UNIVERSITY OF DELTA, AGBOR
FACULTY OF ENVIRONMENTAL SCIENCES
DEPARTMENT OF ARCHITECTURE

COURSE CODES, COURSE TITLES AND SYNOPSIS

COURSE: ARC 101 | Introduction to Architecture I | 100 Level | First Semester

COURSE STRUCTURE: This is an introductory course to Architecture that emphasizes the meaning of Architecture and architect; the scope of Architecture; architecture as a discipline and as a profession**,** the practice of architecture: nature and scope of employment for architects and architect's role in the building industry. It introduces the social context of architecture: how the profession, discipline and practice are organised; the building industry: characteristics, organisation, participants and their roles, role of architects and emerging trends; organisation of the building process; the meaning and characteristics of design in architecture; the design process in architecture; skills for design, tools for design, and experiencing architecture. It introduces basic principles of architectural analysis, criticism and aesthetic principles and includes the roles and responsibilities of the design professions; interior design, landscape architecture, urban planning, and engineering.

COURSE: ARC 102 | Architectural Graphics and Lettering I | 100 Level | First Semester

COURSE STRUCTURE: This is an introductory studio-based course in mechanical drawing, descriptive geometry, perspective/ three dimensional drawings, shades, and shadows.

COURSE: ARC 103 | Freehand Drawing I | 100 Level | First Semester

COURSE STRUCTURE: Freehand drawing is a studio-based course aimed at building up the students' knowledge in design aid as a specialized means of visual communication and skills in graphics language. Sketching skills will be developed as a means of thinking and drawing to represent buildings, everyday objects, plants, and people. Drawing exercises will be in various media.

COURSE: ARC 104 | Architectural Modelling | 100 Level | First Semester

COURSE STRUCTURE: This studio-base course aims to develop skills in architectural model-making, and to develop understanding of the significant role in 3D manual process in design, translating ideas into a concrete three-dimensional description of proposed or existing structure. Topics include model-making as an explanatory and experimental practice for exploring design ideas and as communicative devices. Materials and processes for alternative model-making allows the designer to develop initial concepts and ideas using basic models and shapes to develop a form. Materials and their tactile, sensory, and symbolic properties, technologies in model-making, aspects of tectonic

assembly, abstraction, representation, and scale to exhibition standards will be not only physically in card, paper, and timber at various scales, but also in different media.

COURSE: ARC 105 | Introduction to Environmental Sciences | 100 Level | First Semester

COURSE STRUCTURE: This course offers an instruction to energy systems in the atmosphere, biosphere, hydrosphere, and lithosphere. It exposes the students to current environmental issues, including air pollution and other natural hazards, erosion, drought, earthquakes, hurricanes, floods, and the principles of sustainability.

COURSE: MTH 101 | Elementary Mathematics I | 100 Level | First Semester

COURSE STRUCTURE: Elementary set theory, subsets, and union intersection, complements and Venn diagrams. Real numbers integers, national and national irrational numbers. Mathematical induction, real sequences and series, theory of Quadratic equations, Binomial theorem, complex numbers, algebra of complex numbers, the Argand diagram. De-Moire's theorem, nth roots of unity. Circular measure, trigonometric functions of angles of any magnitude, addition, and factor formulae.

COURSE: CSC 101 | Introduction to Computer Science | 100 Level | First Semester

COURSE STRUCTURE: History of Computers, functional components of Computer, Characteristics of a computer, problem solving, flow charts Algorithms, computer programming statements, symbolic names, Arrays, subscripts, expressions, and control statements. Introduction to Basic or Fortran Programming Language, Computer Applications.

COURSE: PHY 101 | General Physics | 100 Level | First Semester

COURSE STRUCTURE: Physical quantities, units and dimensions, space and time, frames of reference, vestures and scalars, kinematics – straight line, line motion, vertical motion, circular motion, deviation. Dynamics – Equilibrium, work and energy, mass and momentum, laws of inertia, rotational motion, simple harmonic motion, conservation laws, simple machines, fundamental laws of statics and dynamics, Galilean invariance.

COURSE: GST 111 | Communication in English I | 100 Level | First Semester

COURSE STRUCTURE: Effective communication and writing in English Language skills, essay writing skills (organization and logical presentation of ideas, grammar, and style), comprehension, sentence construction, outline, and paragraphs.

COURSE: GST 112 | Logic, Philosophy and Human Existence | 100 Level | First Semester

COURSE STRUCTURE: A brief survey of the branches of Philosophy; Symbolic logic; special symbols in symbolic logic – conjunction, negation, affirmation, disjunction, equivalent and conditional statements, law of tort. The method of deduction using rules of inference and bi-conditionals, qualification theory. Types of discourse, nature or arguments, validity and soundness, techniques for evaluating arguments, distinction between inductive and deductive interferences; etc. (illustrations will be taken from familiar texts, including literature materials, novels, law reports and newspaper publications).

COURSE: GST 113 | Nigerian Peoples and Culture | 100 Level | First Semester

COURSE STRUCTURE: Study of Nigerian history, culture, and arts in pre-colonial times; Nigerian's perception of his world; culture areas of Nigeria and their characteristics; Evolution of Nigeria as a political unit; Indigene/settler phenomenon; Concepts of trade; Economic self-reliance; Social justice; Individual and national development; Norms and values; Negative attitudes and conducts (cultism and related vices); Re-orientation of moral; Environmental problems.

COURSE: ARC 111 | Introduction to Architecture II | 100 Level | Second Semester

COURSE STRUCTURE: This is an introductory course to Architecture that emphasizes Design in architecture; the development and importance of design and design in architecture, meaning/ characteristics of design, how to do design, and the three main concerns of architecture and design in architecture. It introduces the meaning and dimensions of function; operationalising function and theorizing function in architecture. It provides general knowledge in the larger domain of structure/technology in architecture and design and introduction to architectural aesthetics with delight on; space in architecture, seeing architecture, architectural acoustics, shape and sound, and organisation of space and form in Architecture.

COURSE: ARC 112 | Architectural Graphics and Lettering II | 100 Level | Second Semester

COURSE STRUCTURE: This is a continuation course to Architectural Graphics I with emphasis on presentation and rendering techniques, using different media.

COURSE: ARC 113 | Freehand Drawing II | 100 Level | Second Semester

COURSE STRUCTURE: This is a continuation of Freehand Sketching I with emphasis on quick sketching techniques and other media for presentation.

COURSE: ARC 114 | History of Arts| 100 Level | Second Semester

COURSE STRUCTURE: This course meant to be a summary of the history of art and a preamble to the history of architecture. The student will be shown the various influences of major civilization and how they metamorphosed into styles in art and architecture. Constant reference where possible should be made to Nigerian art and architecture.

COURSE: ARC 115 | Planning the Built Environment | 100 Level | Second Semester

COURSE STRUCTURE: The course objective is to provide general knowledge in the larger domain of Environmental Sciences. It will include topics like use of land in cities and regions, land use regulation, regulatory approach compared with real planning, different types of land use: commercial, institutional, residential, industrial, recreational etc. This course serves as an introduction to a more specialized study in landscape and urban design at higher levels.

COURSE: SOC 112 | Introduction to African Social Anthropology | 100 Level | Second Semester

COURSE STRUCTURE: The course offers an introduction to and a survey of human origins and cultural achievements; social anthropology; historical, theoretical, and methodological perspectives.

COURSE: MTH 102 | Elementary Mathematics II | 100 Level | Second Semester

COURSE STRUCTURE: Function of a real variable, graphs, limits, and idea of continuity. The derivative as limit of rate of change. Techniques of differentiation, maxima and minima. Extreme curve sketching, integration, definite integrals, reduction formulae, application to areas, volumes (including appropriate integration: Trapezium and Simpson's rule)

COURSE: PHY 117 | Experimental Physics | 100 Level | Second Semester

COURSE STRUCTURE: This introductory course emphasizes quantitative measurements, the treatment of measurement errors, and graphical analysis. A variety of experimental techniques should be employed. The experiments include studies of meters, the oscilloscope, mechanical systems, electrical and mechanical resonant systems, light, heat, viscosity, etc., covered in PHY 101 and PHY 102. However, emphasis should be placed on the basic physical techniques for observation, measurements, data collection, analysis and deduction.

COURSE: GST 121 | Use of Library, Study Skills and ICT | 100 Level | Second Semester

COURSE STRUCTURE: Brief history of libraries; Library and Education; University libraries and other types of libraries, Study skills (Reference services); Types of library materials, using library resources including e-learning, e-materials, etc; Understanding library catalogues (card, OPAC, etc) and classification; Copyright and its implications; Database resources; Bibliography citations and referencing. Development of modern ICT; Hardware technology, Software technology; Input devices; Storage devices; Output devices; Communication and internet services; Word processing skills (typing, etc)

COURSE: GST 122 | Communication in English II | 100 Level | Second Semester

COURSE STRUCTURE: Logical presentation of papers, Phonics, Instruction on lexis, Art of public speaking and oral communication, Figures of speech, précis, Report writing.

COURSE: GST 125 | Contemporary Health Issues| 100 Level | Second Semester

COURSE STRUCTURE: Diet, exercise and health, nutritional deficiency diseases, malaria, other infections, hypertension, organ failure, air-borne diseases, sexually transmitted diseases, cancer and its prevention, sickle cell disease. HIV/AIDS: Introduction, epidemiology of HIV, natural history of HIV infection, transmission and predisposing factors to HIV, Impact of HIV/AIDS on the society, management of HIV infection, prevention of HIV. Drugs and society: sources of drugs, classification of drugs, dosage forms and routes of drug administration, adverse drug reactions, drug abuse and misuse, rational drug use and irrational drug use. Human kinetics and health education; personal care and appearance, exercise and health, personality and relationship, health emotions, stress, mood modifiers, refusal to tobacco, alcohol and other psychoactive drugs.

COURSE: ARC 201 | Architectural Design Studio I | 200 level | First Semester

COURSE STRUCTURE: The course at this level, concentrates on design projects which consolidate student's basic drawing skills, especially their understanding of the fundamental design principles, and produces the concept of form and space. The programme deals with simple constraints like anthropometrics, circulation and imaginative use of form and space to create building for human use.

COURSE: ARC 202 | Descriptive Geometry I | 200 level | First Semester

COURSE STRUCTURE: This is a studio-based course involving the use of mechanical drawing aids. The objective of the course is to provide the students with the basic skills and knowledge of communication technique for accurately describing, an object, with use of straight lines and curves.

COURSE: ARC 203 | History of Architecture I | 200 level | First Semester

COURSE STRUCTURE: This is a course in architectural history from earliest times to the Romanesque period with emphasis on the forces which shaped the history both in Western as well as in African societies. The course looks at stylistic differences and the social changes associated with them.

COURSE: ARC 204 | Building Components and Methods I | 200 level | First Semester

COURSE STRUCTURE: Building component and methods I is an introductory study of the various parts that make up a building and the diverse methods employed in putting together these components to form the building. Foundations types – piling, raft, isolated foundations. The portal frame construction.

COURSE: ARC 205 | Building Structures I | 200 level | First Semester

COURSE STRUCTURE: These courses introduce the fundamentals of behaviour of simple structures and strength of materials with emphasis on their application to architectural structures. It aims at equipping the students with sufficient theoretical knowledge and understanding of the behaviour of simple building structures.

COURSE: ARC 206 | Building Climatology | 200 level | First Semester

COURSE STRUCTURE: Building Climatology deals with the study of the relationship between climate and buildings with emphasis on human health and comfort. It is intended to create enhanced knowledge of various local and global climatic elements and conditions and their effects on the built environment and human comfort. The course will in addition create an awareness of the various design strategies that are appropriate for various climatic conditions/scenarios.

COURSE: GST 211 | Environment and Sustainable Development | 200 level | First Semester

COURSE STRUCTURE: Man – his origin and nature, Introduction to the various areas of science and technology. Man, and his cosmic environment, scientific methodology, science and technology in the society and service of man. Renewable and non–renewable resources – man and his energy resources. Elements of Environmental studies. Environmental effects of chemical plastics, textiles, wastes and other materials. Chemical and radiochemical hazards.

COURSE: URP 102 | Introduction to Planning | 200 level | First Semester

COURSE STRUCTURE: Definitions and concepts of land and land use; The need for planning land use, Attributes of

land use planning, methods of land use planning, principles of land use; land use determinants, land use dynamics and integrated spatial solutions for problems on different scales. Types and levels of planning in Nigeria.

COURSE: URP 208 | Site Planning | 200 level | First Semester

COURSE STRUCTURE: Concepts, process, principles and factors of site selections, purpose of site selection: natural, cultural and factors plus criteria for selection. Grading and earthwork; gradient, method of earthwork calculations. Movement system and land uses: vehicular circulation system, street patterns, technical subdivision regulation: Concept, layout subdivision regulations, zoning regulations-residential, elements of landscaping; Basic consideration for landscaping, natural and man-made elements, organization, plant selection trees, shrubs, hedges, grass, water plants etc.

COURSE: ARC 211 | Architectural Design Studio II | 200 level | Second Semester

COURSE STRUCTURE: A continuation of design studio I with the introduction of very simple design schemes to consolidate the principles learnt in design studio I

COURSE: ARC 212 | Descriptive Geometry II | 200 level | Second Semester

COURSE STRUCTURE: This is a continuation of Descriptive geometry I. It is envisaged that, at the end of both courses, the student will be able to graphically describe buildings of all shapes and forms using different 3-dimensional techniques.

COURSE: ARC 213 | History of Architecture II | 200 level | Second Semester

COURSE STRUCTURE: This course is intended to create a deep awareness of the rich architectural history of African and Nigerian traditional societies. It is expected that at the end of the course, students will have a greater appreciation of the various styles, planning concepts, forms, construction methods and materials used in traditional African communities.

COURSE: ARC 214 | Building components and methods II | 200 level | Second Semester

COURSE STRUCTURE: This is a follow-on course to Building components and methods I. This course aims to develop a deep awareness of the parts, and the development of technical skills required to translate building design into a physical building structure, i.e., to introduce the student to the building process and construction methods. These courses are pre-requisites to the higher-level similar courses. Construction plants and equipment – cranes, excavators, rollers, power tools, etc.

COURSE: ARC 215 | Building Structures II | 200 level | Second Semester

COURSE STRUCTURE: The course deals with the application of the principles introduced in Building Structures I and concentrates on the application of these principles in the design and assessment of the performance of simply loaded structures including basic rules of thumb for simple structures.

COURSE: ARC 216 | Digital Graphics and Media in Architecture I | 200 level | Second Semester

COURSE STRUCTURE: This course exposes students to a range of digital graphic tools, techniques, and conventions that designers use to communicate architectural ideas. Presentations, demonstrations, assignments, and discussions will be used to encourage students to improve and enhance their graphic skills starting from simple basics of sketching to the more formal methods of presenting architectural drawings and details. It also introduces the students to Computer Aided Design CAD software as well as two- and three-dimensional drawings.

COURSE: ARC 217 | Land Surveying for Architects | 200 level | Second Semester

COURSE STRUCTURE: This course introduces the students to the basic concepts and techniques of land surveying. It is intended to equip the students with sufficient knowledge and skills to carry out building site operations. The course may include topics like; Linear measurement, chaining over obstacles, levelling, plotting simple section, measurement of horizontal angles in close and open traverses, Triangulation networks, procedure in the field, field record, use of bearing and co-ordinates and the setting out of building and simple road works. The use of dumpy level and theodolite.

COURSE: GST 222 | Peace and Conflict Resolution | 200 level | Second Semester

COURSE STRUCTURE: Basic concepts in peace studies and conflict resolution; Peace as a vehicle of unity and development; Conflict issues; Types of conflict, e.g., Ethnic/religious/political/economic conflicts; Root causes of conflicts and violence in Africa; Indigene/settler phenomenon; Peace-building; Management of conflict and security. Elements of peace studies and conflict resolution; Developing a culture of peace; Peace mediation and peace-keeping; Alternative Dispute Resolution (ADR). Dialogue/arbitration in conflict resolution; Role of international organizations in conflict resolution, e.g., ECOWAS, African Union, United Nations, etc.

COURSE: GST 224 | Leadership Skills | 200 level | Second Semester

COURSE STRUCTURE: Transformation is a fundamental shift in the deep orientation of a person, organization, or society such that the world is seen in new ways and new actions and results become possible that were impossible prior to the transformation. Transformation happens at the individual level but must be embedded in collective practices and norms for the transformation to be sustained. Leadership Development Programme (LDP) proposes novel approaches to teaching and learning which emphasizes the practical involvement of the participant. It is interactive and involves exercises and actual implementation of breakthrough projects by teams that make difference in the lives of the target population. In this course, leadership concepts comprising of listening, conversation, emotional, intelligence, breakthrough initiatives, gender, and leadership, coaching and leadership, enrolment conversation and forming and leading teams will be taught.

COURSE: ARC 301 | Architectural Design Studio III | 300 level | First Semester

COURSE STRUCTURE: The course at this level involves more complex design programmes that require the integration and application of knowledge and techniques from various subject domains like structures, materials. The course is also expected to enhance the students' information gathering and analysis skills as well as their ability to translate such information into functional architectural design briefs for multi-functional activity areas.

COURSE: ARC 302 | Building Components and Methods III | 300 level | First Semester

COURSE STRUCTURE: The course is aimed at enhancing the overall knowledge of the students about modern building materials, their characteristics and application in different parts of a building. It also teaches the students about the operational requirements of different building components. At the end of this course, the student is expected to have a very good knowledge of the range of materials available for use in different parts of the building as well as the understanding to manipulate building components in architectural design.

COURSE: ARC 303 | Building Structures III | 300 level | First Semester

COURSE STRUCTURE: This is a course aimed at developing a deeper understanding of the behaviour of timber, steel, and reinforced concrete in structures. It will also seek to develop the ability of the student to design simple structural elements using these materials as well as the graphic skills in the presentation of design results.

COURSE: ARC 304 | Building Services I | 300 level | First Semester

COURSE STRUCTURE: The course introduces students to the various building services and the principles behind their operations and installation. These will normally include water supply, electricity supply, and sewage and refuse disposal and management.

COURSE: ARC 305 | Urban Design | 300 level | First Semester

COURSE STRUCTURE: This course introduces the students to principles, procedures, and typologies of urban design. It is largely theory based and provides the students with knowledge and skills to engage in large neighbourhood scale projects.

COURSE: ARC 306 | Environmental Design | 300 level | First Semester

COURSE STRUCTURE: This course focuses on the environmental aspects of architectural design. It is a foundation study that introduces the principles, processes, and vocabulary of sustainability into architectural design.

COURSE: ARC 307 | Theory of Architecture | 300 level | First Semester

COURSE STRUCTURE: This course assists the students in critical evaluation of the works of renowned architects, contemporary architectural thoughts, and expression and how these ideas may be synthesized into their own design schemes.

COURSE: ARC 308 | Digital Graphics and Media in Architecture II | 300 level | First Semester

COURSE STRUCTURE: This course is largely practical based and provides the students with further in-depth knowledge and skills in Computer Aided Design CAD software as well as two- and three-dimensional drawings. It is also meant to develop students' skills in presenting both interiors and exteriors of architecture.

COURSE: CIL 201 | Law of Contract I | 300 level | First Semester

COURSE STRUCTURE: Nature of Contract: Sources of Law, concept of bargain, classification. Formation of Contract: Offer and Acceptance, consideration, intention to create legal relations. Contents of Contract: Terms, representations exclusion and limiting terms and fundamental breach of terms. Capacity: Infants, illiterates, corporations, mental patients, and drunken persons.

COURSE: ARC 311 | Architectural Design Studio IV | 300 level | Second Semester

COURSE STRUCTURE: The course at this level involves more complex design programmes that require the integration and application of knowledge and techniques from various subject domains like structures, materials. The course is also expected to enhance the students' information gathering and analysis skills as well as their ability to translate such information into functional architectural design briefs for multi-functional activity areas.

COURSE: ARC 312 | Building Components and Methods IV | 300 level | Second Semester

COURSE STRUCTURE: The course is aimed at enhancing the overall knowledge of the students about modern building materials, their characteristics and application in different parts of a building. It also teaches the students about the operational requirements of different building components. At the end of this course, the student is expected to have a very good knowledge of the range of materials available for use in different parts of the building as well as the understanding to manipulate building components in architectural design.

COURSE: ARC 313 | Building Structures IV | 300 level | Second Semester

COURSE STRUCTURE: This is a course aimed at developing a deeper understanding of the behaviour of timber, steel and reinforced concrete in structures. It will also seek to develop the ability of the student to design simple structural elements using these materials as well as the graphic skills in the presentation of design results.

COURSE: ARC 314 | Building Services II | 300 level | Second Semester

COURSE STRUCTURE: This course introduces the students to the principles and application of lighting, ventilation, air conditioning and acoustics in buildings. It will aim to equip the students with sufficient knowledge and skills to integrate these services into architectural schemes.

COURSE: ARC 315 | Landscape Design | 300 level | Second Semester

COURSE STRUCTURE: This is an introduction to the planning and design of residential, project and neighbourhood built and natural environment, through the development and decorative planting of gardens, yards, grounds, parks, and other planned green outdoor space. The course is expected to equip students with professional skill to design outdoor areas, landmarks, and structures to achieve environmental, social-behavioural, or aesthetic outcomes to improve human and environmental health.

COURSE: ARC 316 | Interior Design | 300 level | Second Semester

COURSE STRUCTURE: The primary aim of this course is to introduce the students to the interior design process. It will develop the students' knowledge of materials, finishes and installations used in interior spaces as a discipline profession and practice. The functional, technological, and aesthetic element for typologies of interiors; principles and elements of design, selection and organization of furnishings, floor and wall coverings, window treatments, lighting, and accessories, mechanical, electrical, and sanitary fixtures, security, acoustics and colour choices. Topics also include Sustainable, functional, socio-cultural, and health issues in creating aesthetically appealing interiors, principles of interior design, space planning and interior construction.

COURSE: ARC 317 | Research methods in Architecture | 300 level | Second Semester

COURSE STRUCTURE: Research Methods introduces the student to the range of tools and techniques available for investigation and the conduct of scholastic inquiry into issues relating to architecture with a view to evolving suitable solutions. The course will usually include aspects of statistics that may be of use for data analysis and inferences - averages, means, median, frequencies, ANOVA students T-test, Chi-square, simple and multiple regressions.

COURSE: ARC 318 | Students Industrial Work Experience Scheme | 300 level | Second Semester

COURSE STRUCTURE: Students Industrial Work Experience Scheme (SIWES – also known as industrial training) is an avenue to expose students to practical experience out of class room situation based on theories and principles acquired in the teaching -learning process. It is a period of skill acquisition programme whereby a student is allowed to move out from the classroom to join an existing establishment or organisation to gain practical experience in his/her chosen career. The programme of industrial work will expose students to situations which

they are likely to meet after graduation. It is usually a period of 4 – 6 months at a stretch. They are to be supervised and a technical report is expected to be submitted for assessment after an oral defense has been completed by the students.

COURSE: GST 311 | Entrepreneurship | 300 level | Second Semester

COURSE STRUCTURE: The course discusses the concepts, history, and the development of entrepreneurship. The entrepreneur qualities and characteristics. The entrepreneur and business environment. Leadership and Entrepreneurial skills for coping with challenges. Identifying business opportunities, starting, and developing new business ventures. Legal forms of business ownership. Unit Operation and Time Management. Creativity and Innovation for Self-Employment in Nigeria. Feasibility studies. Roles of Small and Medium scale Enterprise (SME) in the economy. Role of government on entrepreneurship. Business location and layout. Accounting for SME. Managing SME. Marketing SME. Risk management of SME. Success and failure factors of SME. Prospects and challenges of entrepreneurship and intrapreneurship, ethical behaviour in small business. Determining Capital Requirement and Raising Capital. Financial Planning and Management. Legal issues, Insurance and Environmental Considerations.

COURSE: ARC 401 | Architectural Design Studio V | 400 level | First Semester

COURSE STRUCTURE: This is a terminal studio and students develop several highly detailed design proposals, integrating structure, mechanical systems, building envelope, and other major building systems within the framework of well-articulated design intentions.

COURSE: ARC 402 | Building Components and Methods V | 400 level | First Semester

COURSE STRUCTURE: A lecture-based survey on materials and methods of construction as they relate to systems design. The course provides an overview of contemporary building technology and theory. State-of-the-art technology and sustainability are introduced using high-quality contemporary case studies. Fire in buildings – detection, protection fire-fighting systems. Designs to withstand fires in buildings.

COURSE: ARC 403 | Building Structures V | 400 level | First Semester

COURSE STRUCTURE: Students analyse more complex systems and design beams and columns in wood, steel, and concrete. Topics include analysis of continuous beams and rigid frames, loads on structural systems, grids & pattern layout, and funicular structures (cables and arches).

COURSE: ARC 404 | Building Climatology | 400 level | First Semester

COURSE STRUCTURE: This course is simply the scientific study of the climates. Building Climatology is therefore the scientific study of climates with regards to the built environment. Students will be made to understand that buildings do not exist in isolation; they exist within a particular geographical context, and that architecture as a scientific discipline seeks to ensure that the building and the contextual

geographical environment are in a symphonic unity. If this is not achieved, the building will not yield maximum user comfort and will thus not fulfil its purpose. Topics on major climatic elements affecting the built environment will be on; temperature, humidity, wind, rain, atmospheric pressure, and precipitation. In order that the building industry creates more comfortable localities for man to live and work, studies will be on reducing the unfavourable elements of the surrounding climate and exploiting to the optimum the most advantageous conditions of the environment.

COURSE: ARC 405 | Rural Development and Planning | 400 level | First Semester

COURSE STRUCTURE: This course presents the various types of rural communities, their cultural and settlement differences, growth patterns and related issues. The aim is to create an enhance awareness of the different design environment for rural schemes.

COURSE: ARC 406 | Acoustics and Noise Control | 400 level | First Semester

COURSE STRUCTURE: This course provides a detailed and comprehensive introduction to the principles and practice of acoustics and noise control. This is an introduction to the fundamentals of acoustics and noise control in buildings. It is not an in-depth treatment, but it will introduce designers to produce safe, useable, comfortable, and having appropriate acoustic characteristics in buildings. Students also may study room acoustics, the behaviour and perception of sound within spaces, and sound transmission, the passage of sound between spaces or though structures. Proper acoustic design is critical for theatres, classrooms, auditoriums, restaurants, airports, or buildings near loud noise sources.

COURSE: ARC 407 | Quantities and Estimating | 400 level | First Semester

COURSE STRUCTURE: Students learn and apply the basic principles and current practices employed in estimating project costs including unit costs, overhead and profit. Scheduling tools, such as critical path method and bar charts, are examined as an aid and technique in project planning, budgeting, and cost control. Estimating for variations and fluctuations, final account procedures.

COURSE: ARC 408 | Building Economics | 400 level | First Semester

COURSE STRUCTURE: Topics include: practical procedures for building construction estimating of most major trades; analysis of factors and methods affecting construction costs; bid strategies; preparation of preliminary budgets and complete working estimates with quantities and costs of materials, labour and overhead. Computer applications are explored. The building industry and national economy budgeting for public building works.

COURSE: ARC 409 | Elements of Estate Management | 400 level | First Semester

COURSE STRUCTURE: An appreciation of the role of estate management professionals in housing and urban development. Feasibility and visibility reports, valuation reports, mortgage, compensation, and compulsory acquisition of property. Sales and renting of property.

COURSE: ARC 411 | Design Studio VI | 400 level | Second Semester

COURSE STRUCTURE: This is a terminal studio and students develop several highly detailed design proposals, integrating structure, mechanical systems, building envelope, and other major building systems within the framework of well-articulated design intentions.

COURSE: ARC 412 | Building Components and Methods VI | 400 level | Second Semester

COURSE STRUCTURE: Introduction to complex building constructional elements including advanced flooring, roof light, advanced doors and windows, curtain walling, dry walling and building integrated renewable energy systems.

COURSE: ARC 413 | Building Structures VI | 400 level | Second Semester

COURSE STRUCTURE: Students analyse more complex systems and design beams and columns in wood, steel, and concrete. Topics include analysis of continuous beams and rigid frames, loads on structural systems, grids & pattern layout, and funicular structures (cables and arches).

COURSE: ARC 414 | Public and Institutional Buildings | 400 level | Second Semester

COURSE STRUCTURE: This course surveys a range of public buildings using site visits, photography, documentation, and graphic analysis and examines the design influences, processes, and successes.

COURSE: ARC 415 | History and Theory Dissertation | 400 level | Second Semester

COURSE STRUCTURE: This involves the submission of a dissertation of about 15,000 words on a topic of the students' choice under the guidance of a nominated supervisor. The dissertation is normally assessed at the end of the session by both internal and external assessors.

COURSE: ARC 416 | Water Supply and Drainage | 400 level | Second Semester

COURSE STRUCTURE: Architectural students study the basics of plumbing systems. Plumbing system is used for water supply in building. It supplies water to kitchen toilet inlets, and outlets via distribution system of pipes to drainage. Construction of water supply and drainage engineering is one of the main special courses offered to students A water supply system is required primarily for fire protection and possibly for wall-washing operations. A drainage system is necessary to convey fresh water for use in buildings, and collect, treat, and discharge the wastewater resulting from washing operations, and leakage. The process by which plumbing systems are planned, designed, constructed, and operated is highly regulated. Students should also study the basics of plumbing systems for fire-fighting operations in public and residential buildings.

COURSE: ARC 417 | Building Contract and Arbitration | 400 level | Second Semester

COURSE STRUCTURE: A comprehensive study of construction contracts including conditions of agreement and modifications. The students will also be introduced to related laws of Agency and Tort. A detailed study of the standard form of Building Contracts Forms and types of tenders.

COURSE: ARC 418 | Traditional Buildings | 400 level | Second Semester

COURSE STRUCTURE: As broad study of types of traditional housing in Nigeria, West Africa and Africa. Relating housing settings and structures to climate, local resources, religion, cultures, politics living pattern. The influence of both European housing and culture on traditional African housing types. The study of Nigerian traditional housing types based on geographical, religions and climatic considerations.

COURSE: ARC 501 | Architectural Design Studio VII | 500 level | First Semester | Master of Science Architecture

COURSE STRUCTURE: Students develop highly detailed design proposals, integrating structure, mechanical systems, building envelope, and other major building systems within the framework of well-articulated design intentions.

COURSE: ARC 502 | Advanced Building Services and Environmental Control I | 500 level | First Semester

COURSE STRUCTURE: This course will study mechanical, electrical, heating, ventilating, and air conditioning systems, including equipment selection, energy issues, code requirements, environmental conservation, and sustainable design.

COURSE: ARC 503 | Professional Practice and Ethics I | 500 level | First Semester

COURSE STRUCTURE: Students gain a detailed understanding of the structure, content, and legal framework of construction documentation through lectures, readings, and the development of selected graphic and written documents. A detailed study of the provisions of ARCON – Architects Registration Council of Nigeria – Professional ethics, discipline etc. The Nigerian Institute of Architects; statutory and social obligations. Calculation of professional fees. Relationships with other professional bodies.

COURSE: ARC 504 | Advanced Building Construction | 500 level | First Semester

COURSE STRUCTURE: This course is an introduction to industrialized proprietary building systems for different building types and conditions.

COURSE: ARC 505 | Advanced Building Structures | 500 level | First Semester

COURSE STRUCTURE: The course is an introduction to the analysis, design and detailing of reinforced concrete, timber and steelwork members including beams, columns, and one-way slabs. Strength and serviceability requirements are considered. Stress, loading, moment considerations. Reference to relevant Codes of Practice.

COURSE: ARC 506 | Quantities & Cost Planning | 500 level | First Semester

COURSE STRUCTURE: The fundamentals of construction estimating are covered. Quantity surveys are made for various building components and prices determined for labour and materials, using a current pricing handbook. The uses of price indices.

COURSE: ARC 507 | Landscape Design | 500 level | First Semester

COURSE STRUCTURE: A history and theory of landscape design is coupled with topics on site planning - such as topography, soils, drainage, and planting - to provide an overview of the relationship between building and site design.

COURSE: ARC 508 | Photography | 500 level | First Semester

COURSE STRUCTURE: An advanced visual presentation course, students will work with various media in photography. Using current and previous design projects, students will learn to visualize their ideas and use photography as a tool for visual communication. The history of photography. Interpretation of satellite images for housing studies - Front, end and plan elevations, oblique and isometric views for photography. The use of video camera for recording, preservation, and documentation of photographs, preparation of photo clips and power-point presentation.

COURSE: ARC 509 | Housing Studies | 500 level | First Semester

COURSE STRUCTURE: This course is a survey and analysis of the design and new architecture of urban housing, with focus on urban communities and affordable housing. Topics include social theory, culture of communities, new architectural design precedents, and the implementation of affordable housing to urban communities. Common types of houses boys' quarters, 2-,3- , 4-bedroom bungalows, storey buildings.

COURSE: ARC 510 | Facilities Management | 500 level | First Semester

COURSE STRUCTURE: This course examines the scope of the professional facilities manager's position within various practice situations. The FM's role in relation to an organization's strategic plan is stressed. Maintenance and User Manuals, budgeting, administration, and management of facilities.

COURSE: ARC 511 | Architectural Design Studio VIII | 500 level | Second Semester | Master of Science Architecture

COURSE STRUCTURE: Students develop highly detailed design proposals, integrating structure, mechanical systems, building envelope, and other major building systems within the framework of well-articulated design intentions.

COURSE: ARC 512 | Advanced Building Services and Environmental Control II | 500 level | Second Semester

COURSE STRUCTURE: This course will study mechanical, electrical, heating, ventilating, and air conditioning systems, including equipment selection, energy issues, code requirements, environmental conservation, and sustainable design.

COURSE: ARC 513 | Professional Practice and Ethics II | 500 level | Second Semester

COURSE STRUCTURE: The course involves a comprehensive study of architectural practice, including project management, financial planning, organizational structure, scheduling, marketing, legal issues, and the roles and responsibilities of design professionals.

COURSE: ARC 514 | Advanced Research Methods | 500 level | Second Semester

COURSE STRUCTURE: This course examines the theoretical underpinnings and methodologies pertinent to research in architecture. Students come to understand how researchers conduct architectural research, with the goal of preparing their own thesis agenda. Preparation of abstract, introduction, literature reviews, data analysis and interpretation, referencing styles.

COURSE: ARC 515 | Specification Writing | 500 level | Second Semester

COURSE STRUCTURE: Introduction to specification writing covering all important building components e.g., concrete, steel, paint, blockworks etc. with emphasis on the types of specifications and best practice regimes.

COURSE: ARC 516 | Interior Design | 500 level | Second Semester

COURSE STRUCTURE: The course is a historical survey of major design periods in interior architecture and furnishings from antiquity to the late 19th century with emphasis on the artistic, cultural, political, social, economic, and technological conditions which affected their development. Common materials used for interior design, selection criteria – colour aesthetics. Preservation of old interior materials.

COURSE: ARC 517 | Urban Design | 500 level | Second Semester

COURSE STRUCTURE: Using site visits, photography, documentation, and graphic analysis, this course will focus on the interwoven relationship of water, land, architecture, and urban design in Nigeria. Students will experience a city through on-site explorations in the formation of the city, evolving building forms and urban spaces, and the cultural significance of the prevailing architecture.

COURSE: ARC 518 | Industrial Arts | 500 level | Second Semester

COURSE STRUCTURE: Beginning with the Industrial Revolution, the student is made aware of the social, economic, technological and artistic forces, as well as unique individuals that shaped the evolution of modern design. The uses of glass, ceramic, timber and decorative materials – manufacturing considerations.

COURSE: ARC 519 | Environmental Resource Management | 500 level | Second Semester

COURSE STRUCTURE: This course introduces the student to the theory and practice of sustainability for the built environment with an emphasis on life-cycle design, materials selection, and resources conservation, Environmental Impact Assessment.

COURSE: ARC 521 | Construction Management | 500 level | Second Semester

COURSE STRUCTURE: The course covers construction project management from conception to completion. The course covers feasibility studies, site selection, planning, programming, design coordination, and contracting procedures of actual construction. Emphasis is placed on contractor operations, project administration, job planning, and subcontract coordination.

COURSE: ARC 611 | Architectural Design Studio IX | 600 level | Master of Science Architecture

COURSE STRUCTURE: This studio addresses topics relevant to the concentration in Built Environment. Students integrate the major Architectural issues emphasized in the previous studios in a single design project.

COURSE: ARC 612 | Terminal Design Project | 600 level

COURSE STRUCTURE: Students pursue a final thesis design of a project of their own definition.

COURSE: ARC 613 | Design Project Report | 600 level

COURSE STRUCTURE: A design project report of the thesis design.