	B.A., M.A.	Lecturer I	Full Time
10	Ali Abubakar Idris	English Language	B.A., M.A.	Lecturer I	Full Time
11	Ali Umar Muhammad	Applied Linguistic	B.A., M.A.	Lecturer I	Full Time
12	Sani Abddullahi Muhammad	Languages	B.A., M.A.	Lecturer I	Full Time
13	Maryam Shehu Maimota	Linguistic	B.A., M.A.	Lecturer I	Full Time
14	Wasila Lawan Gadanya	English	B.A., M.A.	Lecturer I	Full Time

MA ENGLISH CREDIT LOAD REGISTRATION

The MA English (Language or Literature) programme is followed full-time over two sessions (four semesters). Students must earn a minimum of 30 credits, of which 24 are awarded for taught course work and 6 for a dissertation. There are four core or compulsory modules, each worth 3 credits. In addition, students must choose at least four of the optional modules, each of which is also 3 credits. However, students could register for more than four optional modules.

MA ENGLISH (LANGUAGE)

Compulsory/Core Courses

ENG 8301: Phonology
ENG 8302: Syntax
ENG 8303: Semantics
ENG 8314: Linguistics Research Methods

Optional Courses (Minimum of 4)

ENG 8304: Advanced English Usage
ENG 8305: Applied Linguistics
ENG 8306: Psycholinguistics
ENG 8307: Sociolinguistics
ENG 8308: History of Modern English
ENG 8309: English around the World
ENG 8310: English in Nigeria
ENG 8311: Special Topic
ENG 8312: Stylistics
ENG 8313: Text Linguistics
ENG 8640: Dissertation (6 credits)

MA ENGLISH (LITERATURE)

Compulsory/Core Courses

ENG 8315: Literary Theory and Criticism
ENG 8316: The European Novel
ENG 8320: Non-fiction Prose
ENG 8328: Literary Research Methods

Optional Courses (Minimum of 4)

ENG 8317: American Literature
ENG 8318: African and European Poetry
ENG 8319: Classics of Drama
ENG 8321: The African Novel
ENG 8322: African Oral Literature
ENG 8323: English Drama from Shakespeare to the Present
ENG 8324: Women's Writing
ENG 8325: African-American Literature

ENG 8326: Caribbean Literature
ENG 8327: Special Authors/Topics
ENG 8640: Dissertation (6 credits)

Course Descriptions for the MA Programme

ENG 8301: Phonology
Embracing the concerns associated with both "phonetics" and "phonology", the course opens with a general survey of phonation processes and language sounds. A comprehensive review of the segmental and suprasegmental sound units and systems of English follows, based on Standard models but with some attention being given to Nigerian and other variants. Students are gradually introduced to phonological theory, and the phenomena which have been discussed within a descriptive framework are reviewed in the light of contemporary perspectives such as generative phonology and metrical phonology.

ENG 8302: Syntax
This course provides an opportunity for students to engage with linguistic theory on the basis of an in-depth study of certain methods of syntactic description. It begins by examining the fundamental unit of meaningful linguistic structure, namely the morpheme, and then proceeds to embrace larger and larger units: the word, the phrase, the clause and the sentence. Contemporary linguistic theory is introduced to explain the syntactic phenomena, with an emphasis on Chomsky's Extended Standard Theory of transformational grammar, but with due recognition also being given to alternative theories such as Halliday's functional grammar.

ENG 8303: Semantics
This course is concerned with the general study of meaning in natural languages, with particular reference to English. Semantics will nevertheless be presented as ultimately an inter-disciplinary study that in turn can be viewed as deriving from semiotics. The substantive issues in synchronic semantics that the course will principally be concerned with include communication theory, sense and reference, deixis, logic, field theory, speech acts, and the semantics of tense, aspect and modality.

ENG 8304: Advanced English Usage
The course is designed to develop students' proficiency in the use of English. Its importance is that English proficiency crucially determines performance and therefore evaluation in other coursework and in the writing of the dissertation. In addition, the holder of a degree in English is regarded in the wider society as a model of usage and must justify this view. Since language proficiency develops through practice, the course provides for a great deal of practical work, in such areas as use of verb forms, sentence structure, choice of words, punctuations, etc.
ENG 8305: Applied Linguistics

This course is designed to prepare students to deal with the planning, implementation and evaluation of English language teaching in different educational settings, especially in primary and secondary schools. The course will review and evaluate certain influential theories of language learning, such as behaviourism and the communicative approach, but principally the focus will be

on developing understanding of how the fundamental language skills of listening, speaking, reading and writing – need to be taught in English as-a-second-language situations such as Nigeria.

ENG 8306: Psycholinguistics

This course presents the psycholinguist's account of language and the relationship between language and mind. Topics to be covered include language acquisition and language learning; language, thinking and cognition; language and the brain, language localization; linguistic performance and behaviour, production and comprehension; language impairment.

ENG 8307: Sociolinguistics

This course studies language in its social setting and therefore the social aspects of language. Topics to be covered include issues in dialectology, sociolinguistic variation; idiolect, bilingualism, multilingualism, code-switching, language planning, language loyalty, socio-economic variation, pidginization and creolization of language, and English and globalization.

ENG 8308: History of Modern English

This course surveys the history of the English language from the Old English period to the present day, emphasizing the reality of language change over time. Some attention will be given to developments in each of the principal areas of language— grammar, vocabulary, phonology, spelling etc., and these developments will be studied to some extent in relation to literary texts, e.g. Shakespeare. Special attention will be given to the standardization of the language in recent centuries, including the impact of the technological progress of recent times.

ENG 8309: English Around the World

With a brief review of the historical background, the course examines the spread of English around the world, its status and role in various situations, and the politics associated with the prominence it enjoys in the contemporary world, as, allegedly, a "global" language. It also studies the internal composition of different varieties of English, both native and non-native, and examines the growth of Pidgin English.

ENG 8310: English in Nigeria

This course will examine the historical context in which Nigerian English has evolved as a sub-type of the "New Englishes". The sociolinguistic profile of Nigeria will also be explored and the place of English within it defined. Psycholinguistic and pedagogical issues relating to the learning and teaching of English in Nigeria will also be examined. The distinguishing features of Nigerian English at the levels of phonology, lexis and syntax will also be explored, as well as the main features of Nigerian Pidgin English. The course will conclude with an examination of the role and varieties of English in Nigerian literature.

ENG 8311: Special Topic

Any topic that is rich enough in content to constitute a course and that is broadly relevant to the programme may be chosen as a 'Special Topic', with lecturers' interests as a crucial determining

factor. Possibilities include comparative linguistics; contrastive analysis; English for specific purposes, etc.

ENG 8312: Stylistics

This course will introduce students to the general field of stylistics. Prominence will be given to the stylistics of literary English, but other styles will also be examined (e.g. media English, legal English). Various definitions of style will be critically examined, and the following fundamental questions will constantly be kept in view: What is literature? What makes literary language literary? There will thus be a focus on texts ranged along a continuum of literary and non-literary styles.

ENG 8313: Text Linguistics

This course is concerned with the nature and organization of texts, and will specifically deal with the structure and texture of written texts. Viewing texture not just as product but also as process, it will seek to explore the question: What is a text? What is the difference between a text and a non-text? What makes the difference between a successful text and a non-successful text? Do different types of text differ in their organization according to their purpose? What is the normal pattern of text organization?

ENG 8314: Linguistic Research Methods and Seminar

This course seeks to equip students with the skills of postgraduate research. It examines a number of issues pertaining to modern research work, such as the nature of science itself and particularly of the scientific status of linguistic; considerations that are relevant in the selection of a research topic; the organization and writing of seminar and other research papers, and of the dissertation; ethical issues; the use of libraries and of the Internet for data collection.

ENG 8315: Literary Theory

This course deals with the range of theoretical approaches to literary and textual analysis. It will seek to highlight the premise that literary theory is the analytical, conceptual, and methodological consciousness of textual studies. In particular, it will look at the interactions between the institutional, cultural, and historical conditions of literary theory on the one hand and the multiplicity of methodologies and approaches that characterize the field of textual studies on the other. The lectures will raise questions of reading formations, agency, authorial intention, audience, inter-textuality, and meaning making in the conceptualization of the text, or the so-called "work of literature".

ENG 8316: The European Novel

This course seeks to engage the post-graduate student of the novel in the complex academic debates about the identity of the novel, but with special reference to the European novel, which has been seen as a more or less distinct writing culture, and the precursor to the modern novel generally. The course will also seek to illustrate the silent yet compelling ways by which the novel, for example, has played an important role in the emergence of the cultural-educational institutions of modern literacy and literary-fictional representation of the modern subject ("character") in both

Europe and elsewhere, the rise and cultural influence, and the continuing relevance, of the novel—especially in the literary-cultural identity, and the modern universalization of a more or less stable post-Romantic European consciousness. Selected texts from a variety of national literatures (British, French, Russian, German, etc.) will form the primary reading material.

ENG 8317: American Literature

This course is concerned with the corpus of fictional (e.g. novels, poems, plays) and non-fictional (auto/biographical texts, memoirs, literary essays and letters, pamphlets, cultural magazines) writings or texts which are specifically called "North American Literature". The course will offer a chronological and critical survey of North American literature from the colonial to the Romantic period onwards. The social, historical, and intellectual contexts of this literature will be discussed. Texts typical of the colonial, revolutionary, and early nationalist, romantic, and realistic phases of American literature will be selected for critical study.

ENG 8318: African and European Poetry

This course offers an advanced discussion of key topics in African and European Poetry. The course will also offer a critical examination of written African poetry in English and a selection of English poetry, beginning with 17th century metaphysical poetry, and the various experimentations with verse forms from the Augustan through to Romantic and Victorian periods. Individual and collective ideological inclinations in the poems will be assessed alongside contemporary global trends in an effort to account for the poets' chosen style and perspective. Issues on the efficacy of the genre and the degree and impact of linguistic manipulation by the poets will be highlighted in analyzing the selected texts. Analysis will also bear on the extent and significance of aspects of African and European linguistic and cultural elements.

ENG 8319: Classics of Drama

This is a conceptual and theoretical course designed to consolidate the institutionalized studies of drama. Fundamental concepts and theories of aesthetics with reference to drama and theatre such as mimesis, meta-mimesis, catharsis, tragedy, comedy, ritual, meta-theatre, presentation, representation, symbolism, naturalism, and expressionism will form the core topics of the course. These will be problematized in relation to foremost theatre practitioners and drama theorists such as Plato, Aristotle, Meyerhold, Brecht, Stanislavsky, Piscator, Ionesco, Fugard, Miller, Beckett, Ngugi, and Osofisan. Emphasis will be given to a consideration of drama and theatre as aspects of cultural practice (from the simple ritual practices of agrarian time to the most exotic ones of the post-modern era) with far-reaching socio-political implications beyond dramatic performance. The primary texts of the course will include texts from the classics of African, European, and Asian traditions of drama and theatre.

ENG 8320: Non-fiction Prose

This course will examine the traditional concept of non-fiction prose within the larger context of literary studies, and the emerging critiques of the concept advanced by post-structuralist writers such as Jacques Derrida, Roland Barthes, and Paul de Man. It will discuss the post-structuralist re-conceptualization of the relationship between written textuality on the one hand and literary and the non-literary writing on the other. The lectures will address the conceptual and practical

problems of a purely fictional approach to writing such as novels, plays, and poetry. The course will also address the problem of definition, the relationship between the fictional and the non-fictional, the contentious "fictionality" of literary genre, the rhetorical devices of textual presentation, the representational nature of written textuality and fictional re-invention in general, including the issue of the self-productivity of the sign argued by some post-modern literary theorists. A select number of non-fictional prose texts, namely Auto/biography ("Life-writing"), Memoir, the Essay, Letters, and Diaries will be used to demonstrate the themes of the course. Students will be required to apply theory to the selected texts.

ENG 8321: The African Novel

This course is an examination of the novel-writing tradition from its beginnings on the African continent. As a backdrop to the study, issues in the origin and earliest manifestation of this genre in Europe will be discussed. Particular attention will be paid to the efforts made by individual writers towards domesticating the genre in Africa, and the wave of critical interrogation of the relevance and sustainability of the novel in Africa. Although the primary text of focus is the African English novel, reference to other European traditions of the novel will also be made. Both in the selection and analysis of the text, the types and stages of development of the novel tradition in Africa will be highlighted. Finally, the course will emphasize the concepts, contexts, trends, themes, and the reading formations of the African Novel since the emergence of "Theory" in the 1960s as an indispensable paradigm in the study, criticism, interpretation, indeed even the writing and self-conception of the African novel.

ENG 8322: African Oral Literature

This course will study oral narrative performance with emphasis on the following: 19th and 20th century approaches to folklore; oral society, and verbal art in Africa, performance and function, methodology and analysis (prose, poetry, and drama).

ENG 8323: English Drama from Shakespeare to the Present

In this course, representative samples of the drama of Shakespeare and other major dramatists such as Christopher Marlowe up to the modern period will be studied.

ENG 8324: Women's Writing

The course studies the nature of women's writing and the theories of women's writing advanced by theorists such as Elaine Showalter, Gayle Rubin, Gayatri Spivak, Luce Irigaray, Hélène Cixous, and Julia Kristeva. The course pays special attention to women's writing across cultures and historical periods with a view to identifying common concerns, trends, and shifts. Western 19th and 20th century women writes such as Virginia Woolf, the Brontës, and African pioneer writers such as Nwapa, Emecheta, Mariama Bâ, Aidoo, and Alkali, will be studied as presenting different shades of women's concerns in patriarchal societies. The course may also select representative texts from other cultures and historical periods for critical study.

ENG 8325: African-American Literature

This course is concerned with the corpus of fictional and non-fictional writings which are specifically called "African American Literature". In particular, attention will be paid to African-American texts and contexts. The focus will be on the relationship between experience of slavery and the specific genres of writing, including the development of African American writing through its different periods: from 1746-1865, the so-called New Negro Renaissance, the Harlem Renaissance (1919-1940), the period of Realism and Modernism (1960-1970), and to the Black Arts Movement (1970-1990). Texts from those periods will serve as the primary material.

ENG 8326: Caribbean Literature

This course involves firstly, the historical, social and intellectual background to the literature of the English speaking Caribbean people as reflected in their essays, political pamphlets, autobiographies and cultural magazines; and secondly a critical study of the poetry, drama and prose fiction written by the representative writers of this region from the 17th century to the present.

ENG 8327: Special Authors/Topics

This course will focus on a selected author or authors, who will be studied in the context of a literary topic, theme, movement, period, or genre. The discussion will emphasize on the contemporary critical approaches to the author, and the topics s/he has engendered, so that the course discusses not just topics as such but also important authors behind such topics. The idea is to emphasize instruction that proceeds by concepts, contexts, and theme within a literary-critical paradigm.

ENG 8328: Research Methods and Seminar

This course offers an advanced introduction to the modern techniques of post-graduate research in English literature. Themes to be covered include the concept of research itself, writing a research proposal, the techniques of data collection and analysis, the presentation of research findings, and the ethics of research. There will also be an emphasis on the nature and methods of research, the use of the library and its research tools, the planning and writing of the research proposal, the writing of drafts, and the documentation of sources. Thus, the objective of the course is to prepare students in order to properly choose research topics, collect and organize materials, plan the research essay, compose and document it in a scholarly manner. The course also deals with theoretical and practical matters such as book reviewing and other techniques of scholarly reference and critique.

ENG 8630: Dissertation (6 credits)

Under the direction and supervision of two supervisors (Major and Minor, with the Minor taking up the position of the Internal Examiner at the Viva Voce), each student is expected to present an original, independent research and exposition on a topic of interest related to the different courses taught during the course work. The Dissertation should be a sustained, well-organized thinking and reasoning that demonstrates sound knowledge of the field, including the theoretical and methodological issues involved. Appropriate documentation and knowledge of referencing techniques in the field should also be demonstrated. The Dissertation should be well organized,

appropriately referenced, and written in effective English. The student may also be required to be acquainted with the relevant guidelines on Dissertation writing and research issued by the School of Post-graduate Studies.

2a. PhD ENGLISH (LANGUAGE)

PhD CREDIT LOAD REGISTRATION

Doctoral students following a Language or a Literature Programme must earn 30 credits in total, 12 for course work, 6 for seminar presentation, and 12 for a thesis. All Courses are compulsory and must be taken in the first year of registration.

Core Courses

ENG 9301: Theories of Language

ENG 9302: Morphology and Syntax

ENG 9303: Semantics

ENG 9304: Phonetics and Phonology

ENG 9309: Research Method

2b. PhD ENGLISH (LITERATURE)

Core Courses

ENG 9305: Literary Theory

ENG 9306: Studies in the Novel

ENG 9307: Studies in Poetry

ENG 9308: Studies in Drama

ENG 9310: Research Method

COURSE DESCRIPTIONS FOR THE PhD PROGRAMME

ENG 9301: Theories of Language

General theory of language is the pre-occupation of this course. The course examines trends in linguistics – the scientific study of language – from the early period to the present. These include the early schools, the Middle Ages, the Renaissance, 20th century approaches and later developments. Particular attention is given to these schools of linguistic thought: the functional perspective, tagmemics, stratificational grammar, systemic linguistics, and transformational-generative grammar. The general objective is to expose students to advanced theoretical work in linguistics and thereby equip them with the tools of analysis in the field.

ENG 9302: Morphology and Syntax

This course offers an in-depth study of morphological processes (such as inflection and derivation, blending, clipping, acronyms, etc) and of methods of syntactic description; the fundamental units of meaningful linguistic structure such as the morpheme; larger and larger units such as the word, the phrase, the clause and the sentence. There will be an emphasis on syntactic phenomena, Chomsky's Extended Standard Theory of transformational grammar, and alternative theories such as Halliday's functional grammar.

ENG 9303: Semantics

The course surveys the general field of semantics, particularly the nature of signs as well as how they possess significance, that is, how they make reference to things and ideas, and how they are interpreted by hearers. The course will proceed from a linguistic and philosophical standpoint. The linguistic (descriptive and theoretical) approach means the application of principles of structural linguistics to the study of meaning through the notion of semantic relations. The philosophical approach focuses on symbolic logic and speech-act semantics, and examines the behavior that goes with the process of assigning meaning.

ENG 9304: Phonetics and Phonology

This course offers a broad discussion of phonation processes and language sounds, including a comprehensive review of the segmental and suprasegmental sound units and systems of English based on Standard models but with some attention being given to Nigerian and other variants. There will also be substantial attention to a descriptive framework based on contemporary perspectives such as generative phonology and metrical phonology

ENG 9305: Literary Theory

The course aims to explore the philosophical foundations of literary theory, the theoretical and conceptual problems raised by this philosophical background, and the general methodological issues raised by the theoretical approach to written textuality. The course will discuss the relative merits of text-oriented, author-oriented, reader-oriented, and context-oriented approaches, including the key modern figures (e.g. Shklovsky, Frazer, Levi-Strauss, Frye, Jung, Wimsatt, Pearce, Derrida, Freud, Lacan, Gadamer, Heidegger, Iser, Jauss, Marx, Lukacs, Althusser,

Macherey, Eagleton, etc.) that have shaped the philosophical and conceptual tenor of these approaches.

ENG 9306: Studies in the Novel

The course will also seek to present an overview of the history of the novel-form, namely the literary-textual, philosophical, authorial, and the cultural-historical factors (modernity, colonialism, the post-Enlightenment reading publics and urban cultures) which combined to condition the rise of the novel as a literary form, and its unversalization across writing cultures and traditions. Other parts of the course will present an advanced examination of the novel as a genre of literature, and its contested manifestation in many literary traditions across the world. Particular attention will be paid to the debates about whether or not the form can be, or has been successfully, domesticated in non-Western settings and literary or writing traditions across the world. The course will also examine the concepts, contexts, trends, themes, and the reading formations of the novel writing since the emergence of the modern world, including the new modern critical perspectives on the novel, and the increasingly multi-perspectival paradigms that now define the theory and criticism of the novel.

ENG 9307: Studies in Poetry

This course will be concerned, at an advanced level of coherence, with the nature, purpose, value, and limits of poetry as a cultural-artistic practice, and also as a peculiar, linguistically-conscious expression. The course will also consider the different forms of poetry, the problematic of poetry interpretation and analysis, including the complexity of narrative voice within poetry. Other key topics to be discussed are the major categories of poetry, the issues of tome, irony, words, imagery, figures of speech, song, sound, rhyme, rhythm, and meter in relation to the craft of poetry, and the question of whether the concepts of "meaning" and reference" are applicable to poetry as a distinctive practice of writing. On the whole, the discussion of the selected poems will be both strongly theory-oriented and, in the same manner, discursively concerned with the lexical-thematic, visual, and the rhythmic-acoustic dimensions of the primary texts.

ENG 9308: Studies in Drama

This conceptual and theoretical course will be devoted to advanced studies in drama as a genre of literature, including the fundamental concepts and theories of drama and theatre. An Emphasis will be placed a conception of drama and theatre as cultural practices and as a dramatic and performative discourse and practice. A select number of representative texts, from classical to modern times chosen across diverse literary traditions, will be used to demonstrate the themes of the course. Students will be required to apply dramatic theory to the selected texts.

GRADUATION REQUIREMENTS

Master's Degree in English Language

6) To qualify for the award of an MA English degree, a candidate must take and pass all the requisite courses as prescribed in the MA course list and must also have satisfied the following conditions:
    i) Passed written examinations in the prescribed courses
    ii) Obtained a minimum of 24 credits from course work and seminars and 6 credits from dissertation
    iii) Obtained a minimum of 30 credits overall
    iv) Presented two seminar papers in the course of the programme, especially in the last semester of the programme
    v) A successful oral defence of the dissertation
    vi) Any other requirement approved by the Senate on the recommendation of the Board of Postgraduate School.
7) A dissertation for the award of the degree of MA English shall be an original work displaying competence and rigorous research potentials in the particular field of study combined with the exercise of critical judgement, and containing material worthy of publication as definite contribution to knowledge. It must also be satisfactory with regard to literary presentation.
8) Every MA English candidate must submit a dissertation on an approved topic, supervised by a two-member team of whose qualifications are not below the MA and who are not below the rank of Senior Lecturer. One of them will be the major supervisor. The MA dissertation must be defended before an external examiner duly nominated for that purpose and appointed by the Senate
9) Certification by the Department and Faculty that the dissertation is suitable for the MA degree examination (viva voce).
10) A candidate shall be required to sign a declaration that the dissertation is his or her own original work. The declaration must be countersigned by the supervisors.

PhD in English Language

3) To qualify for the award of a PhD English degree, a candidate must take and pass all the requisite courses as prescribed in the PhD course list and must also have satisfied the following conditions:
    d) Passed written examinations in prescribed courses;
    e) Obtained a minimum of 18 credits courses at the Doctoral level including 6 credits from course work and seminars and 12 credits from thesis;
    f) Must have presented at least two seminar papers in the course of the programme; one paper each in the 2nd and 3rd years.
4) Every PhD English candidate must submit a thesis on an approved topic, supervised by a two-member team whose qualifications are not below the PhD and who are not below the rank of a Senior Lecturer. One of them will be the major supervisor. The PhD thesis must be defended before an external examiner duly nominated for that purpose and appointed by the Senate:
        a. Certification by the Department and Faculty that the thesis is suitable for PhD degree examination (viva voce);

b. A successful oral defence of the thesis; and
c. Any other requirement approved by the Senate on the recommendation of the Board of Postgraduate School.

(3) A thesis for the award of the degree of PhD English shall be an original work displaying competence and rigorous research potentials in the particular field of study combined with the exercise of critical judgment, and containing material worthy of publication as definite contribution to knowledge. It must also be satisfactory with regard to literacy presentation.

(4) A candidate shall be required to sign a declaration that the thesis is his or her own original work. The declaration must be countersigned by the supervisors.

MODE OF STUDY

The PGD, MA and the PhD degrees shall be on a full-time basis. In addition, all registered students must reside within the University at least during the first two Semesters of the programme.

DURATION

MA: a minimum of 4 semesters (2 years) and a maximum of 6 semesters (3 years)

PhD: a minimum of 6 Semesters (Three Years) and a maximum of 8 semesters (four years)

DEPARTMENT OF HISTORY AND INTERNATIONAL RELATIONS

HEAD OF DEPARTMENT
DR.

DEPARTMENT PG COORDINATOR

Lecturers and Areas of Specialization

S/N	Name of Academic Staff	Area of Specialization	Qualification	Rank	Employment Status
1	Prof. Mansur Ibrahim Mukhtar	Professor of History	B.A., M.A., Ph.D	Professor	Full Time
2	Prof. Muhammad Gwadabe Mustapha	Professor of Political and Economics History	B.A., M.A., Ph.D	Professor	Visiting
3	Prof. Ahmed Bako	Professor of Economics and Social History	B.A., M.A., Ph.D	Professor	Visiting
4	Prof. Kamilu Sani Fagge	Professor of Foreign Policy/Diplomacy	B.A., M.A., Ph.D	Professor	Visiting
5	Prof. Sule Bello	Professor of Africa and Latin American History	B.A., M.A., Ph.D	Professor	Visiting
6	Prof. Haruna Wakili	Professor of Political History	B.A., M.A., Ph.D	Professor	Visiting
7	Prof. Mahmoud Muhammad Lawan	Professor of Political Science	B.A., M.A., Ph.D	Professor	Visiting
8	Prof. Ibrahim Khaleel Abdussalam	Professor of Socio-Economic History	B.A., M.A., Ph.D	Professor	Visiting
9	Prof. Abubakar Jika Jiddere	Professor of Political Science	B.A., M.A., Ph.D	Professor	Visiting
10	Prof. Abubakar Babajo Sani	Professor of Economic History	B.A., M.A., Ph.D	Professor	Visiting
11	Prof. Hassan Daiyabu Muhammad	Professor of International Environmental Politics	B.A., M.A., Ph.D	Professor	Visiting

12	Dr. Sabo Abdullahi Albasu	Social and Economic History/Middle East	B.A., M.A., Ph.D	Associate Professor	Full Time
12	Dr. Tijjani Muhammad Naniya	Legal/Diplomatic History	B.A., M.A., Ph.D	Senior Lecturer	Visiting
14	Dr. Aisha Ni'ima Shehu	History	B.A., M.A., Ph.D	Senior Lecturer	Sabbatical
15	Dr. Tijjani Garba	Economic History	B.A., M.A., Ph.D	Senior Lecturer	Full Time
16	Dr. Nasiru Ibrahim Dantiye	African History	B.A., M.A., Ph.D	Senior Lecturer	Full Time
17	Dr. Nasa'i Muhammad Gwadabe	International Relations	B.A., M.A., Ph.D	Lecturer I	Full Time
18	Dr Usman Mika'il Usman	International Relations	B.A., M.A., Ph.D	Lecturer I	Full Time
19	Dr. Sani Shehu	International Relations	B.A., M.A, Ph.D	Lecturer I	Full Time
20	Kabiru Ibrahim Danguguwa	International Relations	B.A., M.A.	Lecturer I	Full Time
21	Bello Adamu Hotoro	International Relations	B.A., M.A.	Lecturer I	Full Time
22	Murtala Mustapha	History	B.A., M.A.	Lecturer I	Full Time
23	Mahmud Suleiman	International Relations	B.A., M.A.	Lecturer I	Full Time
24	Auwalu Saleh Dawaki	Intellectual History	B.A., M.A.	Lecturer II	Full Time
25	Rahila Ahmed Modibbo	Political History	B.A., M.A.	Lecturer II	Full Time
26	Shahabbaddin Ahmad Dangana	French	B.A., M.A.	Asst. Lecturer	Full Time
27	Abba Musa Gammo	Administration	B.A., M.A.	Lecturer II	Full Time
28	Kabiru Sabo Usman	History	B.A., M.A.	Lecturer II	Full Time
29	Badiru Ibrahim	International Conflict Management	B.Sc., M.Sc.	Lecturer II	Full Time
30	Bello Sani Kabara	International Relations	B.Sc., M.Sc.	Lecturer II	Full Time
31	Hadiza Adamu Toro	History	B.A., M.A.	Lecturer II	Full Time
32	Dayyabu Ahmed	International Relations	B.Sc., M.Sc.	Lecturer II	Full Time

MASTERS OF ARTS INTERNATIONAL RELATIONS

List of Courses:

Core Courses

Course Code	Course Title	Units
INT 8301	Advanced Research Methodology	3
INT 8302	Theories of International Relations	3
INT 8303	Global Security and Strategic Studies	3
INT 8304	Nigeria and International Community	3
INT 8305	International Law and Diplomacy	3
INT 8306	Comparative Foreign Policy Analysis	3
INT 8307	Human Rights and Global Politics	3
INT 8308	International Political Economy	3
INT 8399	Research Project	6
INT8009	Seminar	0

Electives: 3-7 courses

Course Code	Course Title	Units
INT 8210	Thematic Issues in International Relations	2
INT 8211	Religion and Politics in the International Scene	2
INT 8212	Gender and International Studies	2
INT 8213	Peace and Conflict Resolution	2
INT 8214	Regional and International Organizations	2
INT 8215	Environmental Politics	2
INT8216	Asia in World Politics	2

Course Description

INT 8301: Advanced Research Methodology
The aim of this course is to acquaint students with methods and techniques involved in conducting research in the field of International Relations. Emphasis will be laid on different data collection procedures, interpretation, and proper referencing style.

INT 8302: Theories of International Relations:
The course examines the traditional theories of international relations, theories of imperialism. The classical traditions based on Graeco-Roman world (Homer, Thucydides to Machiavelli); other approaches to the study namely; Realist, Behavioural, Marxist and Idealist paradigms (Thomas Hobbes, Marx to Morgenthau, etc.); contemporary theoretical issues on realism, liberalism, feminism and postmodernism would be explored.

INT 8303: Global Security and Strategic Studies
This course will address policy and ethical issues that arise when state and non-state actors seek to resolve threats ranging from traditional interstate conflict to diverse contemporary issues such as terrorism, organized crime, and insecurity..

INT 8304: Nigeria and the International Community
The course focuses on Nigeria's relations with the outside world; Nigeria at United Nations and its specialized agencies and other relevant regional organizations; Nigeria's role in global politico-military security; role in functional-technical integration. The course will put on emphasis on the role of Nigeria a member of the following organizations; Organization of Petroleum Exporting Countries (OPEC), the World Trade Organization (WTO); Nigeria and the International Monetary Fund (IMF), the Nonaligned Movement (NAM), as a member of the African Development Bank and the Lake Chad Basin Commission and liberation struggle in Southern Africa.

INT 8305: International Law and Diplomacy
The course will examine sources and nature of International Law; Juridical basis of International law; territoriality; jurisdiction and state responsibility; Pacific settlement of disputes. Others include assessment of the law of treaties, Human Rights; activities of the International Criminal Court, Hague, and the ECOWAS Court.

INT 8306: Comparative Foreign Policy Analysis
The course will examine foreign policy decision making processes related to momentous events as well as patterns in day-to-day foreign interactions of some selected states. Attention will be paid to factors that may influence state foreign policy, as well as their implications and impact will be explored by testing, and refining theories of foreign policy decision making in comparative perspective.

INT 8307: Human Rights and Global Politics
The philosophy of Human Rights; Human rights' norms, its development and enforcement in society; as well as attitudinal responses by global human rights regimes will be explored in this course; prospects for a global human rights culture in the current century; issues of

genocide; mass murder; torture; humanitarian protection for civilians in war zones; prisoners of war (POW); abuses on women; refugees; child labour; poverty, malnutrition and Internally Displaced Persons (IDPs).

INT 8308: International Political Economy
The concept of international political economy comprising mercantilism; liberalism; Marxism; imperialism; international monetary relations; international trade relations, development and underdevelopment; multinational corporations, debt and aid; donor fatigue commodity market; the new economic order (or globalization); WTO (World Trade Organization); NAFTA (North America Free Trade Organization) and other relevant treaties will be addressed by the course.

INT 8009 Seminar and/or Conference Presentation
This presentation shall be on an approved topic submitted by students and considered by the Departmental PG Board.

INT 8210: Thematic Issues in International Relations
This course will study a range of contemporary security matters like, terrorism, food (in)security, piracy, cyber security, migration etc., that operate and are addressed at a global level. The course will use a thematic approach to examine how these threats have developed and how they are being combated.

INT 8211: Religion and Politics in the International Scene
The course will explore the role of religion in political and social change as well as the transnational character of major world religions. Also to be addressed are global political implications of specific religious movements; ideologies, fundamentalism, terrorism and security.

INT 8212: Gender in International Studies
The concept of Gender in history and other issues of gender related to international politics, ethnicity and the state. Attention will be given to feminism, women liberation, women in politics, women in development, cross-cultural case studies of women the world over; women in leadership, women in military and intelligence services.

INT 8213: Peace and Conflict Resolution
The course will focus on the concepts of peace and conflict resolution. It will thoroughly analyze and explain different theories of peace and conflict resolution, like Liberal, and Marxist etc., theories. The course will examine different examples of conflict resolution efforts both at national and international levels and suggest the way forward on how peace and tranquility shall be maintained.

INT 8214: Regional and International Organizations
This course will examine the efforts of regional organizations in West Africa, through Central, East to Southern Africa in managing the issues of security problems and health challenges. It will also address other important international bodies such as the UNO, EU,

and AU in managing such challenges. The role of trans-national actors both on the continent and the global levels in managing emergent crises challenges will also be examined.

INT 8215: Environmental Politics
This course will examine the relationships between global political forces and environmental challenges. Particular attention will be given to the implications of local-global interactions for environmental management as well as the implication of environmental change for world politics. The making and implementation of public policy at international, national and local levels will be the primary focus of this course.

INT 8216: Asia in World Politics
This course is aimed at examining the many problems confronting the Asian countries beginning from the Cold War era to the post-Cold War world politics. Attention will be paid on changes in political development of select Asian countries and how each selected country has been coping with the challenges of globalization.

INT 8699: Research Thesis.
This constitutes a partial requirement for the fulfillment of the M.A. degree programme. Students are encouraged to conduct wide reading and preliminary researches in the libraries as well as research centers. Students are also to complement their research from both primary and secondary sources.

PGD IN DEVELOPMENT STUDIES

List of Courses:
Core Courses

Course Code	Course Title	Units
PDS 7301	Research Methodology	3
PDS 7302	Theories of Development	3
PDS 7303	Notion of Development in Pre-colonial Africa	3
PDS 7304	Nature of Development in the Colonial Period	3
PDS 7305	Independence and the Development Question	3
PDS 7306	Issues and Critical Discourse in Development Studies	3
PDS 7307	International Aid and Development	3
PDS 7699	Research Project	6

Electives: 6-8 courses

Course Code	Course Title	Units
PDS 7208	Case Studies of Failed States in Africa	2
PDS 7209	Alternative Development Models	2
PDS 7210	Issues in Rural Development	2
PDS 7211	The Multi-nationals and Resource Exploitation in Africa	2
PDS 7212	The Environment and the Development Question	2
PDS 7213	Agricultural Revolution	2
PDS 7214	Corruption and the Development Question in Africa	2

PDS 7215	Political Instability and Development Question	2
PDS 7216	Development and the Contacts of Values: Traditional versus Modern	2
PDS 7217	Economic Reforms in Africa since the 1980s	2

Course Description:

PDS 7**301: Research Methodology (3 Units)**
The course is designed to help students in understanding the various dynamics of development issues, and to develop their ability to expand and verify existing knowledge. Interdisciplinary approach will be used to study development problems especially as they relate to history, politics, economics and law. It conceptualizes development problems in relation to social, physical and environmental issues. Other issues deal with critical position of sources, analysis of data etc. World views are examined especially across the continents of Asia, Europe, and Latin America, etc.

PDS **7302: Theories of Development problems (3 Units)**
This course examines the Development question in both its historical chronology as well as the variety of perspectives in which scholars have treated the issues on a global basis. It treats variety of theoretical issues on Development. World views on development are examined especially across the continents of Asia, Europe, and Latin America, etc. will also be examined

PDS **7303: Notion of Development in Pre-colonial Africa (3 Units)**
This course examines the notion of development in Africa before the Colonial era. The course will examine pre-colonial African societies on issues relating to land, agricultural and industrial production and other related development needs.

PDS **7304: Nature of Development in the Colonial Period (3 Units)**
This course treats the course of the subjugation of African countries and the nature of the political apparatuses imposed on them and how these have displaced communities and shaped and re-shaped the pattern of development and eventually created future crises in the continent. Also, the accompanying policies and programmes as well as infrastructures of the colonial regimes shall be covered.

PDS **7305: Independence and the Development Question (3 Units)**
The course treats efforts at decolonization, attainment of independence and the emergent development plans as well as their successes or failures.

PDS **7306: Issues and Critical Discourse in Development Studies (3 Units)**
This course shall examine a variety of other views about development. Issues on dependency theory and the like would be covered as well as other critical empirical approaches. African examples on dependent development will serve as case studies. For instance, Ethiopia under Mengistu, Mozambique, Tanzania, etc

PDS **7307: International Aid and Development (3 Units)**
The course shall treat the much talked about international aid, its nature, its specific goals and how far this could aid the development of African states. Or on the other hand, how in their own wisdoms can turn the tables and benefit from the aids.

PDS **7208: Case Study of Failed States in Africa (2 Units)**
This course examines the failure of some African states vis-a-vis the concept of any type of positive development that can come about for the peoples' benefits. War torn countries, torn apart by warlords shall serve as the case studies. Examples could freely be drawn from Sierra Leone, Liberia, Rwanda-Burundi, Somalia, Zaire and Uganda.

PDS **7209: Alternative Development Models (2 Units)**
This course shall seek to clarify the strides attained around the world for alternative development. It shall be critical of absolutist positions on the development question. Examples would be drawn from the Peoples' Republic of China, South Korea, Indonesia, Malaysia and India.

PDS **7210: Issues in Rural Development (2 Units)**
The course shall treat the need to extend development to the rural areas of the world and Africa in particular. Misconceived efforts shall also be highlighted with a view to correcting stereotype copying in due course with respect to African countries. Projects such as the DFRR1 and River Basin in Nigeria, Arusha programmes in Tanzania and Narmada Valley project in India would serve as examples.

PDS **7211: The Multi-nationals and Resource Exploitation in Africa (2 Units)**
This course will examine the current onslaught of the Multinationals and their global drive to make profits and how these impinge on development question especially in Africa. Their raison *d'tre* as well as accompanying problems shall also be examined. Examples would be drawn especially from oil companies operating in African countries such as in Nigeria, Mining areas, and other multinationals such as the UAC, UTC, PZ, etc.

PDS **7212: The Environment and the Development Question (2 Units)**
The course examines the crucial nature of the environment in development. Such issues as environmental degradation and its preservation shall be covered. The Delta region of Nigeria and Desert Afforestation and water hyacinth projects will serve as examples.

PDS **7213: Agricultural Revolution (2 Units)**
This is to be treated in all its facets as a doyen of development. Most technological revolutions have been based on a successful agricultural base. Issues in monoculture and diversification shall also be covered in the course. Worldwide examples from the former USSR, Britain, USA, Malaysia and South Africa would provide the needed examples such as the New Economic Policy and Collectivization in Russia, Green Revolution and the Back-to-Farm, in Nigeria, etc.

PDS 7**214: Corruption and the Development Question in Africa (2 Units)**
This course is to examine this phenomenon that now pervades almost all sectors - economy, education, politics, judiciary, law enforcement etc. The course shall explicate the dangers and

consequences of the phenomenon on the general and specific development question Africa and Nigeria in particular.

PDS **7215: Political Instability and Development Question (2 Units)**
This course is a general survey of political instability and its causes and impacts across the African continent as per development issues. This course also examines the deterioration in specific instances of the negative consequences of ethnic politics and religion leading to the specific disaster in different parts of the world. Other issues to be discussed are development crises which emanate in the course of political (regime) change and succession. The negative consequences of such issues will be highlighted.

PDS **7216: Development and the Contacts of Values: Traditional Versus Modern (2 Units)**
This course shall explicate the realities on ground about the contact and consequently the clash of values between, on the one hand, the traditional and other indigenous values and systems and the modern values ingrained in either modernization, westernization or in market-oriented and secular drives, on the other.

PDS **7217: Economic Reforms in Africa since the 1980s (2 Units)**
The course examines the crisis of economic underdevelopment, national industrial policies (such as import-substitution), problems and prospects of regional economic organizations; the role of the IMF, the World Bank and the Economic Commission for Africa (ECA) in the economic development of Africa.

PDS **7699: Research Project (6 Units)**
Shall be on an approved topic submitted by the candidate and considered by the Departmental PG Board.

MASTERS OF ARTS HISTORY

List of Courses by Semester

First Semester

COURSE CODE	COURSE TITLE	CREDIT UNIT	STATUS
HIS8301	Advanced Historical Research Methodology	3	Core
HIS8303	Nationalism and Independence in Africa	3	Core
HIS8305	Contemporary History of the Middle East	3	Core
HIS8307	Economic History of Nigeria since 1900.	3	Core
HIS8009	Post Graduate Seminar	0	Core
HIS8311	Economic Role of Women in African History	3	Elective

HIS8313	The Military and Politics in Nigeria	3	Elective
HIS8315	Socio-economic and Political History of the North-Western Region of Nigeria.	3	Elective
HIS8317	Africa and The Wider World	3	Elective
HIS8319	Indigenization of African Economies	3	Elective

Students are expected to register twelve (12) credit units of four (4) core courses in addition to zero (0) credit post graduate seminar plus at least one (1) elective course.

SECOND SEMESTER

COURSE CODE	COURSE TITLE	CREDIT UNIT	STATUS
HIS8302	Development of Regional Cooperation in Africa.	3	Core
HIS8304	Kano since independence	3	Core
HIS8306	Africans in Diaspora	3	Core
HIS8308	Comparative Industrialization Britain, Germany, Japan and China.	3	Core
HIS8610	Dissertation/Thesis	6	Core
HIS8312	Evolution of Liberal Democratic Governments	3	Elective
HIS8314	Globalization and Diplomacy	3	Elective
HIS8316	History of Industrialization in Africa	3	Elective
HIS8318	History of Emerging Economies (China, Korea, Malaysia, Singapore, Brazil and South Africa)	3	Elective
HIS8320	History of Political Ideas/Thought	3	Elective

Students are expected to register twelve (12) credit units of four (4) core courses in addition to six (6) credit dissertation plus at least one (1) elective course.

COURSE DESCRIPTION

HIS 8301 Advanced Historical Research Methodology

The course is to acquaint students with the methods and techniques involved in Historical research. Emphasis is laid on different methods of understanding historical research, data collection procedures, evaluation and interpretation of historical data, documentation, proper referencing systems, footnotes, endnotes and bibliography. The course also examines the meaning, nature,

significance and relevance of history to society, objectivity, moral judgment, history as science or arts. It also examined historiography and the development of history as a discipline will be discussed and examined.

HIS 8302: Development of Regional Cooperation in Africa
The course deals with the awakening of the African states after decades of colonial oppression. The sense of integration against the divide and rule of the various European powers, the creation of artificial boundaries between states, linguistic differences based on European Languages of colonial administration that divided and kept African states away from each other would be studied. Also to be examined are some of the methods adopted by the African leaders such as the establishment of the OAU at the regional levels (West Africa, Southern Africa, Central and East Africa, and North Africa) to unify and integrate the sub-regions in the continent for mutual benefit and development.

HIS 8303: Nationalism and Independence in Africa
The course treats efforts at decolonization, attainment of independence and the emergence of development plans as well as their impacts. The course treats the subjugation of African countries and the nature of the political apparatuses that shaped future crises in the continent will be discussed. Other issues include: the impact of the 2nd World War in Africa, the Atlantic charter, formation of Mass-based political parties as well as independence of Egypt, Tunisia, Morocco and Ghana. The effect of cold war, the pattern of attainment of independence African nations and the roles in the decolonization process and addressing the political, economic and cultural challenges in Africa. the OAU; economic and political challenges etc.

HIS8304: Kano since Independence
The course is designed to acquaint students with, and help them in understanding the contemporary history and culture of Kano. It takes an overview of the changing nature of Kano society since national independence. It discusses the transformation of Kano emirate with emphasis on the changes that have culminated into the formation of the present Kano state. The political, economic and social changes since the collapse of the first republic, state creation, the civil war, oil boom era, SAP, are some of the important historical events that would be highlighted. Other subjects of analysis and presentation include the impact of military and civilian regimes in various areas in education, civil service, infrastructure etc.

HIS 8305: Contemporary History of the Middle East
The course exposes students to ongoing crises and intricacies within the Middle East. Major issues in this course include: The historical background of the region and an assessment of its strategic, political, military and socio-economic significance in global politics. Arab Nationalism and the rise of nation states in the region; Zionism and the Palestinian question; Arab-Israeli conflicts; imperialism and oil politics. The impact of Communism and western democracy; and the rise of Islamic movement. Also to be discussed are the military in politics; the impact of the Gulf war; problems of integration and other contemporary issues.

HIS 8306: Africans in the Diaspora
The course discusses the global contributions of Africans who have been outside the African continent in political, economy cultural and intellectual fields. Some of the issues of discussion

include reasons for the Atlantic Slave Trade; Colonialism; African economic collapse in the sixties (1960s) among others. The issues of economy are particularly central especially remittances to Africa, which runs into more than 60 billion dollars annually. Other issues to be discussed include reparation and restitution matter.

HIS 8307: Economic History of Nigeria since 1900
The course covers issues of direct national during the colonial and post-colonial periods. The themes to be discussed include: the nature and pattern of external influences on Nigeria's political economy; major trends and changes in post-colonial period; the monetary and banking sectors of the economy, mining and manufacturing/industrial sector; agriculture. Also to be examined issues related to oil economy; participation OPEC; Indigenization, Commercialization, Deregulation and Privatization; Government agricultural development schemes. The course will also focus on Operation Feed the Nation, Green Revolution, River Basin Development Authorities; Agricultural Development Projects(ADPs); the Structural Adjustment Programme (SAP), National Directorate of Employment (NDE), DFRRl, Better Life for Rural Women; Family Support Programme, Poverty Alleviation Measures/Programme; NEEDS, Corruption, etc.

Topic to be examined include: problem related to underdevelopment; the pension schemes and the labour issues; Government's economic and fiscal institutions and agencies, etc.; The course will also focus on relations with global financial institutions like the World- London club, Paris club and the European Union; German government as well as the International Monetary Fund (I.M.F), the World Bank (WB) and their agencies. Finally, the course would look at poverty and its causes and the increasing class differentiation in Nigeria. In addition, the course will focus on problem of continuity and inconsistency like poverty and class differentiation.

HIS 8308: Comparative Industrialization Britain, Germany, Japan and China
The course comparatively deals with industrialization in two continents. First, Britain and Germany as the leading industrial bloc and then Japan and China. The nature of these societies, and how their policies and programs facilitated industrial development, as well as the consequences on their role and influence internationally.

HIS 8009: Post Grade Seminar (0 Unit)
The Seminar shall be on an approved topic submitted by the candidate and considered by the Departmental Post Graduate Board.

HIS 8610: Dissertation/Thesis
This constitutes a partial requirement for the fulfillment of the M.A. degree programme. Students are encouraged to conduct wide reading and preliminary researches in the libraries as well as research centers such as the Arewa House, the Nigerian National Archives in Kaduna, Ibadan, Enugu and National Museum, Jos, Kaduna etc., and the various states' History and Culture Bureaus before they formulate their research topics. Students are also to complement their research from oral source.

HIS 8311: Economic Role of Women in African History
The major contributions of Women in development overtime and their changing roles from pre-colonial to the contemporary era in Africa and Nigeria in particular. Issues of discussion include

the roles of women in power particularly in military as queen mothers, and government advisers. The course will also focus on female chiefs and their contributions in the economy particularly in food production, processing and distribution and industrial sector like weaving, mat-making, dyeing, pottery, goldsmithing etc. Also their role in child upbringing and social integration. Other issues include cross-cultural case studies of women contemporary period; women in leadership, women in military and intelligence services.

HIS 8312: Evolution of Liberal Democratic Governments
The Course critically looks as the definitions of democracy; the emergence of leading democracies in the World as opposed to dictatorships of the military or feudal institutions around the world. It will focus on the types of democratic systems, Parliamentary, Presidential etc; attention will be given to practice of democracy in the industrialized states and in the emerging economies. It will also address the advantages and disadvantages of democratic rule as well as corruption in certain Countries such as Nigeria and Indian; elections; one party domination to the neglect of oppositions etc, democratic rule in comparative contexts; leaders in comparative contexts and critical areas for its success around the world.

HIS 8313: The Military and Politics in Nigeria
This course provides a general survey of political instability and its causes, military intervention its impact in the country. Topics to be examined include the various military regimes intervention and as well as the crises which emanate in the course of regime change and its impact on the country. It will also address the efforts of the Nigerian military in managing political crises in other parts of the World especially Africa through ECOMOG, ECOWAS and OAU/AU shall be covered.

HIS 8314: Globalization and Diplomacy
The course introduces students to an understanding of the term Globalization, its origin, concepts, and development. It then analyses the historical forces that subsequently led to the emergence of the world as global village. It pays attention to the trends since slave trade, colonialism, imperialism, technological and scientific transformation especially in communication technology, media etc in linking and connecting the world as a single unit and in enhancing diplomacy. The consequences of globalization upon Africa would be highlighted, such as economic domination and cultural imperialism in all its ramifications, as well as the prospects of the African continent in world would be examined.

HIS 8315: Socio-Economic and Political History of the North-Western Region of Nigeria
The course is to trace the origin of the North-Western region, its geography, peoples, culture and the economy with a view to understanding all the history of the societies in question. Major states that shaped the history of the region such as Gobir, Kebbi, Zamfara, Zazzau, Katsina, Kano with emphasis on pattern of inter-group relations will be examined.

HIS 8316: History of Industrialization in Africa
The course is designed to give students a comparative approach to the pattern of industrial development in post-colonial African states. Issues such as the role of international financial institutions such as IMF and the World Bank in shaping the pattern of industrial growth in African nations. Also to be examined are the problems of corruption and political instability that now

pervades almost all sectors - economy, education, politics, judiciary, law enforcement and the dangers and consequences of the phenomenon on the general and specific self-sustaining industrial question the continent.

HIS 8317: Africa and the Wider World
The course studies the African continent in the context of political, social, economic, scientific and technological developments that took place in other continents, especially Europe and Asia, as these shaped and continue to influence African Affairs. The course starts with a general survey of the internal, external developments as well as dynamics that influenced the development of imperialism. Students are expected to study some of the theories of imperialism as propounded by thinkers like Hobson, Lenin, and J.A. Schumpeter. Rosa Luxemburg and D.K. Fieldhouse. Themes to be covered include historical origin of imperialism, colonialism and neo-colonialism. Selected case studies would be examined with particular emphasis on economic political implications.

HIS 8318: History of Emerging Economies (China, Korea, Malaysia, Singapore, Brazil and South Africa)
The course deals with the history of emerging industrial societies and the patterns of their economy and political growth. The course will examine the social impact of these on the societies.

HIS 8319: Indigenization of African Economies
The course introduces the students to an understanding of the term Indigenization, its origin, concepts, and development in various African nation states. It then further shows the historical forces that subsequently pushed post-colonial African nations to nationalize their economies. Other issues include the emergence of development plans as well as their impacts. The consequences of globalization on African economies.

DOCTOR OF PHILOSOPHY (PH.D) DEGREE IN HISTORY

List of Courses:

Course Code	Course Title	Units
HIS 9301	Historical Methodology and Historiography	3
HIS 9302	Africa in the Contemporary Period	3
HIS 9303	Landmarks in Nigerian History in the 20th century	3
HIS 9304	Modern Europe	3
HIS 9305	Economic History of Modern Asia	3
HIS 9306	U.S.A. in the Modern Times	3
HIS 9307	Issues in Contemporary History	3

Description of Courses

HIS 9301: Historical Methodology and Historiography
The course is designed to acquaint the students with the methods and techniques involved in research writing in history. Emphasis is laid on the Various definitions and concepts of History, data collection and evaluation, as well as interpretation and documentation, and proper referencing – footnotes, endnotes, abbreviations, use of quotations, bibliography and the use oral Tradition and their strength and weaknesses in historical research. Other issues to be discussed centered on European Historiography, African Historiography, Islamic Historiography and the Orientalists approach to the study of history.

HIS 9302: Africa in the Contemporary Period
This course deals with issues that affected and still affecting African countries in all spheres of human life particularly issues related to international affairs. They include such issues that hinder African development and other related issues to the present. Issues to be covered include among others historical origin of imperialism, colonialism and neo-colonialism. Selected case studies shall be examined with particular to economic implications.

HIS 9303: Landmarks in Nigerian History in the 20th century.
This course examines some of the major issues related to Nigeria particularly in the 20th Century. Topics to examine include the British colonial rule in Nigeria, independence, the Nigerian Civil War, the various military regimes in the country beginning with the Major Nzeogwu Coup of 1966 to the regime of General Sani Abacha, the Civilian rule since Independence, the question of Federalism and some of major issues that determine the basis of Nigeria's foreign policies and how these have affected the development of Nigeria as a nation over the years. Other issues the major trends and changes in the monetary and banking sectors of the economy, Nigerian oil sector and the collapse of agriculture, indigenization Decree and Corruption and the Economy.

HIS 9304: Modern Europe
Issues to be focused include definition of modernism, and what distinguishes it from ancient and the medieval times, European overseas navigation and the Mercantile System, Wars of conquest and wars of unification in Europe, the Industrial Revolution, development of the printing technology, the rise and fall of some of the empires, particularly Germany, the British, the French and the Russian, the Renaissance, Overseas colonialism, the First and the Second World Wars, the development and the application of the atomic energy and the nuclear power and the loss of the overseas colonies.

HIS 9305: Economic History of Modern Asia
Themes in the economic development of some Asian countries would be selected for discussions. Countries like Japan, China, India and Malaysia could be selected. Japan's post Meiji Restoration period and its industrial development in the first half of the 20th century and its contemporary technological growth would be studied. Topics on India would include British industrial policies during the pre-independence period, as well as industrial growth in the contemporary period. Current economic developments in Malaysia, China, the Koreas, and Singapore etc. would also be examined.

HIS 9306: U.S.A. in the Modern Times
The emergence of the USA as a world power, its role in the Second World War, its role in the Cold War and its position in the world affairs during the last century. Others are USA's position in the world today, its interest and influence in the Middle East, America's war on terror, the attacks of September eleven i.e. '911' and finally America's position as an imperial state during the 21st century.

HIS 9307: Issues in Contemporary History
This course will discuss issues on forms and contents of globalization debate; global women's movements and women studies; rising wave of democracy and the diminishing status of military rule in the third world; poverty, the development question and economic possibilities vis-à-vis the IMF, World Bank, Paris club and their policies, etc.; collapse of Soviet Union and the declining influence of communism; the end of history thesis; global power-shift and the emergence of China as a super power and its attendant influences across continents; the continuing and changing-roles of religious and social movements around the world and environment issues.

GRADUATION REQUIREMENTS

DOCTOR OF PHILOSOPHY (PH.D) DEGREE IN INTERNATIONAL STUDIES

List of Courses:

Course Code	Course Title	Units
INT 901	Advanced Theories of International Relations	3
INT 902	International Organizations and Institutions	3
INT 903	Advanced Issues in International Law	3
INT 904	Advanced Research Methodology	3
INT 905	Analysis of Nigerian Foreign Policy	3
INT 906	Diplomatic Studies	3
INT 907	Security and Strategic Studies	3

Description of Courses:

INT 901: Advanced Theories of International Relations.
This course dwells on the origins of theoretical study of International Relations; the traditional scientific and post behavioral schools in International Relations. These include Realism, Liberalism, Constructivism, English School, Feminists' approach Systems theory, Game Theory etc. Assessment of application and utility of these theories are also part of the course.

INT 902: International Organizations and Institutions.
This course analyzes the role of international organization such as the Congress of Vienna, League of Nations, UN and other continental and regional organizations such as the EU, AU and ECOWAS in international relationship. The course also examines the creation and roles of other Bretton Woods institutions like the World Bank and IMF. As part of its scope, the course analyzes relations between these organizations/institutions and major powers as well as their influence of the Third World countries.

INT 903: Advanced Issues in International Law.
This course focuses on sources and evidence of International Law; international personality of states; non-self-governing territories; rules and principles of general application of International law. Other areas include the role of law in international relationship between domestic and international law, international rules guiding the conduct of states and that of international organizations, as well as some of their relations with persons and states.

INT 904: Advanced Research Methodology
The course intends to examine basic concepts in research method; research sources and materials i.e. primary sources, such as official publications, speeches memoirs - secondary sources, such as books, articles, periodicals, newspaper. Emphasis on social research methodologies such as survey and field research, questionnaire design, content and textual analyses, analysis of existing data, focus group, individual and group observation (including participatory observation) etc. will be discussed. It is also aiming to treat issues of data collection and data analysis and reporting; ethical

issues in social research, covering such topics as voluntary participation, anonymity and confidentiality and the need to adhere to professional code of ethics.

INT 905: Analysis of Nigerian Foreign Policy

Focuses on the frameworks of analysis in the study of foreign policy; introducing the most common model for understanding foreign policy; the basic tools observers can use to understand foreign affairs. It teaches with basic principle underlying Nigeria's Foreign Policy, determinants of policy (domestic and external); The constitutional framework and governmental structure, official agencies that formulate foreign policy; control and coordination of foreign policy. The course also centers on the role of Foreign Service, Legislature and the Federal Executive Council in the process of foreign policy formulation.

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INT 906: Diplomatic Studies

This course examines background and the role of diplomacy in International Relations, the nature and origins of the modern diplomatic system and practical problems in the conduct of diplomacy. Origins of Modern Diplomacy; diplomacy and intelligence, propaganda, negotiation, mediation, conciliation and good offices and issues on the impacts of technological changes on modern diplomacy will be examined.

INT 907: Security and Strategic Studies

Under this course, development of concepts of security and strategy, their theories, and practice and conduct of modern warfare will be discussed. The course also analyzes contemporary strategic concepts - brinkmanship, containment, massive retaliation, flexible and gradual response, mutual assured destruction, escalation and the evolution of strategic thought; relevance of traditional and new thinking about security and strategy for understanding the complex issues of war and peace at the beginning of the twenty-first century. The historical and continuing role of military power in support of political ends; adapted theories about peace and security which were developed during the Cold War and developments in strategic thinking and practice which have taken place since the end of the Cold War, including revolution in military affairs, information (Cyber) warfare, and space warfare will be treated in this course.

GRADUATION REQUIREMENTS

DEPARTMENT OF BIOLOGICAL SCIENCES

Head of Department: Dr. Zafar Sultan
Departmental PG Coordinator: Dr. Rukayya M Hamidu

Staff List

SN	Name of Academic Staff	Area of Specialization	Qualification	Rank	Employment Status
1	Prof Auwal H. Arzai	Biotechnology & Microbiology	PhD (Microbiology)	Professor	Part- Time
2	Prof. Fatima Batul Mukhtar	Plant physiology	PhD Plant Physiology	Professor	Full-Time
3	Prof Ahmad Shehu Kutama	Phytopathology	Ph.D (Plant Pathology)	Professor	Full-Time
4	Prof Lawan Danlarai Fagwalawa	Botany	Ph.D. Botany	Professor	Part- Time
6	Prof. Sani Yahaya	Phytopathology	PhD (Plant Pathology)	Professor	Full-Time
7	Dr. Zafar Sultan	Phytopathology	PhD Botany	Associate Professor	Full-Time
8	Dr. Kalpana Sultan	Microbial Genetics	PhD Microbial Genetics	Associate Professor	Full-Time
9	Dr. Umar Sharif	Plant Physiology	PhD Botany	Associate Professor	Full-Time
10	Dr. Muhd. Manjour Shah	Parasitology	PhD Zoology	Associate Professor	Contract
11	Dr.Tijjani Rufa`i Buhari	Ecotoxicology	PhD Ecotoxicology	Senior Lecturer	Full-Time
12	Dr. Kabiru Mustapha Umar	Food Biotechnology	PhD Food Biotechnology	Senior Lecturer	Part- Time
13	Dr. Nuraddeen Abdullahi	Biostatistics & General Zoology	PhD Zoology	Senior Lecturer	Part- Time
14	Dr. Ruqayyah H. Muhammed	Medical Microbiology/parasitology	Ph.D. Zoology	Senior Lecturer	Full-Time

POSTGRADUATE DIPLOMA IN BIOLOGICAL SCIENCES
COURSES:

First Semester

Course Code	Credit	Course Title
BIO7201	2	Biological Techniques
BIO7202	2	Statistical Methods in Biology
BIO7203	2	General Microbiology
BIO7204	2	Cell Biology
BIO7205	2	General Physiology
BIO7206	2	Ecology

Second Semester

Course Code	Credit	Course Title
BIO7207	2	Applied Genetics
BIO7208	2	Principles of Parasitology
BIO7209	2	Limnology
BIO7210	2	Aquaculture and Fisheries Management
BIO7211	2	Mycology
BIO7212	2	Comparative Plant Anatomy
BIO7213	2	Applied Entomology
BIO7214	2	Bacteriology
BIO7215	2	Principles of Plant Taxonomy
BIO7400	4	Project (Compulsory)

BIO7201: Biological techniques
Basic techniques used in modern investigations of moderns in various aspects of Biology such as microscopy, chromatography, anatomical techniques etc
BIO7202: Statistical Methods in Biology
Data collection, hypothesis testing, multiple and partial correlation and regression, the use of parametric tests (t-test, analysis of variance etc) and non-parametric and regression. The parametric tests (t-test,analysis of variance etc) and non-parametric test (The Mann-Whitney U test etc), Multivariate statistical analysis (principal component analysis, factor analysis, duster analysis).
BIO7203: General Microbiology
History of Microbiology: Microbes, the role of micro-organisms in the causation of disease, structure, systematic, growth and function of selected bacteria, actinomycetes, viruses, algae, fungi and protozoa, etc. Control of microorganisms by physical, chemical, antibiotic and other hemotherapeutic agents
BIO7204: Cell Biology
The cell theory. Macromolecules, enzymes, chemical reactions in cells. Uses of energy in the cell. Chemical synthesis, secretion, active transport, cell membrane; the fluid mosaic models, transport processes, osmotic and ionic balance, electrical activity. Extracellular materials; cytoplasmic organelles and their functions. Interaction between cells in physiology and development.
BIO7205: General Physiology

Dormancy and germination in plants; respiration in plants, photosynthesis, translocation in plants, plant growth regulators. Principles of physiological adaptation and homeostasis. Metabolism measurement rate and thermal systems. Osmoregulation and excretion in animals, vertebrates nervous system, membrane potential, action potential, muscle structure and physiology. Vertebrate endocrinology, respiration in animals

BIO7206: Ecology

An introduction to ecological concepts and theories, species and populations, niches and competition, productivity, nutrients and water cycles. Nigerian vegetation zones. Factors limiting the distribution of plants and animals. Predator/prey relationships, succession

Second Semester Courses

BIO7207: Applied Genetics

Selected topics from Mendelian genetics, cytogetics, principles of human genetics and population genetics.

BIO7208: Principles of Parasitology

The concept of parasitism, origin and evolution of parasitism, morphological, structural and physiological adaptation for parasitism using examples from protozoa, helminthes and arthropods. Host-parasite interactions to parasitic infections, zoonoses.

BIO7209: Limnology

Origin and diversity of fresh water. Ecological features of sreams, lakes, ponds and impoundments. The biological importance of temperature, water movements, thermal and light penetration. The circulation of dissolved substances, their interaction and importance in biological activity. Analyses: carbon dioxide, iron, ammonia, nitrite, phosphate, pH, electrical conductivity, Biological oxygen demand etc

BIO7210: Aquaculture and Fisheries Management

Taxonomy of major groups of fresh water in food and feeding in fish, reproduction and fecundity and growth studies, fish population dynamics. Aquaculture energy regulations.

BIO7211: Mycology

Classification of fungi and relationship among the major fine structure of fungi. Economic mycology with reference to Nigerian forms. Mycotoxicoses.

BIO7212: Comparative Plant Anatomy

Variation of anatomical features of plants in relation to taxonomy and evolution epidermal structures and wood anatomy of selected groups of plants.

BIO7213 : Applied Entomology

The classification of economically important insects. Biology and ecology of insects of agricultural and medical importance. The control of insect pest. Insecticides; formulation ,application and mode of action, alternatives to insecticide. Introduction to pest management.

BIO7214: Bacteriology

Classification of bacteria. Culture techniques for characterization, identification and isolation. Bacterial cell wall envelopes, enzymes and toxins and their roles in determining pathogenicity, host-parasite relationships. A survey of some bacterial diseases of man and other animals. Antibiotic and drug resistance.

BIO7215: Principles of Plants Taxonomy

Classification. Morphology of vegetative and floral characters and their variations and adaptations with examples from Nigeria flora. Identification and description of selected flowering plant families. Field and herbarium techniques.

BIO7400: Project

A supervised project involving an investigation on a biological problem. To be written in the form of a report and assessed by the supervisor and second internal examiner.

M.SC. BIOLOGY

Areas of specialization

Candidates can specialize in:

- Hydrobiology/Aquatic Sciences
- Ecology and Environmental Biology
- Conservation Biology

General Courses for Masters Programme in Biology

Core Courses applicable to all Options:-

BIO/ZOO 8201	Research Techniques
BIO/ZOO 8203	Seminar (Current Topics)
BIO 8304*	Ecology of Tropical Ecosystems
BIO 8305**	Environmental Impact Assessment
SCI 8206*	ICT and Research Methodology
SCI 8207**	Science, Environment and Innovations
BIO 8602**	Research Project

HYDROBIOLOGY OPTION

BIO 8308*	Limnology and Marine Biology
BIO 8409	Aquatic Ecosystems
ZOO 8319	Tropical Aquaculture

ECOLOGY AND ENVIRONMENTAL BIOLOGY OPTION

BIO 8411	Ecotoxicology
BIO 8409	Aquatic Ecosystems
BIO 8212*	Pollution Control

CONSERVATION BIOLOGY OPTION

BIO 8313	Restoration Ecology
BIO 8414*	Biodiversity Conservation Management
BIO 8315	Ecology & Management of Tropical Wetlands

Course Synopsis

SCI 8204 Science, Environment and Innovation (2 Credit Units)

Elements of global warming, environmental protection issues, biodiversity, pollution, species at risk, social and ethical implications of science, enterprise and productivity, intellectual property rights, private public partnership and investment.

SCI 8202 ICT and Research Methodology (2 Credit Units)

This course should cover essentials of Spreadsheets, Internet technology, Statistical Packages, Precision and Accuracy of Estimates, Principles of Scientific Research, Concepts of Hypotheses Formulation and Testing, Organization of Research and Report Writing.

BIO 8304 Ecology of Tropical Ecosystems (3 Credit Units)

Intensive studies of the factors affecting the abundance and distribution of animals in tropical terrestrial ecosystems (lowland forests, savanna, deserts and montane systems). Community structure, functions and dynamics. Adaptation of animals to different tropical environments and the effect of human activities on tropical ecosystems. Ecology of coastal and tropical inland waters like estuaries, lagoons, rivers, natural and artificial lakes. The inter-relationships of fauna and flora. Man's influences on the aquatic environment

BIO 8305 Environmental Impact Assessment (3 Credit Units)

Basic concepts, principles and history of Environmental Impact Assessment (EIA). Relationship between EIA and Environmental Impact Statement (EIS). Indicator species and organisms of value in environmental assessment. Essentials in EIA. Potential problems of EIA and their solutions. Cost benefits as a tool for environmental decision-making. Field case studies of impact assessment in Nigeria.

BIO 8308 Limnology and Marine Biology (3 Credit Units)

Origin and diversity of freshwaters and marine waters. Physico-chemical parameters of the aquatic environment. Ecological features of rivers, streams, lakes, ponds, estruaries, lagoons, seas, natural and artificial lakes. Plankton and benthos. Allochthonous production of inland waters. Aquatic pollution and its effects.

BIO 8411 Ecotoxicology (4 Credit Units)

Sources of exposure to toxins. Natural and man-made toxins. Toxins in the Nigerian environment. Bioassay for ecotoxins. Resistance and evaluation of toxicity. Radiation biology.

BIO 8409 Aquatic Ecosystems (4 Credit Units)

Plants/animals (primary and secondary production) of aquatic ecosystems; sampling techniques; periphyton diversity and distribution, types and importance of nutrients to aquatic ecosystems, algae of Kano State water bodies.

BIO 8313 Restoration Ecology (3 Credit Units)

Causes and effects of land degradation; deforestation, over grazing, over cultivation, fire/bush burning, soil erosion, contamination by oil, pesticides and other polyaromatic hydrocarbons (PAHs). Forest decline and soil acidification. Land restoration and reclamation. Plant species selection and planting materials. Nursery and field practices for reforestation/re-vegetation.

Watershed management. Ecological succession. Energy and nutrient dynamics of climax communities. Landscape horticulture.

BIO 8212 Pollution Control (2 Credit Units)

The study of major pollutants: oil and petrochemical, heavy metals, solid wastes of aerial, terrestrial and aquatic environment and their effects on other components of ecosystems. The study of radiation and plant life. Survey of environmental pollution control and measures.

BIO 8315 Ecology & Management of Tropical Wetlands (3 Credit Units)

Definition of wetlands. Important terms associated with wetlands. Distribution of wetlands in Nigeria. Ecology of wetlands. Biology of wetland fauna. Values of wetlands; Field studies.

BIO 8414 Biodiversity Conservation Management (4 Credit Units)

Wildlife in relation to their environment. Factors affecting the distribution and abundance of wildlife. Inter-relationships between climate, soils, vegetation, history and wildlife populations. The wildlife resources of Nigeria. Movement, behaviour, life cycles, reproduction, food and food habits of wildlife. Natural and efficient usage of range lands in Africa. Methods of range assessment and management. Principles of biological conservation. Natural reserves

BIO 8201 Research Techniques/ Methods In Zoology (2 Credit Units)

These include methods and techniques needed in planning and conducting research in Environmental Biology, Entomology, Fisheries, Hydrobiology and Parasitology. These techniques should reflect the specific needs of the respective specializations.

ZOO 8319 Tropical Aquaculture (3 Credit Units)

Dams and ponds construction. Stocking and pond management. Cropping and marketing. Cage culture; raceways and closed circulation systems. Fish propagation, controlled natural and induced spawning. Hatchery organisation and management. Feed formulation and evaluation. Culture of shell fishes.

BIO 8203 Seminar (Current Topics) (2 Credit Units)

This involves a critical review of current literature in specific areas of specialization. Each student is expected to write and make an oral presentation on a topic in his/her area of specialization and must participate in all departmental seminars.

BIO 8604 Research Project (6 Credit Units)

A research project in the relevant area of specialization which must be defended before a panel of external and internal examiners.

PHD BIOLOGY

Courses for PhD Biology Programme

BIO 9201	Proposal Seminar	(Non- Credit Carrying)
BIO 9202	Progress Seminar	(Non- Credit Carrying)
BIO 9203	Final Seminar	(Non- Credit Carrying)
BIO 9204	Research Methodology & Experimental Design	(2 Credit Units)
BIO 9205	Advanced Biostatistics	(2 Credit Units)
BIO 9206	Contemporary Issues in Biological Sciences	(2 Credit Units)

Note: * indicates first semester course; ** indicates second semester course

Courses for PhD programme

BIO 9201	**Proposal Seminar**	(Non- Credit)
BIO 9202	**Progress Seminar**	(Non- Credit)
BIO 9203	**Final Seminar**	(Non- Credit)

BIO 9204 Research Methodology & Experimental Design (2 Credit Units)
This core module provides an introduction to research skills, concepts and issues that are key to the natural sciences. The module is divided into three sections: a. research strategies, b. field research techniques, c. communicating research findings.

BIO 9205 Advanced Biostatistics (2 Credit Units)
Introduction to various qualitative and quantitative statistical approaches

BIO 9206 Contemporary Issues in Biological Sciences (2Credit Units)
Investigation of the impact of modern biology upon society. The course covers selected biological areas but not limited to the following examples; The principles of biological ethics, Transgenic organisms, Human organ transplantation, Animal experimentation, DNA fingerprinting, Human ageing with ethical and legal issues relating to the right to life and the right to death, Biological warfare, Climate change, The role of zoos in Biodiversity Conservation, Human cloning, Evolution.

REQUIREMENTS FOR GRADUATION

MSc. Biology
To be awarded a Master's degree candidate must pass a minimum of 30 credit units made up as follows:

- Core courses of 24 credit units, including the general courses, projects and seminars.
- Elective courses of 6 credit units
- A student shall present at least one seminar, submit and defend a dissertation proposal.
- A student for an Academic Master's degree programme shall carry out research in a relevant area of specialization and submit an acceptable dissertation (six credit units compulsory) which must be defended before a panel of external and internal examiners.

PhD. Biology

Doctorate (Ph.D.) programmes should primarily be by research. However, the candidates are required to register and pass not less than 6 credits units as prescribed by the Department. A Doctoral (Ph.D) Thesis of 12 credit units **MUST** be defended before a Panel of Internal and External Examiners.

- A student shall present at least two seminars, submit and defend a thesis proposal.
- A student shall carry out research in a relevant area of specialization and submit an acceptable thesis

DEPARTMENT OF CHEMISTRY

HEAD OF DEPARTMENT: Dr. Isa Baba Koki

PG COORDINATOR: Dr. Ya'u Datti

LECTURERS AND AREAS OF SPECIALIZATION

S/ No	Name Of Academic Staff	Area of Specialization	Qualification	Rank	Employment Status
1	Prof. Mukhtar Atiku Kurawa	Inorganic Chemistry	PhD (Inorganic Chemistry) M.Sc (Inorganic Chemistry) BSc (Chemistry)	Professor	Full time
2	Prof. Amina Salihi Bayero	Analytical Chemistry	PhD (Analytical Chemistry) M.Sc (Analytical Chemistry) BSc (Chemistry)	Professor	Full time
3	Prof. Junaidu Na'aliya	Inorganic Chemistry	PhD (Inorganic Chemistry) M.Sc (Inorganic Chemistry) BSc (Chemistry)	Professor	Part time
4	Prof. Muhd Bashir Ibrahim	Physical Chemistry	PhD (Physical Chemistry) M.Sc (Physical Chemistry) BSc (Chemistry)	Professor	Part time
5	Prof. Sulaiman Yusuf Mudi	Organic Chemistry	PhD (Organic Chemistry) M.Sc (Organic Chemistry) BSc (Chemistry)	Professor,	Part time
6	Prof. Musa Ibrahim Muhammad	Analytical Chemistry	PhD (Analytical Chemistry) M.Sc (Analytical Chemistry) BSc (Chemistry)	Professor,	Part time
7	Prof. Muhd Dayyab Sa'id	Analytical Chemistry	PhD (Analytical Chemistry) M.Sc (Physical Chemistry) BSc (Chemistry)	Professor,	Part time

8	Prof. Muhammad Nasir Yaro	Physical Chemistry	PhD (Physical Chemistry) M.Sc (Physical Chemistry) BSc (Chemistry)	Professor,	Full time
9	Assoc. Prof Salihu Abdullahi Kiyawa	Analytical Chemistry	PhD (Analytical Chemistry) M.Sc (Analytical Chemistry) BSc (Chemistry)	Reader,	Full time
10	Dr. Isa Baba Koki	Analytical Chemistry	PhD (Analytical Chemistry) M.Sc(Analytical Chemistry) BSc (Chemistry)	Lecturer 1,	Full time
11	Dr. Ya'u Datti	Organic	PhD (Organic Chemistry) M.Sc (Organic Chemistry) PGD (Chemistry) HND (Chemistry)	Senior Lecturer,	Full time
12	Dr. Saminu Musa Magami	Polymer/Color Chemistry	PhD (Polymer/Color Chemistry) M.Sc (Polymer/Color Chemistry) BSc (Chemistry)	Senior Lecturer,	Full time
13	Dr. Umar Abdulganiyu	Polymer/Color Chemistry	PhD (Polymer/Color Chemistry) M.Sc (Color/Polymer Chemistry) BSc (Chemistry)	Senior Lecturer,	Full time
14	Dr. Abdulfatah S. Muhammad	Physical Chemistry	PhD (Physical Chemistry) M.Sc (Inorganic Chemistry) BSc (Chemistry)	Senior Lecturer,	Part time

POSTGRADUATE DIPLOMA IN CHEMISTRY (PGDC)

LIST OF COURSES FOR THE PGDC PROGRAMME

Compulsory Courses

S/NO	Course Code	Course Title	Credit Units
1	CHM 7250	Physical Chemistry	2
2	CHM 7320	Instrumental Methods of Analysis	3
3	CHM 7330	Inorganic Chemistry	3
4	CHM 7340	Physical Organic Chemistry	3
5	CHM 7400	Project (Dissertation, Seminar and Defense)	4

Elective Courses

S/NO	Course Code	Course Title	Credit Units
1	CHM 7201	Advanced Polymer Chemistry	2
2	CHM 7210	Advanced Colour Chemistry and Technology	2
3	CHM 7211	Quality Control and Treatment of Effluent in the Colouration Industry	2
4	CHM 7222	Computing in Analytical Chemistry	2
5	CHM 7223	Qualitative Analysis	2
6	CHM 7224	Environment Chemistry	2
7	CHM 7231	Inorganic Reaction Mechanism	2
8	CHM 7241	Stereochemistry	2
9	CHM 7242	Spectroscopy and Structure Determination	2
10	CHM 7243	Organic Synthesis	2
11	CHM 7244	Petrochemistry	2
12	CHM 7245	Natural Products and Medicinal Application	2
13	CHM 7251	Electrochemistry	2
14	CHM 7301	Colour Intermediates and Synthesis	3

Note: All 2 credits courses are to be examined in 2 hours; while 3 credits courses are to be examined in 3 hours.

DESCRIPTION OF COURSES

CHM 7250 Physical Chemistry 2 Credits

Heat in chemical reactions: The reaction enthalpy, standard enthalpy changes, Hess's Law and reaction enthalpies. The temperature dependent of reaction enthalpies. The relationship between ΔH and ΔU. Treatment of thermodynamic functions: Entropy of a system, entropy change, properties of the Gibb's function. Rate laws, measurement of reaction rates. Consecutive reactions and the steady state.

CHM 7320 Instrumental Methods of Analysis 3 Credits

Ultraviolet and visible absorption spectroscopy, molecular absorption of radiation: Electronic spectra. Effect of structure on absorption, magnitude of absorption of radiation. Quantitative absorption spectroscopy, spectrophotometric application, apparatus and instrumentation.

Flame and atomic absorption spectroscopy: Basic Princioles of liquid chromatography. Types of liquid.

Gas chromatography: The thermodynamics of gas chromatography, the dynamics of gas chromatography, instrumentation. Qualitative and quantitative analysis.

CHM 7330 Inorganic Chemistry 3 Credits

Mineral processing and metallurgy: Preliminary treatment, reduction and refining. Transition metal chemistry and coordination chemistry: Periodic trends in the transition elements, coordination compounds, structure of coordination compounds, bonding theories in coordination compound, reaction of coordination compounds, effective atomic numbers, Jahn Teller Effect from octahedral geometry, π donors, π acceptors and application of coordination compounds.

Nuclear chemistry: radioactivity, nuclear bombardment reactions, rate of radioactive decay, application of radioactive isotopes and biological effects.

CHM 7340 Physical Organic Chemistry 3 Credits

Organic reaction mechanism: Nucleophilic substitution mechanism at saturated carbons, electrophilic aromatic substitution, elimination (E_1 and E_2), addition, pericyclic and rearrangement mechanisms. Inductive effect, hyperconjugation, resonance and neighbouring group effects. Orbital symmetry and its conservation. Keto-enol tautomerism, Diels Alder, Arbusor, Hoffman's elimination/exthustive methylation.

CHM 7201 Advanced Polymer Chemistry 2 Credits

Polymerization process: Outline the general features of condensation (step reaction) and addition (chain reaction) polymerization.

Detailed treatment of addition polymerization mechanisms of free radical, cationic and anionic polymerizations.

Industrially important thermoplastics and thermosets, preparation, properties and uses. Introduction to copolymerization and coordination (Ziegler-Natta) polymerizations. Chemistry of polyurethanes, fibres, elastomers, coatings and adhesive. Preparation and uses of some important fibre forming polymers (e.g. polymides, polyesters, acrylics e.t.c.).

Mechanical properties of polymers, analysis and testing of polymers.

CHM 7210 Advanced Colour Technology 2 Credits

Teachnology of leather, dyeing, paint making technology, printing technology SAA'S, FBA'S colouration of food, cosmetics and pharmaceutical.

Liquid crystal dyes: Colouration of reprography, electro photography, thermography, ink-jet printing, electrography, iconography, magnetography.

Toxicology: Hazard of colouration, regulation and legislation, risk assessment. Dyeing of textiles and non-textile polymeric product.

CHM 7211 Quality Control and Treatment of Effluent in the Colouration Industry 2 Credits

Quality control procedures in the colouration industry.

Treatment of industrial effluent: Pre-treatment, dye coagulation and sedimentation, filtration, electrolysis, biological process, ozonation, UV-radiation and hydrogen peroxide, chemical oxidation, adsorption systems, membranes, recycling etc.

CHM 7222 Computing in Analytical Chemistry 2 Credits

Digital computers, principles of digital instrumentations: Binary and octal number system, digital information, digital logic states. Simple logic elements: Introduction to Gates, Boolean algebra, flip-flops, Data storage latches, shift registers. Asynochronous conuters, and synchronous counters, interfacing devices, principles of Data acquisition.

CHM 7223 Qualitative Analysis 2 Credits

Stoichiometry: Calculations of chemical analyses. Acid-base equilibria and pH of solutions.

Oxidation-Reduction analyses: Equilibria in oxidation-reduction reactions.

Titrimetric methods of analysis: General methods of volumetric analysis, neutralization methods, volumetric analysis by precipitation and formation of complex ions.

Gravimetric analysis: General principles, typical application analysis.

CHM 7224 Environmental Chemistry 2 Credits

Pollution types and control. Environmental laws and regulations. Environmental sampling and analysis. Pollution in the biosphere. Hazardous waste clean-up. Waste reclamation. Health effects of pollution. Transport of waste. Nuclear waste. Regulatory and economic policies.

CHM 7231 Inorganic Reation Mechanism 2 Credits

Types of mechanism: Electron transfer reactions, substitution reactions, molecular rearrangements and reactions of coordinated ligands.

Bioinorganic: Oxygen carriers, cytochrome, chlorophyll and cobalamins.

CHM 7241 Stereochemistry 2 Credits

Nomenclature of geametrical isomers, conformational analysis, stereoisomerism and stereomutation, chiral centers-generation and reactions, stereoselective and stereospecific reactions. Stereochemistry of addition and elimination reactions.

CHM 7242 Spectroscopy and Structure Determination 2 Credits

Spectroscopic methods of structure determination using ultraviolet, infrared, nuclear magnetic resonance and mass spectra.

IR-Spectroscopic analysis of hydrocarbon: Compounds containing hydroxyl, carbonyl, cyano, amino and sulfide molecules.

^{1}H NMR: Number of signals. Equivalent and nonequivalent protons, positions of signals, chemical shift, peak area and proton counting, splitting of signals, spin-spin coupling, coupling constant. Spectra and their interpretation.

Mass-spectra: McLafferty rearrangements, etc.

CHM 7243 Organic Synthesis 2 Credits

Formation of C---H bond and formation of carbon hetero atom bond(s).

Formation of C---C single bond: Alkylation of relatively acidic methylene group, γ-alkylation of 1,3-dicarbonyl compounds: Ketones, α-thio carbanions, allylic alkylation of alkanes.

Organometallic approach to the synthesis involving insertion of C-C bond. Formation of C-C double bonds: β-Elimination reactions, including pyrolytic syn eliminations, sulphoxide-sulphonate rearrangement: Wittig and related reactions; alkenes from sulphones stereoselective synthesis of tri- and tetra-substituted alkenes, fragmentation reactions etc.

CHM 7244 Petrochemistry 2 Credits

Petroleum geochemistry: Origin and chemical transformation of sedimentary organic matter in the formation of petroleum and other fossil energy resources.

Classification, nature and constituents of crude petroleum products: Characteristics and scope of petroleum industry; Physical and chemical layout of refinery operations. Oil refining. Crude oil

and major separation processes. Steam reforming and major reforming reactions. Catalytic cracking and desulphurization. Petrochemicals and their production. Prospect of petrochemicals in Nigeria.

CHM 7245 Natural Products and Medicinal Applications 2 Credits

Structure and properties of flavonoids, carotenoids, alkaloids, antibiotics, prostaglandins and chlorophyll and other natural chemical degradation of examples of the above. Synthetic routes to at least two of the above compounds.

CHM 7251 Electrochemistry 2 Credits

Activities of ions in solution, activities and standard states. The Debye-Huckle theory, activity coefficient. The electrochemical potential. The electric potential at interfaces. The electrochemical cells: emf and electrode potentials. Standard electrode potentials. Thermodynamics data from cell emf.

Simple application of emf measurements-solubility products, potentiometric titration pK and pH.

CHM 7301 Colour Intermediate and Synthesis 3 Credits

Colour, absorption spectra, the absorption of radiation by molecules, unsaturation and benzenoid character. Sources of raw materials for dyestuff manufacture. Synthesis of aromatics e.g. from alkanes and cycloalkanes of petroleum.

Intermediates and dyes: Introduction to the synthesis of dyes from benzene, toluene, xylene, naphthalene, anthracene by chemical reactions such as nitration, reduction, halogenation, sulphonation, oxidation and other.

Azo dyes: General synthesis, diazotization, diazo coupling.

Pigments: Classification and use of synthetic organic pigments.

The control of manufacture: Raw materials plant operation and process control.

MASTER'S DEGREE IN CHEMISTRY (MSC. CHEMISTRY)

This includes Master's degrees in the following areas of specialization:

- Analytical Chemistry
- Colour Chemistry
- Inorganic Chemistry
- Organic Chemistry
- Physical Chemistry
- Polymer Chemistry

COURSES FOR THE M.Sc. PROGRAMMES

Candidates are expected to register a minimum of 30 credits (MCR) including Dissertation. The Maximum Credits Allowed is 36 credit units.

The following courses are compulsory for all M.Sc. Degree Programmes:

S/NO	Course Code	Course Title	Status	Credit Units
1	CHM 8600	Research Project	C	6
2	CHM 8200	Research Methodology	C	2
3	CHM 8201	Separation Methods of Analysis	C	2
4	CHM 8202	Experimental Techniques in Chemistry	C	2
5	CHM 8203	Management and Entrepreneurship	C	2

ANALYTICAL CHEMISTRY

List of Courses

S/NO	Course Code	Course Title	Status	Credit Units
1	CHM 8600	Research Project	C	6
2	CHM 8200	Research Methodology	C	2
3	CHM 8201	Separation Methods of Analysis	C	2
4	CHM 8202	Experimental Techniques in Chemistry	C	2
5	CHM 8203	Management and Entrepreneurship	C	2
6	CHM 8320	Analytical Chemistry Practical	C	3
7	CHM 8321	Classical Methods of Analysis	C	3
8	CHM 8322	Quantitative Spectroscopic Methods	C	3
9	CHM 8323	Sampling and Sampling Preparation	C	3
10	CHM 8221	Chemical Environmental Pollution Studies	E	2
11	CHM 8222	National and Global Chemical Environmental Issues	E	2
12	CHM 8223	Analytical Data Management and Quality Assurance	E	2
13	CHM 8224	Miscellaneous Advanced Techniques	E	2
14	CHM 8225	Electroanalytical Analysis	E	2

15	CHM 8226	Food and Drug Analysis	E	2
16	CHM 8227	Water Analysis	E	2
17	CHM 8228	Analysis of Miscellaneous	E	2
18	CHM 8229	Environmental Assessment Technique	E	2
19	CHM 8343	Advanced Applied Spectroscopy	E	3

COLOUR CHEMISTRY

List of Courses

S/NO	Course Code	Course Title	Status	Credit Units
1	CHM 8600	Research Project	C	6
2	CHM 8200	Research Methodology	C	2
3	CHM 8201	Separation Methods of Analysis	C	2
4	CHM 8202	Experimental Techniques in Chemistry	C	2
5	CHM 8203	Management and Entrepreneurship	C	2
6	CHM 8311	Advanced Colour Chemistry	C	3
7	CHM 8212	Colour Chemistry Laboratory	C	2
8	CHM 8313	Advanced Colour Technology I	C	3
9	CHM 8214	Advanced Colour Technology II	C	2
10	CHM 8361	Advanced Polymer Chemistry	C	3
11	CHM 8343	Advanced Applied Spectroscopy	C	3
12	CHM 8215	Special Topics in Colour Chemistry	E	2
13	CHM 8210	Colour Intermediates and Synthetic Applications	E	2
14	CHM 8316	Quality Control and Waste Treatment in Colouration Industry	E	3
15	CHM 8244	Advanced Petrochemistry	E	2
16	CHM 8266	Chemistry and Technology of Inorganic Polymer Composites	E	2

INORGANIC CHEMISTRY

List of Courses

S/NO	Course Code	Course Title	Status	Credit Units
1	CHM 8600	Research Project	C	6
2	CHM 8200	Research Methodology	C	2
3	CHM 8201	Separation Methods of Analysis	C	2
4	CHM 8202	Experimental Techniques in Chemistry	C	2
5	CHM 8203	Management and Entrepreneurship	C	2
6	CHM 8322	Quantitative Spectroscopic Methods of Analysis	C	3
7	CHM 8231	Recent Advances in Coordination Chemistry	C	2
8	CHM 8343	Advanced Applied Spectroscopy	C	3
9	CHM 8353	Homogeneous and Heterogeous Catalysis	C	3

10	CHM 8238	Crystallographic Methods of Structure Determination	C	2
11	CHM 8232	Molecular Polyhedral	E	2
12	CHM 8233	Special Topics in Inorganic Chemistry	E	2
13	CHM 8352	Special Topics in Physical Chemistry	E	3
14	CHM 8245	Advanced Organometallics	E	2
15	CHM 8239	Nuclear and Radiochemistry	E	2
16	CHM 8234	Inorganic Reaction Mechanism	E	2
17	CHM 8235	Analytical Inorganic Chemistry	E	2
18	CHM 8255	Advanced Physical Techniques	E	2
19	CHM 8236	Advances in the Chemistry of Lanthanides and Actinides	E	2
20	CHM 8237	Bioinorganic Chemistry	E	2
21	CHM 8269	Inorganic Polymers	E	2

ORGANIC CHEMISTRY

List of Courses

S/NO	Course Code	Course Title	Status	Credit Units
1	CHM 8600	Research Project	C	6
2	CHM 8200	Research Methodology	C	2
3	CHM 8201	Separation Methods of Analysis	C	2
4	CHM 8202	Experimental Techniques in Chemistry	C	2
5	CHM 8203	Management and Entrepreneurship	C	2
6	CHM 8342	Advanced Natural Products Chemistry	C	3
7	CHM 8343	Advanced Applied Spectroscopy	C	3
8	CHM 8244	Petroleum Geochemistry	C	2
9	CHM 8246	Application of Geochemical Techniques in Petroleum Exploration and Exploitation	C	2
10	CHM 8345	Advanced Physical Organic Chemistry	C	3
11	CHM 8241	Photochemistry and Pericyclic Reactions	E	2
12	CHM 8242	Advanced Heterocyclic Chemistry	E	2
13	CHM 8347	Synthetic Methods in Organic Chemistry	E	3
14	CHM 8245	Advanced Organometallics for Organic Chemists	E	2
15	CHM 8253	Heterogeneous and Homogeneous Catalysis	E	2
16	CHM 8249	Special Topics in Organic Chemistry	E	2
17	CHM 8348	Structure and Functions of Biological Molecules	E	3
18	CHM 8237	Bioinorganic Chemistry	E	2

PHYSICAL CHEMISTRY

List of Courses

S/NO	Course Code	Course Title	Status	Credit Units
1	CHM 8600	Research Project	C	6
2	CHM 8200	Research Methodology	C	2
3	CHM 8201	Separation Methods of Analysis	C	2
4	CHM 8202	Experimental Techniques in Chemistry	C	2
5	CHM 8203	Management and Entrepreneurship	C	2
6	CHM 8322	Quantitative Spectroscopic Methods of Analysis	C	3
7	CHM 8251	Biophysical Chemistry	C	2
8	CHM 8252	Advanced Chemical Thermodynamics	C	2
9	CHM 8253	Advanced Chemical Kinetics	C	2
10	CHM 8254	Advanced Electrochemistry	C	2
11	CHM 8343	Advanced Applied Spectroscopy	E	3
12	CHM 8248	Structure and Functions of Biological Macromolecules	E	2
13	CHM 8239	Nuclear and Radiochemistry	E	2
14	CHM 8351	Special Topics in Physical Chemistry	E	3
15	CHM 8253	Heterogeneous and Homogeneous Catalysis	E	2
16	CHM 8331	Recent Advances in Coordination Chemistry	E	3
17	CHM 8255	Methods of Physical Analysis	E	2
18	CHM 8256	Quantum Chemistry	E	2
19	CHM 8257	Photochemistry of Physical Processes	E	2
20	CHM 8255	Advanced Physical techniques	E	2

POLYMER CHEMISTRY

List of Courses

S/NO	Course Code	Course Title	Status	Credit Units
1	CHM 8600	Research Project	C	6
2	CHM 8200	Research Methodology	C	2
3	CHM 8201	Separation Methods of Analysis	C	2
4	CHM 8202	Experimental Techniques in Chemistry	C	2
5	CHM 8203	Management and Entrepreneurship	C	2
6	CHM 8361	Advanced Polymer Chemistry	C	3
7	CHM 8262	Polymer Chemistry Laboratory	C	2
8	CHM 8363	Physical Chemistry of Polymers	C	3
9	CHM 8312	Advanced Colour Technology I	C	3
10	CHM 8364	Polymer Processing and Engineering Application	C	3
11	CHM 8343	Advanced Applied Spectroscopy	C	3
12	CHM 8365	Special Topics in Polymer Chemistry	E	3
13	CHM 8253	Heterogeneous and Homogeneous Catalysis	E	2
14	CHM 8268	Chemistry and Application of Specialty Polymers	E	2

15	CHM 8269	Inorganic Polymers	E	2
16	CHM 8366	Chemistry and Technology of Polymer Composites	E	3
17	CHM 8244	Advanced Petrochemistry	E	2
18	CHM 8246	Application of Geochemical Techniques in Petroleum Exploration and Exploitation	E	2
19	CHM 8360	Experimental Techniques in Polymer Chemistry	E	3

DESCRIPTION OF COURSES

General Compulsory Courses for all M.Sc. Degree Programmes

CHM 8200 Research Methodology 2 Credits

Research proposal writing; Dissertation/thesis writing; Research question and hypothesis, Defining Aim and Objectives; Literature Review; Scoping; Justification; Materials and Methods; Data acquisition, treatment and analysis; Chemical drawing software; Presentation and Discussion of results; Summary, Conclusion and Recommendation; Citation and referencing styles; Ethics in Research; Research Products; Basic and applied research; Impactful research journals; Copy rights and patents, Seminar and Conference presentations.

Sources of chemical information: Library resource and literature survey, Plan of action. Online system and databases: Cambridge scientific abstract, chemical abstract service, Indexes and literature search; SciFinder, Scopus, Google scholar, Microsoft Academic search. Special and non-special experimental literature sources, (NIST, Wiley, ASTM, Aldrich, Hummel, JCPDS etc.).

CHM 8201 Separation Methods of Analysis 2 Credits

Solvent extraction, crystallization, sublimation, Thin Layer Chromatography, Flush Chromatography, Ion Exchange Chromatography, Molecular Exchange Chromatography, Paper Chromatography, Gas Chromatography, Liquid Chromatography, High Performance Liquid Chromatography and Super Critical Fluid Chromatography. Other characterization techniques such as optical rotations and microanalysis.

CHM 8202 Experimental Technique in Chemistry 2 Credits

General laboratory safety guidelines; material safety data sheet (MSDS), good laboratory practice (GLP), keeping records of laboratory work; purification and drying of solvents; preparation, purification and handling of reagents; carrying out a reaction; reaction monitoring; reaction at other than room temperature and working up a reaction. The students are required to participate in the demonstration of undergraduate practical.

CHM 8203 Management and Entrepreneurship 2 Credits

The course will cover business environment, general management, financial management, entrepreneurship development, feasibility studies, marketing and managerial problem solving.

MSc. Chemistry (Analytical Chemistry)

Course Outline

CHM 8320 Experimental Technique in Analytical Chem. 3 Credits

General laboratory safety guidelines; material safety data sheet (MSDS), good laboratory practice (GLP), keeping records of laboratory work. Solvent extraction, Thin layer chromatography; Ion Exchange Chromatography, Ion Chromatography; Molecular Exchange Chromatography, Paper Chromatography, Gas Chromatography, Liquid Chromatography, High Performance Liquid Chromatography and Super Critical Fluid Chromatography.

CHM 8321 Classical Methods of Analysis 3 Credits

Reaction chemistry of selected elements. Aqueous and non-aqueous acid-base titrimetry, redox titrimetry, complexometric titrations, precipitation titrations. Gravimetry: Types, process, PFHS and contamination. Seminars on application of classical techniques.

CHM 8322 Quantitative Spectroscopic Method of Analysis 3 Credits

Quantitative Spectroscopic Methods: Atomic Absorption Spectroscopy (flame and non-flame). Atomic Emission Spectroscopy (flame, arc/spark and plasma techniques). Emission Spectroscopy. Flame molecular emission (MECA) technique, UV-Visible absorption spectrophotometry, Turbidimetry, Nephelometry, Fluorimetry. Students should be exposed to hands-on experience.

CHM 8323 Sampling and Sample Preparation 3 Credits

Pre-requisites of accurate and precise. Chemical analysis. Choice of reagents. Cleaning of glassware and plastics. Impurities in materials. Drying of solid materials. Measurement of volume. Sampling solids liquids and gases. Dissolution techniques. Choice of dissolution technique. Biological samples. Storage and preparation of sample for analysis.

CHM 8221 Chemical Environmental Pollution Studies 2 Credits

Introduction and principles of chemical pollution of environmental media (air, soil and water) arid associated resources. Water/waste water chemistry, soil chemistry and fate of pollutants, air pollution chemistry, fate, effects and monitoring. Environmental toxicology. Chemistry of persistent toxic substances including persistent organic pollutants (POPS). Environmental indicators of chemical pollution and marker compounds. Remediation of contaminated environment.

CHM 8222 National and Global Chemical Environmental Issues 2 Credits

Climate change and global warming, ozone layer depletion, trans-boundary movement of toxic wastes, biological diversity, oil and gas pollution, control of international trade in toxic chemicals/substances, chemical pollution in Nigeria.

CHM 8223 Analytical Data Management and Quality Control 2 Credits

Research design methods. Quality assurance and control in laboratory analysis. Analytical data management. Elements of chemometrics including modeling.

CHM 8224 Miscellaneous Advanced Techniques in Analytical Chemistry 2 Credits

X-ray methods, neutron activation and other radiochemical techniques, enzymatic and methods, thermal methods of analysis, automated and process analyzers.

CHM 8225 Electroanalytical Methods 2 Credits

Potentiometry, Voltametry, Coulometry, Electrogravimetry, Conductometry, Chronopotentiometry.

CHM 8226 Food and Drug Analysis 2 Credits

Food composition. Methods of analysis of food for proximate composition, vitamins, minerals, additives, food contaminants. Pesticide residue in foods. Food quality control. Analysis of major groups of commonly encountered drugs. Foods and Drugs Regulatory Control.

CHM 8227 Water Analysis 2 Credits

Water Quality parameters for various (Industrial, Agricultural and Domestic) uses. Methods of analysis of water and wastewater for various quality parameters. Analysis for trace organics, water pollution control and treatment.

CHM 8228 Analysis of Miscellaneous Materials 2 Credits

Analysis of air, soil, minerals, rocks, and other miscellaneous materials.

CHM 8229 Environmental Assessment Techniques 2 Credits

Introduction and principles of environmental assessment including Environmental Impact Assessment (EIA) and Environmental Auditing. Environmental baseline studies, environmental modeling, GIS methods. Types of environmental impact identification, prediction, evaluation, impact mitigation, environmental monitoring. Environmental policy and regulations on environmental assessment. Risk assessment.

MSc. Chemistry (Polymer Chemistry)

Course Outline

CHM 8262 Polymer Chemistry Laboratory 2 Credits

Synthesis of chain-reaction polymers: Thermal polymerization of styrene, emulsion polymerization of acrylonitrile, bulk polymerization of methyl methanrylate etc. Synthesis of step-growth polymers: Synthesis of polyamides and polyesters by interfacial polymerization. Cationic polymeirzation: Synthesis of polyoxazolines macromonomers and block copolymers. Synthesis of liquid-crystals advanced materials, characterisation of synthetic polymers by dilute solution viscometry. Polymer purification and recovery techniques. Analysis and testing of polymers and composites.

Candidates are to attend 8 weeks of industrial attachment in a polymer manufacturing of processing industry.

CHM 8361 Advance Polymer Chemistry 3 Credits

Addition polymerizations: Mechanisms of ionic, free-radical and coordination (Ziegler-Natta) polymerization, polymerization of alkenes and derivatives. Condensation polymerization: Polymerization of amino acids (as in natural protein fibers), carbohydrates systems (as in cotton), dicarboxylic acid-diamine systems (as in polyamides), dicarboxylic acid-diol system (as in polyester). Spinning techniques for the preparation of textile fibres. Structure, chemistry and properties of natural protein fibers (wool, hair, silk and fur keratin), cellulosic fibres (cotton, viscose and cullulose esters), polyamides, polyesters, polyacrylics, polyalkenes etc. Molecular weight concepts and determination of molecular weight of polymers. Analysis of polymers (crystalline, amorphous ration, glass transition temperature etc) and identification of fibers by selective stains, burning test, microscopic examination etc. Uses of polymers, resins and pre-condensates in textile finishing (urea-formaldehyde and similar systems) and in after treatments of dyeing and printings to improve properties (dye-fixing cross-linking, polyfunctional compounds, syntan and tannins). Uses of unsaturated polymers in drying oil and varnishes.

CHM 8363 Physical Chemistry of Polymers 3 Credits

The interaction of polymers and liquids, swelling, solubility and fractionation. Thermodynamic properties of polymer solutions. Viscosities of dilute polymer solutions, determination of shapes, size, molecular weight and molecular weight distribution. Polymer degradation, thermal stability and radiation chemistry of polymers. Characterization of polymers by scattering techniques such as small angle neutron scattering (SANS) and small angle X-ray scattering (SAXS).

CHM 8364 Polymer Processing and Engineering Application 3 Credits

Polymerization processes. Basic and experimental rheology of polyethers. Fiber spinning processes: Wet, dry and melt spinning. Specialty fibers production. Film forming and moulding operations. Rheology of bulk polymers. Applications of viscoelastic properties in the design of

statically loaded polymers. Dynamic mechanical properties of polymers. Fibre reinforced plastics. Test methods.

CHM 8360 Experimental Techniques in Polymer Chemistry 3 Credits

General laboratory safety guidelines; material safety data sheet (MSDS); good laboratory practice (GLP); keeping records of laboratory work. Solvent extraction, thin layer chromatography, ion-exchange chromatography, ion chromatography, molecular exclusion chromatography, paper chromatography, gas chromatography.

CHM 8365 Special Topics in Polymer Chemistry 3 Credits

Plastic recycling: Collection, sorting, grinding economics. Polymer liquid crystals: Classification, characterization and applications. Control radical polymerization; Atom transfer radical polymerization (ATRP), reversible addition fragmentation chain transfer (RAFT) polymerization, thermal analysis of polymers; TGA, DSC. Biodegradable polymers, inorganic polymers and polyelectrolytes. Stimuli responsive polymers. Thermo responsive polymers, pH sensitive polymers, medicinal application of polymers e.g. contraceptives, microbicides, control drug and gene delivery.

CHM 8366 Chemistry and Technology of Polymer Composites 3 Credits
Filters: Classification, properties, mixing and dispersion. Composite fabrication; pultrusion, filament winding, tape laying, pulforming, injection and compression molding etc. Additives for composites: Pigments, dyes etc. Characterization fo composites: Thermal analysis e.g. thermogravimetric analysis (TGA) and differential scanning calorimetry (DSC). Surface characterization e.g. scanning electron microscopy (SEM), transmission electron microscopy (TEM) and atomic force microscopy (AFM) testing techniques; chemical and mechanical tests, service prediction and applications. Fibre reinforcements: Carbon fiber reinforcements, surface reinforcements, glass fibre reinforcements, aramid fiber reinforcements etc. Nanocomposites: Preparation, characterization and properties.

CHM 8268 Chemistry and Application of Specialty Polymersn 2 Credits
Liquid crystal conducting polymers: Synthesis and application. Polyanillines: Materials and application. Polymer nanofibre: Characterization and applications. Conducting polymer-based sensors: Electrochemical sensors, optical sensors. Polmers in electronics: Polymer-based light emitting diodes, photovoltaic diodes. Polymer transistors/conducting polymers: Preparation, stability, degradation and applications. Specialty coatings and adhesives: Preparations and applications. Light weight polymer composite materials for automotive industry: Design process and manufacturing techniques. Polymer in nanotechnology: Stabilisation and functionalisation of nanoparticles. Block copolymers: Synthesis, characterization, micellisation behaviour and application.

CHM 8269 Inorganic Polymers 2 Credits
Synthesis, properties and application of polysulphides, polythiazyls, polyborazylenes, polysiloxanes, polyphosphates and polyphosphazenes.

MSc. Chemistry (Inorganic Chemistry)

Course Outline

CHM 8231 Recent Advances in Coordination Chemistry 2 Credits

Synthetic pathways, bonding structural stereo-chemical aspects, complex structures and site preference for regular symmetry, electronic states, spectra, magneto-chemistry, organometallic chemistry.

CHM 8238 Crystallographic Methods of Structure Determination 2 Credits

Introduction to crystals, crystals system, crystal lattice, the unit cell, atom parameters and space groups. Introduction to diffraction, X-ray diffraction, the geometry of X-ray diffraction, electron diffraction, neutron diffraction, analysis of the diffraction patterns and powder diffraction. Single crystal structure determination; principles involved and their practical implementation. Experimental methods; Crystal growth and evaluation, space group determination, data collection, data processing, structure solution and structure solution and structure refinement. Crystallographic databases; the Inorganic Structural Database (ICSD), the Cambridge Structural Database (CSD), the Metal Crystallographic Data File (CRYST-MET).

CHM 8232 Molecular Polyhedral 2 Credits

Electron deficient compounds-borohydrides, synthesis and reactivity, structure and bonding, carborates and metalloborates, transition metal clusters synthesis, reactivity and bonding, metal clusters.

CHM 8233 Special Topics in Inorganic Chemistry 2 Credits

Three topics to be offered, selected from the following: Advanced kinetics, thermodynamics, structure and properties of transition metal complexes, non-aqueous solvents, chemistry and application of catenated compounds of Si, P, As, Sr and Te, inorganic polymers.

CHM 8234 Inorganic Reaction Mechanism 2 Credits

Kinetics and techniques, mechanism of ligand substitution in octahedral, square planar and tetrahedral complexes, mechanism of redox reactions, fast reaction kinetics, stop flow and relaxation techniques.

CHM 8235 Analytical Inorganic Chemistry 2 Credits

Synthesis, purification, characterization and structures of inorganic compounds and complexes. Statistical interpretation of data.

CHM 8237 Bioinorganic Chemistry 2 Credits

The role of metals in biological systems; copper, molybdenum e.t.c. Porphrine; metalloporphyrin. Haeme; important haeme proteins; haemoglobin, myoglobin and cytochrome. Zinc containing enzymes such as carbon anhydrase and carboxypeptidase. Vitamin B12 coenzyme.

CHM 8239 Nuclear and Radiochemistry 2 Credits

Production and separation of radio isotopes, natural radio activity and theory of radioactive disintegration reconsidered, rate of radioactive decay, series shell model of nucleus, mass and nuclear binding energy. Transmutation of elements: The positron, neutron, artificial radioactivity and types of nuclear reactions.

MSc. Chemistry (Organic Chemistry)

Course Outline

CHM 8244 Petroleum Geochemistry 2 Credits

Nature and origin of petroleum, production accumulation and preservation of organic matter, petroleum generation, migration and accumulation. Alteration of petroleum, isolation and identification of biomarkers and isotopes chemistry.

CHM 8246 Application Geochemical Techniques in Petroleum Exploration and Exploitation 2 Credits

Petroleum source rock evaluation. Geochemical correlation (oil/oil and oil/source rock). Integration of geochemical, geological and engineering data in solving production problems and reservoir management.

CHM 8342 Advanced Natural Products Chemistry 3 Credits

Selected topics in natural products biosynthesis; modern application of molecular biology techniques in metabolic pathway analysis. Chemistry of alkaloids, terpenes, flavonoids, polyketides, steroids, glycosides, insect pheromones and marine natural products. Application of natural products in drug development.

CHM 8343 Advanced Applied Spectroscopy 3 Credits

Basic instrumentation, techniques and application of UV, IR, NMR and MS in chemical analysis and structural elucidation. High resolution ^{1}H-NMR, ^{13}C-NMR and other nuclei; application of shift reagents. All ion structure and fragmentation, electron ionization, field desorption, fast atom bombardment, electrospray, time of flight and recent application of linked scan mass spectrometer. Modern application of NMR and Mass Spectrometric techniques in natural product biosynthetic studies.

CHM 8345 Advanced Physical Organic Chemistry 3 Credits

Mechanism of substitution reactions at saturated carbon such as S_N2, S_N1, S_E1, S_E2; elimination reactions involving E1, E2, Ei and Eicb; electrophilic/nucleophilic displacement at aromatic carbon; *ortho/para* selectivity ratio, *ipso* attack and S_E2-Ar and addition reactions. Neighbouring group participation: Kinetic, stereochemical and rearrangement criteria. Linear free energy relationships: The Hammett equation, Taft model, Swan and Lupton model and general acid-base catalysis. Quantitative structure activity relationships (QSAR); the Hansch/Toplis rule for drug design and application of molecular modeling.

CHM 8241 Photochemistry and Pericyclic Reaction 2 Credits

Photochemistry of carbonyl compounds, aromatic compounds, olefins, acetylenes and related compounds; photo-oxidation and reduction, photo-elimination, eneone, and rearrangements, photoreactions, photolysis of heteronitrogen compounds, photocyclisation. Theory of pericyclic reactions; conservation of orbital symmetry, the frontier orbital concept, aromaticity concept, suprafacial and antrafacial geometries. Pericyclic reactions; cyclo additions, electrocyclic, chelotropic and sigmatropic rearrangement. Industrial application of photochemistry and pericyclic reactions.

CHM 8242 Advanced Heterocyclic Chemistry 2 Credits

Synthesis of heterocyclic compounds containing 2 or more heteroatoms; their electronic properties (aromaticity and tautomerism); reactions and occurrence in natural molecules. The heterocyclic chemistry of natural mechanisms such as bioenergetics and photosynthesis. The application of heterocyclic systems in pharmaceutics, agro-allied chemicals, fluorescent agents, fire retardants, organic conductors etc.

CHM 8245 Advanced Organometallic Chemistry for Organic Chemists 2 Credits

Preparation of organometallic compounds of groups I and II and application in organic synthesis. The use of organo-transition metal compounds in the creation of carbo-carbon and carbon-heteroatom bond such as Heck reaction, Sonogashira reactions, Bergmann cyclisation, Vollhard co-trimerisation, Reformasky reaction etc. The synthetic utility of organophosphorous, organoboranes and organotin compounds. The chemistry of ferrocenes.

CHM 8249 Special Topics in Organic Chemistry 2 Credits

This course is designed to expose students to the current trends of developments in the major areas of organic chemistry research of interest to the academics in the organic unit.

CHM 8347 Synthetic Methods in Organic Chemistry 3 Credits

Application of reactive intermediates in the synthesis of carbon-carbon and carbon-heteroatom bonds. Development of synthetic strategies such as target selection, retrosynthesis, strategic bond

approach, strategic bonds in rings, chemical degradation etc. Asymmetric synthesis: Analytical methods for determining enantiomeric purity; sources and strategies for the formation of chiral compounds; the use of chiral starting materials, chiral auxiliaries, asymmetric reagents and chiral catalyst to achieve asymmetric induction. Seminar problems in the total synthesis of natural products and other important molecules.

CHM 8348 Structure and Function of Biological Molecules 3 Credits

The nature, method of analysis and functional aspect of primary, secondary and quaternary structures of proteins (with specific reference to haemoglobin and myoglobin), enzymes and their functions, the Michaelis-Menten model, the Monod-Wyman-Changeaux model: Allostene enzymes. General binding isotherms: The Adair equation, bases, nucleosides and nucleotides, covalent structure of DNA, the Watson-Crick DNA double helix, sequencing and code. Some aspects of biophysical chemistry such as rheology of biomolecules, modern methods of purification, ligand-ligand studies on protein, gene mutation, DNA repair and transposable elements.

MSc. Chemistry (Physical Chemistry)

Course Outline

CHM 8251 Biophysical Chemistry 2 Credits

Physical chemistry of biological macromolecules in solution, commercial use of amino acids, properties of macromolecules through their molecular weight determination, modern methods for the purification of macromolecules, ligand-ligand studies on protein: Multiple equilibria, identical and independent sites and conformational transition, production of enzymes, recombinant protein of high value, DNA replication and recombination, gene mutation, DNA repair and transposable elements.

This course aims at equipping the students with profound knowledge of synthetic and natural macromolecules, and methods of their extraction and purification.

CHM 8252 Advanced Thermodynamics 2 Credits

Overview of the Laws of thermodynamics; models of heat transfer; thermal diffusivity; dynamic and kinematic viscosity; the general heat conduction equation in Cartesian cylindrical and spherical coordinates; viscous and invicid flow; laminar and turbulent flows; boiling and condensation; heat exchanger.

Classical and statistical thermodynamic parameters, and their applications.

This course aims at equipping the students with the knowledge of the application of thermodynamic parameters and equilibria as regards metallugy, heat and mass flow.

CHM 8253 Advanced Kinetics 2 Credits

Overview of rate laws, elementary and consecutive reactions, rate law of chain reactions, explosions, advanced treatment of the collision and transition state theories of reactions. Diffusion controlled reactions, the material balance equation, the Erying equation, reactive collisions, potential energy surfaces, rates of electron transfer processes, theories of electron transfer processes.

This course is designed to provide the kinetic principles that apply to surface and non-surface based processes.

CHM 8254 Advance Electrochemistry 2 Credits

Introduction and overview of electrode processes, Nernst theory of electrode potential, reverse electrode processes, potentials and thermodynamics of cells, kinetics of electrode reactions, mass transfer by migration and diffusion, controlled potential microelectrode techniques-potential step and sweep methods, controlled current microelectrode techniques, concentration cells, fuel cells.

This course is aimed at covering the aspects of electrodics and applications from the scratch.

CHM 8255 Advanced Physical Techniques 2 Credits

Advanced treatment of the theory and application of the following techniques: X-diffraction and X-ray fluorescence (XRD, XRF, EDXRF); Nuclear activation analysis (NAA); Electron probe microanalysis EPM; plasma emission spectroscopy (direct current plasma and induct coupled plasma); scanning electron microscope (SEM); electron spin resonance spectroscopy ERS); Mossbauer spectroscopy; and microwave spectroscopy.

Since characterization is the key to all chemists, this course selects some important techniques used in the characterization of materials by physical chemists.

CHM 8256 Quantum Chemistry 2 Credits

To introduce students to advanced treatment of the theories of the chemical bond and the computational aspects of chemistry.

Thermal radiation and Planck's postulate, dual nature of matter and the De Broglie's postulates. Review of the developments of the models of the atom (Dalton's, Thompson's, Rutherford's and Bohr's models), atomic structure and validation of atomic models; postulates of quantum mechanics, Schrodinger's theory of quantum mechanics; solutions of Schrodinger equations for hydrogen-like systems; solution of Schrodinger equations for many electron systems (variation method, self-consistent field method, perturbation method), Born-Oppenheimer approximation, advanced treatment of Valance Bond Theory, advanced treatment of Molecular Orbital Theory.

Students will learn holistically about quantum chemistry and its predictive applications.

CHM 8257 Photochemistry of Physical Processes 2 Credits

Advanced consideration of Grotthus-Draper and Einstein laws of photo-equivalence. Consequences of atomic/molecular photo-absorption, photokinetics and experimental study of photoreactions applied to gases, photolysis of ammonia, H_2/Br_2 and H_2/Cl_2 combination, photosensitized gas liquid phase reactions, flash photolysis, effect of temperature, photoequilibrium, chemiluminiscence.

The course will impact on areas of light-material interaction that are beneficial to military, environmental industries and manufacturing.

CHM 8351 Special Topic in Physical Chemistry 3 Credits

Surface chemistry, colloid chemistry, catalyst preparation and characterization, nanotechnology. Recent advances in Physical Chemistry.

The course is designed to provide all the necessary background on nature, preparation and characterization of nano and bulk material and their surface properties.

CHM 8352 Homogeneous and Heterogeneous Catalysis 3 Credits

General principles of heterogeneous catalysis, activity patterns, efficiency of catalysis, effects of temperature, rates and kinetic models of catalytic reactions, pulse microreactors, catalytic hydrogenation, olefin oxidation, carbonylation, oligomerisation and dimerization, general methods of catalyst manufacture and quality evaluation, trends in heterogeneous catalysis in the 21st century and beyond.

This course is designed to provide the aspects of catalysis from principles to the widespread developments in the industry.

MSc. Chemistry (Polymer Chemistry)

Course Outline

CHM 8262 Polymer Chemistry Laboratory 2 Credits

Synthesis of chain-reaction polymers: Thermal polymerization of styrene, emulsion polymerization of acrylonitrile, bulk polymerization of methyl methanrylate etc. Synthesis of step-growth polymers: Synthesis of polyamides and polyesters by interfacial polymerization. Cationic polymerization: Synthesis of polyoxazolines macromonomers and block copolymers. Synthesis of liquid-crystals advanced materials, characterization of synthetic polymers by dilute solution viscometry. Polymer purification and recovery techniques. Analysis and testing of polymers and composites.

Candidates are to attend 8 weeks of industrial attachment in a polymer manufacturing of processing industry.

CHM 8361 Advance Polymer Chemistry 3 Credits

Addition polymerizations: Mechanisms of ionic, free-radical and coordination (Ziegler-Natta) polymerization, polymerization of alkenes and derivatives. Condensation polymerization: Polymerization of amino acids (as in natural protein fibers), carbohydrates systems (as in cotton), dicarboxylic acid-diamine systems (as in polyamides), dicarboxylic acid-diol system (as in polyester). Spinning techniques for the preparation of textile fibres. Structure, chemistry and properties of natural protein fibers (wool, hair, silk and fur keratin), cellulosic fibres (cotton, viscose and cellulose esters), polyamides, polyesters, polyacrylics, polyalkenes etc. Molecular weight concepts and determination of molecular weight of polymers. Analysis of polymers (crystalline, amorphous ration, glass transition temperature etc) and identification of fibers by selective stains, burning test, microscopic examination etc. Uses of polymers, resins and pre-condensates in textile finishing (urea-formaldehyde and similar systems) and in after treatments of dyeing and printings to improve properties (dye-fixing cross-linking, polyfunctional compounds, syntan and tannins). Uses of unsaturated polymers in drying oil and varnishes.

CHM 8363 Physical Chemistry of Polymers 3 Credits

The interaction of polymers and liquids, swelling, solubility and fractionation. Thermodynamic properties of polymer solutions. Viscosities of dilute polymer solutions, determination of shapes, size, molecular weight and molecular weight distribution. Polymer degradation, thermal stability and radiation chemistry of polymers. Characterization of polymers by scattering techniques such as small angle neutron scattering (SANS) and small angle X-ray scattering (SAXS).

CHM 8364 Polymer Processing and Engineering Application 3 Credits

Polymerization processes. Basic and experimental rheology of polyethers. Fiber spinning processes: Wet, dry and melt spinning. Speciality fibres production. Film forming and moulding operations. Rheology of bulk polymers. Applications of viscoelastic properties in the design of statically loaded polymers. Dynamic mechanical properties of polymers. Fiber reinforced plastics. Test methods.

CHM 8360 Experimental Techniques in Polymer Chemistry 3 Credits
General laboratory safety guidelines; material safety data sheet (MSDS); good laboratory practice (GLP); keeping records of laboratory work. Solvent extraction, thin layer chromatography, ion-exchange chromatography, ion chromatography, molecular exclusion chromatography, paper chromatography, gas chromatography.

CHM 8365 Special Topics in Polymer Chemistry 3 Credits
Plastic recycling: Collection, sorting, grinding economics. Polymer liquid crystals: Classification, characterization and applications. Control radical polymerization; Atom transfer radical polymerization (ATRP), reversible addition fragmentation chain transfer (RAFT) polymerization, thermal analysis of polymers; TGA, DSC. Biodegradable polymers, inorganic polymers and polyelectrolytes. Stimuli responsive polymers. Thermo responsive polymers, pH sensitive polymers, medicinal application of polymers e.g. contraceptives, microbicides, control drug and gene delivery.

CHM 8336 Chemistry and Technology of Polymer Composites 2 Credits
Filters: Classification, properties, mixing and dispersion. Composite fabrication; pultrusion, filament winding, tape laying, pulforming, injection and compression molding etc. Additives for composites: Pigments, dyes etc. Characterization of composites: Thermal analysis e.g. thermogravimetric analysis (TGA) and differential scanning calorimetry (DSC). Surface characterization e.g. scanning electron microscopy (SEM), transmission electron microscopy (TEM) and atomic force microscopy (AFM) testing techniques; chemical and mechanical tests, service prediction and applications. Fiber reinforcements: Carbon fiber reinforcements, surface reinforcements, glass fiber reinforcements, aramid fiber reinforcements etc. Nanocomposites: Preparation, characterization and properties.

CHM 8268 Chemistry and Application of Specialty Polymersn 2 Credits
Liquid crystal conducting polymers: Synthesis and application. Polyanillines: Materials and application. Polymer nanofiber: Characterization and applications. Conducting polymer-based sensors: Electrochemical sensors, optical sensors. Polymers in electronics: Polymer-based light emitting diodes, photovoltaic diodes. Polymer transistors/conducting polymers: Preparation, stability, degradation and applications. Specialty coatings and adhesives: Preparations and applications. Light weight polymer composite materials for automotive industry: Design process and manufacturing techniques. Polymer in nanotechnology: Stabilization and functionalization of nanoparticles. Block copolymers: Synthesis, characterization, micellisation behaviour and application.

CHM 8269 Inorganic Polymers 2 Credits
Synthesis, properties and application of polysulphides, polythiazyls, polyborazylenes, polysiloxanes, polyphosphates and polyphosphazenes.

DOCTORATE DEGREE IN CHEMISTRY

This includes Doctorate degrees with specializations in the following areas:

- Analytical Chemistry
- Colour Chemistry
- Inorganic Chemistry
- Organic Chemistry
- Physical Chemistry
- Polymer Chemistry

COURSES

General Course

CHM 9300 Advances in Instrumentation, Research Methodology and ICT 3 Credits
Research Methodology which should cover literature survey, proposal, thesis and article writings and ICT
Separation Techniques: LC, HPLC, and GC.

Methods of structure determination and characterization, this should include IR, UV, NMR, Mass-spectroscopy, X-ray, Scanning and Transmission Electron Microscopy (SEM and TEM) and Magnetic susceptibility.

Unit Courses

CHM 9310 Advanced Selected Topics in Analytical Chemistry 3 Credits
Automatic, Biochemical, Electrochemical and Kinetic methods of Analyses.
Radiochemicals and their applications.
Forensic Chemistry: Fingerprinting, forensic serology, hair and fiber analysis, arson accelerants and explosives residues, glass comparisons, drugs analysis, bullet and cartridge analysis, serial number restoration, documentation examination, voiceprint identification, polygraphy, DNA analysis, forensic botany, meteorology, toxicology and photography.
Environmental chemistry: The atmosphere, hydrosphere, contamination, pollution which should include indoor and outdoor pollution, climate change, waste management, factors militating against waste management (developing world as case study), recycling, phytoremediation, bio/phytoindication.

CHM 9320 Advanced Selected Topics in Colour and Polymer Chemistry 3 Credits
High Technology Dyes: Micro colour filters, laser dyes, colourants for non-linear optics and solar cells, electrochemical dyes.
Specialized Dye Chemistry: Dyes for medical and photographic applications.
Liquid Crystals: Classifications, properties, characterization techniques and applications.
Nanostructures: Polymer and Biological
Specialty Polymers: Conducting polymers, Block copolymers, molecular switches and electronics.
Chemistry of environmentally responsive polymers.
Controlled/living radical polymerization: Atom Transfer Radical Polymerization (ATFP) and Reversible Addition Fragmentation chain Transfer (raft) polymerization techniques.
Liquid Crystal Dyes (LCDs), Leser dyes, colorants for non-linear optics and solar cells, electrochromic dyes and infra-red absorbing dyes and medicinal applications of dyes. Colourants for electrophotography, thermography, ink-jet printing etc.

CHM 9330 Advanced Selected Topics in Inorganic Chemistry 3 Credits
Preparation, properties, structure and applications of: Complexes of unusual states, Heteropoly and poly anions, and Inorganic polymers Bioinorganic chemistry: Roles of essential metals in biological systems and medicine.

CHM 9340 Advanced Selected Topics in Organic Chemistry 3 Credits
Recent developments in natural products, drugs discovery, modification and total synthesis of the isolated bioactive compounds techniques.
Characterization of natural products, and synthetic organic compounds using modern spectroscopic techniques such as 3-D NMR, EI – MS, etc.
Synthesis and biosynthesis of some existing organic compounds.

CHM 9350 Advanced Selected Topics in Physical Chemistry 3 Credits

Catalysis: To cover Homogeneous and Heterogeneous catalysis, types of catalysis, catalytic promoters and poisoning, negative catalysis and inhibitors, autocatalysis and induced catalysis, enzyme catalysis etc.
Adsorption isotherms: To include Freundlich, Langmuir, BET, Dubinin-Radushkevich (D-R), Dubinin – Raduskevish – Kerager (D – R – K), Koble – Corrigan, Redlich – Peterson and Tempkin isotherms.
Fundamentals of Quantum Mechanics: To cover application of Schrodinger equation to one and three dimensional systems, Angular momentum, approximation methods and perturbation theory.

GRADUATION REQUIREMENTS

PGDC Graduation Requirements

To be awarded a Postgraduate Diploma in Chemistry, a candidate must pass a minimum of 36 credit units made up as follows:

- Core courses of 15 credit units, including the general courses, projects and seminars.
- Elective courses of 21 credit units
- A student shall present at least one seminar, submit and defend a Dissertation.
- A student shall carry out a review in a relevant area of specialization and submit an acceptable Dissertation (compulsory four credit units) which must be presented and defended before a panel of internal examiners.

MSc. Graduation Requirements

To be awarded a Master's Degree in Chemistry, a candidate must pass a minimum of 36 credit units made up as follows:

- Core courses of 27 credit units, including the general courses, projects and seminars.
- Elective courses of 9 credit units.
- A student shall present at least one seminar, submit and defend a Thesis proposal.
- A student shall carry out a research in a relevant area of specialization and submit an acceptable Thesis (compulsory six credit units) which must be presented and defended before a panel of internal examiners.

To be awarded a Doctorate Degree in Chemistry;

- A candidate must register and pass a total of 18 credits courses. This includes 12 credits from thesis and 3 credits of a general course (CHM 9300) and any other 3 credit course from the candidate's research area of specialization.
- Each candidate is also expected to present three non-credit seminars as follows:

    - ✓ CHM 9201 Research Proposal
    - ✓ CHM 9202 Progress Report I
    - ✓ CHM 9203 Progress Report II

DEPARTMENT OF COMPUTER SCIENCE

Head of Department: Dr. Sani Danjuma
Departmental PG Coordinator: Dr. Abdulmajid Babangida Umar

LIST OF ACADEMIC STAFF FOR MSc. COMPUTER SCIENCE PROGRAMME

S/N.	Name	Area of Specialization	Qualification	Rank	Employment Status
1	Prof. Ahmad Baita Garko	Computer Science (DataBase)	B.Sc, M.Sc, Ph.D (Computer Sci.)	Professor	Visiting
2	Prof Abdulwahab Lawan.	Computer Science (Information System)	B.Sc, M.Sc, Ph.D (Computer Sci.)	Professor	Visiting
3	Prof. Ado Danisa	Computer Hardware	B.Eng, M.Eng. PhD. (Computer Control)	Professor	Sabbatical
4	Dr. Ishola D. Muraina	Computer Science (Data Mining)	BSc, MSc, PhD (Computer Sci.)	Senior Lecturer	Permanent
5	Dr. Rashid Hussain	Artificial Intelligence	B.Sc, M.Sc, Ph.D (Computer Sci.)	Assoc. Professor	Visiting
6	Dr. Abubakar M. Umaru	Computer Networking	B.Sc, MSc, PhD (Computer Sci.)	Senior Lecturer	Full Time
7	Dr. S. Danjuma	Computer Science (Web Mining)	B.Sc, MSc, PhD (Computer Sci.)	Lecturer I	Full Time
8	Dr. Abdulmajid B. Umar	Computer Science (Machine Learning)	B.Sc, M.Sc, Ph.D (Computer Sci.)	Lecturer I	Full Time
9	Dr. Abdura'uf Garba Sharifai	Data mining &Computing	B.Sc., M.Sc., Ph.D (Computer Sci.)	Lecturer I	Full Time
10	Aminu Abdulkadir Mahmud	Software Engineering	B.Sc, M.Sc, Ph.D (Computer Sci.)	Lecturer II	Full Time
11	Dr. Muktar Danlami	Information Security	B.Sc, M.Sc, Ph.D (Computer Sci.)	Lecturer II	Full Time
12	Dr. Bashir Muzakkar	Mobile Computing	B.Sc, M.Sc, Ph.D (Computer Sci.)	Lecturer II	Full Time
13	Rafeeah Madaki	Software Engineering	B.Sc., M.Sc. (Computer Sci.)	Lecturer II	Full Time

14	Abubakar Sani	Information System	B.Sc., M.Sc. (Computer Sci.)	Lecturer II	Full Time
15	Zawali Sabitu Paki	Programming	B.Sc., M.Sc. (Computer Sci.)	Lecturer II	Full Time
16	Umar Shafiu Haruna	Programming	B.Sc., M.Sc. (Computer Sci.)	Lecturer II	Full Time

DOCTOR OF PHILOSOPHY (PHD) COMPUTER SCIENCE

Introduction

The Doctor of Philosophy in Computer Science is an academic programme leading to the award of PhD in Computer Science. The programme is designed to broaden students' knowledge in Computer Science beyond that of undergraduate level. The courses are structured to enable students to acquire mastery of theoretical reasoning for solutions to practical problems in their careers and future studies.

The PhD degree programme aim to train students in research and development to meet the human capital development needs for national development and for the advancement of science and technology.

COURSES FOR PHD

CSC 900 RESEARCH METHODOLOGY (3 CREDITSS)

Introduction to Scientific Research, Meaning, Objectives and Significance of Research Motivation in Research, Types of research approaches, Quantitative research methods, Research methods versus methodology, Research process, Criteria of good research, Research problems, Necessity of defining the problem, Technique involved in defining the problem, Design and Development Research Methods, Meaning of research design, Need for research design, Features of a good design, Different research designs, Basic principles of experimental designs, Ethics in research, Building expertise in the areas of interest, generating the base content in the selected area, literature survey for research work, arriving at directions of research, Formulation of research title, development of criteria based research proposal.

CSC 911 CONTEMPORARY ISSUES IN COMPUTING (3 CREDITSS)

An examination of social, professional, and ethical issues involved in the use of computer technology. Subjects may include software engineering ethics, computer safety and reliability, constitutional issues, intellectual property, computer crime, societal impact, emerging technologies, and philosophical issues.

MSC. COMPUTER SCIENCE

Introduction

The Master of Science in Computer Science is an academic programme leading to the award of Master of Science in Computer Science. The programme is designed to broaden

students' knowledge in Computer Science beyond that of undergraduate level. The courses are structured to enable students to acquire mastery of theoretical reasoning for solutions to practical problems in their careers and future studies.

The Master degree programme aim to train students in research and development to meet the human capital development needs for national development and for the advancement of science and technology. The programme can also be a bridging course for candidates aspiring to pursue career in Computer Science.

Course Outline

Course Code Core	Course Title	1st Semester	2nd Semester
CSC 800	Research Project	6	
CSC 893	Management and Entrepreneurship	2	
CSC 801	ICT and Research Methodology	2	
CSC 811	Advanced Data Structure & Computer Algorithms	2	
CSC 821	Programming Languages and Techniques	3	
CSC 802	Software Engineering		2
CSC 812	Automata Theory		3
CSC 815	Operating System	2	
CSC 820	Parallel Programming		2
CSC 892	Seminar		2
	Sub-Total	17	15
	Software Engineering		
CSC 831	Object Oriented Analysis and Design	3	
CSC 841	Internet Technologies	3	
CSC 842	Embedded Systems, Mobile and Adaptive System		3
	Grand-Total	15	15
	Computer Science		
CSC 851	Computational Financial Engineering	3	
CSC 852	Quantum Computation Processes		3
CSC 861	Design of Complex Software Systems	3	
CSC 862	Advanced Data Modelling		3
	Grand-Total	15	15
	Artificial Intelligence		
CSC 871	Machine Learning and Algorithms	3	
CSC 872	Bioinformatics		3
CSC 851	Computational Finance Engineering	3	
CSC 852	Quantum Computation Processes		3
	Grand-Total	15	15

	Database System /Data Engineering		
CSC 881	Big-Data Computation	3	
CSC 882	Electronic Commerce Technologies	3	
CSC 891	Data Security		3
CSC 862	Advanced Data Modelling		3
	Grand-Total	15	15
	Information Security		
CSC 833	Digital Signal Processing	3	
CSC 834	Internet and the Governing Bodies		3
CSC 852	Quantum Computation Processes		3
CSC 841	Internet Technologies	3	
	Grand-Total	15	15
	Digital Forensic		
CSC 843	Network Design and Management	3	
CSC 851	Quantum Computation Processes	3	
CSC 844	Data Mining		3
CSC 833	Digital Signal Processing		3
	Grand-Total	15	15
	Human Computer Interaction		
CSC 853	Advanced Computer Vision	3	
CSC 854	Digital Picture Processing	3	
CSC 863	Advanced Computer Graphics		3
CSC 833	Human Computer Interaction		3
	Grand-Total	15	15

Course Description for MSc Computer Science
COURSE DESCRIPTION

CSC 800 RESEARCH PROJECT / DISSERTATION (6 CREDITS)

An independent investigation of an appropriate Computer Problem will be carried out by the student under supervision of a Department member. Student must submit a written proposal to the supervisor for review. Proposal describes a brief outline of the project and resources needed. A formal written report in the form of a thesis is later submitted for oral examination by the Department Panel of Examiners and moderated by a University appointed External Examiner.

CSC 892 SEMINAR (2-CREDITS)

Selected topics from different areas of computing with emphasis on recent advances in computer science and technology. Course content may vary from year to year.

CSC 893 MANAGEMENT AND ENTREPRENEURSHIP (2 CREDITS)

Cover business environment, general management, financial management, entrepreneurship development, feasibility studies, marketing and managerial problem solving.

CSC 801 ICT AND RESEARCH METHODOLOGY (2 CREDITS)

The use of LaTeX and BibTeX..Library Skills: Resources for research. Plagiarism: Referencing styles for MLA, APA, IEEE etc. Writing: Thesis proposal writing, seminar reports, and project reports. Thesis: Morphology of thesis. Selected topics from different areas of computing with emphasis on recent advances in computer science and technology. Course content may vary from year to year.

CSC 802 SOFTWARE ENGINEERING (3 CREDITS)

Software engineering and its place as an engineering discipline. Life cycle of software, Requirement analysis, development, operation and maintenance. Metrics: Portability, Re-usability, Correctness, Reliability, Efficiency, Usability, Integrity, Maintainability and Flexibility. Quality and testing. Software architecture: architecture description languages, pattern-oriented software architecture, component-based development, distributed software architecture using middleware, enterprise application integration, architecture for mobile and pervasive systems and model driven architecture. Advanced modelling: UML extension mechanisms, object constraint language and model checking. Software project management: Study of interpersonal process decision making styles, problem solving concepts and procedures, creative effort, conflict resolution, leadership and assessment. Concepts of motivation, team work and group dynamics. Software engineering and law: intellectual property law, professional ethics and code of conduct. Patents, trademarks, copyright, trade secrets, privacy and confidentiality, contracts and licensing, government regulations, global legal issues including Internet law and cybercrime. Overview of Open Source Software.

CSC 811 ADVANCED DATA STRUCTURES AND ALGORITHMS (2 CREDITS)

Review of data structures; linear data structures, hashing, trees, graphs, recursion. Complexity classes; empirical measurements of performance; time and space trade-offs analysis. Algorithmic strategies: Brute- force algorithms; greedy algorithms; divide-and-conquer; backtracking; branch-and-bound; minimum spanning tree, heuristics; pattern matching and string/text algorithms; numerical approximation algorithms. Tractable and intractable problems. Greedy algorithms, dynamic programming, advanced data structures, network flow, randomized algorithms. Bioinformatics Algorithms: Fundamental algorithmic techniques used to solve computational problems encountered in molecular biology.

CSC 812: AUTOMATA THEORY (3 CREDITS)

Anatomy of a compiler; lexical analysis (scanning); syntax analysis (parsing); syntax-directed translation; semantic analysis, intermediate code generation; code generation and optimization. Advanced topics include garbage collection; dynamic data structures, pointer analysis, aliasing; code scheduling, pipelining; dependence testing; loop level optimization; superscalar optimization; profile-driven optimization; debugging support; incremental parsing; type inference; advanced parsing algorithms; practical attribute evaluation; function in-lining and partial evaluation.

CSC 815: OPERATING SYSTEM (2 CREDITS)

Overview of operating systems, functionalities and characteristics of OS. Hardware concepts related to OS, CPU states, I/O channels, memory hierarchy, and microprogramming. The concept of a process, operations on processes, process states, concurrent processes, process control block, process context. UNIX process control and management, PCB, signals, forks and pipes. Interrupt processing, operating system organisation, OS kernel FLIH, and dispatcher. Job and processor scheduling, scheduling algorithms, process hierarchies. Problems of concurrent processes, critical sections, mutual exclusion, synchronisation, deadlock. Mutual exclusion, process co-operation, producer and consumer processes. Semaphores: definition, init, wait, signal operations. Use of semaphores to implement mutex, process synchronisation etc., implementation of semaphores. Critical regions, Conditional Critical Regions, Monitors, Ada Tasks. Interprocess Communication (IPC), Message Passing, Direct and Indirect Deadlock: prevention, detection, avoidance, banker's algorithm. Memory organisation and management, storage allocation. Virtual memory concepts, paging and segmentation, address mapping. Virtual storage management, page replacement strategies. File organisation: blocking and buffering, file descriptor, directory structure File and Directory structures, blocks and fragments, directory tree, inodes, file descriptors, UNIX file structure.

CSC 820: PARALLEL AND DISTRIBUTED COMPUTING (2 CREDITS)

SHARED MEMORY MODELS, PRAM and Work-Time Models: algorithm design and analysis techniques, relative power and limitations of PRAM models. Memory Models: parallel memory-hierarchy and locality, UMA, NUMA and CC-NUMA shared memory architectures. Loop-Level Parallelism: loop iteration distribution in OpenMP, performance measurement and tuning. Task-Level Parallelism: run-time task scheduling and load-balancing in Cilk and OpenMP 3.0. Nested parallelism. Memory coherence and consistency, implementation of synchronization and mutual exclusion operations in cache-coherent multiprocessors. HETEROGENEOUS PROCESSING MODELS Computational accelerators: Nvidia GPU architecture, programming, and performance. DISTRIBUTED MEMORY MODELS, Bulk Synchronous Processing Model: algorithm design, communication cost measures, performance prediction and measurement. Partitioned Global Address Space Model: one-sided communication, datadistribution, UPC. Message Passing Model: SPMD programming, Message Passing Interface (MPI), collective communication. Interconnection Networks: topology and performance metrics, routing, and flow control; implementation of collective communication operations. Distributed storage systems and programming models: Hadoop, Spark, google web search.

CSC 821: PROGRAMMING LANGUAGES (3 CREDITS)

Comparative study of the organization and implementation of a variety of programming languages and language features. Design principles are explored and applied in a historical review of major languages. Procedural, functional, logic-based, object-oriented and parallel languages. Research issues such as polymorphism, formal semantics and verification explored in depth.

CSC 831: OBJECT ORIENTED DESIGN AND ANALYSIS (3 CREDITS)

Procedural programming and limitations. Software development methodology: Fundamental design concepts and principles; structured design; testing and debugging strategies; test case design; programming environments; testing and debugging tools. Basic concepts and formal methods of OOP. Features of a popular OOP Language such as JAVA, C++ etc. Applications of OOP in systems software development. Object Model; Dynamic Model; Functional Model; Object Oriented Design - Analysis using Object, Dynamic and Functional Model. System Design: Subsystems, Concurrency, Software Control Implementation, And System Architecture; Object Design: Hybrid Models, Designing Algorithms, Design Optimization, Control Implementation, Design of Association, Packaging. Design Modeling using UML; Object Oriented Programming using C++ or C#; OOP Languages; Object Oriented Data; Object Oriented Database; Object Oriented Testing; Distributed Object Oriented System

CSC 841 INTERNET TECHNOLOGIES (3 CREDITS)

Investigates the design and operation of the global network of networks: The Internet. This course studies the structure of the Internet and the TCP/IP protocol suit that enables it to scale to millions of hosts. The focus is on design principles, performance modeling, and services offered by the Internet. The Internet, standards and specifications; survey of contemporary Internet technologies; Current Internet tools; Designing and publishing a web server; WWW programming Markup languages; Using alternative protocols in WWW, Adding multimedia features to WWW; Server side programming, client programming and database programming for the web; Security and Privacy.

CSC842: MOBILE AND ADAPTIVE SYSTEMS (3 CREDITS)

Properties of wireless; PANs, LANs and WANs: Ad-hoc and infrastructure nets; physical constraints and limitations (transmission and reception), network structures and architectures, including hand-off and mobility support at the physical/link level; Technologies at the physical/link layers: PANS – Bluetooth, LANs – IEEE802.11, HiperLAN, GSM and GPRS network structures and protocol architectures, next generation wireless overview including UMTS, IMT-2000 and W-CDMA; mobile IP: mobile IPv4 and mobile IPv6, problems with routing, quality of service and security; overview of use of intelligence in mobile systems and power management issues; file systems: CODA and the like and mobile infrastructure support. Adaptive and re-configurable systems, mobile multimedia and its relationship to proxying, context sensitive applications, ubiquitous computing, pervasive computing and ambient networking, overlay networks and vertical hand-offs, programmable networking and applications for mobile systems, code mobility and control/signalling.

CSC851: COMPUTATIONAL FINANCE ENGINEERING (3 CREDITS)

Terminologies, definitions, fundamental theorems on Option pricing, Stochastic Calculus, Black-Scholes; Numerical Methodologies – Lattice Method, Discussion on Parallel Computing Paradigms, Implementation of Option Pricing problem using Lattice and other Methods; Complex financial instruments Swaps, CDO and modern computational techniques – ACO and PSO. Monte Carlo Simulation, Neural Networks, Fast Fourier Transform; Cutting edge technologies and algorithms

CSC852: QUANTUM COMPUTATION PROCESSES (3 CREDITS)

The theory of quantum information and quantum computation; classical information theory, compression of quantum information, transmission of quantum information through noisy channels, quantum entanglement, introductory cryptography and quantum cryptography; classical complexity theory, quantum complexity, efficient quantum algorithms; quantum error-correcting codes, fault-tolerant quantum computation; and physical implementations of quantum computation.

CSC861: DESIGNING COMPLEX SOFTWARE SYSTEMS (3 CREDITS)

Designing new computational systems and the software that drives them is both hard and interesting. One important style of computer science research, often called experimental systems research, revolves around such design activities. Research in this style seeks to advance our understanding of, and our ability to create, general computer systems that support the development and use of more domain-specific applications.

CSC862: ADVANCED DATA MODELING (3 CREDITS)

Foundations: Repetition: Relational model; OOP databases- Modeling, ODL, OQL; Object relational databases, Extensibility, Modeling, Functions; Deductive Databases - Equivalence to relational model, Stratified semantics, Perfect model semantics; Semi-structured Databases – OEM, XML & XML Schema, Xquery

CSC871: MACHINE LEARNING ALGORITHMS (3 CREDITS)

Machine Learning is the study of computer algorithms that improve automatically through experience. Provides students who conduct research in machine learning, or use it in their research, with a grounding in both the theoretical justification for, and practical application of, machine learning algorithms. Covers techniques in supervised and unsupervised learning, the graphical model formalism, and algorithms for combining models

CSC872: BIOINFORMATICS (3 CREDITS)

The mathematical Graph, network models, graph search, graph operations and traversals: shortest path, Floyd Warshal, Djiskstra algorithm, data structure representation and their computational complexity, Algorithm Analysis, Maximal flow problem, Preflow push algorithm, Minimum Cost flow algorithm. Application areas to include: network flow, Network simplex algorithm, PERT and CERT, NP- completeness, Largrangian and Multi-Commodity Flow, Transcription network, PPI and Gene interaction, graph analysis: spectral and clustering analysis. Principles and practice of identification; Cell Biology, Cells as a graph, Pattern matching and recognition. Learning algorithms, and visualization. Sequence alignment, applications to biological sciences – DNA, gene finding, genome assembly, drug design, drug discovery, protein structure alignment, protein structure prediction, prediction of gene expression and protein-protein interactions, genome-wide association studies and the modelling of evolution.

CSC881: BIG-DATA COMPUTATION (3 CREDITS)

Definition of Big-Data, why the concern, traditional approach to analysis of large data sizes. Effective data analysis using new technologies; Storage, use of cloud technology with the attendant data security issues. Advantages and drawbacks

CSC882: ELECTRONIC COMMERCE TECHNOLOGIES (3 CREDITS)

Introduction; the sociology and psychology of electronic commerce: building, recognizing, managing and making use of online communities in web-based environments, theories of online presence and cooperation; a guide to e-commerce in general: how to differentiate e-commerce today from e-commerce yesterday, current problems of e-commerce and interesting solutions and approaches to those problems; a guide to knowledge commerce: understanding knowledge as a commodity and as a process, and representing it in web-based environments; web architecture: structural design of e-commerce systems, client-server architecture, 2-, 3-, n-tier design, server farms, scalability, integration of legacy systems, Java beans, Enterprise Java beans and java server pages, particular problems posed by 24/7 operation and an open user community; data interchange: exchanging data over the internet, XML, style sheets, document type definition, metadata and document discovery, interchange of processes using WSDL and SOAP as examples; usability: user-interfaces design for websites, use of human computer interaction methodologies in evaluating user interfaces; electronic payments: technologies that support the processing of electronic payments, characteristics and properties of electronic payment systems; mass personalization and the virtual customer: automation of the customer relationship, use of data to customize the web experience, cookies and their risks, rule-based filtering, implicit profiling, collaborative filtering.

CSC891: DATA SECURITY (3 CREDITS)

Definition of information security. Securing computer network. Administration, configuration, designing and troubleshooting network security. Knowledge of essential security technologies such as TCP/IP firewalls, VPN, etc. Minimizing threats of external attacks and viruses with successful counter measures.

CSC833: DIGITAL SIGNAL PROCESSING (3 CREDITS)

Introduction; brief review of analogue and digital signal processing systems; discrete time linear time-invariant signal processing systems; design of finite impulse response digital filters; introduction to z-transforms and infinite impulse response type discrete time filters; design of infinite impulse response type digital filters using analogue filter approximations; digital processing of analogue signals and other data; introduction to the discrete Fourier transform.

CSC834: THE INTERNET AND THE GOVERNING BODIES (3 CREDITS)

Investigates the design and operation of the global network of networks: The Internet. This course studies the structure of the Internet and the TCP/IP protocol suit that enables it to scale to millions of hosts. The focus is on design principles, performance modeling, and services offered by the Internet.

CSC843: NETWORK DESIGN AND MANAGEMENT (3 CREDITS)

Fundamentals and advances in computer communication networks. The emphasis will be on the design and analysis of networks, especially switching, routing, and network topology.

CSC844: DATA MINING (3 CREDITS)

Foundations – How to make data mining practical: Learning from data: why, what and how? Fundamental tasks, issues and paradigms of learning models from data; Real world data is noisy and uncertain. How much can we trust the results of our analyses? Model selection; Reduction of dimensionality and data engineering; Measures of association between data attributes: information theoretic, correlational. Pragmatic methodologies for mining data: Predictive analytics: classification and regression; Cost- sensitive model selection using ROC approach; Compression of data and models for improved reliability, understandability, and tractability of large sets of highly dimensional data.; Association rule learning and decision list learning, decision trees; Density estimation, anomaly detection, and clustering; Overview of mining complex types of data; and Illustrative examples of real-world applications.

CSC853: ADVANCED COMPUTER VISION (3 CREDITS)

Analysis of advanced topics in automated reconstruction of imaged objects and computer interpretation of imaged objects; techniques for three-dimensional object reconstruction; computing motion parameters from sequences of images; computational frameworks for vision tasks such as regularization, and stochastic relaxation; approaches for autonomous navigation. Depth image analysis; novel imaging techniques and applications; and parallel architectures for computer vision.

CSC854: DIGITAL PICTURE PROCESSING (3 CREDITS)

Basic concepts of image formation and image analysis: imaging geometry, sampling, filtering, edge detection, Hough transforms, region extraction and representation, extracting and modeling three-dimensional objects. Students will be assigned analytical and programming assignments to explore these concepts.

CSC863: ADVANCED COMPUTER GRAPHICS (3 CREDITS)

Prerequisite: Mastering of C programming language. Reflection models. Texture and models, texture and environment mapping, advanced ray tracing, radiosity method, volume rendering, advanced modelling techniques, simulation and animation.

CSC864: HUMAN COMPUTER INTERACTION (3 CREDITS)

Positive and negative effects of the computers and ICT on human beings and societies. Computing as a profession, organization using computers, sociological impacts of computers, individuals and computers, computer as an audit tool, computers in banking, computer based information systems and telecommunications, computers in consultancy services, design and construction, education, government insurance, stock-brokerage, legal and medical professions.

POSTGRADUATE DIPLOMA IN COMPUTER SCIENCE (PGD)

Areas of Specialization

I. Computer Science Theory/Foundation of Computer Science
II. Software Engineering
III. Database Systems/Data Engineering
IV. Computer Communications and Networks
V. Artificial Intelligence
VI. Information Security
VII. Digital Forensics
VIII. Human Computer Interactions
IX. Machine Learning

Postgraduate Diploma Computer Science: (PGD. Computer Science)

A pass mark of 50% is required.

S/No	Course Code Core	Course Title	1st Semester	2nd Semester
1	CSC 700	Research Project / Dissertation	4	
2	CSC 711	Computer Programming	2	
3	CSC 721	Computer Architecture and Digital Circuit Design	2	
4	CSC 731	Operating Systems	2	
5	CSC 741	Research Methodology& Special Trends in Computing	2	
6	CSC 751	Software Engineering	2	
7	CSC 712	Data Structures and Algorithms		2
8	CSC 722	Programming Languages and Techniques		2
9	CSC 732	Artificial Intelligence		2
10	CSC 742	Computer Networks		2
11	CSC 752	Compiler Design		2
	Electives	Total	10	10
12	CSC 733	Database Systems	2	
13	CSC 743	Web Development and Technologies	2	
14	CSC 753	Computer Graphics	2	
15	CSC 734	Optimization Techniques		2
16	CSC 744	Cyber Security		2
17	CSC 754	Cloud Computing		2
		Total	14	14

COURSE DESCRIPTION

CSC 700 RSEARCH PROJECT / THESIS 4 CREDITS

An independent investigation of an appropriate Computer Problem will be carried out by the student under supervision of a Department member. Student must submit a written proposal to the supervisor for review. Proposal describes a brief outline of the project and resources needed. A formal written report in the form of a thesis is later submitted for oral examination by the Department Panel of Examiners and moderated by a University appointed External Examiner.

CSC 711 DIGITAL CIRCUIT DESIGN 2 CREDITS

Computer system organization, Computer number systems and codes: Arithmetic operations on binary, hexadecimal and binary coded decimal (BCD) Digital logic and devices: inverted and non-inverted buffers, logic gates. Digital circuits: Combinational circuits (multiplexers, coders and decoders, comparators, shifters, adders and arithmetic logic unit). Sequential circuits (latches, flip-flop, registers and counters). ROM, RAM and Buses.

CSC 712 DATA STRUCTURES AND ALGORITHM 2 CREDITS

Data Structures: Static data structures: pointers, vectors, stack and queue. Dynamic data structures: linked list, free storage lists, stacks and queue, dummy entries and circular chains. File organization and access techniques. Recursion and trees, Graph, network and relations. Data structures design consideration, problem analysis, abstract data types and formal specifications, divide and conquer, binary search, merge sort, quick sort and selection. Greedy method, optimal storage. Knapsack problem, job sequencing with deadlines, optimal merge patterns, minimum spanning trees.

CSC 721 PROGRAMMING LANGUAGES AND TECHNIQUES 2 CREDITS

Evolutionary trends of computer programming – Overview of different programming paradigms to include Structured programming, Event driven programming, multimedia (images, animation and audio) programming and Concurrent programming. Programming tools: Flowcharts, decision Table, Data Flow and Unified Modeling Language. Basics of Object Oriented Programming (OOP). Methodology of programming computers in OOP language environment using Java and Visual Basic

CSC 722 COMPUTER ARCHITECTURE 2 CREDITS

Overview of computer organization, register transfer sequences, operations instruction codes, control unit and; timing, Microcomputer structure and operation; memory, input-output, central processing unit, address bus, data bus and control bus. Microprocessor evolution and types (dedicated or embedded controllers, bit- slice processors and general purpose central processing units. Intel 8086 microprocessor family architecture and programming.

CSC 731 OPERATING SYSTEM 2 CREDITS

Operating system: management of computer resources: memory, input-output devices, data and program files and processes. Privacy and security of resources. Case study of some popular operating systems such as UNIX, Microsoft Windows and LINUX.

CSC 732 ARTIFICIAL INTELLIGENCE 2 CREDITS

Knowledge Representation and Reasoning: a review of first-order logic, entailment, and the resolution method; Horn clauses, procedural representations, description logics, inheritance networks, probabilities, tractable reasoning, adductive explanation, representation of action and planning. Logical Methods in Computational Intelligence: natural language processing, adductive logic programming and constraint-based logic programming; seminars

CSC 741 RESEARCH METHOD & SPECIAL TRENDS IN COMPUTING 2 CREDITSS

The use of LaTeX and BibTeX..Library Skills: Resources for research. Plagiarism: Referencing styles for MLA, APA, IEEE etc. Writing: Thesis proposal writing, seminar reports, and project reports. Thesis: Morphology of thesis. Selected topics from different areas of computing with emphasis on recent advances in computer science and technology. Course content may vary from year to year.

CSC 742 COMPUTER NETWORKS 2 CREDITS

Classification of computer network architecture, protocol hierarchies and layers design issues. Network protocols standards and controls. Network devices and media. Multimedia systems, Intra-networking and inter-networking. Practical issues of computer network implementation. Computer network privacy and security issues. Internet Technology and its applications such as e-mail, e-business, e-teaching and learning. World Wide Web (www), etc, www design and programming. Mobile and wireless technology and their applications in computer network environment.

CSC 751 SOFTWARE ENGINEERING 2 CREDITS

Basic software engineering topics associated with the processes, documents and products of the entire software lifecycle. Topics include software evolution, project organization and management, feasibility studies, product definition, design, implementation and testing issues and the role of the software engineer within the lifecycle.

CSC 752 COMPILER DESIGN 2 CREDITS

Programming language translator (assembler, compiler and interpreter): lexical analysis, transaction diagram regular expression, finite automata, syntax analysis, intermediate code generation and optimization. Development of a hypothetical computer programming language translator.

CSC 733 DATABASE SYSTEM 2 CREDITS

Basic concepts, Motivations and objectives of data system. Architecture of centralized system and distributed database system. Introduction to database models, Logical and physical design of databases. Study of the features of a popular database management system and its use in the

development, operation and maintenance of databases. Database privacy and security. Database failure and recovery. Auditing and control. Concurrency control mechanisms. Case study of database performance.

CSC 734 OPTIMIZATION TECHNIQUES 2 CREDITS

Linear programming. Transportation problems, Network analysis and project scheduling. Games and strategies. Queuing theory principles and practice, Nonlinear programming. Decision support system.

CSC 743 WEB DEVELOPMENT &TECHNOLOGIES 2 CREDITS

Current internet technologies and their effects. Web development – HTML, JavaScript, PhP and MySQL. Multimedia, Protocols and Server technology, Internet security, E-commerce, human interfacing and other related issues.

CSC 744 CYBER SECURITY 2 CREDITS

Introduction to information security, the need for security. Legal, ethical and professional issues in information security, risk management, planning for security. Security technology: firewalls, VPNs, and Wireless. Security Technology: intrusion detection and prevention system and other security tools. Cryptography, physical security, implementing information security, Security and personnel, information security maintenance and eDiscovery.d

CSC 753 COMPUTER GRAPHICS 2 CREDITS

Visual perception and representation. Cognitive psychology and emotional framework. Knowledge and mental knowledge. Computer graphics hardware devices and software packages. Two and three- dimensional graphics and transformation. Viewing geometry, object modeling and interactive processing. Multimedia: images, animation and audio.

CSC 754 CLOUD COMPUTING 2 CREDITS

Distributed system models, parallel computing, and virtualization. Cloud platform architectures; Amazo AWS, Microsoft Azare, Google App Engine, Google Map, Reduce/Yahoo Hadoop, Eucalyptus, Nimbus, Open stack. Service Oriented Architectures. Cloud Programming. Grid Computing, Peer to Peer Computing.

GRADUATION REQUIREMENT

Doctor of Philosophy (PhD)

To be awarded a PhD degree in Computer Science, a candidate must pass Research Methodology and Contemporary Issues in Computing in the first or second semester of the candidate's first year and candidature defence to be taken on the fourth semester:

- Research Methodology **(3 CREDIT units).**
- Contemporary Issues in Computing **(3 CREDIT units)**
- A student shall carry out research in a relevant area of specialization

- A student shall present at least two seminars and two publications from reputable journal, submit and defend a Thesis proposal.

PGD

A candidate must have fulfilled the following conditions to be awarded the Postgraduate Diploma in Computer Science: (a) must pass a minimum of 32-CREDITS units, and (b) must carry out research in a relevant area of specialization and submit an acceptable thesis (4-CREDITS units compulsory) which must be defended before an Advisory Committee (Internal and External examiners).

DEPARTMENT OF MATHEMATICS

HEAD OF DEPARTMENT: Dr. Surajo Sulaiman

PG COORDINATOR Dr. Mansur Hassan

INTRODUCTION

Brief History of the Department:

The Department of Mathematics, Yusuf Maitama Sule University (Formally Northwest University), Kano, started its academic activities in 2012/2013 academic session.

List of Academic Staff

S/No.	Name of Academic Staff	Area of Specialization	Qualification	Rank	Employment Status
1	Prof. Vijay Vir Singh	Reliability Modelling	BSc, MSc, PhD (Mathematics)	Professor	Contract
2	Prof. Bashir Ali	Functional Analysis	BSc, MSc, PhD (Mathematics)	Professor	Part Time
3	Prof. Basant Kumar Jha	Mathematical Modelling	BSc, MSc, PhD (Mathematics)	Professor	Part Time
4	Dr. M.Y.Waziri	Numerical Optimization	BSc, MSc, PhD (Mathematics)	Reader	Part Time
5	Dr. Nafiu Hussaini	Mathematical Biology	BSc, MSc, PhD (Mathematics)	Reader	Part Time
6	Dr. Ibrahim Abdullahi	Response Surfaces Modelling	MSc, PhD (Statistics) BSc. Mathematics	Senior Lecturer	Full Time
7	Dr. Ado Balili	Applied Mathematics	BSc, MSc, PhD (Mathematics)	Senior Lecturer	Full Time
8	Dr. Amina M. Lawan	Algebra	BSc, MSc, PhD (Mathematics)	Senior Lecturer	Full Time

9	Dr. Sirajo Lawan Bichi	Partial Differential and Integral Equations Problem	BSc, MSc, PhD (Mathematics)	Senior Lecturer	Part Time
10	Dr. Salisu M. T/Kaya	Algebra	BSc, MSc, PhD (Mathematics)	Senior Lecturer	Part Time
11	Dr. Surajo Sulaiman	Group Theory	BSc, MSc, PhD (Mathematics)	Senior Lecturer	Full Time
12	Dr. Kabiru Suleiman	Operational Research	BSc, MSc, PhD (Mathematics)	Senior Lecturer	Full Time
13	Dr. Farouk Tijjani Sa'ad	Mathematical Modelling	BSc, MSc, PhD (Mathematics)	Lecturer I	Full Time
14	Dr. Mansur Hassan	Operations Research	BSc, MSc, PhD (Mathematics)	Lecturer I	Full Time
15	Dr. Usman A. Yakubu	Numerical Optimization	BSc, MSc, PhD (Mathematics)	Lecturer II	Full Time
16	Yusuf Yau Gambo	Computational Fluid Dynamics	BSc, MSc, PhD (Mathematics)	Lecturer I	Full Time
17	Dr. Shehu Maitama	Partial Differential Equations	BSc, MSc, PhD (Mathematics)	Lecturer I	Full Time

PhD. MATHEMATICS

LIST OF COURSES FOR PhD. MATHEMATICS:
MTH9301: Advanced Research Methods (3 Credit Units)
MTH9311: Geometric Properties of Banach Spaces (3 Credit Units)
MTH9321: Fluid Dynamics (3 Credit Units)
MTH9341: Numerical Method for PDE (3 Credit Units)
MTH9326: Topics in Differential Games (3 Credit Units)
MTH9351: Advanced Methods of Optimization (3 Credit Units)
MTH9312: Nonlinear Operator Theory (3 Credit Units)
MTH9322: Topics in Algebra (3 Credit Units)
MTH9332: Mathematical Biology (3 Credit Units)
MTH9342: Stochastic Models in Reliability and Maintenance (3 Credit Units)
MTH9345: Numerical Solutions of Integral Equations (3 Credit Units)

M.SC. MATHEMATICS

LIST OF COURSES FOR M.SC. MATHEMATICS

Core Courses:

MTH8301: Real Analysis (3 Credit Units)
MTH8302: Topology (3 Credit Units)
MTH8303: Partial Differential Equations (3 Credit Units)
MTH8304: Complex Analysis (3 Credit Units)
MTH8305: Algebra (3 Credit Units)
MTH8306: Functional Analysis (3 Credit Units)
MTH8200: ICT and Research Methodology (2 Credit Units)
MTH8600: Research Project/Dissertation (6 Credit Units)
SCI 8201 Management and Entrepreneurship (2 Credit Units)
SCI 8202 Science, Environment and Innovation (2 Credit Units)

Elective Courses:

A minimum of 6 credit units from:
MTH8307: Numerical Analysis (3 Credit Units)
MTH8308: Fluid Mechanics (3 Credit Units)
MTH8309: Operations Research (3 Credit Units)
MTH8310: Dynamical Systems (3 Credit Units)
MTH8311: Differential Games (3 Credit Units)
MTH8312: Topics in Algebra (3 Credit Units)
MTH 8313: Integral Equations (3 Credit Units)
MTH8314: Mathematical Modeling (3 Credit Units)
MTH8315: Convex Optimization (3 Credit Units)
MTH8316: Elasticity (3 Credit Units)
MTH8317: Tensor Analysis (3 Credit Units)
MTH8318: Fundamentals of Optimization (3 Credit Units)
MTH8319: Numerical Solutions of Partial Differential Equations (3 Credit Units)
MTH8320: Introduction to Symbolic Computation (3 Credit Units)
MTH8321: Control Theory (3 Credit Units)
MTH8322: Mathematics of Finance (3 Credit Units)
MTH8324: Biomathematics (3 Credit Units)

Areas of Specialization

M.SC. Computational Mathematics

M.SC. Applied Mathematics

Course Description for M.SC. Mathematics Courses

MTH 8301: Real Analysis

Measures and Integration. Outer measure. Lebesgue Measure. Basic properties of Banach and Hilbert spaces. Operators, Duality. Basic theorems in functional analysis. Classical Banach spaces. Spectral theory of Operators in Hilbert spaces. L2 space as a Hilbert space. Banach algebras. Gelfand theory, compact operators. Examples and applications to classical analysis.

MTH 8302: Topology
Review of categories and factors. Homology, fundamental group, covering transformation, simplicial complexes. Singular homology, Universal co-efficient theorem for homology and cohomology. Spectral sequence.

MTH 8303: Partial Differential Equations
Basic examples of linear partial differential equations and their fundamental equations and their fundamental solutions. Existence and regularity of solutions (Local or Global) of the Cauchy problems; boundary value problems and mixed boundary value problems. The fundamental solutions of their partial differential equations.

MTH 8304: Complex Analysis
Periodic functions, weierstrass functions, elliptic curves. Modular forms. Algebraic functions, Riemann surfaces. Covering surfaces, covering transformations. Discontinuous groups of linear transforms, automorphic forms.

MTH8305: Algebra
Sylow theorems, direct products, fundamental theorem of finite Abelian groups, field of quotients, Euclidean rings, Polynomial rings over commutative rings, inner product spaces, theory modules, sub-modules, quotient modules, modules over principal ideal domains. Applications finitely generated Abelian group fields extension field's elements of Galois theory, solvability radicals.

MTH 8306: Functional Analysis
Normed Linear Spaces; Hilbert Spaces; Linear Maps; Hahn-Banach Theorems (analytic and geometric forms); Uniform Roundedness Principle; Open Mapping and Closed Graph Theorems; Weak and Weak* Topologies; Reexive Spaces; The Banach Alaoglu Theorem; The Theorem of Kakutani characterizing Reexive Spaces; Uniformly Convex Spaces; Milman-Petits Theorem; Eberlein-Smulyan Theorem; Separable Spaces.

MTH 8307: Numerical Analysis
Interpolation Schemes; Numerical Integration and Differentiation; Systems of linear Equations; Approximation by Spline Functions; Difference Equations; Differencing Schemes; Ordinary Differential Equations; Systems of Ordinary Differential Equations; Smoothing of Data and the Least Squares Method; Partial Differential Equations; Introduction to the Finite Element Methods.

MTH 8308: Fluid Mechanics
Thermodynamics Compressible flow; waves; sheeks; supersonic flow; Boundary layer Theory; stability; Turbulence.

MTH 8309: Operations Research
Introduction to operations research. Treatment of some of these topics and the applications of computer in their solution: Decision Theory, Game Theory, Inventory Control, Linear Programming Problems (Simplex Method of solution), Transportation Problems, Assignment

Problems, Project/Network Analysis, Forecasting, Queuing Theory, Simulation.

MTH 8310: Dynamical Systems
Linear and Non-linear Dynamical Systems: Deterministic: - Continuous and Discrete; Stability Analysis and Theorems; Bifurcation Theory; Chaos.

MTH 8311: Differential Games
Fundamentals of Differential games such as Lion and Man; Dear and Wolves, Boy and Crocodile/Isotropic Rockets and Pull-Over games Crocodile/Isotropic Rockets and Pull-Over games etc. Differential game of Degree. Two Player zero-sum and Multi Objective Differential Games. Differential game of Kind: Pursuit and Evasion Differential Games. Linear Quadratic Differential Games, Discrete Pursuit and Evasion Differential Games.

MTH8312: Topics in Algebra
Selected topics.

MTH 8313: Integral Equations
Classification of Integral Equations and Integro Differential Equations, Methods of solutions; Adomian Decomposition Method: Laplace Transform Method; Series Solution Method; Direct Computation Method; The Successive Approximations Method; converting initial value problems (IVP) to Volterra integral equation and the vice vasa, converting boundary value problems (BVP) to Fredholm Integral Equation and the vice vasa, Existence of the Solutions.

MTH 8314: Mathematical Modeling
The Art of Transforming Real Life Situations into Mathematical Statements: Mathematical Modeling through Systems of Ordinary Differential Equations of the First Order; Mathematical Modeling through Difference Equations; Mathematical Modeling through Graphs; Mathematical Modeling through Calculus of Variations and Dynamic Programming. Areas of Application: Biology, Economics, Deformable Media, Industry and other Dynamical Systems.

MTH 8315: Convex Optimization
An introduction to the modern theory of convex programming, its extensions and applications. Structure of convex sets, separation and support, sub gradient calculus for convex functions, Fenchel conjugacy and duality, Lagrange multipliers. Ellipsoid method for convex optimization.

MTH 8316: Elasticity
Formulation of the Linear Theory; General Theorems; Plane Strain and generalised plane stress; Ary's solution: Papkovich – Neuber representation; Basic singular solutions; Boundary – Value and Boundary – Initial value problem.

MTH 8317: Tensor Analysis
Tensor Algebra: Systems of Different orders; Summation Convention; Kronecker Symbols; Transformation of Coordinates in Sn; Invariants; Covariant and Contravariant Vectors; Tensors of Second Order; Mixed Tensors; Zero Tensor; Tensor Field; Algebra of Tensors; Equality of Tensors; Symmetric and Skew - symmetric tensors; Outer Multiplication; Contraction and Inner Multiplication; Quotient Law of Tensors; Reciprocal Tensor; Relative Tensor; Cross Product of Vectors; Tensor Calculus: Riemannian Space; Christofel Symbols and their properties; Covariant Differentiation of Tensors; Riemann - Christofel Curvature Tensor; Intrinsic Differentiation.

MTH 8318: Fundamentals of Optimization
Mathematics foundations, Unconstrained optimization: Local and global minimum, Sufficient and necessary unconstrained optimality conditions, Line search methods, Steepest descent (gradient descent), Newton method, variants of Newton's method. Method of Conjugate Gradients methods. Quasi-Newton Methods. Theory of Constrained optimization: Local and Global solutions, Single equality Constrained, Single inequality Constrained, First-order Optimality Conditions, Second-order conditions. Methods for solving Nonlinear Equations (Single and multiple variables) Convergence of the methods, Numerical performance, practical applications.

MTH 8319: Numerical Solutions of Partial Differential Equations
Discretization methods for partial differential equations, including finite difference, finite volume and finite element methods. Application to elliptic, hyperbolic and parabolic equations. Convergence and stability issues, properties of discrete equations, and treatment of nonlinearities. Stiffness matrix assembly and use of sparse matric software.

MTH 8320: Introduction to Symbolic Computation
An introduction to the use of computers for symbolic mathematical computation, involving traditional mathematical computations such as solving linear equations (exactly), analytic differentiation and integration of functions, and analytic solution of differential equations.

MTH 8322: Mathematics of Finance
Measuring Volatility; Correlation and Regression Analysis; Volatility Risk; Arbitrage and Replication of Securities; Discrete- and Continuous -time Stochastic Processes for Prices; Martingales, Stochastic Differential equations, Ito Calculus; Modeling with Jump Processes; Analysis of the Black-Scholes-Merton Equation; Risk-Neutral Pricing and Benchmark Models in Continuous Time.

MTH 8324: Biomathematics
Deterministic and Discrete Mathematical Models of Biological Systems: Discrete Population Growth Models, Continuous Growth Models, Qualitative behavior of Populations; Mathematical Models in Epidemiology; Reaction Kinetics: Enzyme Kinetics, Autocatalysis; Biological Oscillators and Switches: Hodgkin-Huxley (HH) and FitzHugh-Nagumo (FHN) models of Nerve Membranes.

MTH 8325: Data Visualization
Visualization of high dimensional data including interactive methods directed at exploration and assessment of structure and dependencies in data. Methods for finding groups in data including traditional and modern methods of cluster analysis. Dimension reduction methods including multi-dimensional scaling, nonlinear and other methods.

MTH 8200: ICT and Research Methodology
We start with a discussion to become aware of research issues. Then there are issues of citation, giving intellectual credit, collaboration, the peer-review process, handling data and other information (your own, and that communicated to you or published by others). Critical reading of mathematical / scientific research journal papers. Using your knowledge of the subject to assess critically the importance of individual papers within several contexts to be discussed. The art of precise summarizing another's work completely but BRIEFLY in your own words. Writing well

vocabulary, grammar, correct tenses, choice of styles for abstracts and narratives, project layout, structure and order. Diagrams. Speaking well advice and practice in giving effective mathematical talks and being persuasive in research discussions. The issues of improvement, enhancement and modification(s) of existing methods. How to present research proposal, results and seminar.

SCI 8201 Management and Entrepreneurship
The course will cover business environment, general management, financial management, entrepreneurship development, feasibility studies, marketing and managerial problem solving.

SCI 8202 Science, Environment and Innovation
Elements of global warming, environmental protection issues, biodiversity, pollution, species at risk, social and ethical implication of science, enterprise and productive, intellectual rights, private public partnership and investment.

POSTGRADUATE DIPLOMA IN MATHEMATICS (PGDMATHS)

LIST OF COURSES FOR POSTGRADUATE DIPLOMA IN MATHEMATICS (PGDMATHS)

Core Courses:

MTH 7301: Sets, Logic and Linear Algebra (3 Credit Units)
MTH 7302: Abstract Algebra (3 Credit Units)
MTH 7303: Real Analysis (3 Credit Units)
MTH7304: General Topology (3 Credit Units)

MTH 7305: Complex Analysis (3 Credit Units)

MTH 7306: Differential equations (3 Credit Units)
MTH7307:-Functional Analysis (3 Credit Units)

MTH 7308: Numerical Analysis (3 Credit Units)
MTH7310:-Operations Research (3 Credit Units)
MTH7413:-Long Essay (4 Credit Units)

Elective Courses:

MTH7309:-Mathematical Modeling (3 Credit Units)

MTH7311:-Lebesgue Measure and Integration (3 Credit Units)

MTH7312:-Partial Differential Equations (3 Credit Units)

MTH 7321: Probability Functions of Discrete Random Variables (3 Credit Units)
MTH7322:-Probability Function of Continuous Random Variables (3 Credit Units)

Course outlines for Postgraduate Diploma in Mathematics (PGDMaths)

MTH7301**:** Sets, Logic and Linear Algebra
Introduction to the language and concepts of Modern Mathematics. Topics include: Basic set theory, mappings, relations, equivalence and other relations, Cartesian products. Binary logic, methods of proof. Binary operations. Vector spaces and subspaces, linear dependence and independence, basis and dimension. Linear transformations and their representation by matrices. Singular and non-singular transformations and matrices. Algebra of matrices. Systems of linear equation, change of basis. Eigenvalues and eigenvectors. Minimum and characteristic polynomials of a linear transformation (Matrix).Cayley-Hamilton theorem.

MTH7302**:** Abstract Algebra
Groups, subgroups, normal subgroups, homomorphism, rings, ideals, quotient rings, integral domains, fields, fields of quotients, Euclidean domain, divisibility in integral domains ring homomorphism. The isomorphism theorems, Cayley's theorem, Group actions, Sylow's theorem, permutation groups, maximal ideals irreducible and prime elements, polynomial rings over fields. Irreducibility; field extensions; degree of an extension; minimum polynomials; algebraic and transcendental extensions; straightedge-and-ruler constructions.

MTH7303: Real Analysis
Properties of real number; algebraic and order. Upper bounds, lower bounds and boundedness of sets of real numbers. Completeness. Sequences and series of real numbers; convergence, absolute and conditional convergence. Real-valued functions; limits, continuity and uniform continuity.

The derivatives. The Riemann (or Riemann-Stieltjes) integral and its properties. The fundamental Theorem of calculus. Sequences and series of real-valued functions. Pointwise and uniform convergence; Introduction to Lebesgue measure.

MTH7304: General Topology
Topological spaces, definitions of open and closed sets; neighbourhoods. Coarser and finer topologies. Basis and sub-basis. Separation axioms. Continuous functions, homeomorphism and topological invariants Compactness, local compactness. Connectedness. Construction of new topological spaces from given ones, sub-spaces, product and quotient spaces.
MTH7305: Complex Analysis
Complex number arithmetic. Limits and continuity of a function of complex variable. The Cauchy-Riemann equations. Analytic functions; bilinear transformations; conformal mappings; contour integrals. Cauchy's theorem and its main consequences. Convergence of sequences and series of a complex variable. Power series; Taylor series. Laurent expansion. Isolated singularities and residues. Residue theorem; calculus of residues and its applications to calculations of integrals and summation of series. Maximum Modulus Principle. Argument principle; Rouche's theorem. The fundamental theorem of algebra. Analytic continuation.

MTH7306: Differential Equations
Techniques for solving first and higher order linear and nonlinear differential equations. Solutions of systems of first order linear equations. Series solutions of differential equations about ordinary and regular points. Special functions: Gamma, Beta, Bessel, Legendre and Hypergeometric. Laplace transform and applications to initial value problem. Theory of ordinary differential equations: existence and uniqueness theorems and dependence of solution on initial data and parameters. Introduction to partial differential equations and methods of solutions.

MTH7307**:** Functional Analysis
An overview of metric space topology. Normed linear spaces. Banach spaces. Inner product and Hilbert spaces. Linear maps on normed linear spaces. The dual of a normed linear space.

MTH7308**:** Numerical Analysis
Solutions of algebraic and transcendental equations. Curve fitting. Error analysis. Interpolation and approximation. Zeros of non-linear equations of one variable. Systems of linear equations. Numerical differentiation and integration; integral equations. Numerical solutions of ordinary differential equation; initial value problems. Polynomial and spline approximation. Orthogonal polynomials and Chebyshev approximations. Direct and iterative methods for the solution of systems of linear equations. Eigenvalue problem: power methods, inverse power methods. Pivoting strategies.

MTH7309**:** Mathematical Modeling
Methodology of model building; identification and solution of problems, cause-effect diagrams, Equation types; Algebraic, differential (ordinary and partial) difference, integral and functional equations. Application of mathematical models to the physical, biological, social and behavioural sciences.

MTH7310**:** Operations Research
Linear programming models: the simplex method, integer programming, dynamic programming, inventory models, Critical Path Analysis and project Controls. Transportation problem. Two-person zero-sum games. Non-linear programming: quadratic programming, Lagrange multipliers and Kuhn-Tucker methods. Optimality criteria. Multivariable techniques. Gradient methods. Replacement models. Sequencing.
MTH7311**:** Lebesgue Measure and Integration
Lebesgue outer measure, Lebesgue measurable sets and Lebesgue measure. Example of a non-measurable set. Lebesgue Measurable functions and Lebesgue integral.

MTH7312: Partial Differential Equations
Partial differential equations: first and second order equations, classification of second order linear equations, solutions of boundary and eigenvalue problems of partial differential equations by separation of variables method and transformation techniques. Laplace's equations and Poisson's equations. Green's functions, Poisson's formula, the wave equations and diffusion equation.
MTH7321**:** Probability Function of Discrete Random Variables
Classical Discrete Probability Functions and their moment generating functions, probability generating function and characteristics function. Joint discrete probability function. Marginal probability function. Conditional probability function. Covariance and correlation of discrete random variable. Conditional means and variances of discrete random variable. Distribution of sum and difference of discrete random variable. Distribution of product and quotient of discrete random variable. Expectation of functions of single discrete random variable. Expectation of function of many discrete random variables.
MTH7322**:** Probability Function of Continuous Random Variables
Classical continuous Probability Density Functions and their moment generating function and characteristics function. Joint continuous probability Density function. Marginal probability function. Conditional probability function. Covariance and correlation of continuous random variable. Conditional means and variances of continuous random variable. Distribution of sum and difference of continuous random variable. Distribution of product and quotient of continuous random variable. Expectation of functions of single continuous random variable .Expectation of function of many continuous random variables.

GRADUATION REQUIREMENT

Graduation Requirement for PhD Mathematics

To qualify for the award of a Doctor of Philosophy (PhD) degree in Mathematics a student must have:

i) Obtained a minimum of 18 credits from level 900, including 12 credits from a Thesis)
ii) Spend a minimum of 36 months (6 semesters) and Maximum of 60 months (10 semesters)
iii) Successfully defended the thesis before a panel of examiners (including an External Examiner) and effected all the corrections pointed out by the panel; and
iv) Passed all the compulsory courses and satisfied all other requirements.

Graduation Requirement for M.Sc. Mathematics

To qualify for the award of any Academic Master's degree in Mathematics, a student must have:

i) Obtained a minimum of 36 credits, including 6 credits from a Dissertation, 2 from ICT and Research Methodology and 4 credits from general courses;
ii) Spend a minimum of 18 months (3 semesters) and a maximum of 36 months (6 semesters)
iii) Successfully defended his/her dissertation before a panel of examiners (including an External Examiner) and effected all the corrections pointed out by the panel; and
iv) Passed all the compulsory courses and satisfied all other requirements.

Graduation Requirement for Postgraduate Diploma in Mathematics (PGDMaths Mathematics)

To qualify for the award of PGDMaths Mathematics, a student must have:

i) Obtained a minimum of 24 credits, including 4 credits from Long Essay.

ii) Spend a minimum of 12 months maximum of 24 months; and
iii) Passed all the compulsory courses and satisfied all other requirements

DEPARTMENT OF ECONOMICS

HEAD OF DEPARTMENT : Dr. Yusuf Ibrahim Kofarmata

DEPARTMENTAL PG COORDIANTOR: Dr. Abdullahi Ahmad Muhammad

LECTURERS AND AREAS OF SPECIALLZATION

S/N	NAMES OF ACADEMIC STAFF	AREA OF SPECIALISATION	QUALIFICATION	RANK	EMPLOYMENT STATUS
1.	Prof. Badayi M. Sani	Development Economics	B.Sc. Economics MA Development Economics, Ph.D. Economics	Professor	Part Time
2.	Prof. Mansur Idris	Economic Theory, Agricultural Planning & Finance	B.Sc. Economics, M. Sc. Economics, Ph.D. Economics	Professor	Part Time
3.	Prof. Mustapha Mukhtar	Economic Theory, Agricultural Planning & Finance	B.Sc. Economics, M. Sc. Economics, Ph.D. Economics	Professor	Part Time
4.	Prof. Amina I. Abubakar	Industrial Economics and Mathematical Economics	B.Sc. Economics, M. Sc. Economics, Ph.D. Economics	Professor	Part Time
5.	Ass. Prof. Muhammad Yusuf	Development Economics	B.Sc. Economics, M. Sc. Economics, Ph.D. Economics	Professor	Part Time
6.	Ass. Prof L. S. Kolawale Alao	Economic theory &Analysis, And Environmental Econs. International finance and Derivatives	B.Sc. Economics, M. Sc. Economics, Ph.D. Economics	Associate Professor	Full Time
7.	Dr. Muhammad Bilyaminu Ado	Development Economics, Advanced Economics, Entrepreneurship & Economic Theory	B.Sc. Economics, M. Sc. Economics, Ph.D. Economics	Senior Lecturer	Full Time
8.	Dr. Abdulrazaq Ibrahim	Energy Economics, Climate Finance, & M\ acroeconomic Theory	B.Sc. Economics, M. Sc. Economics, Ph.D. Economics	Lecturer I	Full Time

9.	Dr. Yusuf Ibrahim Kofarmata	Econometrics, Economic Theory, Agricultural Economics, & Development Economics	B.Sc. Economics, M. Sc. Economics, Ph.D. Economics	Lecturer I	Full Time
10.	Dr. Ismail Aliyu Danmaraya	Energy & Environmental Economics, Development Economics & Research Method	B.Sc. Economics, M. Sc. Economics, Ph.D. Economics	Lecturer I	Full Time
11.	Dr. Sagir Mati	Econometrics and International Economics	B.Sc. Economics, M. Sc. Economics, Ph.D. Economics	Lecturer II	Full Time
12.	Dr. Tasiu Tijjani Sabi'u	Islamic Economics	B.Sc. Economics, M. Sc. Economics, Ph.D. Economics	Lecturer II	Full Time
13.	Dr. Abdullahi Ahmad Muhammad	Financial Economics	B.Sc. Economics, M. Sc. Economics, PhD.	Lecturer II	Full Time

POST-GRADUATE DIPLOMA IN FINANCIAL ECONOMICS (PGDFE)

COURSE DESCRIPTION

COURSE CODE	COURSE TITLE AND DESCRIPTION	UNITS	REMARKS
PFE 7201	ELEMENTS OF FINANCE Nature, scope and objectives of financial environment and finance in the economy; the Nigerian financial environment and introduction to its financial institutions; introduction to financial analysis; analysis of sources and uses of funds; budgeting; introduction to working capital management.	2	CORE
PFE 7202	ECONOMIC ANALYSIS Theories of the firm, demand analysis, introduction to optimization principle and market concentration, budgetary policies and development policies/strategies.	2	CORE
PFE 7203	QUANTITATIVE TECHNIQUES Measures of location, mean, median, mode deviation, coefficient of variation, correlation and regression; Time series analysis, moving average and trend estimating; Linear programming,	2	CORE

	optimising and minimising problems; Matrix algebra, differentiation and integration.		
PFE 7204	NIGERIAN FINANCIAL SYSTEM The concept of financial system, the functions and structure of financial system; General outline of financial institutions, Banks and other financial institutions, financial markets, the capital market institutions (NSE, SEC etc.); Understanding the significance and role of the CBN in financial management and operations; Globalisation of financial markets.	2	CORE
PFE 7205	INTERNATIONAL TRADE AND FINANCE The concept of international trade theories and their empirical tests, international customs unions, credit system in international trade, Bretton Woods agreement and international trade, risks bearing and methods of international trade. The role of banks in trade, banking services arrangement abroad for customers; Nigeria's international trade finance.	2	CORE
PFE 7206	FINANCIAL ACCOUNTING Principles and practice of double entry, the ledger, allowance journals, sales journal, returns journal, petty cash book, balancing of accounts, trial balance and preparation of final accounts of sole proprietor.	2	CORE
PFE 7207	STRUCTURE OF THE NIGERIAN ECONOMY History of the Nigerian economy from Colonial era to date; Macroeconomic structure of the Nigerian economy; Sectoral analysis, interaction among sectors, patterns of Government sectoral expenditure over the years; Recent development in the Nigerian economy including privatisation, commercialization, industrial and agricultural policy.	2	CORE
PFE 7208	PUBLIC FINANCE AND POLICIES Revenue sources and expenditure patterns; Fiscal functions, institutions and policies; Social goods and optimal distribution; Budgeting and Theory of taxation; Fiscal responsibility and sustainability.	2	CORE
PFE 7209	FINANCIAL LAW Nature and forms of Financial Regulations, Regulatory agencies, their evolution and functions; Current status of financial regulations in Nigeria; Financial laws and regulations, their	2	CORE

	effects on financial institutions' performance and sustainability.		
PFE 7210	MONETARY ECONOMICS Narrow and broad definitions of money in economic theory and finance, history of money, the operation supply of money, interest rates theory, monetary policy and the international monetary system, continental currency markets and their operation; Financial institutions in Nigeria.	2	ELECTIVE
PFE 7211	UNDERSTANDING ISLAMIC ECONOMICS AND FINANCE Islamic worldview as it relates to the study of economics; definitions of Islamic economics, nature and scope. Islamic economic institutions, Islamic economic system, characteristics, principles and objectives. Development of Islamic economic thoughts and ideas – classical and contemporary, definitions of Islamic banking and finance, historical development and trends, principles and value propositions. Relevance of Islamic economics and finance to contemporary global economy.	2	ELECTIVE
PFE 7212	ELEMENTS OF INVESTMENT Distinction between investment in economic theory and finance; The operation of the Nigeria's securities markets, dealing, contracts, settlement and carry over transactions; Experiences with public enterprises and privatisation programmes.	2	ELECTIVE
PFE 7213	PRACTICE OF BANKING Cheques; Differences between Cheques and other bills, mode of payments, security of payments and introduction to modern methods of payments – Overdrafts, loans, its types and conditions.	2	ELECTIVE
PFE 7214	MANAGERIAL ECONOMICS The concept of management in Economics; managerial functions and relevance to economic discourse; Microeconomic decisions; Theory of the firm, market structures, production and theory of distribution; Macroeconomic decisions and managerial impacts on the economy.	2	ELECTIVE
PFE 7499	RESEARCH PROJECT Upon completion of the coursework, candidates are expected to write long essays within a period of one (1) year under the guidance and tutelage of an assigned supervisor by the Department.	4	CORE

MASTER OF SCIENCE IN ECONOMICS (M.SC)

COURSE DESCRIPTION

COURSE CODE	COURSE TITLE AND DESCRIPTION	UNITS	REMARKS
ECO 8301	ADVANCED MICROECONOMICS THEORY A profound knowledge of economic theory is a corner stone for attaining greater proficiency in training a professional economist. This course is designed to help in fulfilling part of this objective. It is designed on the understanding that candidates have already have sound training in economic analysis at undergraduate level and have had training in quantitative techniques to be able to apply them to simulate practical problems. The scope of the course transcends to define and discuss marginal theories of consumer behaviour and of exchange in competitive markets. Candidates registering for this course should have taken an advanced micro-economic course in their undergraduate studies.	3	CORE
ECO 8302	ADVANCED MACROECONOMICS THEORY The focus of this course is a rigorous analysis of aggregate models and their policy implications to various types of economic systems. Candidates registering for this course should have taken an advanced macro-economic course in their undergraduate studies.	3	CORE
ECO 8303	ECONOMETRICS THEORY This course deals with the mathematical, statistical and operations research tools required to analyse and interpret economic phenomena both theoretically and empirically. While the candidate will not get expertise in any particular subject mentioned above, he/she will have sufficient knowledge in each and be able to apply suitable tools required by economists.	3	CORE
ECO 8304	APPLIED ECONOMETRICS The objective of teaching this course is the same as that of ECO 8303 above, the only difference is that the former is theoretical while the latter involves practical application.	3	CORE
ECO 8305	ADVANCE MATHEMATICAL ECONOMICS This course deals with the mathematical tools required to analyse and interpret economic phenomena theoretically and empirically. It	3	CORE

	provides the knowledge of matrix algebra, constraint and unconstraint maximization behaviour. The course teaches comparative and static equilibria, first and second order differential equations, growth models, linear and nonlinear programming.		
ECO 8306	SEMINAR ON THE NIGERIAN ECONOMY The objectives of this course are to exposed students to the Nigerian economic structure; resources endowment (human, capital, petroleum and other mineral resources), economic potentials, challenges for growth and sustainable development and policy analysis and recommendations.	3	CORE
ECO 8307	DEVELOPMENT ECONOMICS The purpose of this course is twofold. First, it seeks to provide the students with a broad overview of the theoretical dimension of structural changes associated with the process of economics development. This is then followed a study of the development processes and experiences of less developed economics and the underline forces behind them. Analytic survey of the factors affecting economics developments is carried out, using various economic development theories. The implications of this survey for central problem of development in the LDCs are then considered. Selected topics are chosen for an in-depth study.	3	ELECTIVE
ECO 8308	MONETARY THEORY AND POLICY The focus of this course is on the theory and practice of monetary control and analysis of the channel through which money exerts' influence on the economy. The consequence of money on international economic relation is also analysed, with special emphasis on the experience of the developing economics. The course presumes an adequate knowledge of macroeconomics at advanced and the graduate level.	3	ELECTIVE
ECO 8309	INTERNATIONAL ECONOMICS& FINANCE This course offers an in-depth study of the alternative theories of the pattern of trade, the gains from trade and the consequences of market imperfections and restrictive measures. In addition, theoretical issues relating to balance of payments behaviour, the terms of trade,	3	ELECTIVE

	international adjustment process, capital flow (FDI, foreign remittance, and diasporas bond).The role of international financial institutions and economic integrations will also be discussed to acquaint postgraduate students with the necessary analytical tools for tackling practical problems of international trade relations		
ECO 8310	PUBLIC SECTOR ECONOMICS In a mixed economy like Nigeria, the government plays an importance role in economic development. Consequently, part of the resources of the economy is used by government agencies. This course on public sector economics will study the impact of certain government activates and their financing policies on the growth and development of the economy.	3	ELECTIVE
ECO 8311	ECONOMIC PLANNING This course presents in-depth analysis on the models, techniques and problems of planning. The practical applications of different models and techniques of planning in contemporary economies are examined. A detail analysis is provided of the institutional framework for effective planning and the plan implementation. A comparative study of national development plans is undertaken in order to highlight the underline models and techniques and evaluate their effectiveness. The course will prove beneficial to the planning officers in government ministries, departments and agencies.	3	ELCETIVE
ECO 8312	PROJECT ANALYSIS This course is designed to develop the capabilities of postgraduate students who wish to gain professional competence in creative application of the principles and techniques of both financial appraisal and cost benefit analysis to practical problems. It will improve skills of the students and increase their chances of working in government, financial institutions, consultancy firms and international donor agencies. The structure of the course is designed on the basis of rational choice of investment projects: particularly in developing countries were limited resources had to be used effectively with a view to accelerating socio-economic development.	3	ELECTIVE
ECO 8313	AGRICULTURAL ECONOMICS	3	ELCETIVE

	This course identifies and analysis contemporary economics and social problems of LDCs' agriculture, placing particular emphasis on Nigeria. The main elements of government policy on agriculture are critically analysed with a view to identify major policy problems and proposing strategic policy choices. Problems and prospects of international trade in agricultural commodities are also explored. Issues relating to the formulation and implementation of agricultural sector plans are studied. The applications of project appraisal techniques are also considered.		
ECO 8314	INDUSTRIAL ECONOMICS This course is oriented towards familiarizing the students with the analytical and theoretical principles needed for understanding industrial development. At the macro level, the focus is on the industrial planning and policy issues, while at micro level the course focuses on industrial structure and decision making.	3	ELECTIVE
ECO 8316	LABOUR AND INDUSTRIAL RELATIONS This course focuses on the historical, philosophical and theoretical aspects of the economics of labour and trade unionism. Both the principles and techniques of man power planning will be explored. Also polices relating to wages and productivity goals will be analysed. The emergence of trade unionism and the problems of industrial relations will be examined in the context of the socio-political nature of economies of developing nations, stressing the roles of labour, management and government. At the end of this course a candidate will be expected to have acquired sufficient training to tackle the major issues relating manpower and industrial relations problems.	3	ELECTIVE
ECO 8317	ENERGY ECONOMICS & CLIMATE FINANCE Theory/Models on Demand for Energy and Supply of Energy; energy consumption, energy conversion, energy saving/efficiency, energy substitution, renewable energy resources and energy sustainability. Analysis of the effects of climate change, requirement and sources of	3	ELECTIVE

	climate finance; carbon market, clean technology, transition towards low-carbon, smart and climate-resilient growth and sustainable development. It also discusses contemporary international energy and climate policies on mitigation and abatement.		
ECO 8318	ISLAMIC ECONOMICS Meaning, Scope, and Nature of key concepts in Islamic economics. Advanced analysis of Public Finance in Islam, fiscal and monetary measures in Islam; Zakat, Interest, Insurance, bond (sukuk) and gambling in Islamic and conventional perspectives.	3	ELECTIVE

MASTERS IN FINANCIAL ECONOMICS (MFE)

COURSE DESCRIPTION FOR MASTERS IN FINANCIAL ECONOMICS (MFE)

COURSE CODE	COURSE TITLE AND DESCRIPTION	UNITS	REMARKS
MFE 8301	MICRO ECONOMIC THEORY The knowledge of micro economic theory is essential for understanding financial economics. This course is designed to help the student in understanding micro economic issues, especially as it relate to finance. The scope of the course covered consumption and production choice; theory of consumer behaviour; theory of the firm; partial equilibrium analysis; general equilibrium analysis; welfare economics; factor pricing; and linear programming and application.	3	CORE
MFE 8302	MACRO ECONOMIC THEORY This course focus on the concept of income, output and expenditure; macroeconomic aggregates; consumption and investment functions; inflation and employment; critical analysis of the classical, Keynesian and post-Keynesian theories; monetary and fiscal policies; optimal allocation of resources; and growth theory.	3	CORE
MFE 8303	FINANCIAL STATISTICS This course deals with statistical applications in fiancé. The course focuses on simple statistical concepts such as population, sampling, parameters, random variables, probability distribution, probability expectations, simple test of hypothesis and application, and use of index numbering, and some inferential statistical test	3	CORE
MFE 8304	FINANCIAL MATHEMATICS The objective of teaching this course is to expose the students to the application of mathematics to finance. The course consist of basic concepts of sets and functions; calculus techniques for optimization, including langrangian multiplier; system of linear equation, linear algebra; integration; and permutation and combination.	3	CORE
MFE 8305	MONETARY THEORY AND POLICY This course deals with the role of money in the economy; money and net worth; high powered money; demand and supply of money under equilibrium and disequilibrium conditions; the monetary approach to BOP; the efficient application	3	CORE

	of monetary policy; and international monetary policy.		
MFE 8306	INTERNATIONAL FINANCE The course covered theories of comparative advantage; reciprocal demand; terms of trade; growth and trade; commercial policy; international monetary policy; economic integration; the new international economic order; BOP concepts and measurement, types of exchange rate; and, internal and external balances.	3	CORE
MFE 8307	FINANCIAL LAW Detail treatment of the law of contract; laws relating to agency; financial regulatory agencies; status of financial regulations in Nigeria; financial laws and their effect on financial institutions in Nigeria.	3	CORE
MFE 8308	NIGERIAN FINANCIAL SYSTEM IN PERSPECTIVE This is basically seminar based. The course requires students to conduct research and make presentations on current issues and trends in relation to Nigerian financial system. Areas of interest would include national income estimations; market structure and industry; agricultural financing; energy and health economics; economic growth and development; poverty and inequality; and underground economy financing. Each student is expected to make at least one presentation focusing on the formulation, design execution and result of his/her research.	3	CORE
MFE 8309	FINANCIAL INSTITUTIONS IN NIGERIA This course offers an in-depth study on the history, roles and contributions of bank financial institutions (Central Bank, Commercial Banks & development Banks) and non-bank financial institutions (Capital market, pension, SEC, insurance companies, etc) in the Nigerian economy.	3	CORE
MFE 8310	BUSINESS FINANCE This course is designed to develop the understanding of students to various sources of business financing; small scale business financing in Nigeria; issues of money and capital market instruments; regulatory framework; primary market transaction focusing on packaging of new issues, types of issues, parties to issues, consats, documentation, agreement, time table and list; secondary market transaction focusing on buying and selling, lodgment, transaction documents, evidence of ownership; central clearing system;	3	CORE

	transaction of shares; interpretation of stock exchange daily official list; and, market index and market capitalization focusing on computation, significance and composition.		
MFE 8311	MANAGERIAL ECONOMICS Introduction to managerial theory; the concept coalition and the basic characteristics of managerial business; elementary treatment of managerial theories such as: Baumol's theory of sales, Maurri's model of managerial enterprise and Williamson's model of managerial discretion and application to Nigerian economy.	3	ELECTIVE
MFE 8312	THEORY OF ISLAMIC BANKING AND FINANCE This course is oriented towards familiarizing the students with understanding of Islamic banking and finance; review of basic concepts and terminologies; sharia framework for theory of Islamic finance; the function of Islamic financial system; Islamic financial institutions; finance revisited; deposit and financial operations; principles of Islamic banks; the role of Islamic bank in economic integration, development of Muslim's world and global economy.	3	ELECTIVE
MFE 8313	PROJECT EVALUATION This course is centered at the basic nature and assumption of project analysis and evaluation; methods of comparing alternatives; choice of investment criteria; technique of financial analysis; private sector investment decisions, principles and techniques of cost-benefit and cost-effective analysis; shadow prices; treatment of estimates; risk and inequalities.	3	ELECTIVE
MFE 8314	PUBLIC SECTOR ECONOMICS The course focuses on different perspectives in public sector economics; the role of public sector in economic development, the role of state as a producer and distributor of consumer and capital goods, problem of optimum resource allocation under public setting, social cost and benefits; budgeting and pricing policies of public enterprise in Nigeria; commercialization and privatization of commercial enterprises in Nigeria; Public Private Partnership (PPP); and, debt management in Nigeria.	3	ELECTIVE
MFE 8315	ENERGY/ CLIMATE FINANCE	3	ELECTIVE

	Introduction to energy, energy sources, energy resources, production costs, energy pricing and subsidy. Environmental function, Green House gases emissions, climate change and global warming. Carbon sinking and abatement, carbon market finance, climate investment and funding, emissions trading schemes (ETS) and carbon tax policies, energy/climate exchanges, carbon price risk, emissions trading instruments and contracts; spot contracts, swaps, forwards, futures, hedging and options in the carbon markets. Climate/Green Bond, investment, maturity structure, types, objectives of issuance, guidelines and implementation in Nigeria		
MFE 8316	AGRICULTURAL FINANCE Concept and scope of agricultural finance as a field of study in agricultural economics, basic concepts of credit. Sources of agricultural finance. Needs and roles of credit in agricultural development. Decision criteria in agricultural investment. Factors affecting supply and effective use of credit, classification of credit, credit assessment: loan acquisition, repayments and credit instrument. Project and economic development, project cycle determination of project needs, criteria for selection of projects.Project appraisal, monitoring and evaluation. Financial risk and Management, project re-financing. Agricultural Transformation Agenda (ATA) and agricultural policies in Nigeria.	3	ELECTIVE
MFE 8499	PROJECT A candidate is expected to write a project under the guidance of his/her supervisor, appointed by the Department.	3	CORE

DOCTOR OF PHILOSOPHY IN ECONOMICS (PhD)

COURSE DESCRIPTION

COURSE CODE	COURSE TITLE AND DESCRIPTION	UNITS	REMARKS
ECO 9301	ADVANCED ECONOMIC ANALYSIS Advanced treatment of microeconomics, Consumer behaviour including uncertainty and inter-temporal behaviour, Advanced Optimization Methods :Application of constrained and unconstrained optimization methods to consumer and producer behaviour – Constrained – Lagrange and Multiplier method - First and second order conditions – Solving numerical problems Linear programming and applications: Primal – dual, graphic method, simplex method, application to production and diet problem – Non-linear Programming-Method and applications. Production theories (conventional and modern approaches): Cost functions, Theory of Firm, Welfare economics and Social Welfare functions; Theories of Value; Classical, Neo-classical, Marxian and Neo-Ricardian perspectives, Input-Output models and inter-industry analysis: Structure of an economy- assumptions- Technical Co-efficient, outputs and price determination, Static and Dynamic - Hawkin-Simon Conditions Theory of distribution, Partial and General Equilibrium models, Cost benefit analysis, Externalities, Capital Theory. Concept of National income and output. Dynamics in aggregate demand and supply; Consumption and Investment functions. Critical analyses of Keynesian, Monetarist and Post-Keynesian theories, Marxian Economics and Post-Keynesian Economics, Neoclassical Theory; Methodological foundations, Neo-Classicals Welfare Theory, Market Design. New Institutional Economics; Transaction Theory, Asymmetric Information, Economics of Property Rights-Ostom's Theory. Behavioural Economics; Bounded Rationality, Heuristics, prospect theory, Paternalistic libertarianism. The demand and supply of money and their impacts and effectiveness of monetary and fiscal policies; Rational expectations and economic policy, Anticipation effects and economic policy, Theories of inflation, unemployment and economic	3	CORE

	growth; Conditional convergence and long run economic growth (Solow-Swan model, Ramsey model, Endogenous models) Business cycle theory, Intergenerational economics(Blanchard-Yaari model of overlapping generations; the Diamond-Samuel model). Public Choice theory and Feminists Economics. Research Applications of Macroeconomics new direction to Nigeria.		
ECO 9302	ADVANCED RESEARCH IN ECONOMICS Reviews of basic research methodology – science and scientific methods, delineation of researchproblem and development of research objectives; Research design in Economics; Data generation; Methods of estimating economic relationships – hypothesis testing, samples and sampling theory; Non- parametric and Parametric tests – Chi square, Analysis of the variance, Multi factor analysis, Time series analysis, Correlation and Regression analyses. This wills also include the use of computer facilities for the analysis of any research work. Research Preparation and Planning: Problem identification and formulation, Critical literature survey-why and how (EBSCO), Research Design, Quantitative and qualitative techniques, Pure and applied research Preparation of scale, Hypothesis generation and testing, Exploration vs. Evaluation of Ideas, Biases in Hypothesis Formulation, Errors in Testing Hypothesis. Academic writing and Presentation Focus Group Discussion (FGD), Case studies, Review Articles and Meta-Analysis, writing of research papers, Elements of style,: Research Report writing, Submission of research articles for publication in the reputed journals, Elements of excellent presentation and Oral Communication skills, Writing of Synopsis, Writing of Ph.D. thesis - organization, language, style, bibliography, references and footnotes, etc. Writing of research proposals, Research report, Impact factor of research journals, Citation Index of research papers. Research Resources: Literature Search, Search tools, Literature Review, Ethical and Moral issues in Research, Plagiarism, Copy right, patents and intellectual property right,	3	CORE

	Advanced Descriptive statistics, Probability & Bayesian approach; Normal, Binominal and poisson distributions; sampling and sampling distribution ,Hypothesis Testing, Confidence Interval; questionnaire design; Chi-square Test, Z-test, t-test, Correlation, Regression analysis ANOVA, Multivariate analysis, Parametric and nonparametric statistics; Application of probit and logit models; longitudinal/panel data & applications; Basics of simultaneous equation models and interpretation, Introduction to and application of STATA, Working with Stata - Creating empty datasets - Data import- Describing the data - Import data from main public data sources - Data manipulation Analysis of Macro Data (Sources: CSO, NSSO, etc.), Analysis of Micro data (household level survey data NCAER), Analysis of Panel / Longitudinal Data (NCAER, IHD), Short Paper based on empirical analysis.		
ECO 9303	ADVANCED APPLIED ECONOMETRICS The course provides an advanced treatment of econometric theory and estimation techniques. The focus is on the nonlinear regression model but the linear regression model is studied as a Benchmark. Least squares technique, maximum likelihood estimation and the general method of moments approach is studied. Both linear and nonlinear least squares estimators, linear and Nonlinear IV estimators are analyzed in depth. Using simulations and Monte Carlo experiments small sample properties of these estimators are evaluated. This course further treats the non-parametric and semi parametric estimation in econometrics. The econometrics software STATA will be used. Monte Carlo simulations will be followed by estimation of kernel densities using different non parametric approaches. Non parametric and semi parametric regression model swill be studied and estimated. Selection models and more general index models will be covered in applications. Matrix Algebra, Linear Regressions, Autocorrelation – Hetroscedasticity – Problem – Causes – Consequences – Remedial Measures – Model Specification and Diagnostic Testing. Multi-Collinearity, Economic modelling, Estimation,	3	CORE

	Interpretation and Diagnoses, Non-linear regression models, Bayesian econometric methods, Exponential and logarithmic functions and their applications. Free and constrained optimization. Integration and economic applications. Differential and difference equations with economic applications: First & Second Order linear differential & Difference equations - Application to growth and trade cycle models – Cobb-Web Model, Domar Model Dynamic input-output models. Matrix algebra and applications to static linear economic models. Differentiation and economic applications. Partial differentiation, Total differentiation and Comparative statics;. Linear programming (Simplex method), Non-linear programming, Activity analysis, Game theory with economic applications. Panel data regression models, Data structure: Wide vs. long - Reshape – Xtset – Xtdes - Regression with Panel Data. Dynamic econometrics: Autoregressive and Distributed Lag Models – Estimation methods – Lagged variables – Problem & Applications using STATA Distributed-lag models, Simultaneous equation models: Specification – Identification – Rank and Order Conditions – problems. Limited Dependent Variable Models Introduction to binary variables, limitation of LPM, logistic curve, Probit and Logit models, predicted probabilities, censored versus truncation, TOBIT model, ordinal models, multinomial models, and nested models. Single equation and Systems Estimation Methods-Numerical Problems – Applications using STATA. The Generalized Instrumental Variable. Time-series regression, Tests of Statistical hypothesis, Econometric and economic policy.		
ECO 9304	SEMINAR ON THE NIGERIAN ECONOMY The overall aim of the Nigerian Economy is to enable students understand the characteristics of the various sectors of the economy. Students will learn about the features of the various sectors of Nigerian economy. After that, the focus will be shifted to the challenges that impinge on government efforts. Other issues include the strategies and policies embarked upon by the government of each sector of the economy.	3	CORE

GRADUATION REQUIREMENTS

POST-GRADUATE DIPLOMA IN FINANCIAL ECONOMICS (PGDFE)

Under the course unit system, the academic year is divided into two semesters.

The total minimum credits to be passed by students shall be 30 Credits. This implies that 26 credits of coursework and four (4) credits of research project must be offered.

After successfully completing the course requirements, including credit unit, a candidate will write a research project under the guidance of his/her supervisor, appointed by the Department. The candidate will then submit the research project after completion and approval by the supervisor to the Department. Once approved by the supervisor, the project secures four (4) credits for the candidate and he/she is deemed to have satisfied all the requirements for the award of the degree.

MASTER OF SCIENCE IN ECONOMICS (M. Sc.)

i. Minimum number of Earned Credit Hours for graduation: 33 credit units
ii. Minimum No. of years for graduation: 2 years
iii. Minimum residency requirement in years, if any: 1 year
iv. Minimum CGPA for graduation: 3.0
v. Other requirements (please specify): complete dissertation approved by supervisor and internal examiner and recommended by external examiner

DOCTOR OF PHILOSOPHY IN ECONOMICS (Ph.D. ECONOMICS)

Doctorate (Ph.D.) programmes shall primarily be by Course Work, (12 units) and Seminars (6 units). A Doctoral (Ph.D.) Thesis of 12 credit units must be defended (before a panel of examiners of professional status.

MASTERS IN FINANCIAL ECONOMICS (MFE)

DEPARTMENT OF GEOGRAPHY

HEAD OF DEPARTMENT: Dr. Nura A. Yaro

DEPARTMENTAL COORDINATOR: Professor J. Afolabi Falola,

PG LECTURERS AND AREA OF SPECIALIZATION

S/No.	Name Of Academic Staff	Area of Specialization	Qualification	Rank	Employment Status
1.	Prof. J. Afolabi Falola	Development Geography	PhD Geography BSc Geography	Professor	Contract
2.	Prof. Adamu Idris Tanko	Development Geography	PhD Geography MSc Land Resources (Dev) BSc Geography	Professor	Visiting
3.	Prof. Aliyu Baba Nabegu	Fluvial Geomorphology/Envt.	PhD Geography MSc Geography BA Geography	Professor	Visiting
4.	Prof. Adamu Mustapha	Environmetrics	PhD Geography MSc Land Resources (Dev) BSc Geography	Professor	Visiting
5.	Prof. Ali Ibrahim Naibbi	Environmental Management/GIS	PhD RS and GIS MSc GIS BSc Geography	Professor	Full Time
6.	Prof. Abubakar Salisu Garba	Enterpreneurship	PhD Mgt./Enterprenuership MBA, PGDE BSc Business Admin.	Professor	Full Time
7.	Dr. Foin David Nchouji	Population/Health Geography	PhD Geography MSc Geography B.A. Ed. Geography	Senior Lecturer	Full Time
8.	Dr. Muhammad Bilyaminu Ado	Development Economics	PhD Economics MSc Economics BSc Economics	Senior Lecturer	Full Time
9.	Dr. Tasi'u Rilwan Yelwa	Hydrology	PhD Geography MSc Land Resources (Dev) BSc Geography	Senior Lecturer	Visiting
10.	Dr. Nura A. Yaro	Environmental Health/Mgt.	PhD Geography (Env. Mgt)	Senior Lecturer	Full Time

			MSc Envt'l. Res. Planning BSc Geography		
11.	Dr Dalhatu Aliyu Sani	PhD Geoinformatics MSc Geoinformatics BSc Geography	GIS	Lecturer II	**Full Time**
12.	Nazifi Umar	M.A Geography BSc Geography	Regional Geography/ Development	Lecturer I	**Full Time**
13.	Umar Musa Umar	M.Tech. Geography BSc Geography	GIS/ Climatology	Lecturer I	
14.	Umma Maamoun Bello	MSc Land Res. (Devt) BSc Geography	Development /Social Geography	Lecturer I	Full Time
15.	Lawal A.S Danbuzu	MSc Land Res. (Devt) BSc Geography	Development Geography Medical Geography	Lecturer I	Full Time
16.	Lawan Idris	MSc Geography (Human) BSc Geography	Transport/ Rural Geography	Lecturer II	Full Time
17.	Yusuf Muhammad Tukur	MSc Geography (Env. Mgt) BSc Geography	Environmental Management	Lecturer II	**Full Time**

PH.D GEOGRAPHY

PhD Geography Course Content

S/NO	COURSE CODE	COURSE TITLE	CREDIT UNIT	STATUS
l.	GE09401	Advanced Research Methods In Geography	4	Core
2.	GE09203	Research Seminar I	2	Core
3.	GE09204	Research Seminar II	2	Core
4.	GE09205	Research Seminar III (Progress Report I)	2	Core
5.	GE09206	Research Seminar IV (Progress Report II)	2	Core
6.	GE09307	Application of GIS	3	Core
7.	GE09120	Thesis	12	Core
8.	GE09309	Trends and Techniques in Human Geography	3	Elective
9.	GE09310	Trends and Techniques in Natural Resource	3	Elective

10.	GE09311	Trends and Techniques in Environmental	3	Elective
12.	GE09312	Trends and Techniques in Physical Geography	3	Elective

Areas of Specialization for the PhD Degrees in Geography

I. Natural Resource Management

II. Environmental Management

III. Human Geography

IV. Physical Geography

Course Description

GEO 9401: Advanced Research Methods in Geography

This course covers conceptual issues in Research: definition of research; Reasons for conducting research: Types of research; Concerns in quantitative research and qualitative research. It also involves an elaborate discussion of research in the natural and social sciences. The course also covers conceptualization of research problem, identification and explanation of research problem, research questions, aim and objectives. Literature Review, Conceptual framework and hypothesis for PhD thesis will also be extensively discussed .Research design: Experimental; Cross sectional; longitudinal; Case study etc. Students will be look into Data and Sources: Focusing Quantitative and Qualitative research methods. It will also cover use of secondary data; conducting questionnaire survey; semi-structured interview and Focus Group Discussion; Participant Observation; Participatory Research Methods; Diaries etc.

Students will be made to acquaint themselves with Sampling: key terms _ population, sampling frame, sample, unit, variable and sample size. Types of sampling: Probability (simple random, systematic, stratified sampling, cluster etc); non-probability (purposive, accidental, snowball etc.) Ethics and Politics in research - ethical principles, issues of quality, ethical decision. Politics and research will also be discussed. At last, students will be made familiarize themselves with the basic components/elements of research proposal and their relationship and the technicalities involved in writing research report/thesis.

GE09203: Research Seminar I

The Course involves taking part in a public discussion of another student's project in order to assess the ability to give constructive criticism. This is the first seminar for PhD students

conducted on successful completion of the course work. It is mainly concern with the presentation of literature review in candidate's own research area. This helps students gather a lot of literature relevant to the area of research. It involves literature mapping, identification of relevant theoretical/conceptual frameworks, workable methodologies among others. At the end of this seminar research gap will be clearly identified.

GEO 9204: Research Seminar II

This is the seminar where research proposal is presented. It is during this seminar that the research problem is critically looked at. Also, research questions, aim and objectives of the study, scope of the study, purpose of the study; the study area; materials and methods/ research methodology; techniques of data analysis are carefully analysed and valuable contributions are made.

GEO 9205: Research Seminar III

Presentation of findings which depends on the number of research questions to be addressed. Usually a substantial part of the research findings are presented in this seminar.

GEO 9206: Research Seminar IV

This is last seminar presentation for PhD students. In this seminar, findings, summary of findings, conclusion and recommendations and policy implication (where applicable) are presented. On successful completion of this seminar, students are assigned to an internal examiner for proper guidance before submission to an external examiner for final defense of thesis (VIVA).

GEO9207: Application of GIS

Depending on student's area of specialization in geography, this course involves the procedures for developing GIS applications; Neighborhood operations, Terrain Analysis-OEMs, TINs, Slope and Aspect, Spatial Interpolation; Network Analysis. Application of GIS in Land parcel based: Land information feature extraction from remotely sensed data and scanned maps: plotting of land data for various applications; Application of GIS in Health, Application of GIS in Transportation; Application of GIS in disaster management, earth observation to natural resources management; Application of GIS in analyzing problems and identifying the structure of relevant information in

selected aspects of natural resources management, in particular, Forestry, Water Resource, Agriculture and Environment.

The course is designed in such a way that speakers from various fields would be invited periodically to talk about the application of GIS in their respective disciplines/projects.

GE09309: Trends and Techniques in Human Geography

Students will be taught the concepts and theories of development, urban forms and country, travel and tourism, population dynamics and worldwide population and urbanization trends. Also, specific areas to be covered include Contemporary Third World urbanization; dependency and underdevelopment "over urbanization" spatial analysis of the city; morphology, ecology, daily activity. Urban economy; formal and informal circuits' urban poverty, recession and retrenchment, class formation. Urban housing; private and public sectors such as squatter settlements and "Low Cost" housing will be discussed. Use of critical analysis in re-thinking development will also be emphasized to students at this level. Resources and regional growth; growth centers in regional development theories, politics of regional development; regional development as a process: organization of space, population and institutions for regional development. The course also examines the issues of concentration and migration as well as the structure of manufacturing industries, using case studies from the developed and the developing countries.

GE09310: Trends and Techniques in Natural Resource Management

The course also aims to enable the student to develop their professional capabilities through field work in real life situations in the field of Natural Resources Management and to give them an insight in the practicalities of working environments. Thus, in this course students have the opportunity to integrate, explore and critically evaluate, previously learned knowledge and skills, in a relevant work life setting. The course is designed as a project course, in which the students are given particular assignments (reflective diary and report) to enable them on written and oral form to: present and critically evaluate the work life situations in Natural Resources Management reflect on the role of science in the practical work of Natural Resources Management; reflect on sustainability issues in the practical work of Natural Resources Management; reflect on ethical dilemmas of working in the field of Natural Resources Management.

Moreover, the course will also provide students with knowledge related to the governance of natural resources. It covers major theoretical concepts and approaches concerning the governance of natural resources. Based on the insight that natural resource governance is as much about managing people as it is about managing nature, the course provides students with tools for understanding different ways in which control and access over natural resources are collectively organized and governed, and the different social, economic and ecological conditions that underpins various forms of environmental dilemmas. The course deals with the inter-linkages between natural resource management and rural change from a cross-disciplinarily perspective. Through an exploration of different concepts and perspectives from social theory and political ecology the course critically analyses different natural resource governance dilemmas.

GE09311: Trends and Techniques in Environmental Management

The course aims to introduce students to the ways in which the principles of environmental management are applied in professional settings. How business and organizations address environmental issues, measure their impacts and respond to drivers such as policy, regulation, pressure from consumers and the wider public; examines and critically appraise the relationships between the principles of environmental management and its practice in a number of case studies; create understanding and experience (professional and/or educational) in a broader multidisciplinary perspective of issues relating to environmental management; develop skills in researching cross-cutting issues relating to environmental management including skills of critical reasoning, analyzing, evaluating and synthesizing; develop communication skills and team working abilities.

GE09312: Trends and Techniques in Physical Geography

The course exposes students into the conduct of advanced and critical study in the major aspects of physical geography. Theories and explanation (descriptive, morphometric, functional, probabilities, and systems analysis) in geomorphic processes especially in the tropical environment are also reviewed. Detailed explanations on resultant landforms in fluvial, aeolian, glacial environment are also examined. The course also covers an extensive study of climatic types, characteristics and measurement techniques in the tropical environment. Aspects of soil and

vegetation analysis with emphasis on the tropical environment are also covered. It also looks into the aspect of geographical hydrology with emphasis on river basins. Flow dynamics on ground water, surface water as well as their characteristics are also examined. The course also covers a detailed study of the structure, state and description of particular morphological, cascading, and process response in selected systems.

GE09120: PhD Thesis in Geography

The aim of the course is for the student, based on previously acquired knowledge, to independently plan, carry out and present an in-depth academic study within a given time frame in his/ her area of specialization. The course involves carrying out an independent, academic degree project under supervision. The project is to be carried out independently, using data collected by the student themselves, or equivalent data. The set-up of the independent project should be documented in a work plan established in consultation with the supervisor before the project starts. The project is to be presented orally and in writing, as seminars subsequently in a thesis according to the instructions given. Emphasis is placed on training students to write analytically and academically.

The course also involves taking part in a public discussion of another student's project in order to assess the ability to give constructive criticism.

MSC RURAL DEVELOPMENT AND NATURAL RESOURCES MANAGEMENT

MSc Rural Development and Natural Resources Management Course Content

S/NO	COURSE CODE	COURSE TITLE	CREDIT UNIT	STATUS
1.	RDM8301	Rurality, Livelihood and Gender	3	Core
2.	RDM8302	Governance of Natural Resources	3	Core
3.	RDM8303	Conflicts, Democracy and Facilitation	3	Core
4.	RDM8304	The Practice of Rural Development	3	Core
5.	RDM8305	Food Security and Climate Change	3	Core
6.	RDM8306	Techniques for Rural Projects Planning	3	Core
7.	RDM8307	RS and GIS in NRM	3	Core
8	RDM8308	Climate Change, Disasters and Responses	2	Core
9	RDM8209	Research Methods I	2	Core
10	RDM8210	Research Methods II	2	Core
11.	RDM8211	Resource Economics	2	Core
12.	RDM8112	Research Seminar	1	Core
13	RDM8301	Dissertation	6	Core
14	ENT8011	Enterpreneurship Education	0	Required
15.	ICT8012	Computer Appreciation	0	Required

Course Content

RDM 8301 Rurality, Livelihood and Gender

The course provides practical tools for analysing rural livelihoods within a gender and development perspective. Covers a critical discuss of the dominant theories and perspectives underlying policies and programmes in rural development; role of institutions, policies and programmes which aim to improve food security and social security of rural livelihoods; elaborates on the interrelations between rural and urban, farm and non-farm strategies in building household livelihoods; people's motivations and livelihood strategies, in relation to rural development. The course addresses the interconnections between rural development, gender, institutions, food security, social security and poverty. The focus is on low-income countries and marginal areas of production and livelihoods, particularly regions in sub-Saharan Africa that are affected by poverty.

RDM 8302 Governance of Natural Resources

The course aims to provide students with knowledge related to the governance of natural resources. It covers major theoretical concepts and approaches concerning the governance of natural resources. Based on the insight that natural resource governance is as much about managing people as it is about managing nature, the course provides students with tools for understanding different ways in which control and access over natural resources are collectively organized and governed, and the different social, economic and ecological

conditions that underpins various forms of environmental dilemmas. The course deals with the inter-linkages between natural resource management and rural change from a cross-disciplinarily perspective. Through an exploration of different concepts and perspectives from social theory and political ecology the course critically analyses different natural resource governance dilemmas.
The exercises draw from examples taken from case studies coming from different contrasting contexts. As the development of the student's generic competence and capabilities constitute an important part of the course, the course consists of a mixture of lectures, individual and/or group works, which are presented and discussed in class.
Draws concepts and theories from political ecology and other social science related fields to understand different environmental dilemmas; Appraise how different policies and institutions impact on resource governance in different contexts and at different scales.
Distinctions are drawn between different and competing discourses of sustainable development in relation to different natural resource governance dilemmas; Explain problems and challenges associated with different natural resource governance arrangements and on a general level describe how they are embedded institutionally at different levels and scales.

RDM 8303 Conflict, Democracy and Facilitation

The aim of this course is to develop understanding on the role of democracy and facilitation in the design and facilitation of constructive group process and dialogue in order to manage conflicts and tensions within and between groups and organizations. The course addresses both the potential as well as limits of collaborative approaches to dealing with conflicts, and discusses the role of conflict in social change. The course covers: theories about the social process and causes of conflict and factors affecting efficiency, knowledge use, the constructivity and destructivity in group (conflict) processes, social relations and interaction between individuals, groups and organizations; theories about democracy, collaborative planning and power, and describe how they relate to theories about conflict, conflict management and facilitation. Methods for conflict management and project coordination are addressed. By the end the student should be able to suggest conflict management and facilitation strategies to intervene in a conflict situation

RDM 8304 The Practice of Rural Development

The course also aims to enable the student to develop their professional capabilities through field work in real life situations in the field of rural development and to give them an insight in the practicalities of working environments. Thus, in this course students have the opportunity to integrate, explore and critically evaluate, previously learned knowledge and skills, in a relevant work life setting. The course is designed as a project course, in which the students are given particular assignments (reflective diary and report) to enable them on written and oral form to:

- present and critically evaluate the work life situations in rural development;
- reflect on the role of science in the practical work of rural development;
- reflect on sustainability issues in the practical work of rural development;
- reflect on ethical dilemmas of working in the field of rural development.

RDM 8305 Food Security and Climate Change

This course introduces students to global food systems and the challenges of ensuring food security for all in a world of climate change, globalization, shifting demographies and new technologies. Thus it provides the students with an understanding of global food chains: production (including historical transformation from subsistence agriculture to agro-industrialization, and its effect on agricultural producers and communities) and marketing of agricultural and animal products on local, regional and global scales. The course covers how food systems are globally interconnected while at the same time food production also is part of local sustenance. Attention will be given to issues of global equilibrium and disequilibrium in both production, transportation and consumption, with a focus on how food systems are embedded in economic, social, cultural and political environments. The course analyzes the conditions required to achieve food security and the contemporary challenges caused by climate change, as well as economic, political and social tendencies and pressures.

This course draws on theories and methods from sociology, social anthropology, human geography, economy, political science and agro-ecology (social theories that aim to analyze global changes and connections of food production, marketing, transportation and consumption, such as world system theory, food regime theory and political ecology). The course will however, enable students to critically analyze contexts, perspectives and the spatiality of the global food systems and food security, as well as distinct strategies of moral interventions, for example the development of certifications and the movement right to food.

RDM 8306 Techniques for Rural Project Planning and Evaluation

The course covers the project lifecycle and evaluation. The phases in the project lifecycle to be addressed are the problem/needs assessment, project planning and implementation. The evaluation will address the three phases which are ingoing, midterm and the final.

RDM8307 Remote Sensing and GIS in NRM

The course introduces the students to GIS and Geospatial Data: The Basics Sources and Types of Geospatial Data. Geospatial Data from Local, State, and Federal Governments and the Private Sector. Examples of Why and How Geospatial Information Is used. How Geospatial Data Is Managed. It exposes the students to the use of geospatial information and tools like GIS for producing floodplain maps, conducting the census, mapping foreclosures and responding to natural hazards such as wildfires, earthquakes, and tsunamis. It demonstrates How GIS and RS can assist in clarifying complex problems that may involve local, state, and federal government, and affect businesses, residential areas, and installations

RDM 8208 Climate Change, Disasters and Responses

Global climate, what is the current climate change phenomena? What is the Greenhouse Effect, what is the evidence of climate change, Model Validation - How are human activities causing climate change? Misconceptions and controversies on Climate Change. Impact of Climate change on Nigeria, Impact of climate change in Northern Nigeria Global Response- Uncertainties Way forward for Nigeria, The need for a national climate change response strategy. Meeting international obligations, Legal provisions, Climate change related education, training, awareness and capacity

building, Accessing and managing financial resources for Climate Change, Climate Change research direction for Nigeria – the Need for Regional Research centers.

RDM 8209 Research Methods I

The aim of this course is to equip students with a basic scientific understanding of social science theory and its interconnection to the research process: , so as to be able to undertake studies on rural development and natural resource management. The course addresses literature review/mapping, questions of methodology and distinct research methods both qualitative and quantitative. Formulation of research problems and objectives; delineate relevant methodological issues in relation to specific research problem. This shall cover the theoretical and methodological preconditions and perspectives of the following areas: ethnographic methods, such as participant observation and different forms of interviews, action research, the construction of questionnaires and interview techniques and analysis of sources and discourses. It covers ethical dilemmas in rural and natural resource as well as social research at large. The focus of the course is both on knowledge of social science theory and on its practical use; both in the students' own research and in their analysis of others' scientific research.

The course comprises lectures, individual and group assignments, that are discussed and critiqued during seminars.

RDM 8210 Research Methods II

This course constitutes a continuation of the course Research Methods I. It offers students a deepened knowledge of qualitative and quantitative research methods with a main focus on quantitative methods. The aim is to provide students with the knowledge and skills required to use relevant research methods and approaches to data analysis, so as to produce clearly structured academic research texts. The course covers parametric and non-parametric as well as selected multivariate statistical techniques.

RDM 8211 Resource Economics

The course aims at opening up the students to the role of natural resources in the economy. It examines the theories of efficient utilization of natural resources and current practices of use of resources use in the economy. The values of natural resources to the society, and the allocation of renewable and non-renewable resources. It deals with sustainability, conservation, and preservation. It employed graphical analysis, mathematical models and the methods of economists to analyse natural resource problems and issues.

RDM 8112 Research Seminar

The Course also involves taking part in a public discussion of another student's project in order to assess the ability to give constructive criticism.

RDM 8600 Master thesis in Rural Development & Natural Resource Management

The aim of the course is for the student, based on previously acquired knowledge, to independently plan, carry out and present an academic study within a given time frame concerning rural and/or environmental aspects, such as rural livelihoods, natural resources management or environmental

problems. The course involves carrying out an independent, academic degree project under supervision. The project is to be carried out independently, using data collected by the student themselves, or equivalent data. The set-up of the independent project should be documented in a work plan established in consultation with the supervisor before the project starts. The project is to be presented orally and in writing, as seminars subsequently in a thesis according to the instructions given. Emphasis is placed on training students to write analytically and academically. The course also involves taking part in a public discussion of another student's project in order to assess the ability to give constructive criticism.

MSC GEOGRAPHIC INFORMATION SYSTEM

MSc Geographic Information System Course Content

S/N	COURSE CODE	COURSE TITLE	CREDIT UNITS	STATUS
1.	GIS8301	Principles of GIS	3	Core
2.	GIS8302	Geospatial Database	3	Core
3.	GIS8303	Principle of RS	3	Core
4.	GIS8304	GIS Applications	3	Core
5.	GIS8305	Geospatial Data Acquisition	3	Core
6.	GIS8306	Cartography and Visualization	3	Core
7.	GIS8307	Principles and practice of Env. Mgt	3	Core
8.	GIS8308	Governance of Natural Resources	3	Core
9.	GIS8309	Research Methods I	2	Core
10.	GIS8310	Research Methods II	2	Core
11.	GIS8212	Research seminar	2	Core
12.	GIS8214	Climate Change, Disasters and Responses	2	Core
13.	GIS8600	Dissertation	6	Core
14.	ENT8013	Enterpreneurship Education	0	Required
15.	ICT8014	Computer Appreciation	0	Required

Course Description

GIS 8301 Principles of GIS

The course introduces students to the basic principles of GIS and spatial analysis using GIS software (ArcGIS, QGIS etc). This course is designed to be an introduction. The course is designed so that students without GIS background can succeed, but previous experience will no doubt be helpful. It emphasizes on the introduction and understanding of GIS theory, technology, and applications. It will focus on teaching students the principles and operation of GIS software through computer-based exercises and project.

The course introduces the concept of GIS, Structure and type of spatial data- Vector Data Structures and Raster Data Structures; various sources of data to GIS; foundation of GIS such as ellipsoids, map projections and coordinate systems, map/spatial analysis, and cartographic

design. The computing principles and simple spatial data analysis, Data Query and SQL - GIS overlay operations, buffering and features selection, retrieval, measurement operations, neighbourhood and connectivity operations; perform spatial analysis on different types of datasets.

GIS8302 Geospatial Database

Understanding database theory is the foundation to understanding the technical aspects of GIS. Although GIS offers special facilities for storing and manipulating spatial data, much of the functionality provided by GIS is shared with conventional database software and its ubiquitous Structured Query Language (SQL). Thus, understanding database principles is the foundation for mastering the technical aspects of GIS.

This course provides an understanding of the theoretical underpinnings of databases containing both spatial and tabular data, as these are integrated into GIS. However, the core objective of the course is a practical one: to understand the fundamental principles of the design and implementation of well-conceived spatial databases, especially ESRI Geodatabases, and be able to manipulate them both inside and outside of GIS.

The course focuses on designing, implementing, querying and managing spatial databases or persistent data stores where most entities have footprints in geographic space and time. This is critical for designing and implementing GIS for projects and organizations. Design and create a relational database; Database design, stages in database design, collection and analysis, conceptual design, logical design, and physical design. Database creation, issues in database creation and GIS database; perform spatial analysis on different types of datasets; Definition, component, reasons for database management system.

GIS 8303 Principles of Remote Sensing

The course introduces remote sensing (RS) as a technique for acquiring different types of geospatial information; origins and development of Remote Sensing; types of RS sensors- Active sensors (e.g Lidar, Radar etc) and Passive Sensors (Landsat, NOAA, AVHRR, SPOT, Quickbird etc); source of energy to RS; electromagnetic energy and interactions in the atmosphere and on earth's surface; RS Sensors and flat forms; multispectral scanners; Remote Sensing methods; pre-processing corrections; image restoration (radiometric and geometric corrections): image enhancement, Digital image classification and transformation; characteristics and choice of remotely sensed data; Scanning and Geo-referencing image/map; spatial data models, merit and demerit of data models; Remote Sensing Applications- NDVI, NDMI, Supervised and Unsupervised classifications etc

GIS8304 GIS Applications

This course involves the procedures for developing GIS applications; Neighbourhood operations, Terrain Analysis-DEMs, TINs, Slope and Aspect, Spatial Interpolation; Network Analysis. Application of GIS in Land parcel based: Land information feature extraction from remotely sensed data and scanned maps: plotting of land data for various applications; Application of GIS in Health, Application of GIS in Transportation; Application of GIS in disaster management, earth observation to natural resources management; Application of GIS in analysing problems and identifying the structure of relevant information in selected aspects

of natural resources management, in particular, Forestry, Water Resource, Agriculture and Environment.

The course is designed in such a way that speakers from various fields would be invited periodically to talk about the application of GIS in their respective disciplines/projects.

GIS8305 Geospatial Data Acquisition

This course describes and explains the structure and type of spatial data; various sources of data to GIS- data input to GIS environment- data creation, conversion Geo-referencing and GPS; data conversion; spatial data analysis: - Overlay and cross operations, retrieval, (re) classification, measurement operations; neighborhood and connectivity operations, Metadata and Accuracy.

GIS8306 Cartography and Visualization

The course is designed to provide students with the techniques of Cartographic Modelling, Map Design; Coordinate systems and scale; Visualization and analysis; image enhancement techniques, visual image interpretation; Use of colour; Introduction to web mapping.

GIS 8307 Principle and Practice of Environmental Management

The course aims to introduce students to the ways in which the principles of environmental management are applied in professional settings. How business and organizations address environmental issues, measure their impacts and respond to drivers such as policy, regulation, pressure from consumers and the wider public; examines and critically appraise the relationships between the principles of environmental management and its practice in a number of case studies; create understanding and experience (professional and/or educational) in a broader multidisciplinary perspective of issues relating to environmental management; develop skills in researching cross-cutting issues relating to environmental management including skills of critical reasoning, analyzing, evaluating and synthesizing; develop communication skills and team working abilities.

GIS8308 Governance of Natural Resources

The course aims to provide students with knowledge related to the governance of natural resources. It covers major theoretical concepts and approaches concerning the governance of natural resources. Based on the insight that natural resource governance is as much about managing people as it is about managing nature, the course provides students with tools for understanding different ways in which control and access over natural resources are collectively organized and governed, and the different social, economic and ecological conditions that underpins various forms of environmental dilemmas. The course deals with the inter-linkages between natural resource management and rural change from a cross-disciplinarily perspective. Through an exploration of different concepts and perspectives from social theory and political ecology the course critically analyses different natural resource governance dilemmas.

The exercises draw from examples taken from case studies coming from different contrasting contexts. As the development of the student's generic competence and capabilities constitute an important part of the course, the course consists of a mixture of lectures, individual and/or group works, which are presented and discussed in class.

Draws concepts and theories from political ecology and other social science related fields to understand different environmental dilemmas; appraise how different policies and institutions impact on resource governance in different contexts and at different scales.
Distinctions are drawn between different and competing discourses of sustainable development in relation to different natural resource governance dilemmas; Explain problems and challenges associated with different natural resource governance arrangements and on a general level describe how they are embedded institutionally at different levels and scales.

GIS 8209 Research Methods I

The aim of this course is to equip students with a basic scientific understanding of social science theory and its interconnection to the research process, so as to be able to undertake studies on rural development and natural resource management. The course addresses literature review/mapping, questions of methodology and distinct research methods both qualitative and quantitative. Formulation of research problems and objectives; delineate relevant methodological issues in relation to specific research problem. This course covers the theoretical and methodological preconditions and perspectives of the following areas: ethnographic methods, such as participant observation and different forms of Interviews, action research, the construction of questionnaires and analysis of sources and discourses. It covers ethical dilemmas in rural and natural resource as well as social research at large. The focus of the course is both on knowledge of social science theory and on its practical use; both in the students' own research and in their analysis of others' scientific research.

8210 Research Method II

This course constitutes a continuation of the course Research Methods I. it offers students a deepened knowledge of qualitative and quantitative research methods with a focus on quantitative methods. The aim is to provide students with the knowledge and skills required to use relevant research methods and approaches to data analysis, so as to produce clearly structured academic research texts. The course covers parametric and non-parametric as well as selected multivariate statistical techniques.

GIS 8112 Research Seminar

The Course also involves taking part in a public discussion of another student's project in order to assess the ability to give constructive criticism.

GIS 8208 Climate change, Disaster and Responses

Global climate, what is the current climate change phenomena? What is the Greenhouse Effect, what is the evidence of climate change, Model Validation - How are human activities causing climate change? Misconceptions and controversies on Climate Change. Impact of Climate change on Nigeria, Impact of climate change in Northern Nigeria Global Response-Uncertainties Way forward for Nigeria. The need for a national climate change response strategy. Meeting international obligations, Legal provisions, Climate change related education, training, awareness and capacity building, Accessing and managing financial

resources for Climate Change, Climate Change research direction for Nigeria – the Need for Regional Research centers.

GIS8600 Dissertation

The aim of the course is for the student, based on previously acquired knowledge, to independently plan, carry out and present an academic study within a given time frame concerning Geographic information system. The course involves carrying out an independent, academic degree project under supervision. The project is to be carried out independently, using data collected by the students themselves, or equivalent data. The set-up of the independent project should be documented in a work plan established in consultation with the supervisor before the project starts. The project is to be presented orally and in writing, as seminars subsequently in a thesis according to the instructions given. Emphasis is placed on training students to write analytically and academically.

PGD GEOGRAPHIC INFORMATION SYSTEM (PGDGIS)

PGD Geographic Information System Course Content

S/N	COURSE CODE	COURSE TITLE	CREDIT UNITS	STATUS
1.	GIS7301	Principles of GIS	3	Core
2.	GIS7302	Geospatial Database	3	Core
3.	GIS7303	Principle of RS	3	Core
4.	GIS7304	GIS Applications	3	Core
5.	GIS7305	Geospatial Data Acquisition	3	Core
6.	GIS7306	Cartography and Visualization	3	Core
7.	GIS7307	Principles and practice of Env. Mgt	3	Core
8.	GIS7308	Disaster Mangement	3	Core
9	GIS7309	Natural Resources Management	3	Core
10.	GIS7310	Research Methods	2	Core
11	GIS7311	Environmental Impact Assessment and Auditing	2	Core
12	GIS7112	Research seminar	1	Core
13.	GIS7400	Research Project	4	Core
14.	GIS7013	Enterpreneurship Education	0	Required
15.	GIS7014	Computer Appreciation	0	Required

Course Description

GIS 7301 Principles of GIS

The course introduces students to the basic principles of GIS and spatial analysis using GIS software (ArcGIS, QGIS etc). This course is designed to be an introduction. The course is designed so that students without GIS background can succeed, but previous experience will no doubt be helpful. It emphasizes on the introduction and understanding of GIS theory,

technology, and applications. It will focus on teaching students the principles and operation of GIS software through computer-based exercises and project.
The course introduces the concept of GIS, Structure and type of spatial data- Vector Data Structures and Raster Data Structures; various sources of data to GIS; foundation of GIS such as ellipsoids, map projections and coordinate systems, map/spatial analysis, and cartographic design. The computing principles and simple spatial data analysis, Data Query and SQL - GIS overlay operations, buffering and features selection, retrieval, measurement operations, neighbourhood and connectivity operations; perform spatial analysis on different types of datasets.

GIS7302 Geospatial Database
Understanding database theory is the foundation to understanding the technical aspects of GIS. Although GIS offers special facilities for storing and manipulating spatial data, much of the functionality provided by GIS is shared with conventional database software and its ubiquitous Structured Query Language (SQL). Thus, understanding database principles is the foundation for mastering the technical aspects of GIS.
This course provides an understanding of the theoretical underpinnings of databases containing both spatial and tabular data, as these are integrated into GIS. However, the core objective of the course is a practical one: to understand the fundamental principles of the design and implementation of well-conceived spatial databases, especially ESRI Geodatabases, and be able to manipulate them both inside and outside of GIS.
The course focuses on designing, implementing, querying and managing spatial databases or persistent data stores where most entities have footprints in geographic space and time. This is critical for designing and implementing GIS for projects and organizations. Design and create a relational database; Database design, stages in database design, collection and analysis, conceptual design, logical design, and physical design. Database creation, issues in database creation and GIS database; perform spatial analysis on different types of datasets; Definition, component, reasons for database management system.

GIS 7303 Principles of Remote Sensing
The course introduces remote sensing (RS) as a technique for acquiring different types of geospatial information; origins and development of Remote Sensing; types of RS sensors- Active sensors (e.g Lidar, Radar etc) and Passive Sensors (Landsat, NOAA, AVHRR, SPOT, Quickbird etc); source of energy to RS; electromagnetic energy and interactions in the atmosphere and on earth's surface; RS Sensors and flat forms; multispectral scanners; Remote Sensing methods; pre-processing corrections; image restoration (radiometric and geometric corrections): image enhancement, Digital image classification and transformation; characteristics and choice of remotely sensed data; Scanning and Geo-referencing image/map; spatial data models, merit and demerit of data models; Remote Sensing Applications- NDVI, NDMI, Supervised and Unsupervised classifications etc

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Analysis. Application of GIS in Land parcel based: Land information feature extraction from remotely sensed data and scanned maps: plotting of land data for various applications; Application of GIS in Health, Application of GIS in Transportation; Application of GIS in disaster management, earth observation to natural resources management; Application of GIS in analysing problems and identifying the structure of relevant information in selected aspects of natural resources management, in particular, Forestry, Water Resource, Agriculture and Environment.
The course is designed in such a way that speakers from various fields would be invited periodically to talk about the application of GIS in their respective disciplines/projects.

GIS7305 Geospatial Data Acquisition
This course describes and explains the structure and type of spatial data; various sources of data to GIS- data input to GIS environment- data creation, conversion Geo-referencing and GPS; data conversion; spatial data analysis: - Overlay and cross operations, retrieval, (re) classification, measurement operations; neighborhood and connectivity operations, Metadata and Accuracy.

GIS7306 Cartography and Visualization
The course is designed to provide students with the techniques of Cartographic Modelling, Map Design; Coordinate systems and scale; Visualization and analysis; image enhancement techniques, visual image interpretation; Use of colour; Introduction to web mapping.

GIS 7307 Principle and Practice of Environmental Management
The course aims to introduce students to the ways in which the principles of environmental management are applied in professional settings. How business and organizations address environmental issues, measure their impacts and respond to drivers such as policy, regulation, pressure from consumers and the wider public; examines and critically appraise the relationships between the principles of environmental management and its practice in a number of case studies; create understanding and experience (professional and/or educational) in a broader multidisciplinary perspective of issues relating to environmental management; develop skills in researching cross-cutting issues relating to environmental management including skills of critical reasoning, analyzing, evaluating and synthesizing; develop communication skills and team working abilities.

GIS 7208 Disaster Management
The course introduces students to concepts hazards, risk and disaster. It also explains issue of vulnerability to disaster and the disaster management cycle. The course reviews and examines the three main types of disaster; Natural. Man-made and Hybrid disasters with emphasis on natural environmental hazards: droughts, floods, storms, mass movements, earthquakes and volcanic eruptions. Man-aided environmental hazards: escalated soil erosion by water and wind, pollution, desertification, salinization, and so on. Human activities aiding such hazards as well as their physical and socioeconomic effects are also examined. Measures to control and/or prevent certain hazards are also taught.

GIS 7309 Natural Resources Management (NRM)

Concept of natural resources; sustainable development; resource base; Environmental system analysis; Applying geo-information science and earth observation to natural resources management; analyze problems and identify and structure relevant information in selected aspects of natural resources management, in particular, **Forestry**, **Agriculture** and **Environment**, practical work and case studies in the specialized areas of biodiversity, environmental assessment, food security and forest biomas.

GIS 7210 Research Method

This course covers the relevance of Geography research, definition and sources of research problems, goals and types of research, how to formulate a research hypothesis. Samples and sampling procedure, sources of data and data collection techniques will also be taught. The role of literature review in research, data summarization and analysis, presentation of research report will also be taught in this course. This course offers students a deepened knowledge of qualitative and quantitative research methods of data analysis. The aim is to provide students with the knowledge and skills required to use relevant research methods and approaches to data analysis, so as to produce clearly structured academic research texts. The course covers parametric and non-parametric as well as selected multivariate statistical techniques.

GIS 7311 Environmental Impact Assessment

The course teaches students the procedure of Environmental Impact Analysis (EIA). This starts with an introduction to environmental impact analysis covering definition of EIA origin and development of EIA, purpose of EIA, discussion of key words in EIA (project, Environmental and Impact) introduction to EIA procedure and modified versions adopted by World Bank and by the Asian Development Bank. The students are taught the three phases of EIA and the activities in each phase including pre-study (Screening, Scoping and Baseline data), study phase (identification, prediction and mitigating) and the post study phase (environmental Impact Statement, monitoring and auditing activities).

GIS 7112 Research Seminar

The Course also involves taking part in a public discussion of another student's project in order to assess the ability to give constructive criticism.

GIS7400 Short Research Project

The candidates are expected to select areas of study for their research paper at the beginning of the second semester. However, the execution of the research project will not commence until the candidate has completed the course work. The research paper that should not exceed 20,000 words is to be submitted not later than three months following the completion of the course work. Each research paper will be guided by one of the lecturers in the programme to be nominated by the Department.

GRADUATION REQUIREMENTS

Ph.D. Geography

i) Ph.D. Geography programme must primarily be by Research. However, to be awarded a Doctor of Philosophy (PhD) in Geography, a candidate must register and pass a minimum of thirty (30) credit units consisting of course work

(12units); Seminars (6units); and Thesis (12 units). The Doctoral (Ph.D.) Thesis of 12 credit units must be defended before a panel of examiners.

ii) Minimum number of Earned Credit Hours for graduation: **30**
Minimum No. of years for graduation:

a. Full-Time – A minimum of six semesters and a maximum of ten semesters

b. Part-time – A minimum of eight semesters and a maximum of twelve semesters

c. For extension beyond the specified maximum period, a special permission of the Board of Postgraduate Studies shall be required.

iii) Minimum CGPA for graduation: **Passed all courses and satisfied other requirements.**

MSc Geographic Information System

To be awarded a Master of Science Degree in Geographic Information System, a candidate must register and pass a minimum of Thirty six (36) credit units.

i. Minimum number of Earned Credit Hours for graduation: **36 Credits**

ii. Minimum No. of years for graduation: **Two (2) academic sessions**

iii. Minimum CGPA for graduation: **Passed all courses and satisfied other requirements**

MSc Rural Development and Natural Resource Mgt.

To be awarded a Master of Science Degree in Rural Development and Natural Resources Management, a candidate must register and pass a minimum of Thirty six (36) credit units.

i. Minimum number of Earned Credit Hours for graduation: **36 Credits**
ii. Minimum No. of years for graduation: **Two (2) academic sessions**
iii. Minimum CGPA for graduation: **Passed all courses and satisfied other requirements**

PGD Geographic Information System

To be awarded a postgraduate Diploma in Geographic Information System, a candidate must register and pass a minimum of Thirty six (36) credit units.

i. Minimum number of Earned Credit Hours for graduation: **36 Credits**

ii. Minimum No. of years for graduation: Minimum of **Two (2) semesters/ One (1) academic session and Maximum of 2 Academic sessions.**

iii. Minimum CGPA for graduation: Passed all courses and satisfied other requirements.

DEPARTMENT OF BUSINESS ADMINISTRATION

HEAD OF DEPARTMENT: Dr. Mahbub Musa Garba

DEPARTMENTAL PG COORDIANTOR: Dr Salmanulfarisi Abdulrahman

PG LECTURERS AND AREA OF SPECIALIZATION

S/NO	NAME OF ACADEMIC STAFF	AREA OF SPECIALIZATION	QUALIFICATION	RANK	EMPLOYMENT STATUS
1	Garba Bala Bello	Human Resource	Ph.D, MBA, BSc	Professor	Visiting
2	Aminu Kado Kurfi	Financial Management	Ph.D, MSc, MBA, BSc	Professor	Visiting
3	Mukhtar Halliru	Marketing	Ph.D, MBA, BSc	Professor	Visiting
4	Abdu Jaafaru Bambale	Organizational Behavior	Ph.D, MSc,MBA, BSc	Professor	Visiting
5	Balarabe Abubakar Jakada	Marketing/International Business	Ph.D, MBA, BSc	Professor	Full Time
8	Abubakar Salisu Garba	Entrepreneurship	Ph.D, MBA, BSc	Assoc. Prof.	Full Time
9	Husaini Suleiman	Operations Management	Ph.D, MBA, HND	Senior Lecturer	Contract
10	Mukhtar Sshehu Aliyu	Entrepreneurship	Ph.D, MSc,MBA, BSc	Senior Lecturer	Visiting
11	Bashir Ahmed Daneji	Financial Management	Ph.D, MBA, BSc	Senior Lecturer	Sabbatical
12	Abdu Ahmed Maiyaki	Marketing	Ph.D, MSc,MBA, BSc	Senior Lecturer	Visiting
13	Abdullahi Hassan G/Dutse	Strategic Management	Ph.D, MSc,MBA, BSc	Assoc. Prof.	Visiting
14	Mustapha Abubakar	Financial Management	Ph.D, MSc, BSc	Senior Lecturer	Visiting
15	Salmanulfarisi Abdulraham	Financial Management	Ph.D, MSc,MBA, BSc	Lecturer 1	Full Time
16	Mahbub Musa Garba	Management	Ph.D, MSc, BSc	Lecturer 1	Full Time

17	Mahmoud Ahmad Mahmoud	Entrepreneurship	Ph.D, MSc, BSc	Lecturer 11	Full Time
18	Ali Ibrahim Dasuki	Management	Ph.D, MSc, MBA, BSc	Lecturer 1	Full Time

POSTGRADUATE DIPLOMA (PGDM) IN MANAGEMENT

LIST OF COURSES

FIRST YEAR - FULL TIME PGDM

FIRST SEMESTER

S/NO.	COURSE CODE	COURSE TITTLE	COURSE STATUS	COURSE CREDITS
	BAM601	Principles of Management	Core	2
	BAM603	Principles of Accounting	Core	2
	BAM605	Introduction to Public Administration	Core	2
	BAM607	Fundamentals of Marketing	Core	2
	BAM609	Research Methods	Core	2
	BAM611	Business Statistics	Core	2
	BAM613	Principles of Microeconomics	Core	2
	BAM615	Human Resource Management	Core	2
	BAM617	Entrepreneurship Development	Core	2

SECOND SEMESTER

S/NO.	COURSE CODE	COURSE TITTLE	COURSE STATUS	COURSE CREDITS
	BAM602	Principles of Finance	Core	2
	BAM604	Principles of Macroeconomics	Core	2
	BAM606	Computers in Organizations	Core	2
	BAM608	Business Mathematics	Core	2
	BAM610	Global Economic Environment	Core	2
	BAM612	Structure of Nigerian Economy	Core	2
	BAM614	Elements of Business Administration	Core	2
	BAM698	Research project	Core	2

PGDM COURSES DESCRIPTION

BAM601 PRINCIPLES OF MANAGEMENT (2 UNITS)
The development of Management thought: theories and models of management; the manager and his environment; organization structure and relationships; leadership and motivation; organization development, the management functions and procedures; planning; organizing; directing; controlling etc.

BAM602 PRINCIPLES OF FINANCE (2 UNITS)
This provides a systematic and vigorous examination of the theoretical framework of financial/investment management analysis. Main topics include: The economic theory of

choice: investment decision and appraisal techniques, financial requirements planning, working capital management, financial ratio, dividend decision, cash budgeting, fixed assets and equity management funds flow statement, and emphasis on financial markets.

BAM603 PRINCIPLES ACCOUNTING (2 UNITS)
This course deals with the underlying theory of double entry book keeping. Topics include: the nature scope and purpose of accounting, theories and mechanics of double entry, book-keeping statements, fixed accounts, funds flow statements, account of not-for-profit organizations, incomplete records.

BAM604 PRINCIPLES OF MACROECONOMICS (2 UNITS)
Topics under part 2 are the objective of macro-economic policy. Complete macroeconomics modules; consumption and savings; investment and the firm; money, banking and the financial sector. Monetary versus fiscal policy; inflation and unemployment; economic growth and development; economic policy and planning public finance. Emphasis in these topics will be placed on the Nigerian experience and prospect.

BAM605 INTRODUCTION TO PUBLIC ADMINISTRATION (2UNITS)
The course focuses on the emergency of public administration; problems of organization, the bureaucratic phenomenon and social change. The basics of public policy formulation and implementation processes by bureaucracies; accountability and efficiency in public administration.

BAM606 COMPUTERS IN ORGANIZATION (2UNITS)
This course explains the way and how of computers, the use of computers in business and other organizations; Data transmission, nature, speed and error detection. It also examines systems analysis and design, the programming process; problem definition, flow charting and decision table.

BAM607 FUNDAMENTALS OF MARKETING (2 UNITS)
This course focuses on the appreciation of functions and channel of marketing and its role in the corporate environment. Major elements of marketing strategy in relation to product development; distribution channels; advertising, sales promotion and pricing are examined detail.

BAM608 BUSINESS MATHEMATICS (2 UNITS)
Topics in this include: Revision of basic algebra; set theory; permutations and contributions; annuity, cash flow; functions and functional relationship; analysis of marginal utility and integral calculus; partial and total derivatives. In discussing these topics, emphasis will be on their specific relevance to business/management contents.

BAM609 RESEARCH METHODOLOGY (2 UNITS)
The objective of this course is to introduce the students to scientific enquiry through gathering and analysis of relevant data.

BAM610 GLOBAL ECONOMIC ENVIRONMENT (2 UNITS)
Topics to be treated include Nigeria and the global economy, the implications of the free market economy on business; governments consumers, and labour, strategic aspects of international trade, globalization and international institutions; multilateral negotiations; lessons from the Asian tigers.

BAM611 BUSINESS STATISTICS (2 UNITS)
This course covers basic concepts in descriptive and inferential statistics and their use in empirical research.

BAM612 DYNAMICS OF THE NIGERIAN ECONOMY
A systematic examination of the Nigerian economy, with a view to understanding the dynamics of change within it, reflecting the increasing complexities of Nigerian socio-economic development, shall be undertaken. Substantive problems of social and economic development which address themselves to the nature of societal organization and relationships will be examined. The nature and relevance of social institutions, over issues of significance, which involve the social, economic and political organization of the Nigerian people, shall also be examined. The focus here is on the interplay, supportive or obstructive of such relationships.

BAM613 PRINCIPLES OF MICROECONOMICS (2 UNITS)
This course provides critical examinations of micro-economic theory and analysis. Topics generally includes: - theories of demand, market and income determination; analysis of marginal utility and indifference curves in connection with consumer behavior, market for factors of production, the general price level; resource allocation under general and partial equilibrium contexts.

BAM614 ELEMENTS OF BUSINESS ADMINISTRATION (2 UNITS)
This is an introductory course which examines the nature and scope of business activities. Topics include the concept of business administration and its distinction from public administration; functional areas of business – finance, production, marketing etc; source of financing business activities; retail outlets and marketing channels; commercial documents; bills of exchange and entrepreneurial development.

BAM615 HUMAN RESOURCE MANAGEMENT (2 UNITS)
Topics to be addressed in this course include Nature and scope of HRM; strategies and management practices in manpower planning; staffing; human resource planning; human resource training and development; performance measurement and management, career planning and employee welfare; compensation designs and reward management.

BAM617ENTREPRENEURSHIP DEVELOPMENT
Concept and objectives. Objective is to impact knowledge and skills required to start new business. Analysis of Personal Efficacy and Self Awareness. Personal Characteristics of Entrepreneurs. Identification of Ideas and Venture Capital Opportunities. Sources and Availability of Resources; Finance; Technology; Manpower Appropriate Technology; Government Regulations; National and International Regulatory and Support Environment; Marketing Plan, Policy and Strategy; Accounting and keeping Accounts Financial Statements; Feasibility studies and Project Evaluation; Students' Business Plan Field Work.

BAM698 RESEARCH PROJECT (4 UNITS)
A research based study proposal and final report on an acceptable management problem area approved by the supervisor and the Head of Department, to be assessed by the respective supervisors.

MASTER OF SCIENCE (MSC) MANAGEMENT

LIST OF COURSES

FIRST SEMESTER

S/NO.	COURSE CODE	COURSE TITTLE	COURSE STATUS	COURSE CREDITS
1.	MGT821	Management Theory	Core	2
2.	MGT823	Global Economic Environment	Core	2
3.	MGT825	Strategic Management and Structure	Core	2
4.	MGT827	Organizational Behaviour	Core	2
5.	MGT829	Management Information System	Core	2
6.	MGT8211	Comparative Management	Core	2
7.	MGT8213	Rewards and Compensation Management	Core	2
8.	MGT8215	Diversity and Conflict Management	Core	2

SECOND SEMESTER

S/NO.	COURSE CODE	COURSE TITTLE	COURSE STATUS	COURSE CREDITS
9.	MGT822	Quantitative Analysis	Core	2
10.	MGT824	Economic Theory	Core	2
11.	MGT826	Research Methodology	Core	2
12.	MGT828	Marketing Management	Core	2
13.	MGT8210	Operations Management	Elective	2
14.	MGT8212	Corporate Finance	Elective	2
15.	MGT8214	International Business Management	Elective	2
16.	MGT8216	Entrepreneurship Development	Elective	2

THIRD SEMESTER

S/NO.	COURSE CODE	COURSE TITTLE	STATUS	UNIT
17.	ENT 8217	MSc. Seminar	Core	2

FOURTH SEMESTER

S/NO.	COURSE CODE	COURSE TITTLE	COURSE STATUS	COURSE CREDITS
18.	MGT861	MSc Dissertation	Core	6

COURSE DESCRIPTION

MGT821 Management Theory

The intent of this course is to expose the students to basic issues and theories with regards to the practice of management in contemporary organizations. It examines the introduction and integration of the evolution and the development of theories and concepts, and their application in the field of management. Students are expected to critically analyze the different perspectives within the field of Management. Development of Management models (Rational goals, internal process, human relations and open systems models): organizational effectiveness, environments, technology design and performance; images of organizations and implications for research and practice; organizational ecology; institutional theories; organizational culture and climate; organizational learning and globalization of organization theory. The intent is to build a theoretical foundation for the understanding of Management issues, and provide guidance for research activities in the programme.

MGT823 Global Economic Environment

This situates Nigerian Economy within the broader global economy. It examines the implementation of the movement towards free market economy on stakeholders including business, government, consumers, labour and public. The course takes a multidisciplinary approach drawing from international politics, economy, finance, cross-cultural and business management. Topics to be covered include Strategic aspects of international trade, globalization / international institutions, industrialization strategies, determinants of economic growth and poverty reduction in Africa; global power and wealth distribution; lessons from Asian and Mexican financial crises; multilateral negotiations, global culture and information technology, exchange rates / inflation/interests rates.

MGT825 Strategic Management and Structure

This course deals with theoretical and practical aspects of strategy formulation and implementation. Attention is placed on the art of strategic thinking leading to creativity and innovation as well as the rational strategic planning process. Among the topics covered are the following: Analyzing industry structures and dynamics; assessing positions, actions and reactions of competitors; processes of strategic planning, technology strategy and e-business, process re-engineering and corporate turnaround. Case writing and analysis are fundamental to this course.

MGT827 Organizational Behaviour

This course is designed to aid students in understanding organizations both at the Micro and Macro levels. Specifically, this course examines rigorously, the structure, function, and people in organizations and society. Topics include organizational dynamics – micro and macro perspectives; organizations and the systems concept; organizational entry, motivation and job satisfaction, bases of individual attitudes and behaviours in organizational settings, individual and their relationships in organizations; and group and inter group behaviours.; organizational structures; Typology/Taxonomy of organizations; organizational efficiency and effectiveness; organizational politics; organizational change and development; technology and organizational structure; organizations and environment; organizational design.

MGT829 Management Information System (MIS)

This course is designed to expose students to the practical application of computers to management information processing. The course provides the steps followed in the utilization of electronic data processing (EDP) system in producing financial and management

information, in feasibility studies, system analysis, system design and system implementation for computerized accounting system. Among other things, the course will examine the following issues: Elements of computing mechanical and electronic, types of computers and their applications, computer programming using either COBOL or FORTRAN, data processing manual and mechanized systems, system analysis and design, evaluation and administration of MIS with emphases on computer based systems, meaning of information technology and its application in business finance and management.

MGT826 Research Methodology

This course is designed to sharpen the students' skills and appreciation of organized enquiry. Topics to be covered include the following: Meaning and nature of research; comparison between research, common sense and science; Types of research; the research cycle; selecting research topics, problem and hypotheses formulation, research design; research instruments and Data collection, Data Analysis and interpretation; research report, Research and the issue of relevance; ethical issues in research.

MGT822 Quantitative Analysis

Analytical tool is very vital to acquisition and development of managerial skill. Hence, there is the need to expose students to basic quantitative analysis and reasoning, and its application to management decision making. Topics to be covered shall include set theory; basic concepts in probability; probability distributions; decision theory; forecasting models and techniques, linear programming (graphic and simplex methods); introduction to operation research; network models and simulation.

MGT8212 Corporate Finance

This course is designed to introduce students to an advanced treatment of theories and its three decision areas of financing, investment and dividend. The course therefore examines the effects of various corporate financial policy decisions (e.g. capital structure, working capital, and capital budgeting and dividend policies) on the values of the firm. Issues to be thus examined include:- Financial structure, capital structure, market valuation of risky assets under uncertainty, risk and uncertainty management strategies, capital budgeting, operation of capital market and money market, analysis for investment in securities, portfolio theories and the concept of diversification, efficient market theory, cost of capital, dividend policy, corporate financial problems e.g. leasing, mergers, and of new securities, the institution of Zakat, the insurance debate and the non-interest banking and financial system.

MGT8214 International Business Management

The course focuses on the international dimension of business, including trade, financial and foreign investment patterns, and problems and policies at the corporate and national levels. It covers theoretical, institutional and case analyses of major issues, including the impact of international codes and organizations on corporate policies in home and host countries, the effect of changing governmental policies on strategies for managing international operations. Using a wide range of data sources, cases, and other empirical studies, each student will prepare an individual study of a specific company and country.

Human Resource Management

This course will familiarize students with the basic responsibilities of the human resources function in organizations. The course covers topics such as strategic planning, job analysis, recruitment, selection, training and development, career planning, performance appraisal, compensation and international HRM. Students will learn about the various tools and techniques available to human resources professionals (such as environmental scanning, Delphi methods and transition probability matrices, performance appraisal instruments, selection techniques, job evaluation methods, and some of the various applications of needs analysis) through the use of lectures, case analyses, student presentations, and the text book with supplemental readings.

MGT8215 Diversity and Conflict Management

This course deals with managing and resolving workplace conflicts and examines dispute resolution and conflict management in both various and non-various settings. The course covers two related topics: (1) third-party dispute resolution, including alternative dispute resolution (ADR). It focuses primarily on the use of mediation and arbitration but also deals with other dispute resolution techniques, such as fact –finding, facilitation, mini-trials, early neutral evaluation peer review, and the ombuds function; (2) conflict management in organizations, including the recent development of conflict management systems. The course reviews the factors that have caused the growth reviews the factors that have caused the growth of ADR and conflict management systems, and it provides instruction on the design, implementation and evaluation of such systems.

MGT824 Economic Theory (see department of economics)

MGT828 Marketing Management

Perspectives and problems of marketing management in a multi-product firm; the concept and application of strategic planning to business units and functional areas of marketing, utilization of current marketing strategy models as aids in strategy formulation, decision processes for product planning, pricing, promotion, distribution and competitive strategy.

MGT8210 Operations Management

Topics include aggregate planning methods with emphasis on the mathematical model; seasonal production planning and work force planning. Integration of planning and scheduling levels in hierarchical systems. Determination of capacity in services systems; services design and services mix problems.

Concepts, models and theories relevant to the management of the processes involved to provide goods and/or services to consumers in both the public and private sectors; production, inventory and distribution functions, scheduling of services or manufacturing activities; facilities planning and device of technology.

MASTER OF BUSINESS ADMINISTRATION (MBA)

LIST OF COURSES

FIRST SEMESTER

S/NO.	COURSE CODE	COURSE TITLE	COURSE STATUS	CREDIT UNITS
1	MBA 8101	Research Methodology	Core	3
2	MBA 8103	Quantitative Methods for Management	Core	3
3	MBA 8105	Corporate Finance	Core	3
4	MBA 8107	ICT Management	Core	3
5	MBA 8109	Operations Management	Core	3
6	MBA 8111	Marketing Management and Strategy	Core	3
Minimum of two electives for area of specialization (Entrepreneurship)				
1	MBA 8201	Entrepreneurship Development	Elective	3
2	MBA 8203	Small Business Management	Elective	3
Minimum of two electives for area of specialization (Human Resource Management)				
1	MBA 8301	Compensation: Theory and Administration	Elective	3
2	MBA 8303	Personnel Staff Evaluation	Elective	3

SECOND SEMESTER

S/NO.	COURSE CODE	COURSE TITLE	COURSE STATUS	CREDIT UNITS
1	MBA 8102	Introduction to Accounting	Core	3
2	MBA 8104	Organizational Behaviour	Core	3
3	MBA 8106	Business Law	Core	3
4	MBA 8108	Environment of Business	Core	3
5	MBA 8110	Introduction to General Management	Core	3
6	MBA 8112	Corporate Strategy	Core	3
Minimum of two electives for area of specialization (Entrepreneurship)				
1	MBA 8202	Purchasing and Supplies Management	Elective	3
2	MBA 8204	Venture Management	Elective	3
Minimum of two electives for area of specialization (Human Resource Management)				
1	MBA 8302	Industrial Relations	Elective	3
2	MBA 8304	Organizational Change & Development	Elective	3

THIRD SEMESTER

S/NO.	COURSE CODE	COURSE TITLE	COURSE STATUS	CREDIT UNITS
1	MBA 8113	Managerial Economics	Core	3
2	MBA 8115	MBA Language Programme	Core	3
3	MBA 8117	Human Resource Management	Core	3
4	MBA 8119	Entrepreneurship	Core	3
Minimum of two electives for area of specialization (Entrepreneurship)				
	MBA 8205	Small Scale Business Accounting	Elective	3
	MBA 8207	Feasibility Studies and Marketing Survey	Elective	3

Minimum of two electives for area of specialization (Human Resource Management)				
	MBA 8305	Advanced Organizational Behaviour	Elective	3
	MBA 8307	Organizational Design	Elective	3
	MBA 8309	Managerial Problem Solving	Elective	3
	MBA 8311	Seminar in Organizational Behaviour	Elective	3

FOURTH SEMESTER

S/NO.	COURSE CODE	COURSE TITLE	COURSE STATUS	CREDIT UNITS
1	MBA 8402	Dissertation	Core	6

MASTER OF BUSINESS ADMINISTRATION (MBA) COURSES DESCRIPTION

MBA 8101Research Methodology (3 credit Units)
The course covers the following areas: Introduction to Research Methodology, Research in Social Sciences, Research in Physical and Natural Sciences, Problems of Research in Developing countries and Common errors in research. The course will also look at research in practice which will include discussion of problem identification, literature review, materials and methods (Methodology), results (Data Analysis), discussions, summery, conclusions and recommendations. Report writing will be discussed.

MBA 8102 Introduction to Accounting (3 credit Units)
Accounting Concepts, Construction of Financial statements – Balance sheet, Income Statements, Cash-flow statements, Analysis and Interpretations of financial statements, Element of costing and auditing.

MBA 8103Quantitative Methods for Management (3 credit Units)
Basic elements of decision making under conditions of uncertainty, set theory; probability theory; classical statistics and statistical decision theory; Linear programming, Primal and dual simplex algorithm, Transportation and network analysis, Concept of queuing theory, games, Statistical Inference and Hypothesis testing, Time series.

MBA 8104 Organizational Behaviour(3 credit Units)
Exposure to essential theories and concepts for anglicizing managerial problems, Individual and group analysis of cases and experiential exercises, Exchange of ideas and experiences in the classroom, intensive field-based project work in groups.

MBA 8105 Corporate Finance (3 credit Units)
The principles and procedures underlying financial statements; financial transactions; alternative accounting statements; tools or analysis of ratios and other quantitative measures; accounting information useful for managerial action; application of information in decision situations. Project Appraisal analysis of investment projects, the impact of risk, tax and inflation, the term structure of interest rates, the cost of capital and target rates of return; capital markets – its efficiency, the role of intermediaries, sources of finance, the borrowing decision and company valuation and optimal portfolio allocation; Capital structure – optical capital structure of firms, mergers and acquisitions and the market for corporate control, market

efficiency, the principle of capital structure, gearing and the basics of hedging and international finance.

MBA 8106 Business Law (3 credit Units)
Familiarize the students with the legal aspects of business, Law of contracts, agency, hire purchase, carriage of goods and related laws are examined. The Company Act and Miscellaneous Matters Act and related laws are examined in depth.

MBA 8107 ICT Management (3 credit Units)
Uses of computers in problem solving; its application to the solution of problems at the introductory level in capital budgeting and liner programming and managing ICT application in Enterprise, Network Security in the global environment

MBA 8108 Environment of Business (3 credit Units)
The basic objective of the course is to examine the legal, social, political and economic framework which business organization must operate in the Nigerian environment. Because of the pervasive influence of globalization and reduction of distances between nations, there value systems, language etc. international business environments will be explored.
Topic covered include: The concept, scope and nature of the business environment and environmental scanning, Legislations related to business. Ethical theories of business decision, social and cultural issues in business. Theoretical and practical issues of the Nigerian political economy which dictates the basis of fiscal and monetary policies, macroeconomics management and business practices**.**

MBA 8109 Operations Management (3 credit Units)
Issues in operations strategy, process analysis and the use of data and managerial opinion in making effective propositions to address the questions in the cases. Major economic decision, problems of production and operations management; aggregate production and work - force scheduling; multi-plant allocation of product; large scale project control (CPM and PERT); production and inventory control; demand forecasting; quality control; and short run job – shop scheduling; the interaction of production problems with those of other functional areas, queuing theory, dynamic programming, multiple regression and correlation.

MBA 8110 Introduction to General Management (3 credit Units)
Evolution of Management thought; Functions and responsibility of general management; Understanding global management; Managing through processes; Managerial values, Managerial decision making; Planning, organizing, directing and coordination, Problems affecting the character and success of the enterprise; the design and implementation of corporate strategy.

MBA 8111 Marketing Management and Strategy (3 credit Units)
Perspectives and problems of marketing management in a multi-product firm; the concept and application of strategic planning to business units and functional areas of marketing, utilization of current marketing strategy models as aids in strategy formulation, decision processes for product planning, pricing, promotion, distribution and competitive strategy.

MBA 8112 Corporate Strategy (3 credit Units)
Conceptual frameworks and models for the analysis of competitive situation and strategic dilemmas; Insight into strategic management; Analyses of external competitive environment, industry structure, value chain dynamics, etc

MBA 8113 Managerial Economics (3 credit Units)
Application of principles from various fields in economics and business to management decision making; Price mechanism, allocation of resources, profit drivers of the firm, revenue and cost drivers, interaction among the market players, firms' strategy, understanding market forces, the meaning of competition, pricing and profits, market power – good or evil, playing games I – Competition versus Cooperation, playing games II – Entry and Exit, Firms versus Markets; Make or Buy, auctions and market design, economics of information.

MBA 8115 MBA Language Programme(3 credit Units)
Management of interpersonal skills; Presentation skills to persuasion and influencing; handling the media; cold calling and power relations.

MBA 8117 Human Resource Management (3 credit Units)
Topic to be covered should include the scope, nature, methods and principles of organizational human resources management. The course could provide an overview of strategies and management practices in manpower planning techniques; staffing; human resource training and development; performance management and systems design; compensation designs and reward management; career planning and employee welfare; Line and staff functions as well as the relationship between personnel department and other departments. Review of current principles and practices of human resources management in the Nigerian and global context.

MBA 8119 Entrepreneurship (3 credit Units)
Concept and objectives. Objective is to impact knowledge and skills required to start new business. Analysis of Personal Efficacy and Self Awareness, Personal Characteristics of Entrepreneurs. Identification of Ideas and Venture Capital Opportunities. Sources and Availability of Resources; Finance; Technology; Manpower Appropriate Technology; Government Regulations; National and International Regulatory and Support Environment; Marketing Plan, Policy and Strategy; Accounting and keeping Accounts Financial Statements; Feasibility studies and Project Evaluation; Students' Business Plan.

MBA 8201 Entrepreneurship Development (3 credit Units)
Identification of Ideas and Venture Capital Opportunities. Sources and Availability of Resources; Finance; Technology; Manpower Appropriate Technology; Government Regulations; National and International Regulatory and Support Environment; Marketing Plan, Policy and Strategy; Accounting and keeping Accounts Financial Statements; Feasibility studies and Project Evaluation; Students' Business Plan.

MBA 8202 Industrial Relations (3 credit Units)
To be covered are the following: Theories of industrial relations and the industrial relations system. Trade unionism and employers' associations; Labor-management relations at the organizational and industry level, the role of government in industrial relations; Strikes and trade dispute settlement and collective bargaining in the public and private sectors of the Nigerian economy; The Nigerian Labor Law.

MBA 8203 Small Business Management (3 credit Units)
Objective of course is to encourage effective and successful management of small business or training for future managers who will have contact in one way or the other with small firms either as bankers, consultants, investors and government officials.

Course Outline: Small firm characteristics and trend. Start-up situations and development of business plans. Venture and expansion capital, cost and benefits sources of finance; problems and prospects of small business generally and of small scale industries in particular. Case Studies of entrepreneurs and small businessman (Owners/Managers). Students' actual proposals made to panel of venture capital firms, banks and other financial institutions.

MBA 8204 Venture Management (3 credit Units)
Introduction, Venture creation, Venture growth, Diversification, Growth models, Technology, Licensing, Venture Strategy, Venture Financing and Venture Capital. Patent and Inventions.

MBA 8205 Small Scale Business Accounting (3 credit Units)

MBA 8207 Feasibility Studies and Marketing Survey (3 credit Units)
This topic deals with business plan within task groups from the concept to all elements of a professionally written business plan. This topic affords students high interaction with businesses and entrepreneurs to further refine and improve their plans and/or prepare for national business plan competitions. This component alsoconsists in practical evaluation of students dream businesses and career life, exposition on how best to prepare feasibility report and appraisal of projects before investment; and project evaluation techniques: traditional methods such as Accounting Rate of Return (ARR), Pay Back Period (PBP), Net present Value (NPV) Internal Rate of Return (IRR) and Profitability Index (PI).

MBA 8301 Compensation: Theory and Administration (3 credit Units)
Examination of the determinants of wage levels, wage structures and individual wages; analysis of the impact of wages on work attitude and performance in organizations.

MBA 8303 Personnel Staff Evaluation (3 credit Units)
Elements of manpower planning and internal labour markets; validation procedures for determining the potential job effectiveness and individuals, description and validity of selection instruments such as tests, interviews and biographical data, measuring performance, turnover and absenteeism and the process of performance appraisal.

MBA 8304 Organizational Change & Development (3 credit Units)
This course outlines the basic steps or stages involved in the process of organizational diagnosis and change. Emphasis is placed upon the development of strategies necessary for gaining entry to an organization, collecting data, and feeding back data to the client organization. Several specific strategies and technologies for changing organizations are presented and the relative strengths and weaknesses of the strategies are examined.

MBA 8305 Advanced Organizational Behaviour(3 credit Units)
This course provides up-to-date information on the behavior of individuals and groups in any organization. Topics covered include individuals and group behavior, motivation, organization theory, work design and control. Other topics include leadership style, group decision-making, organizational socialization, power and influence, group dynamics, communication and conflict management.

MBA 8307 Organizational Design (3 credit Units)
This course takes an in-depth study of organizational processes and structures. The following are the primary objectives:

(a) To develop an understanding of theories or approaches to the design of organizations where design is defined primarily in terms of structure and requisite processes of coordination and information processing.

(b) To develop a sensitivity to and awareness of the "realities" of organizations.

(c) To understand how organizational planning and design decisions are interdependent and critical to the successful implementation of strategic and short-term aims of the organization.

MBA 8309 Managerial Problem Solving (3 credit Units)
The practical study of managerial work; Examiners communication skills and offers the opportunity for assessment and feedback. Organizational context, team building and case work.

MBA 8311 Seminar in Organizational Behaviour(3 credit Units)
The seminar critically investigates advanced topics and themes in current theories and research on organization behavior.

MBA 8302 Dissertation (Project) (6 credit Units)
Developing students' skill in analyzing and writing reports based on an empirical or theoretical study of a specific subject matter or topic in relevant entrepreneurship project presentation; Students would present a research-based report of not less than 5,000 words, at the end of the session.

MASTER OF SCIENCE (MSC) ENTREPRENEURSHIP

LIST OF COURSES

FIRST SEMESTER

S/NO.	COURSECODE	COURSE TITTLE	COURSE STATUS	COURSE CREDITS
1.	ENT 8301	The Entrepreneurial Process and Opportunity Recognition	Core	3
2.	ENT 8303	Entrepreneurial Finance	Core	3
3.	ENT 8305	Entrepreneurial Leadership	Core	3
4.	ENT 8307	Strategic Management	Core	3
5.	ENT 8309	Management Theory	Core	3
		Minimum of one elective		
6.	ENT 8311	Quantitative Techniques in Business	Elective	3
7.	ENT 8313	Project Management and Evaluation	Elective	3

SECOND SEMESTER

S/NO.	COURSE CODE	COURSE TITTLE	STATUS	UNIT
8.	ENT 8302	Corporate Entrepreneurship	Core	3
9.	ENT 8304	Creativity and Innovation Management	Core	3
10.	ENT 8306	Entrepreneurial Marketing	Core	3
11.	ENT 8308	International Entrepreneurship	Core	3
12.	ENT 8310	Research Methodology	Core	3
13.		**Minimum of one elective**		3
14.	ENT 8312	Comparative Organizational Management	Elective	3
15.	ENT 8314	Global Economic Environment		3

THIRD SEMESTER

S/NO.	COURSE CODE	COURSE TITTLE	STATUS	UNIT
16.	ENT 8315	Seminar Presentation	Core	3

FOURTH SEMESTER

S/NO.	COURSE CODE	COURSE TITTLE	STATUS	UNIT
17.	ENT 8316	Dissertation	Core	6

COURSES DESCRIPTION

ENT8301 Entrepreneurial Process and Opportunity Recognition (3 credit Units)
This course provides students with basic tools and methods to discover, sample and evaluate new business opportunities. The course covers a range of creative problem-solving methods including idea generation methods and the evaluation and implementation of creative ideas. The objective is not to "teach" creativity but to assist students to develop whatever creative capacity they bring to the course in order to develop their abilities to discover and generate lucrative opportunities. The course consists of four parts; introduction to the entrepreneurial process, opportunity recognition, entrepreneurial decision making and teamwork in the new venture creation process.

ENT8303 Entrepreneurial Finance (3 credit Units)
This course provides students with theoretical and practical knowledge about resource management and finance of new ventures. The students will get to know and use basic frameworks and techniques for analyzing and utilizing critical resources and capabilities in emerging ventures. There will be emphasis on issues like the control and influence over resources in the pursuit of new venture opportunities, the assessment of financial requirements in new ventures, bootstrapping strategies, venture capital markets, and decisions about company foundation, ownership, outside assistance, and other legal issues (corporate governance).
In addition, the course will enhance the students' knowledge about the financial markets for new ventures. Particularly the way different investors, such as banks, venture capitalists and business angels make their investments in new ventures, and how they manage their portfolio after the investments are made.

ENT8305 Entrepreneurial Leadership (3 credit Units)
The course provides students with knowledge and skills to identify understand and tackle key challenges associated with leading a startup with growth ambitions. The course focuses on "people problems" faced and created by different groups of people, such as founders, co-founders, hires, investors and successors. Critical issues include identifying and recruiting co-founders, establishing roles, relationships and rewards within the startup team, hiring new talent, on boarding investors, and managing succession.

ENT8307Strategic Management (3 credit Units)
The course aims at a thorough understanding of the theory and practice of strategy management as it has evolved. It concentrates on the roles and responsibilities of general management and focuses on the structural mechanisms and process through which objectives are attainable in organization. Foundation of Business/Business Organization/Objectives; Introduction to Business Policy and Strategy; Social Responsibilities of Business; Business Environment; Planning/Budgeting in Business; Business Decision Making; Authority and Responsibilities; Peculiarities of Nigerian Business; Cases in Business Policy and Strategic Management.

ENT8309 Management Theory (3 credit Units)
The intent of this course is to expose the students to basic issues and theories with regards to the practice of management in contemporary organizations. It examines the introduction and integration of the evolution and the development of theories and concepts, and their application in the field of management. Students are expected to critically analyze the different perspectives within the field of Management. Development of Management models (Rational

goals, internal process, human relations and open systems models): organizational effectiveness, environments, technology design and performance; images of organizations and implications for research and practice; organizational ecology; institutional theories; organizational culture and climate; organizational learning and globalization of organization theory. The intent is to build a theoretical foundation for the understanding of Management issues, and provide guidance for research activities in the programme.

ENT8311Quantitative Techniques in Business (3 credit Units)
Elements of Decision Analysis; Types of Decision Situations; Decision Trees; Operational Research Approach to Decision Analysis: Systems and System Analysis; Modeling in OR, Simulation: Cases for OR Analysis; Mathematical Programming, Transportation Model, Assignment Model, Conflict Analysis and Game Theory; Project Management, other OR Model, Inventory, Replacement, Line Balancing, Routing and Sequencing, and Search.

ENT8313 Project Management and Evaluation (3 credit Units)
A project management and feasibility study from the management point of view has to do with (i) Decisions on management justification of micro and macro investment expenditure. (ii) It must incorporate preliminary study of the nature of resource availability, technical and economic studies (iii) This must involve project identification, selection, scheduling, implementation, monitoring and evaluation. (iv)Acquisition of skills in research methodology, and in-depth knowledge of benefit-cost analysis together with critical assessment of feasibility, viability, sensitivity and other profitability measures are indispensable to project evaluation. Socio-benefits and profitability analysis plus the usual standard formatting with executive summaries.

ENT 8315 Entrepreneurship Seminar (3 credit Units)

ENT8302Corporate Entrepreneurship (3 credit Units)
On the basis of this course the student develops an understanding of and familiarity with entrepreneurial activities in established businesses, so-called "corporate entrepreneurship". The course consists of the following parts: (i) the entrepreneurial process in the corporate context with particular focus on the identification and valuation of business opportunities, (ii) business model renewal and innovation, (iii) different forms of corporate entrepreneurship, and (iv) factors supporting and hindering corporate entrepreneurship.

ENT8304Creativity and Innovation Management (3 credit Units)
This course introduces students to the concepts of creativity and innovation management in existing businesses and networks. The aim of the course is to give an understanding of the creation of new ideas and the management of innovations, particularly New Product Development processes, in existing organizations. The course consists of four parts: (i) the concept and process of innovation, (ii) innovation strategy and technology management, including 'Open Innovation' management models, (iii) organizational management and product development team management, and (iv) innovation strategies for a global context.

ENT8306Entrepreneurial Marketing (3 credit Units)
The aim of this course is twofold. It introduces students to a comprehensive approach to analyze industry/market conditions and tools on how to gather information about their potential markets. The skills to be developed include analyzing principal dimensions of competition, investigating the position and performance of current players, appreciation of the feasibility

and desirability of a potential idea, product or service, and identification of key factors contributing to the efficiency of industry operations.
In addition, it introduces the students to how to communicate their business idea, product or service to potential investors, customers and other stakeholders. The course consists of three parts; industry and competitor analysis, customer analysis and market research, and market communication in new ventures.

ENT8308International Entrepreneurship (3 credit Units)
This International Entrepreneurship course will explore the many dimensions and challenges of global venture creation and growth. The course offers a framework for understanding the entrepreneurial process in global contexts and exposes students to key issues and problems specific to international ventures. As the world becomes increasingly global, this course hopes to (1) encourage students to consider exploring entrepreneurial activities outside the domestic setting, (2) prepare them to see through a different set of lenses in order to better and more accurately identify vast global opportunities, and (3) equip them with various skills to better meet and tackle complex global challenges.

ENT8310Research Methodology for Entrepreneurship (3 credit Units)
In this course, students develop and advance their knowledge in project and research methods related to entrepreneurship. The course focuses in the different steps and decisions involved in undertaking a master degree project (Dissertation) with particular focus on advance methods for data collection and analysis.

ENT8312Comparative Organization Management (3 credit Units)
The course is focus on the following areas (1) Analysis of the practice of management in advanced countries and developing countries. Implications of types and various management system in DC, NICs and developing countries (2) examining management practices in public and private sectors, particularly on staff motivation, controlling, financial management and material management (3) analysis of different management practices in Europe, Asia and America.

ENT8314Global Economic Environment (3 credit Units)
This situates Nigerian Economy within the broader global economy. It examines the implementation of the movement towards free market economy on stakeholders including business, government, consumers, labour and public. The course takes a multidisciplinary approach drawing from international politics, economy, finance, cross-cultural and business management. Topics to be covered include Strategic aspects of international trade, globalization/international institutions, industrialization strategies, determinants of economic growth and poverty reduction in Africa; global power and wealth distribution; lessons from Asian and Mexican financial crises; multilateral negotiations, global culture and information technology, exchange rates/inflation/interests rates.

ENT8616 Dissertation (Project) (6 credit Units)
Developing students' skill in analyzing and writing reports based on an empirical or theoretical study of a specific subject matter or topic in relevant entrepreneurship project presentation; Students would present a research-based report of not less than 5,000 words, at the end of the session.

PH.D MANAGEMENT

LIST OF COURSES

FIRST SEMESTER COURSE STRUCTURE

S/N	COURSE CODE	COURSE TITLE	CREDIT UNIT	COURSES CLASSIFICATION
1	BUS 901	Management Thoughts and Ideas	3	Core
2	BUS 903	Advanced Research Methodology	3	Core
3	BUS 905	Advanced Quantitative Techniques	3	Core
4	BUS 907	Management of Change	3	Elective
5	BUS 909	Advanced Marketing Theory	3	Elective
		TOTAL	**12**	

SECOND SEMESTER COURSE STRUCTURE

S/N	COURSE CODE	COURSE TITLE	CREDIT UNIT	COURSES CLASSIFICATION
1	BUS 902	Seminar in Strategic Management and Entrepreneurship	3	Core
2	BUS 904	Ph.D Seminar	3	Core
3	BUS 906	Imperatives of Globalization	3	Core
4	BUS 908	Multinational Enterprises	3	Elective
5	BUS 910	Advanced Conflict Management	3	Elective
		TOTAL	**12**	

THIRD SEMESTER COURSE STRUCTURE

S/N	COURSE CODE	COURSE TITLE	CREDIT UNIT	COURSES CLASSIFICATION
1	BUS 911	Non-Thesis Seminar	8	Core
2	BUS 913	Proposal	8	Core
		TOTAL	**16**	

FOURTH SEMESTER COURSE STRUCTURE

S/N	COURSE CODE	COURSE TITLE	CREDIT UNIT	COURSES CLASSIFICATION
1	BUS 912	Internal Defense	8	Core
2	BUS 999	External Defense	22	Core
		TOTAL	**30**	

Course Description

BUS 901 Management thought and Philosophy (3 Units)
This course examines the idea and evolution of management as a field of endeavor.

BUS 903 Advanced Research Methodology (3 Units)
The objective of this course is to deepen the understanding of the students, of the traditional scientific research methods. Topics to be discussed include Research in Social, Physical and natural sciences; problems of research in developing countries; common errors in research;

types of research; and research in practice: selecting a topic, problem and hypotheses formulation, research design, instruments and data collection data analysis and interpretation, research report, etc.

The objective is for students to gain confidence in the applicability and relevance of non-quantitative methods in our research environment, where the tradition of believing in "objective measurement" is strong. Quantitative research methods open up for us a class of researchers, we can ask new questions if we have a richer rereparire of tools, both the qualitative and the quantitative from which to choose.

Topics to be discussed include the basics of qualitative research methods and research approaches. Some qualitative research approaches, such as phenomenography, activity theory and ethnography, data collection methods such as interviews, field studies and rapid rural appraisal, and observations, evaluating collected data.

BUS 905 Advanced Qualitative Analysis (3 Units)
It is designed to provide students the opportunity to explore more advanced quantitative techniques for decision-making in general and research in particular. Emphasis will be on multivariate statistical methods, advanced topics in optimization techniques and stochastic models.

BUS 907 Management of Change (3 Units)
Management of change is designed to acquaint participants with the issues, techniques and strategies for the management of change. The first part of the course concentrates on developing expertise in predicting relevant changes in the organization's task environment and making sure that change initiatives are in harmony with environment. Techniques for environmental scanning and task forecasting will be explored and useful models analysed. Students will also discuss and make presentations on current issues such as employee ownership, team- based management, mergers and acquisitions, and organizational renewal, etc. By course and, participants will understand the techniques for creating change, managing resistance, and applying change models to various industries and situations.

BUS 909 Advanced Marketing Theory (3 Units)
The objective of this course is to provide students with knowledge of advanced marketing theory and research. Marketing is an applied discipline that is informed by professional scholarly research in marketing and related fields (e.g. psychology, economics). This course provides an in-depth review of marketing theory and research, an advanced review of

influential theories in the development of marketing thought, and an overview of contemporary theories and research in marketing. Reading materials shall largely be scholarly articles in referred journals.

BUS 902 Seminar in Strategic Management and Entrepreneurship (3 Units)
Students will gain a well-developed understanding of business enterprises and the entrepreneurial and strategic thinking that drives them in a dynamic, competitive regional, national, and global economy, students will learn to apply entrepreneurial and strategic management practices (e.g. using case analysis) to organizations of varying sizes. An integral component, future studies shall involve an introduction into thinking about the future, the foundation of the field, its methodologies, link to planning, decision-making, strategy and public policy. The relationship between core competences (at the company level) and key success factors at the industry shall be examined.

BUS 904 PhD Thesis Seminar (3 Units)
This seminar introduces students to the most recent research in the area of Management and organizational analysis, examining current issues and trends. Students have an opportunity to present and discuss their own research and actively engage in the analysis and discussion of the work of others. Each student is expected to make at least one presentation during the course, focusing on the formulation, design, execution, and results of his or her research.

BUS 906 Imperatives of Globalization (3 Units)
Globalization overview: Why has the global economy grown so rapidly? How is it affecting the environment, local economies, and social and cultural customs throughout the world?: Question Free Trade: What are the positive and negative impacts of free trade?: Economic globalization and technological changes: these processes are examined in relation to the national development or under development. It also examines multinational companies, their histories, the reasons for these companies special mobility and the impact on developing world; Globalization and the Environment; Social Equity: Is social equity relevant to trade issues?: What is gained and lost through the gradual homogenization and distortion of cultures as a result of globalization?

BUS 908 Multinational Enterprises (3 Units)
This course covers World Trade Organization (WTO) and multilateral trade agreements. The course will present an overview of the WTO and then focus on multilateral trade negotiations. Multilateral trade agreements shall be studied in four parts: trade in goods, trade in services, trade related aspects of intellectual property rights and institutional issues. Agreements on trade

in goods are further divided into three subcategories: market access, customs-related issues and trade rules. Lastly, this course will look at the future challenges facing the current multilateral trading system. Although this course deals with trade agreements, it will put more emphasis on economic interpretation rather than the legal aspects. For this course, outside scholars and experts from policy; academic, and private sectors may be invited as special guest.

BUS 910 Advanced Conflict Management (3 Units)

This course is designed to provide an understanding of intercultural management useful for international management and trade negotiations. Participants are expected to study the different ways various cultures think, communicate and behave, particularly within business contexts, in order to develop a necessary level of cross-cultural competency. Today's global business implies co-operating, coordinating, negotiating and supervising, using management processes appreciate to the cultural context. The student will explore cultural implications in those management processes, as well as impact on team-building, ethics, conflict resolution and creative problem solving. Students will also study their own culturally-based perceptions, patterns of thinking and behavior, communication styles, values and how they can be adapted to an intercultural context.Although the course will primarily deal with cultural differences in national culture context, it will also address cultural differences in gender and in organizational level as long as they affect the global business environment.

Foundations and Theories of Conflict: Theories of Conflict Resolution –An interdisciplinary approach to Conflict – An examination of the different approaches to conflict resolution represented by two party negotiation, facilitative processes such as mediation, the various evaluative processes, adjudication processes such as litigation and binding arbitration, and the various hybrid processes; Negotiation; Mediation Skills Clinic – A basic introduction to mediation skills, theory and ethics; Interpersonal and intergroup conflict – An in-depth study of dynamics of interpersonal and intergroup conflict. Organizations and community; International and Cross-Cultural Conflict- an examination of the practical negotiation skills central to the resolution of situation – specific international and intercultural conflict. Methodology of Conflict Resolution Research – an introduction to a range of qualitative data collection methods, with particular focus on techniques used in research on conflict and conflict resolution, including participant observation, content analysis, behavioural mapping, and non –intrusive measures, as well as a review of relevant research literature in the field.

BUS 911, BUS 912, BUS 913 and BUS 999 Theses (Non-Thesis Seminar, Proposal, Internal Defense and External or Oral defense **46 Units**

An empirical based study and report on an acceptable communication and information management problem areas approved by the supervisor and the Departmental postgraduate committee.

GRADUATION REQUIREMENTS

DEPARTMENT OF ARTS AND SOCIAL SCIENCES EDUCATION

HEAD OF DEPARTMENT
DR. HADIZA HAFIZ

DEPARTMENTAL PG COORDINATOR
DR. MUJITABA LAWAN

PG Lecturers

S/N	Name of Academic Staff	Area of Specialization	Qualification	Rank	Employment Status
1.	Prof. Tijjani Isma'il	Curriculum/ Language Education	Ph.D. Education M.Ed. English B.A. (Hons) English	Professor	Full Time
2.	Prof. Talatu Garba	Curriculum Studies	Ph.D. Curriculum M. Ed, Phi. of Edu B.Ed. English	Professor	Part-time
3.	Prof. Mohammad Yakasai	Test and Measurement	PhD Edu. Psy. M. Ed. Edu. Psy BA.Ed. History	Professor	Part-time
4.	Prof. Garba Sa'ad	Curriculum Studies	Ph.D., M. Ed. Curriculum B.Ed. Geography	Professor	Part-time
5.	Prof. Mustapha Abdullahi	Psychological Testing	Ph.D., M. Ed G&C B.A.Ed.Islamic	Professor	Part- time

6.	Prof .Aliyu Musa	Curriculum Studies	PhD., M.Ed. Curriculum Studies B.Ed. Pol. Sc.	Professor	Full Time
7.	Dr. Peter Ajelabi	Instructional Technology	Ph.D., M. Ed. Edu Tech B.Sc. Ed. Pol. Sci.	Reader	Full Time
8.	Dr. Hadiza Hafiz	Curriculum Studies	Ph.D., M.Ed. Curriculum B.Ed. Social Studies	Reader	Full Time
9.	Dr. Saheed Olanrewaju Jabaar	Philosophy of Education	Ph.D., M.Ed. Phil. of Edu. B.Sc.Ed. Agr. Ed,	Reader	Full Time
10.	Dr. Ali Idris	Technology Education	Ph.D. Tech. Voc. Edu. M.Ed. Industrial Tech B.Sc. Ed. Technical Edu	Senior Lecturer	Part-time
11.	Dr. Suwaiba Sa'id Ahmad	Curriculum Studies	Ph.D. Science Edu. M. Ed. Curriculum B. Sc. Ed. Chemistry	Senior Lecturer	Part-time

12.	Dr. Dahiru Sale Muhammad	Technology Education	Ph.D. Tech. Vocational Edu. M.Ed. Industrial Technology B.Sc. Ed. Technical Edu	Senior Lecturer	Full Time
13	Dr. Yusuf Musa Kibiya	Guidance and Counselling	Ph.D., M.Ed G&C. B.A.Ed. Hausa	Senior Lecturer	Full Time
14.	Dr. Ahmad Abdullahi Ibrahim	Educational Technology	Ph.D., M. Ed. Inst. Technology. B.Ed. Islamic Studies	Lecturer I	Full Time
15	Dr. Mujtaba Lawan,	Guidance and Counselling	Ph.D., M. Ed G&C B.A.Ed.Islamic	Lecturer I	Full Time
16.	Dr. Rabiu Garba Idris	Educational Psychology	Ph.D., M. Ed, Edu Psy. BA.Ed.Sp.Ed	Lecturer I	Full Time
17.	Dr. Samira Abdullahi Bello	Curriculum Studies	Ph.D., M.Ed. Curriculum Studies B.Ed. Hausa	Lecturer I	Full Time
18	Dr.Kabiru Rabiu Darma	. Educational Psychology	PhD. M.Ed Edu.Psychology B.A. (Ed.) History.	Lecturer 1	Full Time

19.	Dr. Ado Abdu Bichi	Test and Measurement	PhD, M.Ed. Test and Measurement B.Sc. (Ed.) Econs.	Lecturer II	Full Time
20.	Hauwa Ali	Sociology of Education	M.Sc. Sociology, B.Sc Sociology, PGDE	Lecturer I	Full Time
21	Mohammad Badamasi Abdullahi	Special Education	,M. Ed, Special Education BA.Ed.Geo	Lecturer I	Full Time
22	Shuaibu Muhammad	Educational Administration	M. Ed Admin Admin & Planning BA.Ed. Geo	Lecturer II	Full Time
23.	Surakat Hameed Ishola	Mathematics Education	M.Sc, Mathematics B.Sc.Ed. Mathematics	Lecturer II	Full Time

POSTGRADUATE DIPLOMA IN EDUCATION (PGDE)

Courses

S/N	Course Code	Course Title	Credits Unit
1.	**PGD7600**	**Teaching practice** Students should be provided with opportunity for a period of practicalisation of teaching and learning strategies, knowledge, and classroom skills in their subject areas; Implementation and application of learning materials in the classroom situation for a period of ***twelve weeks***.	**6 Credits**

2.	**PGD7201**	**History of Education Dev. In Nigeria** A study of western educational practices, indigenous education, formal education in Nigeria under colonial governance; Different educational ordinances during colonial government; Post-independence educational policies and practices; The 6-3-3-4 educational system; Universal Basic Education; The global Education For All (EFA) initiative and its influence on Nigerian Education; The role of international organizations in Nigerian education; The National Policy on Education and educational practice.	**2 Credits**
3.	**PGD7202**	**Curriculum and Instruction** This course will expose the students to the following contents: concepts of curriculum and Instruction; curriculum planning process; models of curriculum planning; Methods of Teaching, Learning Resources, Curriculum reforms and agents in Nigeria. Description of domains of Educational objectives; principles for effective teaching and learning; unit of Instruction and Lesson plans.	**2 Credits**
4.	**PGD7203**	**Sociology of Education** A discussion of the meaning, scope and methods of studying sociology of education as an academic subject, theories of social interaction and their relevance to educational theory and practice, meaning and types of socialization; agents of socialization like family, peer group and religion, education and culture. The sociology of the school: the school as an agent of social/cultural stability and change. The professional status of teaching in Nigeria. The Teachers Registration Council and professional registration of teachers.	**2 Credits**
5.	**PGD7204**	**Research Methods** The nature and concept of research; types of research; theories in education and problem formulation; techniques for literature review; types of research design and instrumentation; techniques for data preparation and	**2 Credits**

		presentation, data analysis and interpretation of results; ability to write research reports.	
6.	**PGD7205**	**Philosophy of Education** Meanings of philosophy and philosophy of Education; Scope and methods of studying philosophy and philosophy of education; A study of ideas of selected educational thinkers like Plato, Rousseau, Azikiwe, Dewey, Nyerere, Aminu Kano, Awolowo, Ukeje; A philosophical examination of teaching, professionalization of teaching, ethics of the teaching profession, discipline in educational practice.	**2 Credits**
7.	**PGD7206**	**Tests and Measurement** Concepts, definitions and nature of tests, measurement, evaluation, assessment etc.; Psychometric properties of tests-validity, reliability, usability etc.; Types of Tests; Guidelines for construction of tests of different types: standardized tests, Teacher-made tests, non-cognitive tests etc. Differences between different types of test; test administration, scoring, grading and interpretation of grades; statistics in education e.g. concepts, descriptive and inferential statistics; examination bodies in Nigeria and their roles.	**2 Credits**
8.	**PGD7207**	**Educational Psychology** Fundamental concepts of learning, study of major theories of learning and their implications for education, general theories and principles of human growth and development with special reference to Nigeria; Implications of motivation, retention, readiness, and reinforcement for learning.	**2 Credits**
9.	**PGD7208**	**Guidance and Counselling** Concepts, philosophy and historical development of Guidance and Counselling in the educational setting in the world and Nigeria especially. It also examines its nature, and objectives, theories, methods, strategies, techniques and services. Students' needs and problems (Educational, Vocational and Socio-emotional) are x-rayed and surveyed,	**2 Credits**

		and coping measures are proffered for treatment purposes. Psychological testing is learnt for assessment and diagnostic purposes. Tools for cumulative records are discussed. Similarly, family, prison, pastoral, industrial, marriage etc. are treated. Counselling practices are briefly examined to enhance holistic and integrated personality development of students at this level.	
10.	**PGD7209**	**Education and Information Technology** The design, process, application and effects of technology on the teaching/learning situation; systematic production, effective use and evaluation of inexpensive and local instructional materials for instructional purposes; concept and application of ICT to teaching; improvisation using local resources and materials.	**2 Credits**
11.	**PGD7210**	**Educational Administration and Management** The concepts of management, administration, planning, supervision and evaluation; Educational administration and planning in Nigeria; School and classroom management, supervision, inspection, budgeting, funding, recruitment practice, professional development; Politics of education, policy implementation, resource mobilization and utilization; Links between the various sections of education such as the Federal Ministry of Education, State Ministry of Education, State Universal Basic Education Board and Local Government Education Authorities.	**2 Credits**
12.	**PGD7211**	**Teaching Methods** Students should be exposed to techniques of teaching different subjects using different methods appropriate to their areas of specialization. Strategies for lesson and unit planning; statement of instructional objectives; Production, utilization and evaluation of suitable instructional materials to concretize the learnt materials.	**2 Credits**
13.	**PGD7412**	**Project**	**4 Credits**

		Students are expected to transfer/apply the knowledge, skills and competencies learnt in the Research methods, to write on topical issues in Education. This serves as a field experience as they review the existing literature, collect and analyse data and write the essay reports.	
SPECIALIZATION COURSES			
1.	**SEE7205**	**Method of Teaching (Sciences)** The course is designed to expose to techniques of teaching different subjects using different methods appropriate to their areas of specialization. Strategies for lesson and unit planning; statement of instructional objectives; Production, utilization and evaluation of suitable instructional materials to concretize the learnt materials	**2 credits**
2.	**EDU7206**	**Teaching Methods (Arts) - 2 Credit Units** The objective of the course is to expose students to techniques of teaching different Arts subjects using different methods appropriate to their areas of specialization. Strategies for lesson and unit planning; statement of instructional objectives; Production, utilization and evaluation of suitable instructional materials to concretize the learnt materials.	**2 credits**
3.	**SSE7206**	**Teaching Methods (Social Sciences) - 2 Credit Units** Students should be exposed to techniques of teaching different subjects in the social sciences using different methods appropriate to their areas of specialization. Strategies for lesson and unit planning; statement of instructional objectives; Production, utilization and evaluation of suitable instructional materials to concretize the learnt materials.	**2 credits**

4.	**STE7206**	**Teaching Methods (Technology) - 2 Credit Units** The course is designed to expose student teachers to techniques of teaching technology based courses such as Automobile, electrical, mechanical, woodwork etc. subjects using different methods appropriate to their areas of specialization. Strategies for lesson and unit planning; statement of instructional objectives; Production, utilization and evaluation of suitable instructional materials to concretize the learnt materials.	**3 Credits**

M. ED CURRICULUM STUDIES

Courses

S/N	COURSE CODE	COURSE TITLE	CREDITS UNIT
1.	**EDU 8301**	**Research Methods (Core)** The course is designed to further expose the graduate students to: 1. The concept and nature of research; 2. Scientific processes in research; 3. Problem definition, variable identification; sources of research topics; 4. Theory construction and hypotheses formulation; 5. Techniques of literature review; 6. Principles of research design, 7. Instrumentation, 8. Data collection techniques for data analysis and presentation of results. The candidates would be guided to prepare tentative research proposals which they must present and defend individually in class.	**3 Credits**
2.	**EDU8302**	**Educational Statistics (Core)** The course is meant to expose the students to: 1. concept of educational statistics; 2. the role of statistics in education; 3. descriptive statistics and its applications to various areas of application in education such as classroom data, school records, school demography, social relations in school; school administration and finances; 4. inferential statistics; 5. population and sampling theory; 6. non-parametric statistics in education; 7. hypothesis assumptions, types, applications and limitations; 8. the nature of parametric statistics, types and applications in education; 9. statistical models in education, application and limitations (correlation, univariate and multivariate analysis of educational data), 10. the nature of significant tests, problems of interferences. The candidates will be exposed to educational and practical application of basis statistical concepts in various educational disciplines.	**3 Credits**
3	**EDU 8303**	**Information Communication Technology (Core)**	**3 Credits**

		The course is designed to expose the candidates to the skills and techniques of data processing in education. It will involve an overview of sources, storage, retrieval and dissemination of data/information. Programme design and management of data; management of data bank. General problem solving with the use of information technology. Hands-on experience should be emphasized.	
4	**EDU 8304**	**Foundations of Nigerian Education (Elective)** The course is designed to expose students to the historical, philosophical and social foundations of Nigerian education. It is meant to develop candidates' knowledge, understanding and interpretation of how different sociological and philosophical forces influence education in Nigeria. At the end of the course, students should be able look at education in Nigeria with a critical and historical perspective that questions current policies and practices.	**3 Credits**
5	**EDC 8301**	. **Curriculum Design and Development 1 (Core)** 1. Curriculum as a field of study 2. Curriculum Design and Development 3. Models for Curriculum Planning 4. Social and Psychological Theories Influencing the Curriculum 5. Nigeria's Secondary School Curriculum 6. Curriculum control in Nigeria 7. Curriculum and Instruction 8. Futurism and Curriculum Development 9. Teacher Education and Curriculum Research and research areas in Curriculum	**3 Credits**
6.	**EDC 8302**	**Curriculum Change and Evaluation (Core)** 1. Concept and purpose of curriculum evaluation 2. Problems of curriculum evaluation 3. Types of curriculum evaluation 4. Curriculum objectives, types and roles in curriculum evaluation	**2 Credits**

		5. Models of curriculum evaluation 6. Programme evaluation 7. Reporting the outcomes of curriculum evaluation 8. Problems and prospects of curriculum evaluation in the contemporary world 9. Definition of curriculum change 10. Change models and the curriculum 11. Determinants of curriculum Strategies of effecting curriculum innovations	
7.	**EDC 8304**	**Basic and Secondary Education Curriculum (Core)** 1. The Nigeria education policy 2. Relation between the policy on the curriculum 3. Nigeria curriculum (description) 4. Formulation of curriculum in Nigeria 5. Basic education curriculum 6. Senior secondary school curriculum 7. Curriculum integration 8. Implementation of basic and secondary school curriculum 9. Implementation arising from the curriculum and its implementation	**3 Credits**
8.	**EDC 8305**	**Philosophical Foundation of Curriculum (Core)** 1. Philosophy and its relevance to: i. Education ii. curriculum 2. Goals, Aims and Objectives in curriculum 3. Philosophy and distribution of educational benefits 4. Decision making in education 5. Philosophy and the curriculum experts 6. Philosophical schools of thought: i. Idealism ii. Realism	**3 Credits**

		iii. Pragmatism iv. Existentialism 7. Essencism for the restructuring of the Nigerian curriculum development 8. Philosophy and the distribution of educational benefit i. Human ii. Material iii. Places	
9.	**EDC 8306**	**Curriculum Design and Development II (Core)** 1. Advanced introduction of the concept of curriculum 2. Kinds of curriculum; social, processing, personalist, behaviorist etc. 3. Orientations to curriculum development: • Child- centred • Society - centred • Knowledge - centred • Eclectic 4. Levels of curriculum; primary, secondary, tertiary 5. Stages of the processes of curriculum design and development 6. Curriculum planning 7. Curriculum design factors 8. Curriculum development phases	**3 Credits**
10.	**EDC 8307**	**Social Studies/Civic Education (Elective)** 1. Social studies in Nigeria Education system i. Concept ii. Objectives and development 2. Civic Education i. Concept	**3 Credits**

		ii. Objectives and development 3. Relation between social studies and civic education 4. The major items in social studies and civic education 5. Global citizenship i. Concept and features ii. Teaching controversial issues in social education iii. Teaching democratic value in civic education iv. Teaching education for civic and social studies education v. Evaluation social studies and civic education	
11.	**EDC 8308:**	**Comparative Curriculum (Elective)** Comparative curriculum is a course designed to equip the graduate students with skills for analysis and comparison of curricular in different countries. At the end of the course, graduate students are expected to acquire skill in developing meaningful terminologies and standards for education worldwide, improving educational systems and creating a framework for assessing the success of education programs and initiatives. Graduate students would be required to do independent research in this field and present a seminar on their research findings.	**3 Credits**
12.	**EDC 8309**	**Language Arts (Elective)** 1. Historical background of English language 2. Theories of Language teaching and learning 3. Methods of teaching English language i. Grammar translation ii. Direct methods iii. Audio linguistics iv. Communicative language teaching 4. Psycholinguistics in second language learning 5. Sociolinguistics in second language learning	**3 Credits**

		6. Applied linguistics 7. Linguistics principles in the teaching of specific languages skills 8. Practical experiences in the development of English language curriculum for selected levels of education. .	

DOCTOR OF PHILOSOPHY IN EDUCATION (PH.D.) CURRICULUM STUDIES

Courses

S/N	COURSE CODE	COURSE TITLE	CREDITS UNIT
1.	**EDU 9601**	**Advanced Research Methods II** The concept and nature of research; scientific processes in research; problem definition, variable identification; sources of research topics; theory construction and hypotheses formulation; techniques for literature review; principles of design, instrumentation, data collection, techniques for data analysis and presentation of results. Candidate must be introduced to computers and data analysis; analytical software and techniques in education. The orientation must be practical throughout as candidates are guided to prepare tentative research proposals they must present and defend individually in class; techniques of research reporting, and research proposal writing.	**6 Credits**
2.	**EDU 9302**	Advanced Educational Statistics II Concept of educational statistics; the role of statistics in education; descriptive statistics and the various areas of application in education; classroom data, school records, school demography, social relations in school; school administration and finances; inferential statistics; population and sampling theory; non-parametric statistics in education; hypothesis assumptions, types, applications and limitations; the nature of parametric statistics, types and applications in education; statistical models in education, application and limitations (correlation, univariate and multivariate analysis of educational data), the nature of significant tests, problems of interferences. Candidate must be taught to utilize computer in various phases of this course and to be familiar with various analytical software. Emphasis must be placed on educational and practical application of basis statistical concepts in various educational disciplines.	**3 Credits**

3.	**EDU 9303**	**Information and communication Technology II** In-depth knowledge of skills and techniques of data processing in education. Overview of sources, storage, retrieval and dissemination of data/information. Programme design and management of data; management of data bank. General problem solving with the use of information technology. Hands-on experience should be emphasized	**3 Credits**
4.	**EDU 9000**	**Thesis: -10 Credit Units** Candidates are required to demonstrate research competencies by selecting a thesis topic in their relevant areas of specialization. The research is carried out by the individual student under the guidance of a competent supervisor according to graduate school requirements. The candidate is expected to make some significant contributions to knowledge. The Thesis is defended before an appropriately constituted examining committee chaired by the Head of the Department. The external Examiner's verdict shall override all other decisions.	**2 Credits**
5.	**EDC 9301**	**Curriculum theory and Development** The course is designed to equip graduate students with perspectives on transformation, democratisation of the curriculum and the identification of problem areas in curriculum implementation. The course will involve critical discussion of various approaches to teaching by means of a variety of source materials and case study evaluation. Candidates will be required to present a seminar on their theoretical perspectives of curriculum.	**3 Credits**
6.	**EDC 9302**	**Curriculum Critique and Change** The course is designed to equip the candidates with the skill of analyzing the factors that facilitate or hamper curriculum change. The course is expected to expose the candidates to how the factors are related to the purposes of education. At the end of the course, the students should be able to critically discuss purposes of education as cultural transmission, environmental adaptation, personality development etc.. The course will provide insights with respect to: Societal values and curriculum	**3 Credits**

		Humanism for all versus humanism for some Cognitive man versus the mentally healthy man The candidates would be required to present a term paper on the critique of the current curricular at various levels of education.	
7.	**EDC 9303**	**Instructional theory and Technology** The course is designed to expose the students to instructional theories from the beginning of the 20th century. These include: 1. Pavlovian Conditioning; 2. Skinner's Operant Conditional Theory, 3. The mid 50's and the first time computers were used in learning environments, 4. the influential Problem-Based Learning inspired by Howard Barrows in the 60s, David Merrill's Component Display Theory, 5. the Cognitive Flexibility Theory in the late 1980s that aims to develop the learner's ability to comprehend multidimensional situations, 6. the introduction of multimedia and CD-ROMs in educational environments in the 90s, 7. the development of WebQuest in 1995, and the launch of the Authentic Learning Model in the late 2000s by Marilyn Lombardi.	**3 Credits**
8.	**EDC 9304:**	**Research and Research Areas in Curriculum** The course is designed to equip the candidates with the skill of making evidence-based improvements to educational programmes, through research. At the end of the course, student would be able to identify the impediments to effectiveness of teaching and learning, and explore initiatives, strategies and challenges encountered by schools, students and teachers. Students may be required to write term papers on any of the following areas: i. Developing resources for the effectiveness of teaching and learning. ii. Responding proactively to potentials of and challenges for students in the 21st century iii. Building research capacity for curriculum development	**3 Credits**
9.	**EDC 9305:**	**Practicum**	**3 Credits**

		This course will provide an opportunity for a graduate student in curriculum studies to inquire deeply into an area of curriculum and/or pedagogy. The course will involve application of practical skills, curriculum theory, and research, gained in the core courses to design a curriculum. The practicum would take place within a school system. The student will work with a faculty advisor and, a field supervisor, to develop, enact, and assess the practicum	

M.ED. GUIDANCE AND COUNSELLING

Courses

S/N	Course Code	Course Title	Credits Unit
1.	**EDU 8301**	**Research Methods (Core)** The nature and purpose of research; categories of research activities; descriptive, historical, philosophical and experimental research in education; the nature and sources of Educational problems; definition and formulation; assumptions, hypotheses construction; writing research proposal; topic selection, contents and organization of proposal; theoretical and conceptual frame work; Literature review: techniques, needs and organization; Research bias and ethics (political, economic religious and cultural); Objectivity and cross-cultural applications. Issues in educational research; Sampling theory; techniques and description of sample; principles of research design and design types; Instrumentation; Sources of education data: observations, questionnaires, interviews, case studies, ethnographic studies; problems of validity and reliability; choice of analytical tools; presentation and interpretation of results; writing research reports. Candidates must be encouraged to demonstrate practical activities in various phases of this course the result of which must be presented and critiqued in class.	**3 Credits**
2.	**EDU8302**	**Educational Statistics (Core)** An overview of descriptive statistics; Review of parametric and non-parametric statistics such as t-test, analysis of variance and co-variance (one way	**3 Credits**

		and two way), chi-square test, sign test, Mann Whitney U Test, Regression Analysis, factor Analysis, Multivariate ANOVA, Path Analysis, Discriminates analysis. Knowledge of the analytical software packages in Education is also necessary. .	
3.	**EDU 8303**	**Information and Communication Technology (Core)** Concept of Education Management Information Systems (EMIS); Nature and use of computers; Computer technology concept, basic equipment, programmes and operating systems; Computer applications in data processing: Microsoft Office (especially MS Word, MS Excel, MS Access) input/output devices; Criteria for information and data processing in education; Theory and practice of data management. Practical work should be emphasized.	**3 Credits**
4.	**EDU 8605**	. **Research Dissertation – (Core)** Students are to undertake research in their areas of specialization under the guidance of a supervisor. The completed research shall be submitted for oral external examination.	**6 Credits**
5.	**EGC 8301**	**Theories and Models in Counselling (Core)** This course is an-depth examination of the basic theoretical frameworks that inform the practice of counseling and psychotherapy. Psychoanalysis/Psychodynamic Theory: Biography of Sigmund Freud Brief description of Psychoanalysis or psychodynamic theory, Origins, Assumptions, key components, nature of man,	**3 Credits**

		Strengths and Weaknesses of the theory**.** Unconscious forces that drive behavior. free association, dream analysis, and transference. **Behavioral Theory:** Behavioral theory is based on the belief that behavior is learned. Classic conditioning, operant conditioning, negative and positive reinforcement, behavior modification, token economy. **Cognitive Theory:** Cognitive and behavioral therapy (CBT), Cognitive theories of human communication, Mindfulness-Based Cognitive Therapy, Cognitive Theories of Anxiety and Depression, Cognitive Assessment, Social Cognitive Theory, observational learning, Self-Efficacy and Modeling Media. **Humanistic Approach:** Humanistic therapy: client-centered, gestalt, and existential therapies, Alfred Adler, Erik Erikson, Carl Jung, Erich Fromm, Karen Horney, Otto Rank, Melanie Klein, and Harry Stack Sullivan, Maslow's Hierarchy of Needs, The basic ideas behind humanistic psychology. **Holistic/Integrative Therapy:** Holistic and integrative therapy involves integrating various elements of different theories to the practice. Hypnotherapy or guided imagery. The key is to use the techniques and psychotherapy tools best suited for a particular client and problem. Different methods for holistic healing: acupuncture, aromatherapy, and massage to everything in between. They are used to relive pain, reduce stress, and more. Traditional and non-traditional therapies.	

6	**EGC 8202**	**Organization and Administration of Guidance and Counseling (Core)** Concept of Guidance and counselling programmes; Guidance And Counselling In Schools; Rational Of Guidance And Counselling Programmes In Secondary Schools; Objectives Of Guidance And Counselling Programmes In Secondary Schools; Scope Of Guidance And Counselling Programmes In Secondary Schools: Educational, Vocational, Social and Psychological; Strategies Of Guidance And Counselling Programmes In Secondary Schools, Assessment Of Guidance And Counselling Programming; Guidance And Counselling Services in School Setting: Counselling services, Appraisal serves, Information dissemination services, Placement services, Referral services, Orientation services, Follow-up services, and Career services. Problems of Programming In Guidance And Counselling In School Settings. Management of private counselling.	**2 Credits**
7	**EGC 8203**	**Vocational Development and Career Education (Elective)** This course covers theories of career choice, career commitment, and life-course development applied to research and practice in career counseling. Concept of vocational counselling, Objectives of vocational Guidance**,** the component of vocational guidance, function of vocational guidance, subject combinations and career information, occupational information in Guidance, dynamic factors affecting	**2 Credits**

		career development, study habit and time management.	
8	. **EGC 8204**	**Principles and practice of guidance and counselling (Core)** The course will provide an advanced introduction to the fundamental skills, processes, principles, techniques of psychotherapy. A variety of concept and theories, interviewing skills, and intervention techniques, empirical literature, will the reviewed. Counseling will be examined as a process, and as a relationship, between persons. Some forms of counseling include the teaching of social skills, effective communication, spiritual guidance, decision-making and career choices will be reviewed. Other types of counseling include premarital and marital counseling; grief and loss (divorce, death or amputation); domestic violence and other types of abuse; special counseling situations like terminal illness (death and dying); as well as counseling of emotionally and mentally disturbed individuals will form the focus of the course.	**2 Credits**
9	**EGC 8004**	**Practicum in Counseling (Core)** This is the fieldwork experience, in which students offer clinical mental health counseling services to clients in a Practicum setting. This is the advanced fieldwork experience, in which students engage in a comprehensive clinical training experience where	**0 Credits**

		they enact all aspects of the role of a professional counselor.	
10	**EGC 8305**	**Psychological Testing and Appraisal in Counseling (Core)** Analyze various strategies for selecting, administering, and interpreting assessment and evaluation instruments and techniques in counseling; Demonstrate effective application of counseling and assessment skills required for individual and group approaches to assessment and evaluation; Examine the appropriate use of counseling and assessment skills with diverse individuals, couples, families, and groups relating to individual and group approaches to assessment and evaluation; and Demonstrate effective assessment selection strategies where there are stated goals for affective and cognitive development and for learning that promotes academic, career and personal/social development. Psychological testing may sound intimidating, but it's designed to help you. Psychologists use tests and other assessment tools to measure and observe a client's behavior to arrive at a diagnosis and guide treatment. Types of Psychological testing: Clinical Interview, Assessment of Intellectual Functioning (IQ), Personality Assessment and Behavioral Assessment, Aptitude or Achievement, career or work counseling, management skills, and career planning. .	**3 Credits**

11	**EGC 8306**	**Techniques of Counselling (Core)** Concept of counselling Techniques, Verbal and non-verbal communication techniques in counselling. Modelling, Cognitive Technique, classical conditioning Technique, operant conditioning Technique, Biofeedback Technique, Role Play Technique, Bibliotherapy Technique, Systematic Desensitization Technique, Relaxation Technique, Proximity Control Technique, Time Out Technique, Assertive Training Technique, Aversive Conditioning Technique, Flooding/Implosion Technique, Reinforcement Technique, Sensitivity Training Technique, REBT, Solution –Focused Technique, Narrative Technique, Social Skills Training Technique, Cognitive Restructuring Technique, Acceptance and Commitment Therapy (ACT), Hypnotherapy Technique, Dialectical Behavior Therapy (DBT), Life Coach Training Courses Technique.	**3 Credits**
12	**EGC 8207**	**Foundations of Family and Marital Counseling (Core)** This course covers theoretical foundations of family, marital, and couples therapy as well as a systematic examination of major models, theories, skills, and practices. The Concept of Family Therapy, Historical Foundation of Family Therapy, Description of Family Therapy, Techniques of Family Therapy, Some Key Developers Of Family Therapy, Stages of Family Therapy, Developing and Implementing a Family Plan, Family Chooses Goals, Flexibility, Assessing Accomplishments, Feedback	**2 Credits**

13	**EGC 8208**	**Principles of Inter Personal Relationship (Elective)** Basic communication skills to do effective counselling: Attending, Listening, Empathy, Probing or Questioning, Summarizing, Integrating Communication Skills, Self-Reflection, Accessibility and Authenticity, Flexibility, Sense of Humor, Boundary Setting, Critical Thinking, Establishing Rapport, Geniuses and Unconditional Positive Regard.	**2 Credits**
14	**EPS 8202**	**Developmental Psychology (Elective)** This course provides an understanding of the nature and needs of persons at all developmental levels in a multicultural context, as well as implications for assessment and preventive and/or supportive intervention strategies. The course has an additional specific focus on child and adolescent development; Introduction, general characteristics of psychology, developmental task, theories of child development, developmental process, puberty, cognitive development, intellectual development, personality development, physical development, development problems, juvenile delinquency. Moral reasoning and its influences on social behavior, social problems, affective factors of learning, social psychology of learning and interpersonal relationships, evaluation of classroom learning, construction of test items.	**2 Credits**
15	**EPS 8203**	. **Abnormal psychology (Elective)** Abnormal psychology involves the study of unusual or atypical emotions, social interactions	**3 Credits**

		and behaviors. Clinical psychology is the branch of psychology that involves the assessment, diagnosis and treatment of these abnormalities. You might also consider a career in research or teaching. A career in the field of abnormal psychology can help you make a meaningful difference in the lives of individuals, families and groups. Psychoanalytic Approach, Behavioral Approach, Medical Approach, and Cognitive Approach. Types of Psychological Disorders: Anxiety disorders, Mood disorders, Neurodevelopmental disorders, Neurocognitive disorders like delirium, Personality disorders, substance use disorders.	

DOCTOR OF PHILOSOPHY IN EDUCATION (PH.D) IN GUIDANCE AND COUNSELLING

COURSES

S/N	COURSE CODE	COURSE TITLE	CREDITS UNIT
1.	**EDU 9301**	**Advanced Research Methods II** The concept and nature of research; scientific processes in research; problem definition, variable identification; sources of research topics; theory construction and hypotheses formulation; techniques for literature review; principles of design, instrumentation, data collection, techniques for data analysis and presentation of results. Candidate must be introduced to computers and data analysis; analytical software and techniques in education. The orientation must be practical throughout as candidates are guided to prepare tentative research proposals they must present and defend individually in class; techniques of research reporting, and research proposal writing.	**3 Credits**
2.	**EDU 9302**	**Advanced Educational Statistics II** Concept of educational statistics; the role of statistics in education; descriptive statistics and the various areas of application in education; classroom data, school records, school demography, social relations in school; school administration and finances; inferential statistics; population and sampling theory; non-parametric statistics in education; hypothesis assumptions, types, applications and limitations; the nature of parametric statistics, types and applications in education; statistical models in education, application and limitations (correlation, univariate and multivariate analysis of	**3 Credits**

		educational data), the nature of significant tests, problems of interferences. Candidate must be taught to utilize computer in various phases of this course and to be familiar with various analytical software. Emphasis must be placed on educational and practical application of basis statistical concepts in various educational disciplines.	
2.	**EDU 9000**	**Thesis** Candidates are required to demonstrate research competencies by selecting a thesis topic in their relevant areas of specialization. The research is carried out by the individual student under the guidance of a competent supervisor according to graduate school requirements. The candidate is expected to make some significant contributions to knowledge. The Thesis is defended before an appropriately constituted examining committee chaired by the Head of the Department. The external Examiner's verdict shall override all other decisions.	**10 Credits**
3.	**EGC 9301**	. **Personality Theories and Assessment** Nature and scope of Personality, psychanalytic approach to personality: Sigmund Fraud; Neopsychanalytic Approach: Alfred Adler theory, Fromm, Carl Jung, Horney, Murray. Humanistic approach: Carl Rogers, Gestalt Maslow. Interpersonal Approach: Sullivan. Trait-Factor approach: Gordon Allport, Cattell. Constitutional approach: Sheldon. Development approach: Erikson. Humanistic approach: George Kelly. Behaviouristic approach: B.F. Skinner, Bandura.	**3 Credits**

		The main concern in the above theories is to review: Brief historical background of the theory and founder, view of human nature, structure of personality, basic assumption of the theory, development of personality, techniques and skills in counselling process and application/implication of the theory to Nigerian situation	
4.	**EGC 9302**	**Marital, Family and Sex Therapy** Concept and types of marriage, Sex and marriage, Treatment of Sexual dysfunction, Choice of Spouse, Interpersonal Relationship in marriage, marital conflict and marital relationship, Marital adjustment, Divorce. Family and Marital counselling Therapy: Structural therapy - identifies and re-orders the organization of the family system; Strategic therapy - looks at patterns of interactions between family members; Systemic/Milan therapy - focuses on belief systems; Narrative therapy - restoring of dominant problem-saturated narrative, emphasis on context, separation of the problem from the person; Transgenerational therapy - transgenerational transmission of unhelpful patterns of belief and behavior; IPscope model and Interventive Interviewing; Communication Theory, Psychoeducation Therapy; Relationship counseling; Systematic Coaching; System Theory; Reality Therapy;	**3 Credits**
5.	**EGC 9303**	**Vocational/ Career Guidance Theory** Definitions of Vocational guidance, services rendered in Vocational guidance; Objectives of	**3 Credits**

		vocational Guidance; Career Development; Career Information; Types of Career Information; Techniques of Providing Career Information; Vocational Guidance Theories, Parsons's Trait And Factor Theory. Ginzberg's Trait and Factor Theory of Career Development, Supers' Self-Concept Theory of Vocational Development, Holland's Personality Type Theory Of Vocational Choice.	
6.	**EGC 9304**	**Guidance and Counselling Programme Development and Individual Appraisal in Counselling** Programming Of School Guidance And Counselling Programmes (Services) In Schools; Model School Guidance Programe Blue-Print (Sample) , Sample School Guidance Programme Calendar; Four components of programming school guidance and counselling programmes: Planning component, Organization component, Implementation component and Evaluation component; Developing A Counseling Curriculum Within the Framework of The School Guidance And Counselling Programme; Problems Of Programming In Guidance And Counselling In School Settings. Appraisal Techniques in Guidance and Counseling, Sources of information needed from individual for counselling appraisal, Need for Appraisal Guidance and Counseling, Types of Appraisal Techniques in Guidance and Counseling, TEST TECHNIQUE (Formal Testing Technique): Aptitude Tests, Intelligence Tests, Achievement	**3 Credits**

		Test, Personality inventory, Interest Inventory, Attitude Test, NON-TEST TECHNIQUES (Informal Appraisal Technique): Observation, Anecdotal record, Rating Scale, Checklists, Sociometric Test, Interview, Questionnaires, Case Study, Cumulative Record.	
7.	**EGC 9305**	**Clinical Experience/Practicum** This is the fieldwork experience, in which students offer clinical mental health counseling services to clients in a Practicum setting. This is the advanced fieldwork experience, in which students engage in a comprehensive clinical training experience where they enact all aspects of the role of a professional counselor.	**3 Credits**

GRADUATION REQUIREMENTS

PGDE
A candidate must fulfill the following conditions to be awarded the Postgraduate Diploma in Education:

Requirements	**Credit Units**
Pass 11 (eleven) core courses of 2 credit units each	22
Undertake a three-month practical teaching	4
Project in the area of specialization/teaching Subject	4
Total:	**30**

M.Ed. Curriculum Studies

To qualify for the award of Master degree in Education (Curriculum Studies) a candidate must pass a minimum of thirty (30) credits units as follows:

SN	**MINIMUM CREDIT UNITS**	**CREDIT UNITS**
1.	Three (3) core courses of 3 credit units each	9 CREDITS
2.	Five (5) courses of 3 credit units each chosen from the areas of specializations	15 CREDITS
3.	Research Dissertation of 6 credit units in the area of Specialization	6 CREDITS
	TOTAL	**30 CREDITS**

M.Ed. Guidance and Counselling

To qualify for the award of Master degree in Education (Guidance and Counselling) a candidate must pass a minimum of thirty (30) credits units as follows:

SN	**MINIMUM CREDIT UNITS**	**CREDIT UNITS**
1.	Three (3) core courses of 3 credit units each	9 CREDITS
2.	Five (5) courses from the areas of specializations	15 CREDITS
3.	Research Dissertation of 6 credit units in the area of Specialization	6 CREDITS
	TOTAL	**30 CREDITS**

PhD. Curriculum Studies

To qualify for the award of Ph.D. degree in education (Curriculum Studies) a candidate must pass a minimum of forty three (43) credits units as follows:

SN	MINIMUM CREDIT UNITS	CREDIT UNITS
	Three (3) core courses of 3 credit units each	9 CREDITS
	Four (4) M.Ed. courses of 3 credit units each.	12 CREDITS
	Four (4) courses of 3 credit units each chosen from the areas of specializations	12 CREDIT
	Research Thesis of ten (10) credit units in the area of Specialization	10 CREDITS
	TOTAL	43 CREDITS

Note: A candidate is entitled to a waiver of twelve (12) credit units from the Master's degree courses, provided those courses are judged to be identical and at the same depth to those offered in Faculty Master's degree programme.

PhD. Guidance and Counselling

To qualify for the award of Ph.D degree in education (Guidance and Counselling) a candidate must pass a minimum of forty three (43) credits units as follows:

SN	**MINIMUM CREDIT UNITS**	**CREDIT UNITS**
1.	Three (3) core courses of 3 credit units each	9 CREDITS
2.	Four (4) M.Ed courses of 3 credit units each.	12 CREDITS
3	Four (4) courses of 3 credit units each chosen from the areas of specializations	12 CREDIT
4	Research Thesis of ten (10) credit units in the area of Specialization	10 CREDITS
	TOTAL	**43 CREDITS**

Note: A candidate is entitled to a waiver of twelve (12) credit units from the Master's degree courses, provided those courses are judged to be identical and at the same depth to those offered in our faculty's Master's degree programme.