

UNIVERSITY OF NIGERIA, ENUGU CAMPUS
FACULTY OF ENVIRONMENTAL STUDIES
DEPARTMENT OF ARCHITECTURE

POSTGRADUATE PROGRAMMES

PGD, MSC, M.ARCH AND PHD

2017/2018

LIST OF APPROVED POSTGRADUATE SUPERVISORS

Ph.D Supervisors

- | | <u>Rank</u> |
|--|-----------------|
| 1. Prof. C. B. Chukwuali, M.Sc. Arch1980; Ph.DArch 1983 | Professor |
| 2. Dr. F. O. Uzuegbunam, B.Arch 1982; M.Arch 1984; Ph.D 2012 | Senior Lecturer |
| 3. Dr. E. O. Nduka, B.Sc.Arch 1983; M.Sc Arch 1985; PhD 2013 | Senior Lecturer |
| 4. Dr. C. O Odum, B.Arch 1982; M.Arch 1983; Ph.D 2015 | Senior Lecturer |

M.Sc Supervisors

- | | <u>Rank</u> |
|---|-----------------|
| 1. Prof. C. B. Chukwuali, M.Sc. Arch1980; Ph.DArch 1983 | Professor |
| 2. Arc. I.G Chendo, BES 1977; MED 1980 | Ass. Professor |
| 3. L.C Chineme, B.Sc; M.Arch.; MCRP; | Senior lecturer |
| 4. Dr. C. O Odum, B.Arch 1982; M.Arch 1983; Ph.D 2015 | Senior Lecturer |
| 5. Dr. F. O. Uzuegbunam, B.Arch 1982; M.Arch 1984; Ph.D 2012 | Senior Lecturer |
| 6. Arc.C. A Udeh, B.Arch.; M.URP | Senior Lecturer |
| 7. Dr. E. O. Nduka, B.Sc.Arch 1983; M.Sc Arch 1985; PhD 2013 | Senior Lecturer |
| 8. Dr D. M. Nwalusi, BSc1983; M.Sc.Arch 1985, Ph.D 2013 | Senior Lecturer |
| 9. Dr. Chinwe Sam-Amobi, B.Sc Arch 1984;Arch 1986;
PG.Dip URP 1995; MURP 2000; Ph.D 2016 | Lecturer 1 |

Departmental Post Graduate Cordinator

- | | <u>Rank</u> |
|--|-----------------|
| 1. Arc. I.G Chendo, BES 1977; MED 1980 | Ass. Professor |
| 2. L.C Chineme, B.Sc; M.Arch.; MCRP; | Senior lecturer |
| 3. Arc.C. A Udeh, B.Arch.; M.URP | Senior Lecturer |

LIST OF POSTGRADUATE PROGRAMMES

- (i) POST-GRADUATE DIPLOMA (PGD) PROGRAMME**
- (ii) MASTER OF SCIENCES (M.SC) ARCHITECTURE**
- (iii) MASTER OF ARCHITECTURE (M.ARCH) PROGRAMME**
- (iv) DOCTOR OF PHILOSOPHY (Ph.D.) ARCHITECTURE**

Degree Offered:

The Department of Architecture offers one-year programme leading to the Post-Graduate Degree (PG.D) in Architecture. The Programme is designed to provide essential background for people who want to pursue a professional career in Architecture.

The Department of Architecture offers two-year programme leading to the Degree of Master of Science (M.Sc.) in Architecture and one-year programme leading to the Degree of Master of Architecture (M.Arch.) programme. Also that of Ph.D.

Philosophy:

The philosophy of the programme is to develop and impart architectural education responsive to Nigerian environment and the needs of the people. The postgraduate diploma programmes in Architecture have been structured to produce medium skilled architects capable of facing a certain spectrum of challenges in environmental design in Nigeria, in particular, and with adequate professional knowledge of the global situation in general.

The postgraduate programmes in Architecture have been structured to produce highly skilled architects capable of facing a broad spectrum of challenges in environmental design in Nigeria, in particular, and with adequate professional knowledge of the global situation in general.

Objectives and Scope:

The programmes, therefore, seek to develop, through research, economical and efficient means and methods of building within the social, Physical, and cultural context. The student is expected to be conversant with research in decision theory, human behaviour patterns and perception, building science and technology, and art.

Entry Requirements:

PDG: Holders of B.Sc (Architecture) Third Class Honours of the University of Nigeria or other recognized Universities.

MSC: The following may qualify for admission into Master of Science (MSc) Architecture:

- a. Graduates of the University of Nigeria or other recognized Universities who have obtained the degree of B.Sc (Architecture) with at least Second Class Honours, Lower Division.
- b. Holders of PGD in Architecture of the University of Nigeria with a minimum GPA of 3.5 minimum on the 5-point scale.

M.ARCH: Graduates of the University of Nigeria or other recognized Universities who have obtained any of the following degrees:

- a. M.Sc Architecture with a minimum mode of study of $\frac{1}{3}$ by research and $\frac{2}{3}$ by coursework.
- b. Bachelor of Architecture (B.Arch):

For either of the above, a minimum GPA of 3.50 on a 5-point scale or 3.00 on a 4-point scale is required.

PHD: Graduates of the University of Nigeria or other recognized Universities who have obtained the degree of:

- a. Master of Science in Architecture (M.Sc) with a minimum mode of study of $\frac{2}{3}$ by research and $\frac{1}{3}$ by coursework.
- b. Master of Architecture (M. Arch) with a minimum mode of study of $\frac{2}{3}$ by research and $\frac{1}{3}$ by coursework or its equivalent

In each case, a minimum GPA of 3.50 on a 5-point scale (or 3.00 on a 4-point scale), is required.

Mode of study:

PGD: The Postgraduate Diploma is for graduates of the University of Nigeria and other recognized Universities whose qualifications do not meet the entry requirement for Master's Degree Work. Their low GPA is an indication of deficiency in some course of study and depth of knowledge. The programme therefore aims at improving their knowledge and understanding of architecture through coursework with Design and Design-related subjects as essential part of the programme. The programme extends over 2 semesters of one academic year. A student must obtain the minimum GPA of 3.5 on 5- point scale required by the School of Postgraduate Studies to qualify for admission into the M.Sc programme. A student who fails to qualify at the end of the first year may be allowed to repeat only once.

MSC: The mode of study is by coursework and research (with coursework predominating over research). The examination consists of written papers with research work to be presented in a Project Report consisting of Design Research Report, and Architectural Design (Design Project) defended orally before an External Examiner. The programme extends over a minimum of two academic years of two semesters each.

M.ARCH: The mode of study is by coursework and research with research work predominating over coursework. The coursework is to be examined in written papers and the research work is to be presented in a Dissertation which will be defended before an External Examiner.

PHD: The programme consists entirely of research work culminating in the submission of a Thesis which must be judged to make an original contribution to knowledge, and publishable.

The Academic Board requires that candidates must perform satisfactorily in seminars before they can be certified ready for the Ph.D defence. The Department requires in addition that a candidate must have at least one publication in his area of research in a reputable journal before he can be adjudged ready for defence.

Duration of programmes:

PGD: Full-time: 2 semesters minimum, and 4 semesters maximum

MSC: (a) Full-time: A minimum of 4 semesters (2 calendar years minimum)

(b) Part-time: A maximum of 8 semesters, (4 calendar years maximum)

M.ARCH: (a) Full-time: 12 calendar months maximum

(b) Part-time: 18 calendar months minimum, 5 calendar years maximum.

PHD: (a) Full-time: 3 calendar years minimum, 5 calendar years maximum

(b) Part-time: 5 calendar years minimum, 6 calendar years maximum.

Employment Opportunities:

On successful completion of the PG.D Programme, a graduate in Architecture shall have attained sufficient theoretical and practical skill to further his career. Career opportunities also exist in schools of architecture and research Institutions for teaching and research. The country is in dire need of research personnel for in-depth study and development of locally-available building materials for achieving affordable housing for the teeming population.

Stress Areas:

The stress areas and codes are as follows:

History and Theory	1
Architectural Techniques	2
Architectural Design	3
Environmental Science, Control and Services	4
Urban Design Studies	5

Architectural Structures, Materials and Construction Methods	6
Landscape and the Built Environment	7
Research Methods	8
Project/Dissertation/Thesis	9

SEMESTER COURSES

POSTGRADUATE DIPLOMA IN ARCHITECTURE (PGD.Arch)

FIRST SEMESTER

<i>Course No.</i>	<i>Course Title</i>	<i>Units</i>
ARCT 0531	Architectural Design	5
ARCT 0581	Research Methods	2
	Electives	6
	Total	13

Electives of 6 Units from the following courses:

ARCT 0511	Traditional Architecture in Nigeria	2
ARCT 0512	Problem Analysis in Architecture	2
ARCT 0541	Environmental Science	2
ARCT 0551	Human Settlements in Architecture	2
ARCT 0561	Building Materials	2
ARCT 0562	Architectural Structures	2

SECOND SEMESTER

<i>Course No.</i>	<i>Course Title</i>	<i>Units</i>
ARCT 0571	Elements of Landscape Design	3

ARCT 0563	Construction Methods	3
ARCT 0591	Project	5
	Total	11

COURSE DESCRIPTION FOR POSTGRADUATE DIPLOMA IN ARCHITECTURE

(PGD. ARCH)

ARCT 0511 *Traditional Architecture in Nigeria* 2 Units

An in-depth study of an aspect of Traditional Architecture in Nigeria. A research paper will be required detailing studies made and showing relevance of traditional architecture in modern architectural practice in Nigeria.

ARCT 0512 *Problem Analysis in Architecture* 2 Units

Lecture course in problem solving techniques exploring the critical Path Method and similar methods. The use of system analysis, operations research, time motion studies, etc. as tools for analyzing architectural and planning problems.

ARCT 0531 *Architectural Design* 5 Units

An intensive course in design concept formation and quick design solutions using short and long studio exercises. Emphasis will be laid on creative ideas and fast presentation techniques. Major projects will be used to demonstrate and determine good design ability and good understanding of the design process.

ARCT 0541 *Environmental Science* 2 Units

Lectures and project work to be used in the study of the control of environmental hazards and other considerations relating to the design environment (natural and man-made environments).

ARCT 0551 *Human Settlements and Architecture* 2 Units

The course will involve research work on transportation in urban areas, land tenure and uses for residential, commercial, agricultural and institutional purposes. The course further examines the relevance of public transportation, open spaces and service network within the settlements.

ARCT 0561 *Building Materials* 2 Units

An intensive course on the rational application of building materials stressing structural and functional demands, economic considerations, and aesthetic values, the use of contemporary and traditional building materials.

ARCT 0571 *Elements of Landscape Design* **2 Units**

An intensive course in natural and man-made landscapes emphasizing the nature of the built environment and man's interaction with the immediate environment. The total design approach, including the development of the site criteria and the use of materials (plants, earth forms, pavements, furniture, etc.) to enhance the environment.

ARCT 0562 *Architectural Structures* **2 Units**

An intensive course on the nature and behaviour of building materials such as timber, steel, reinforced concrete. The design of simple structures using these building materials.

ARCT 0563 *Construction Methods* **4 Units**

The goal of this course is to give the students an advanced understanding of the freedom and restraints which the nature of building materials may impose on design. Research paper on building construction systems or materials will be required.

ARCT 0581 *Research Methods* **2 Units**

Research techniques relevant to architecture; the use of case studies in architecture; the preparation and presentation of research reports; documentation, footnotes, references and bibliography; use of quotations, tablets, etc; research design statistical methods.

ARCT 0591 *Project* **5 Units**

An in-depth study of a building type. The Project is in two parts: A written report and a design.

MASTER OF SCIENCE (M.SC) ARCHITECTURE

SEMESTER COURSES

M.Sc PROGRAMME IN ARCHITECTURE (FIRST YEAR)

FIRST SEMESTER

<i>Course No.</i>	<i>Course Title</i>	<i>Units</i>
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Major Courses

ARCT 511	Architectural Theory and Appreciation I	2
ARCT 513	Project Planning & Control	3
ARCT 531	Architectural Design VI	5
ARCT 551	Urban Design for Architects	2
ARCT 562	Advanced Architectural Structures	2
ARCT 515	Architectural Practice & Management	2
ARCT 571	Advanced Landscape	2
PGC 601	Research Methodology and application of ICT	3
	Electives	4
	Total	23

Electives of 4 Units from the following courses:

ARCT 516	Principles of Construction Management	2
ARCT 517	Building Maintenance & Management	2
ARCT 521	Colour in Architecture	2
ARCT 555	Advanced Housing Studies	2

or any other Postgraduate courses within the Faculty of Environmental Studies approved by the Department.

SECOND SEMESTER

<i>Course No.</i>	<i>Course Title</i>	<i>Units</i>
<i>Major Courses</i>		
ARCT 512	Architectural Theory & Appreciation II	2
ARCT 532	Architectural Design VII	5
ARCT 552	Advanced Urban Design for Architects	3

ARCT 561	Advanced Building Components & Methods	2
ARCT 563	Advanced Working Drawings	2
ARCT 515	Research Methods	2
ARCT 514	Design Economics & Cost Planning	2
	Electives	4
	Total	22

Electives of 4 Units from the following courses:

ARCT 541	Environmental Resource Management	3
ARCT 553	Human Spatial Organization	1
ARCT 522	Advanced Architectural Photography	2
ARCT 532	Advanced Architectural Modelling	2
ARCT 572	Tourism Planning & the Built Environment	2
ARCT 542	Environmental Impact Assessment & The Built Environments	2
ARCT 534	Hospital Architecture	2

M.Sc PROGRAMME IN ARCHITECTURE (SECOND YEAR)

FIRST SEMESTER

<i>Course No.</i>	<i>Course Title</i>	<i>Units</i>
<i>Major Courses</i>		
ARCT 611	Specification Writing	2
ARCT 612	Professional Practice & Procedure	3
ARCT 631	Architectural Design VIII	6

ARCT 661	Advanced Building Materials	2
ARCT 613	Construction Management	3
	Electives	4
	Total	20

Electives of 4 Units from the following courses:

ARCT 621	Technical Communication	2
ARCT 632	Advanced Interior Design	2
ARCT 651	Traffic & Transportation Planning for Architects	2
ARCT 652	Urban Renewal Processes	2
ARCT 617	Creativity, Art & Architecture	2
ARCT 618	Art Criticism	2

or any other Postgraduate courses within the Faculty of Environmental Studies approved by the Department.

SECOND SEMESTER

<i>Course No.</i>	<i>Course Title</i>	<i>Units</i>
<i>Major Courses</i>		
ARCT 614	Seminars	3
ARCT 615	Building Contract & Arbitration	2
ARCT 616	Restoration & Preservation	2
ARCT 641	Tropical Environments	3
ARCT 642	Advanced Building Climatology	1
ARCT 691	Design Project	6
	Total	17

COURSE DESCRIPTION FOR THE M.Sc PROGRAMME

M.Sc I

ARCT 511 Architectural Theory and Appreciation I 2 Units

Architectural theories with reference to modern movement, the objectivity 1919-32; Architecture of Italian Rationalism 1926-43; International Style 1925-65; Postmodern movement and her three major tendencies-regional, classical, and high-tech movement.

ARCT 512 Architectural Theory and Appreciation II 2 Units

The relevance of conventional theories of architecture to Traditional Concepts of Architecture in Nigeria. The development of a contemporary architectural language in Nigeria.

ARCT 513 Project Planning and Control 3 Units

Principles of project planning and control; cost management and control with emphasis on cost reduction; project planning systems and procedures; criteria for selecting a system; work study; productivity; financial considerations, legal implications.

ARCT 514 Design Economics and Cost Planning 2 Units

The economics of design alternatives; principles of cost planning; construction costs; building life span; obsolescence; market value and marketability.

ARCT 515 Architectural Practice and Management 2 Units

Elements of Architectural Practice; the architectural profession; the Architects Registration Council of Nigeria, codes of conduct; professional services; setting up a practice; office organization and job organization; personnel management.

ARCT 516 Principles of Construction Management 2 Units

Project management systems and criteria for scaling the most appropriate system; job organization and personnel management; productivity and production targets. The course covers construction project management from conception to completion. Emphasis is palced on contractor operations,project administration, job planning and subcontract coordination

ARCT 517 Building Maintenance and Management 2 Units

Building maintenance technology; decay of buildings and the agencies involved; renovation; conversion; extension; design defects and remedies; maintenance and mechanical services; maintenance procedures, resources required, programming, execution and appraisal guidelines.

ARCT 521 ***Colour in Architecture*** **2 Units**

Understanding of colour in light and pigments; classification of colour; characteristics of colour and principles of colour harmony, colour psychology and colour symbolism; major system of colour designation in architecture; developing colour scheme.

ARCT 522 ***Advanced Architectural Photography*** **2 Units**

Fundamental theories of photography; the camera, its parts, types, functions, use and accessories; photographic processes; history of photography; theories of both black and white and colour photography; photographic presentation techniques; photographic documentation and architecture. Use of current and previous design projects to visualize ideas; the use of video camera for recording, preservation, and documentation of photographs, preparation of photo clips and power-point presentation.

ARCT 523 ***Advanced Architectural Modelling*** **2 Units**

A studio course stressing professional standards in architectural presentation through Modelling; exposure to standard modelling, materials, tools, techniques and procedures.

ARCT 531 ***Architectural Design VI*** **5 Units**

Complex design problems demanding a mastery of the design process which the student has acquired over the years. The student must have the ability to demonstrate skill in quick design solutions, fast presentation techniques and an ability to produce a high quality design within a limited time.

ARCT 532 ***Architectural Design VII*** **5 Units**

This course carries the progress made in Architectural Design VII a step further with emphasis on the student's confidence in his design ability and competence; the course demands from the student a clear understanding of the design process and a mastery of presentation techniques.

ARCT 533 ***Hospital Architecture*** **2 Units**

The evolution of hospitals as building types; hospital planning process; elements of the hospital; the design process; performance in use; obsolescence and renewal.

ARCT 541 ***Environmental Resources Management*** **3 Units**

The concept of ecology as applied to the natural environment; the use and abuse of the natural environment and natural resources; the built environment and environmental planning problems solutions and conservation of the natural environment and the built environment.

ARCT 542 Environmental Impact Assessment And the Built Environment 2 Units

Procedures for the assessment of the impact of Physical and socio-economic development projects, justification for environmental impact assessment measures; the need for policies on environmental protection; legislation on environmental protection.

ARCT 551 Urban Design for Architects 2 Units

Aims and scope of planning – its social economic and Physical basis. Origins of modern town planning. Urban planning problems, densities, neighbourhood, central industrial, and commercial area development; shopping and market precincts.

ARCT 552 Advanced Urban Design for Architects 2 Units

Functional and visual relationships between people and their Physical environments; the course examines the scale and scope of urban Design process, environmental design and conservation.

ARCT 553 Human Spatial Organization 1 Units

This course will examine in depth the meaning of space, rules of spatial organization, choice model of design, and the basic problem of space as a dimension of human existence. An understanding of various space concepts as they relate to human environment, cultural variability of urban environment, environmental perception and defensible spaces.

ARCT 555 Advanced Housing Studies 2 Units

Housing as an integral component of urban and regional planning; housing types and infrastructure; housing supply and demand; housing finance and investment; housing design standards; rehabilitation, upgrading; neighbourhood revitalization, housing environment and behaviour, policies affecting housing in Nigeria.

ARCT 561 Advanced Building Components and Methods 2 Units

An analysis of complex construction methods in architectural design and emphasis on industrial prefabrication of buildings. Advances in building technology; alternatives in construction techniques and their appropriateness to the Nigeria situation.

ARCT 562 Advanced Architectural Structures 2 Units

Approximate analysis techniques for various structural systems (forms-active, vector-active, bulk active, surface-active and vertical structures) to illustrate design criteria needed for architectural decisions.

ARCT 563 ***Advanced Working Drawings*** **2 Units**

The preparation of working drawings of complex structures; advanced graphical techniques of presenting information and the range of information required.

ARCT 571 ***Advanced Landscape Design*** **2 Units**

Advanced course in natural and man-made landscape; essentials of rural-scape and urban-scape and influence of landscape development on the Physical comfort and psychological environment of man's surroundings. A design project will supplement the critical studies.

ARCT 572 ***Tourism Planning and The Built Environment*** **2 Units**

Introduction to Tourism Planning and the Built Environment; elements of tourism; historical development of tourism in Nigeria; management and organization of tourism and related activities; impacts of tourism on the regional/national economy. Development of tourism resort centers; design and implementation considerations.

ARCT 581 ***Research Methods*** **2 Units**

Research techniques relevant to architecture; the use of case studies in architecture; the preparation and presentation of research reports; documentation, footnotes and bibliography; use of quotations, tablets, etc; design statistical methods.

PGC 601 ***Research Methodology and application of ICT*** **3 Units**

In-depth research work aimed at acquiring full knowledge and presentations in scholarly writing of the concepts, issues, trends in the definition and development of the study area from African and Western perspectives. Major steps in research: Selection of problem, Literature review, design, Data collection, analysis and interpretation, Conclusions. Study of various research designs, Historical, Case studies, Surveys, Descriptive, Cross sectional, Experimental, etc. Analysis, surveys and synthesis of conceptual and philosophical foundations of different disciplines. Identification of research problems and development of research questions and or hypotheses. Detailed treatment of methods of collecting relevant research data and the format for presenting research results (from designing the table of contents to referencing, bibliography and appendix). Data analysis and result presentation in different disciplines using appropriate analytical tools. Methods of project/dissertation writing. Application of appropriate advanced ICT tools relevant in every discipline for data gathering, analysis and result presentation. Essentials of Spreadsheets, Internet technology, and Internet search engines. All registered

Master's Degree students must attend a solution-based interactive workshop to be organized by the School of Postgraduate Studies for a practical demonstration and application of the knowledge acquired from the course, conducted by selected experts.

M.Sc II

ARCT 611 ***Specification Writing*** ***2 Units***

Specification of different types of building materials in the execution of building projects (for both the exterior and the interior of a building); specification of different types of building components; purpose and form of specifications; principles and standard form of measurements

ARCT 612 ***Professional Practice and Procedure*** ***3 Units***

Lectures, discussions, and field trips dealing with securing of commissions, phases of typical projects, professional registration and employment. Building bye-laws, project management, insurance, partnership, code of professional conduct, scale of professional fees.

ARCT 613 ***Construction Management*** ***3 Units***

Management principles and practice, management science, organization theory and their application and communication systems; introduction to decision theory; financial accounting; appraisal and control of capital from inception to completion

ARCT 614 ***Seminars*** ***3 Units***

Contemporary trend of architectural design innovative solutions and their implications, public issues in architecture. Architecture and community, public participation in the design process. Opinion sampling, questionnaires and their analysis.

ARCT 615 ***Building Contract and Arbitration*** ***2 Units***

Different types of building contract, formation of building contract, distinction between tendering procedures and contractual arrangements. Contractor's obligations, quality control and presentation of employer. Bankruptcy and insolvency. Arbitration procedures and practices.

ARCT 616 ***Restoration and Preservation*** ***2 Units***

Restoration and preservation of our architectural heritage at both local and national levels; the principles of restoration and preservation (conservation); what is to be protected and how; organizations responsible for protecting buildings; local people and their ideas of change; improvement and protection; legislation for conservation; the effect of planning systems and planning applications; environmental caring.

ARCT 617 ***Creativity, Art and Architecture*** **2 Units**

Definitions – creativity, art and architecture; creativity as the common denominator in Art and Architecture; creativity in Architecture as an Applied Art; the place of creativity initiative, expressive and manipulative abilities in architecture creativity and expressiveness through the multi-media of the visual Arts; Art as expressed in and through Architecture.

ARCT 618 ***Art Criticism*** **2 Units**

Definitions; Fundamentals of the elements and principles of Art; understanding and appreciating Art; understanding the Artist – his background, training, exposure, experiences and the sociocultural influences around him; criteria for art appreciation and criticism.

ARCT 621 ***Technical Communication*** **2 Units**

The art of conveying architectural ideas and solutions to others using audio-visual techniques computer graphics; the spoken word, models and various other techniques; the composition of architectural information and the art of technical writing.

ARCT 631 ***Architectural Design IX (Pre-requisite: ARC531)*** **6 Units**

This course demonstrates the student's confidence in arriving at quick solutions to design problems and his mastery of the design process. The level of competence required is that of a professional capable of working with other professionals in an office.

ARCT 632 ***Advanced Interior Design*** **2 Units**

Advanced work on the design on interiors with exercises on the design of various types of living spaces, work spaces, recreation spaces and spaces for entertainment.

ARCT 641 ***Tropical Environments*** **3 Units**

A study of tropical conditions with emphasis on architectural implications. The control of micro-climates and the improvement of comfort conditions in tropical environments. The use of design elements in achieving appropriate solutions. The contributions from technology and the use of technical innovation.

ARCT 642 ***Advanced Building Climatology*** **1 Unit**

Advanced studies in climatic factors and their effect on human comfort; the use of sun angles and solar charts; solar energy systems; building design and appropriate technology.

ARCT 651 ***Traffic and Transportation Planning for Architects*** **2 Units**

An introduction to basic transportation process, theory and practice along with a review of policy formulation and implementation plans; traffic systems; analysis, surveys, traffic control measures and management; inter-relationship between transportation systems and urban land uses.

ARCT 652 **Urban Renewal Processes** **2 Units**

Introduction to urban renewal process towards reclaiming cities as viable living places for people; urban renewal strategies as tools for city maintenance and improvement; economic and social issues in urban renewal programmes; management of renewal schemes.

ARCT 661 **Advanced Building Materials** **2 Units**

In-depth study of contemporary building materials and systems; rational areas of application and performance of building materials; contemporary building techniques; the dialectics of form and materials; environmental constraints on the use of building materials.

ARCT 691 **Project Report** **6 Units**

A comprehensive project on a building type involving data collection and the use of case studies. The project report is in two parts; a design research report and architectural design which will demonstrate a deeper understanding of design problems. Topics chosen must be approved by the Department and the scope must be able to portray the comprehensive design process of research, analysis and synthesis and must demonstrate deep understanding and culmination of all the disciplines studied in the department in the last six years.

MASTER OF ARCHITECTURE (M.ARCH) PROGRAMME

Areas of specialization:

This programme deals with intensive research in any of the following design areas of architectural specialization:

1. Residential Buildings
2. Educational Buildings
3. Cultural Buildings
4. Religious Buildings
5. Administrative and Public Building

6. Commercial Buildings.
7. Industrial Buildings
8. Health Facilities
9. Transportation Facilities
10. Recreational and Entertainment Facilities.
11. Landscape Architecture

MASTER OF ARCHITECTURE (M.ARCH) PROGRAMME

FIRST SEMESTER

<i>Course No.</i>	<i>Course Title</i>	<i>Units</i>
<i>Major Courses</i>		
ARCT 719	Research Seminars	2
ARCT 781	Advanced Research Methods	2
PGC 601	Research Methods/ICT	3
	Electives (From Msc programme)	6
	<i>Total</i>	<i>13</i>

SECOND SEMESTER

<i>Course No.</i>	<i>Course Title</i>	<i>Units</i>
ARCT 790	Dissertation	18
	Electives	

The candidate should choose elective course from the postgraduate course available in any Department of the Faculty of Environmental Studies other than those previously taken at the Masters level which are relevant to his work.

The course work is spread over a period of one academic year, as well as split into two (2) semesters. Each semester presents the candidate with one compulsory course in each semester courses of which the candidate is to offer one in each semester based on his research preference/area of specializations.

Area of Specialization:

The student shall choose any of the following areas of specialization:

Environmental Design

Architectural Science and Technology

Housing

Construction Management

Architectural History and Theory, Conservation and Preservation

Architectural Education, Practice and Management

Computer-Aided Design

Urban Design

Doctor of Philosophy (PhD) in Architecture

All PhD candidates would be required to take minimum of 30 units of which 12 units are for the Thesis, 12 units for the course work including a 3-unit course on Research Grant Writing and Synopsis Writing, 6 units for two seminars, one presented as Research Proposal at the beginning of the student’s research programme and the other, at the end of the research work before the final defence. All doctoral coursework should include book and/or journal article reviews. All Doctoral students are expected to pass the Course on Research Grant writing and Synopsis Writing leading to extension of network of research collaboration and mentorship. This shall include a Workshop to be organized by SPGS which issues a Certificate of Participation (without which the result shall be incomplete).

COURSE STRUCTURE

YEAR 1: 1ST SEMESTER

CODE	TITLE	CREDIT UNITS
ARCT. 881	Advanced research Methods	3
PGC 701	Synopsis and Grant Writing	3
	Specialties/Electives	3
	Total	9

Select 3 units of Electives from the following Courses for First Semester:

Courses	Units
ARCT. 811: Conservation and Preservation	3
ARCT. 851: Human Settlement and Environment	3
ARCT. 813: History of Built Environment	3
ARCT. 815: Advanced Studies in Architectural History	3
ARCT. 831: Facility Planning and Architecture	3
ARCT. 841: Sustainable Architecture	3
ARCT. 861: Construction Economics	3
ARCT. 863: Advanced Construction management	3

YEAR 1: 2ND SEMESTER

CODE	TITLE	CREDIT UNITS
ARCT. 812	Contemporary Issues in Architecture	3
ARCT. 981	Seminars	3
	Specialties/Electives	3
	Total	9

Select 3 Units of Electives from the following Courses for Second Semester:

Courses	Units
ARCT. 814: Tourism Planning and development	3
ARCT. 852: Housing and Community Development	3
ARCT. 854: Urban Design	3
ARCT. 842: Climate change adaptation and control in Architecture	3
ARCT. 832: Community Infrastructure Facilities	3
ARCT. 816: Traditional Architecture in Nigeria	3
ARCT. 872: Information Processing in Architecture	3
ARCT. 862: Development in Hi-Tech Construction Systems	3
ARCT. 844: Environmental Planning and Control	3
ARCT. 818: Theory of Prominent Contemporary Architects	3

YEAR 2: 1ST SEMESTER

CODE	TITLE	CREDIT UNITS
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ARCT. 983	PhD Thesis Seminar 1	3
	Total	3

YEAR 2: 2ND SEMESTER

CODE	TITLE	CREDIT UNITS
ARCT. 983	PhD Thesis Seminar 1 (cont.)	
ARCT. 985	PhD Thesis Seminar 11	3
	Total	3

YEAR 3: 1ST SEMESTER

CODE	TITLE	CREDIT UNITS
ARCT. 983	PhD Thesis Seminar 1 (cont.)	
ARCT. 983	PhD Thesis Seminar 11 (cont.)	
	Total	0

YEAR 3: 2ND SEMESTER

CODE	TITLE	CREDIT UNITS
ARCT. 983	PhD Thesis	12
	Total	12

ARCT 881: Advanced Research Methods:

Discussion on the meaning and concept of research; Empirical/scientific research as a concept for discovery; Choosing a research topic; Application of empirical research in Architecture; Types of research strategies applicable to Architecture: Qualitative, Quantitative, Interpretative-Historical research, Experimental and Quasi-experimental research; Simulation and modeling research; Logical Argumentation Case studies and Combined strategies research; Discussion on critical Issues in research methods; Research design and methodology; Methods in collating, analysis and synthesis of research data; Data collecting instruments; Quantitative and Qualitative data; Concepts and theories in research; population, sample size and Sampling techniques; Statistical techniques for data collection and analysis: Analysis of variance, correlation and

regression, analysis etc., Hypothesis testing: Computer application and its implication on research.

PGC 701: Synopsis and Grant Writing:

Identification of types and nature of grant and grant writing; mining of grants application calls on the internet. Determining appropriate strategy for each grant application. Study of various grant application structures and contents and writing of concept notes, detailed project description, budgeting and budget defense. Study of sample grant writings in various forms and writing of mock research and other grants. Identification of University of Nigeria synopsis structure and requirements, (Introduction, Methodology and Results). Determining the content of each sub-unit of the synopsis. Steps in writing of synopsis from the Dissertation/Thesis document. Structural and language issues. Common errors in synopsis writing and strategies for avoiding them. The roles of the student and the supervisor in the production of a synopsis. Writing of mock synopsis. All registered PhD students must attend a solution-based interactive workshop to be organized by the School of Postgraduate studies for a practical demonstration and application of the knowledge acquired from the course, conducted by selected experts.

ARCT. 811: Conservation and Preservation:

Preservation of historical important natural and man-made features in the environment. Historical buildings and landmarks. Conservation of natural resource elements. Strategies, techniques and procedures for conservation of the natural environment. Traditional African Cities.

ARCT. 851: Human settlement and Environment:

The course will involve research work on settlements in urban areas, land tenure and uses for residential, commercial, agricultural and institutional purposes. The course further examines the relevance of public transportation, open spaces and services network within the settlements.

ARCT. 813: History of Built Environment:

History of the built environment; Nature of the Environment, organization, element, land uses and ecology.

ARCT. 815: Advanced Studies in Architectural History:

Contents varies: offering may include history of cities to 1850, history of cities from 1850 to present, history of architecture, and planning in selected.

ARCT. 831: Facility Planning and Architecture:

Principles of Facility planning and Design process. Fundamentals of programming, process, technique and tools of programming. Techniques for data analysis and organization, communication and evaluation and computer aids for facility programming.

ARCT. 841: Sustainable Architectural Design:

Major socio-economic trends and global environment problems; global economic interdependence inequality and the environment. Construction products and professional architectural services. Energy, pollution, water conservation, environmental impact environmental health and safety, recycling and ecology, sustainable development and the future of architectural design.

ARCT. 861: Construction Economics:

Building construction costs, cost plan and cost planning in the building process; Advances in Building construction processes and the cost implications; Building life span and whole life costing of a building and the implication on Building Cost plan; Applicable technologies in the Construction Industry; Economics of Alternative Construction technologies.

ARCT. 863: Advanced Construction Management:

Management principles and practice, management science, organization theory and their application and communication systems; introduction to decision theory; financial accounting; appraisal and control of capital from inception to completion

ARCT. 814: Tourism Planning and Development:

Tourism in National Development. Tourism resources in Nigeria. Holiday resorts and games villages. Management of tourism resource centers and facilities. Policy on tourism, implementation problems. The international framework. Eco-tourism and carnivals

ARCT. 852: Housing and Community Development:

Current Issues in Housing; Housing within the framework of urban systems and national development; Impact of Housing on the immediate environment; Housing environment and behavior; Security of tenure in housing, housing and defensible space. Trends in Housing delivery; Private/public sector partnership issues in housing delivery. Housing politics and policies; Administrative issues in urban and rural housing. Community security and the role of the Housing Policy Council. Comparative Housing Studies. Housing in habitat agenda.

ARCT. 854: Urban Design:

Investigation of the visual form of cities, Functional and visual relationships between people and their Physical environments; the course examines the scale and scope of urban Design process, environmental design and conservation.

ARCT. 842: Climate Change Adaptation and Control in Architecture:

Principles of Climate change, Climate Economics, Policies and Laws, Ethics and Equity skills. Vulnerability to Climate change, Environmental disasters, Agriculture and Food Security, Health, Hazards alteration of Ecology, Population Displacement and Environmental Induced Migration. Capacities for trans-disciplinary studies of climate change.

ARCT. 812: Contemporary Issues in Architecture:

Issues in Building Simulation, Sustainable Architecture, Building efficiency system, Green Architecture

ARCT. 832: Community Infrastructure Facilities:

Examines criteria and standards for the development of public community facilities designed to serve the health, safety, and welfare of the citizens.

ARCT. 816: Traditional Architecture in Nigeria:

An in-depth study of an aspect of Tradition Architecture in Nigeria. A research paper will be required detailing studies made and showing relevance of tradition architecture in modern architectural practice in Nigeria.

ARCT. 872: Information Processing in Architecture:

Survey of methods for programming, data collection, analysis, synthesis, development, and communication of information relevant to the architectural design process.

ARCT. 862: Developments in Hi-tech Construction Systems:

Development in High technology construction system; integration of building environmental energy efficient systems including lighting, acoustic, heating, ventilations and air-conditioning, plumbing, electrical and transportation system, Trends in new construction material techniques.

ARCT. 844: Environmental Planning and Control:

Principles of environmental planning and control; cost management and control with emphasis on cost reduction; environmental planning systems and procedures; criteria for selecting a system; work study; productivity; financial considerations, legal implications.

ARCT. 818: Theory of Contemporary Architecture:

The relevance of conventional theories of architectures to Contemporary concepts of Architecture in Nigeria. The development of a contemporary architectural language in Nigeria. Study of prominent contemporary Architects.

ARCT. 981: Seminar

Discussion of selected topics within the candidates' area of specialization; a report presented by the candidate should be used as basis for discussion. Discussions on power point presentation techniques; organization of the theme of the topic; identifying highlight of salient issues in the theme for presentation. Discussions on effective communication to the audience.

ARCT. 991: Ph.D Thesis:

The study must make an original contribution to knowledge and should be publishable. The topic must be chosen from the candidate's area of specialization and must be approved by the Department.