BINGHAM UNIVERSITY KARU

2023-2028

FACULTY OF ARCHITECTURE

Undergraduate programme student handbook

B.Sc. Architecture

DEPARTMENT OF ARCHITECTURE

HANDBOOK FOR THE UNDERGRADUATE PROGRAMME
2023-2028

IN THE

DEPARTMENT OF ARCHITECTURE
FACULTY OF ARCHITECTURE
BINGHAM UNIVERSITY
KARU

MARCH 2023

PREFACE

This handbook is a necessary reference material for all stakeholders - students and academic staff; giving details on the choice of courses and requirements for the successful conduct of our academic activities. It guides all staff and students towards achieving a high-quality professional education aimed at producing Architects who can understand and solve complex technical and environmental problems.

This handbook introduces all the courses offered in the department, basic admission requirements, procedures for jury presentations and guidance for the writing and submission of project reports.

It does not supplant the Bingham Student handbook or any of the rules and regulations guiding undergraduate programmes in the University. It is a complementary guide that highlights some of the peculiarities of the architecture discipline.

Associate Professor. Arc. L.D. Abalaka PhD, FNIA
Head of Department, Architecture
March 2023

Contents Page

STAFF OF THE DEPARTMENT

S/NO	NAME OF STAFF	QUALIFICATION	AREA OF SPECIALISATION	DESIGNATION
1.	Arc. L. D. Abalaka	PhD URP 2015 (KSU) MSc. Environmental Management 2010 (University of Wolverhampton) MSc Architecture, 1985 (ABU) BSc Architecture, 1983 (ABU)	Urbanisation, Housing	Associate Professor **Head of Department**
2.	Arc. W. B. Qurix	PhD Architecture (ABU) MIAD MSc Architecture, 19 (ABU) BSc Architecture, 19(ABU)	Modern Architecture	Professor
3.	Arc. M. L. Sagada	PhD Architecture 2009 (ABU) Diploma de Arquitecto1989 (CUBA)	Housing Studies Built Environment Architectural Theory	Professor
4.	Arc. A.S. Salisu	PhD Architecture 2015 (ABU) MSc Architecture, 1985 (ABU) BSc Architecture, 1983 (ABU)	Daylighting, Energy Studies, Sustainability and the Application of Artificial Intelligence in Architecture	Associate Professor
5.	Yusuf Joe Gandu	NIQS PhD Construction Management 2015(ABU) MSc Construction Management 2005 (ABU) B.Sc. Quantity Surveying 1989 (ABU)	Construction Management	Associate Professor
6.	Arc. G. C. Nsude	PhD Architecture 1987 (Greenwich University) MSc. Architecture 1980 (Byelorussia)	Traditional Architecture	Senior Lecturer
7.	Arc. W.A. Idakwoji	PhD URP, 2014 (KSU)	Public Housing	Senior Lecturer

		MSc Architecture, 1989 (UNIJOS) BSc Architecture, 1987 (UNIJOS)		
8.	S. Z. Modi	PhD 2020 (UTM Malaysia) MSc Architecture,2000 (ABU) BSc Architecture, 1995(ABU)	Passive Architecture	Senior Lecturer
9.	S. Onyeama	MSc Architecture, (ABU) BSc Architecture, (ABU)	Architecture	Senior Lecturer
10.	Andesikuteb Yakubu Ali	PhD Environmental and Resource Planning 2018 (UNIJOS) MSc. Geography 2009 (ABU) BA Geography 2000 (ABU)	Environmental and Resource Planning	Lecturer I
11.	Arc. E. Orewere	MSc Architecture 2011, (UNIJOS) BSc Architecture 2005, (UNIJOS) PGD Education 2013 (NTI) HND horticulture and Landscape 2013 (FCF)	Architecture	Lecturer I
12.	Arc. D.O. Ayanajeh	MSc Architecture, (JOS) BSc Architecture, (UNIJOS)	Architecture	Lecturer I
13.	R. R. Martins	MSc Architecture, 2007 (ABU) BSc Architecture, 2003(ABU) Pg D Environmental Management, 2019 (NDA) Pg D Estate Management Law, 2009 (ABU) OND Architecture, 1999(KPT)	Architecture	Lecturer I

14.	Engr. I U. Tanam	PhD Agriculture and Biosystems Engineering 2022 (UNI ILLORIN) MEng Agricultural Engineering 1995 (UNI ILLORIN) MEng Agricultural Engineering 1990 (UNI ILLORIN)	Agriculture and Biosystems Engineering	Lecturer II
15.	H. Emusa	PhD Architecture, 2021 (UNN) MSc Architecture, 2014 (UNN) BTech Architecture 2008 (ATBU)	Traditional Architecture	Lecturer II
16.	J. Audu	MTech Architecture, 2006 (ATBU) BTech Architecture, 2003 (ATBU) HND Horticulture and Landscape Technology, 2015 (FCF)	Architecture	Lecturer II
17.	D. Lucas	Meng Membrane Structures, 2018 (Anhalt University of Applied Sciences) BSc Architecture, 2004 (JOS)	Architecture	Assistant Lecturer
18.	Arc. B. Chapi	MSc Architecture, 2015 (ABU) BSc Architecture, 2011(ABU)	Architecture	Assistant Lecturer
19.	J. Yembo	HND Architecture (2009) OND Architecture (2006)	Architecture	Technical Staff
20.	N. Christopher	B.Sc. Economics 2015 (ABU) M.Sc. Economics BHU (2023)	Economics	Faculty Officer

B. Sc. Architecture

INTRODUCTION

The Architecture programme has been designed to produce skilled, competent, and versatile professionals capable of facing a broad spectrum of challenges in Architecture and environmental design. The course structure is flexible so as to be able to meet the current trends in Information Technology, Construction and Sustainability.

MISSION OF THE UNIVERSITY

To produce graduates that have both knowledge and skills for self-reliance in the fear of Christ.

PHILOSOPHY OF THE UNIVERSITY

Bingham University envisages a distinctly Christian Academic Community in which people are transformed and equipped with secular education with Christ-like thinking.

OBJECTIVES OF THE UNIVERSITY

Bingham University seeks to provide secular higher education in a Christ centred educational environment that clearly promotes excellence and character development for service to God, His Church and the society at large.

OVERVIEW

The programme is designed as a two-tier degree structure. The first degree leads to the award of a Bachelor's degree in architecture, while the second-tier leads to the Master's degree in Architecture. The Master's degree is recognized as minimum professional qualification. Architecture is an interdisciplinary field that synthesizes knowledge from several fields including the humanities, the social and the physical sciences. A graduate of architecture is trained in the art and science of planning, design, construction, maintenance, management and the co-ordination of allied professionals in the development of the built environment. Architecture seeks to accommodate all human activities under varied conditions with a full understanding of the different physical contexts. The programme is designed to account for the changing needs of the architectural education arising from changing social, economic, psychological and technological environment.

PHILOSOPHY

The philosophy of the Architecture programme is to provide a broad spectrum of skills and knowledge necessary for the design and construction of spaces for human activities. These include technological and scientific knowledge; artistic skills and environmental sensitivity. The programme also leverages on the rich cultural and traditional heritage in the country.

OBJECTIVES

The aim of the Architecture programme is to produce competent, creative, intellectually mature, ethical and socially responsible professional architects. The objectives of the programme are to:

1. equip the student with advanced knowledge of the environmental, social, cultural, economic and technological contexts underlying design and construction in the built environment;
2. provide a high-quality design education which emphasizes an in-depth understanding of design principles, the design process, the design culture, the acquisition of creative design

skills, and the ability to respond appropriately to local, global, cultural and environmental design challenges;

3. develop in the student adequate professional knowledge, attitudes, specialised skills and character qualities that will upon their graduation, enable them to effectively co-ordinate and control the design and construction processes;
4. create a learning environment that fosters active interest in research and development in architecture; encourages individual and team learning; and facilitates participation in community and professional activities; and
5. provide the student with entrepreneurial knowledge and skills to enable them to be self-reliant.

UNIQUE FEATURES OF THE PROGRAMME

The unique features of architecture programme are aimed at:

1. addressing current global issues such as, sustainability, gender and diversity, globalization, digital communication, climate change, twenty-first century business models and entrepreneurship and their influence on architecture;
2. placing emphasis on studying and understanding architecture in the local context, as in the history courses which addresses Architecture and Architects in Nigeria;
3. emphasizing digital skills not only with respect to design drawings but as it relates to new digital applications; and
4. preparing graduates to meet both local and international standards of practice in architecture.

EMPLOYABILITY SKILLS

1. in order to produce employable graduates, the programme has been designed to include a course titled 'Entrepreneurship for Architects' which is peculiar to students undertaking the architecture programme. It is designed to provide entrepreneurial skills in decision making and critical thinking which are important employability indices;
2. imbibing digital skills and software packages knowledge to enable students perform task that were previously done manually thereby enhancing employability;
3. designing to encourage some degree of independent learning thereby building the capability of the student with capacity in a variety of design related fields;
4. communication and presentation skills are also emphasized to encourage team work, verbal and visual communication as well as building a strong architectural vocabulary; and
5. students will obtain practical experience within the programme courses (for example 'Workshop Practice') and also during their SIWES.

21ST CENTURY SKILLS

Acquisitions of 21st Century skills are highly emphasized in this programme. These include:

1. digital skills at all levels to be acquired in specific courses such as **'Building Information Modelling'** and **'Digital Communication in Architecture'**. In addition, digital skills will also be acquired within technological courses where current computer applications are to be learnt;
2. critical thinking skills, problem solving, reasoning, analysis, interpretation, synthesizing information are emphasized in the design process as well as in history and theory courses;
3. creativity, artistry, curiosity, imagination, innovation, personal expression;
4. oral and written communication, public speaking and presenting, listening;

5. leadership, teamwork, collaboration, cooperation, facility in using virtual workspaces; and
6. team-work is specifically introduced in both design and non-design courses.

PHILOSOPHY OF THE DEPARTMENT OF ARCHITECTURE IN BINGHAM UNIVERSITY

The philosophy of the School of Architecture is the coming together of art, science and technology in the practice of Architecture. The programme will draw from current trends, developments and innovations of architectural principles, styles, and culture to develop skills that will provide design solutions that are environmentally, socially, economically and culturally responsive not only in the public and private sectors, but in encouraging entrepreneurship both nationally and globally.

This integrates contemporary issues in architecture and the built environment together with the challenges faced by the architectural profession. It intends to produce professionals who are not only technologically, socially, and culturally competent in the profession but architects who can be able to understand, interpret and fulfil the diverse needs of the 21st Century and beyond. This will be underpinned by harmonizing some of the conflicting needs of sustainability, cultural sensitivity, technology, creativity, economic considerations, and human capital development

THE AIM OF THE PROGRAMME IN BINGHAM UNIVERSITY

The aim of the architecture programme is to produce competent, creative, intellectually mature, ethical and socially responsible professional architects who will be able to understand, interpret and fulfil the diverse needs of the 21st century and beyond. The program aims to produce high quality professionals who can understand and solve complex technical and environmental problems using this knowledge to tackle and co-ordinate other related professional inputs in the development of the environment

OBJECTIVES OF THE PROGRAMME IN BINGHAM UNIVERSITY

The aim of the Architecture programme will be achieved using the following objectives which are to:

1. equip the student with advanced knowledge of the environmental, social, cultural, economic and technological contexts underlying design and construction in the built environment;
2. provide a high-quality design education which emphasizes an in-depth understanding of design principles, the design process, the design culture, the acquisition of creative design skills, and the ability to respond appropriately to local, global, cultural and environmental design challenges;
3. develop in the student adequate professional knowledge, attitudes, specialised skills and character qualities that will upon their graduation, enable them to effectively co-ordinate and control the design and construction processes;
4. create a learning environment that fosters active interest in research and development in architecture; encourages individual and team learning; and facilitates participation in community and professional activities; and
5. provide the student with entrepreneurial knowledge and skills to enable them to be self-reliant.

ADMISSION AND GRADUATION REQUIREMENTS

Duration
Schools of Architecture shall offer a two-tier degree programme. The minimum recommended duration of the first degree is eight (8) academic semesters. The first degree programme leads to the award of a Bachelor's degree in Architecture. A students' Industrial Training (SIWES) programme of three months duration shall be incorporated in the programme without prejudice to the minimum academic semesters recommended above.
The second-tier of Four (4) academic semester's duration leads to a professional Masters degree.

Admission Requirements
Admission into the Architecture programme may be through any of the following modes:

UTME
In addition to UTME score, the candidate should possess five credit passes in Mathematics, English Language, Physics and two other subjects from the following; Chemistry, Biology, Technical Drawing, Fine Arts, Geography, Economics, Building Construction and Land Surveying at not more than two sittings. Subject combinations for the UTME are Mathematics/Physics and any one of the following subjects: Chemistry, Geography, Fine Arts, or Technical Drawing.

Direct Entry
Five SSCE-credit passes in Mathematics, English Language, Physics and two other subjects from the following; Chemistry, Biology, Technical Drawing, Fine Arts, Geography, Economics, Building Construction and Land Surveying at not more than two sittings. An IJMB score of a minimum of 6 points in Physics, Mathematics and any of Chemistry, Geography, Art, Biology and Economics. Advanced level or a National Diploma in a relevant field may be admitted into the 200 Level to study Architecture. Holders of Higher National Diploma (HND) in relevant field may also be admitted into 300 - Level if they have Upper Credit or Distinctions.

Transfer
Students who have satisfied the O'level requirements and have a minimum CGPA of 2.40 in a Department of Architecture from any certified University in Nigeria or abroad is eligible for a transfer into 200 level.

Graduation Requirements
Total minimum credit units required for graduation is 120 and 90 or 60 for students admitted through UTME and Direct Entry admissions respectively. In order to graduate, a student must pass all compulsory and required courses. The minimum credit requirements for Direct Entry students are to be determined by their entry level.

To be eligible for award of the B.Sc. ARCHITECTURE, a candidate must have satisfied the following conditions:

1. The normal university requirement.
2. The approved requirement of the Faculty of Environmental Sciences including general studies, with respect to approved curriculum and registered courses through the duration of the architecture programme
3. The programme requirements will also include satisfactory completion of all compulsory courses and approved elective courses. In addition to the above, a candidate must have satisfactorily completed Industrial Attachment of not less than

three months in a relevant area. Instruction is by lectures, practicals, field work and course evaluations.

4. Total Minimum Credit Unit Required for Graduation= 120 CU
5. Total Minimum Credit Unit Required per Semester = 16 CU
6. Elective Minimum Credit Unit Required for Graduation = 10 CU.

COURSE CONTENT AND SYNOPSIS FOR THE BACHELOR OF SCIENCE (B. SC.) IN ARCHITECTURE PROGRAMME

The following table depicts the course structure and synopsis for the levels and semesters of the B.Sc. ARCHITECTURE Programme. The abbreviations below are not all used in the table below but when used they are explained as follows:

1. LH=Lecture Hours
2. PH = Practical Hours per week
3. Units= Credit Units
4. C = Core Course
5. E= Elective course
6. GST= General Studies Course
7. MTH=Mathematics Course
8. PHY=Physics Course
9. ENT=Entrepreneurship Course
10. FAA= Compulsory Faculty of Architecture Course
11. ARC= Compulsory Architecture Course
12. BHU-ARC= Bingham University Architecture Course
13. BHU-BST= Bingham University Bible Study Course
14. BHU-LEM= Bingham University Leadership Course

GLOBAL COURSE STRUCTURE

100 Level

Course Code	Course Title	Units	Status	LH	PH
GST 111	Communication in English	2	C	30	-
GST 112	Nigerian Peoples and Culture	2	C	30	-
MTH 101	Elementary Mathematics I	2	C	30	-
MTH 103	Elementary Mathematics III	2	C	30	-
PHY 101	General Physics I (Mechanics)	2	C	30	-
FAA 103	Graphics Communication I	2	C	15	45
FAA 104	Graphics Communication II	2	C	15	45
FAA 121	Introduction to Basic Computer Applications	2	C	15	45
FAA 126	Introduction to Sustainable Built Environment	2	C	30	-
ARC 101	Introduction to Architecture	2	C	30	-
BHU-ARC 115	Elements of Design	1	C	-	45
BHU-BST 104	Christian Belief	2	E	30	-
BHU-ARC 116	Elements of Design Studio	2	C	15	45
BHU-ARC 122	Environmental Science	1	C	15	-
BHU-ARC 124	Free-Hand Drawing	1	C	-	45
	Total Units	**27**			

200 Level

Course Code	Course Title	Units	Status	LH	PH
GST 212	Philosophy, Logic and Human Existence	2	C	30	-
ENT 211	Entrepreneurship and Innovation	2	C	15	45
FAA 221	Introduction to Computer-Aided Design	2	C	-	90
ARC 201	Architectural Design Studio I	6	C	-	270
ARC 202	Architectural Design Studio II	6	C	-	270
ARC 203	Building Components and Methods I	2	C	30	-
ARC 204	Building Components and Methods II	2	C	30	-

ARC 205	History of World and Traditional Architecture	2	C	30	-
ARC 206	Building materials workshop practice and safety	2	C	-	90
ARC 207	Building Structures, I	2	C	30	-
ARC 208	Building Structures II	2	C	30	-
BHU-BST 203	Christian Worldview I	1	E	15	-
BHU-LEM 210	Leadership and mentorship	1	E	15	-
BHU-BST 204	Christian Worldview II	1	E	15	-
BHU-ARC 218	Descriptive Geometry	1	C	-	45
	Total Units	**34**			

300 Level

Course Code	**Course Title**	**Units**	**Status**	**LH**	**PH**
GST 312	Peace and Conflict Resolutions	2	C	30	-
ENT 312	Venture Creation	2	C	15	45
FAA 313	Research Methods	2	C	30	-
ARC 301	Architectural Design Studio III	6	C	-	270
ARC 302	Students' Industrial Work Experience Scheme (SIWES)	6	C	-	270
ARC 303	Building Components and Methods III (II)	2	C	30	-
ARC 304	Entrepreneurship for Architects	2	C	30	90
ARC 305	Building Structures III	2	C	30	-
ARC 307	Building Services I	2	C	15	45
ARC 309	Building Information Modelling	2	C	15	45
BHU-ARC 311	Working Drawings and Detailing Studio	2	C	15	45
	Total Units	**30**			

400 Level

Course Code	Course Title	Units	Status	LH	PH
FAA 484	Professional Practice	2	C	30	-
ARC 401	Architectural Design Studio IV	6	C	-	270
ARC 402	Architectural Design Studio V	6	C	-	270
ARC 403	Building Components and Methods IV	2	C	30	-
ARC 405	Building Services II	2	C	30	-
ARC 406	Research Project/Dissertation	2	C	-	90
ARC 407	Theory and Methods of Contemporary Architecture	2	C	30	-
ARC 409	Building Economics, Quantities and Estimating	2	C	30	-
BHU-ARC 405	Architectural Structures I	2	C	30	-
BHU-ARC 406	Architectural Structures II	2	C	30	-
BHU-ARC 408	Law of Contracts	1	C	15	-
	Total Units	**29**			

COURSE CONTENTS AND LEARNING OUTCOMES

100 level

GST 111: Communication in English (2 Units C: LH 15; PH 45)

Learning Outcomes

At the end of this course, students should be able to:

1. identify possible sound patterns in English language;
2. list notable language skills;
3. classify word formation processes;
4. construct simple and fairly complex sentences in English;
5. apply logical and critical reasoning skills for meaningful presentations;
6. demonstrate an appreciable level of the art of public speaking and listening; and
7. write simple and technical reports.

Course Contents

Sound patterns in English language (vowels and consonants, phonetics and phonology). English word classes (lexical and grammatical words, definitions, forms, functions, usages, collocations). Sentences in English (types: structural and functional, simple and complex).grammar and usage (tense, mood, modality and concord, aspects of language use in everyday life). Logical and critical thinking and reasoning methods (logic and syllogism, inductive and deductive argument and reasoning methods, analogy, generalisation and explanations). Ethical considerations, copyright rules and infringements. Writing activities: (pre-writing, writing, post writing, editing and proofreading; brainstorming, outlining, paragraphing, types of writing, summary, essays, letter, curriculum vitae, report writing, note making, mechanics of writing and many others). Comprehension strategies: (reading and types of reading, comprehension skills, 3RsQ). Information and communication technology in modern language learning. Language skills for effective communication. Major word formation processes. Writing and reading comprehension strategies. Logical and critical reasoning for meaningful presentations. Art of public speaking and listening and report writing.

GST 112: Nigerian Peoples and Culture (2 Units C; LH 30)

Learning Outcomes

At the end of this course, students should be able to:

1. analyse the historical foundation of the Nigerian culture and arts in pre-colonial times;
2. list and identify the major linguistic groups in Nigeria;
3. explain the gradual evolution of Nigeria as a political unit;
4. analyse the concepts of trade, economic and self-reliance status of the Nigerian peoples towards national development;
5. enumerate the challenges of the Nigerian state towards nation building;
6. analyse the role of the judiciary in upholding people's fundamental rights;
7. identify acceptable norms and values of the major ethnic groups in Nigeria; and
8. list and suggest possible solutions to identifiable Nigerian environmental, moral and value problems.

Course Contents

Nigerian history, culture and art up to 1800 (Yoruba, Hausa and Igbo peoples and culture; peoples and culture of the ethnic minority groups). Nigeria under colonial rule (advent of colonial rule in Nigeria; Colonial administration of Nigeria). Evolution of Nigeria as a political unit (amalgamation of Nigeria in 1914. Formation of political parties in Nigeria. Nationalist movement and struggle for independence). Nigeria and challenges of nation building

(military intervention in Nigerian politics; Nigerian Civil War). Concept of trade and economics of self-reliance (indigenous trade and market system; indigenous apprenticeship system among Nigeria people; trade, skill acquisition and self-reliance). Social justices and national development (law definition and classification. Judiciary and fundamental rights; Individual, norms and values (basic Nigeria norms and values, patterns of citizenship acquisition; citizenship and civic responsibilities; indigenous languages, usage and development; negative attitudes and conducts. Cultism, kidnapping and other related social vices). Re-orientation, moral and national values (The 3R's – Reconstruction, Rehabilitation and Re-orientation; re-orientation strategies: Operation Feed the Nation (OFN), Green Revolution, Austerity Measures, War Against Indiscipline (WAI), War Against Indiscipline and Corruption (WAIC), Mass Mobilization for Self-Reliance, Social Justice and Economic Recovery (MAMSER), National Orientation Agency (NOA) as well as current socio-political and cultural developments in Nigeria.

MTH 101: Elementary Mathematics I (Algebra and Trigonometry) (2 Units C: LH 30)

Learning Outcomes

At the end of the course, students should be able to:

1. explain basic definition of set, subsets, union, intersection, complements and use of Venn diagrams;
2. solve quadratic equations;
3. solve trigonometric functions;
4. identify various types of numbers; and
5. solve some problems using binomial theorem.

Course Contents

Elementary set theory, subsets, union, intersection, complements, Venn diagrams. Real numbers, integers, rational and irrational numbers, mathematical induction, real sequences and series, theory of quadratic equations, binomial theorem. Complex numbers, algebra of complex numbers, the Argand diagram. De-Moivre's theorem, nth roots of unity. Circular measure, trigonometric functions of angles of any magnitude, addition and factor formulae.

MTH 103: Elementary Mathematics III (Vectors, Geometry and Dynamics)

(2 Units C: LH 30) Pre-requisite –MTH 101

Learning Outcomes

At the end of the course, students should be able to:

1. solve some vectors in addition and multiplication;
2. calculate force and momentum; and

3. solve differentiation and integration of vectors.

Course Contents

Geometric representation of vectors in 1-3 dimensions, components, direction cosines. Addition, scalar, multiplication of vectors, linear independence. Scalar and vector products of two vectors. Differentiation and integration of vectors with respect to a scalar variable. Two-dimensional co-ordinate geometry; Straight lines, circles, parabola, ellipse, hyperbola; tangents, normal. Kinematics of a particle. Components of velocity and acceleration of a particle moving in a plane. Force, momentum, laws of motion under gravity, projectiles and resisted vertical motion. Elastic string and simple pendulum. As well as impulse, impact of two smooth spheres and a sphere on a smooth surface.

PHY 101: General Physics I (Mechanics) (2 Units C: LH 30)

Learning Outcomes

At the end of the course, the students should be able to:

1. identify and deduce the physical quantities and their units;
2. differentiate between vectors and scalars;
3. describe and evaluate motion of systems on the basis of the fundamental laws of mechanics;
4. apply newton's laws to describe and solve simple problems of motion;
5. evaluate work, energy, velocity, momentum, acceleration, and torque of moving or rotating objects;
6. explain and apply the principles of conservation of energy, linear and angular momentum;
7. describe the laws governing motion under gravity; and
8. explain motion under gravity and quantitatively determine behaviour of objects moving under gravity.

Course Contents

Space and time. units and dimension, vectors and scalars, differentiation of vectors: displacement, velocity and acceleration. Kinematics. Newton laws of motion (Inertial frames, impulse, force and action at a distance, momentum conservation); Relative motion; Application of Newtonian mechanics. Equations of motion. Conservation principles in physics, conservative forces, conservation of linear momentum, kinetic energy and work, potential energy, system of particles, centre of mass; rotational motion; torque, vector product, moment, rotation of coordinate axes and angular momentum. It also covers Polar coordinates; conservation of angular momentum. Circular motion; moments of inertia, gyroscopes and precession. Gravitation: newton's law of gravitation, kepler's laws of planetary motion, gravitational potential energy, escape velocity, satellites motion and orbits.

FAA 103: Graphics Communication I (2 Units C: LH 15; PH 45)

Learning Outcomes

At the end of this course, the students should be able to:

1. identify and use various draughting materials and instruments: paper cards, folios, sketch books; pencils (hard, soft and coloured), felt pens, technical pens, crayons; brushes and paints; dry transfer lettering, textures, tones and colours; rules, templates and compasses; drawing boards and drawing sets;

2. identify and construct/create the following visual elements: points, lines, shapes, planes, forms, textures and colours; in various media to create various effects;
3. construct simple visual images using the principles of proportion, balance, harmony and contrast, pattern, movement and rhythm, style;
4. create 2 dimensional drawings of plan section and elevations from basic geometric forms;
5. produce perspective drawings of simple geometric forms;
6. identify and draw various forms of lettering; and
7. compose renderings of simple objects in various media.

Course Contents

Drawing tools. Drawing materials. The representation of common views. Graphic presentation using various media. Sketching for design development. Descriptive geometry. Orthographic projections of simple and complex geometric solids. Isometric, axonometric. Oblique and perspective views and lettering.

FAA 104: Graphics Communication II (2 Units C: LH 15; PH 45)

Learning Outcomes

At the end of this course, the student should be able to:

1. represent building elements and materials;
2. interpret building graphics convections on architectural drawings;
3. reproduce architectural drawings of plans, sections and elevations;
4. create basic floor plans, sections and elevations;
5. identify and use scales and properly drawn-out design- floor plans, sections elevations;
6. construct orthogonal projections of plans;
7. create axonometric and perspective views using advanced techniques in perspective drawings;
8. construct and prepare shades and shadows; and
9. prepare rendered presentation drawings using lines, tones and colour.

Course Contents

Uses of graphics in architecture. Graphic thinking and building representation. Representation of building elements and materials. Representations of building elements and materials in plans. Representations of building elements and materials in elevations and sections. Projection techniques for shade and shadow construction. 3-Dimensional drawings of building exteriors. 3-Dimensional drawings of building interiors. Oblique drawings. Isometric drawings. Axonometric drawings. Perspective drawings and rendering.

FAA 121: Introduction to Basic Computer Applications (2 Units C: LH 15; PH 45)

Learning Outcomes

At the end of the course, students should be able to:

1. discuss the development and types of computers;
2. identify the electronic principles behind the operation of computers;
3. identify, discuss and use basic hardware and software computer components;
4. perform basic installation, programming and file management tasks;
5. use word processing software in the production of their papers;
6. apply graphics software for simple design tasks;

7. use excel spreadsheet for basic computational works; and
8. create slides and use power-point for presentations.

Course Contents

Background to the development of the computer, computer components and operations. Development and types of computers. basic electronic principles.Navigation. hardware peripheral/plugins devices. Computing environment - Windows operating system.Software - types, license, installation, elementary programming. Documents – creation, converting and file management. It shall also expose students to basic processes and software which are useful for the preparation and presentation of works as students and professionals in today's society, commonly used applications such as word processors and their operations - page setup, margins, headers and footers, page numbers, page breaks, viewing and navigation, writing and formatting, lists, tables, graphics, tracking, table of contents and references. excel spreadsheet; power-point; graphics software such as paint and CorelDraw. Navigating the internet, web browsers and search engines, as well as on-line resources.

History of digitization in the field of architecture. The role of digitization. Types of digital graphic tools in architecture. Communicating architecture. Techniques and conventions that designers use to communicate architectural ideas. Presentations of simple projects using digital tools. Demonstrations of the various uses and types of digital tools. Simple basics of sketching to presentation of architectural drawings and details. Computer Aided Design CAD software, and two- and three-dimensional drawings.

FAA 126: Introduction to Sustainable Built Environment (2 Units C: LH 30)

Learning Outcomes

At the end of this course, the students should be able to:

1. define sustainability, and sustainable built environment;
2. identify and explain associated concepts with sustainable built form;
3. describe what sustainable infrastructure is;
4. demonstrate an understanding of values and societal importance of the built environment, and the influence on a sustainable development;
5. conduct a simple environmental assessment;
6. define climate change and discuss how it influences the built environment; and
7. demonstrate the usefulness of environmental impact assessments as a tool for design, construction and management of a sustainable built environment.

Course Contents

Definition of sustainability. Definition of sustainable environment. Definitions of concepts associated with sustainability e.g., climate change. The built environment and sustainable built environment. Sustainable infrastructure (buildings, structures, plants and networks for communication and transport, water and wastewater treatment, production and distribution of energy). Relations between infrastructure and sustainable development.Sustainable regulations and standards. Indicators of sustainability. Consequences of climate change on the built environment. Vulnerability and safety of infrastructure. Materials and technology for construction and management. Service life and life cycle assessments.

ARC 101: Introduction to Architecture I (2 Units C: LH 30)

Learning Outcomes

At the end of this course, the students should be able to:

1. define and explain what architecture is, where it started from and who architects are;
2. discuss the nature of architecture as a discipline, a profession and a practice;
3. distinguish between the terms; profession, discipline and practice;
4. describe what architects do, how they do their work and the scales at which they work;
5. describe the relationship between architects and the society;
6. discuss what the building industry is and the role of the architect in the building industry;
7. demonstrate the importance of history to the architect;
8. discuss what design is and why it is important to our lives; and
9. demonstrate an understanding of key concepts learnt in short essays.

Course Contents

Definitions and nature of architecture as a discipline. Nature of architecture as a profession. Context of architecture. The building industry. The architect and the society; the organization of the profession; changing nature of the discipline and profession and likely future trends. The cultural origins of architecture. Architecture and the city. The scales of architectural concern from building to the city. Architects approaches to design; Precedence in architecture. The significance of history, theory and criticism.

BHU-ARC 115 **Elements of Design** (1 Unit; Core; P = 45)

Senate-approved relevance

A technical course must incorporate theory, science and practical experience and basic elements of design has all these components. The vision of Bingham University to equip our graduates with knowledge and self-reliant skills is in line with the very nature of this course. Architects must be well grounded in the technical aspects of the discipline and be grounded in its theory. The proximity of the university to major towns will not only aid the students in appreciating and viewing these theories practically but also help to develop new and exciting concepts in architectural design.

Overview

This course is designed to introduce students to the elements and principles of design which form the basis for all architectural designs. Students will be working in a studio-type environment with a combination of short lectures, group presentations, graphic exercises and individual dialogue with the course instructor. This course will provide the students with the skills and techniques necessary to succeed in subsequent architectural design courses.

The course introduces the basic elements and principles of design, form, colour and circulation, as they relate to architecture. Anthropometrics, ergonomics and scale will be explored in the of context of architectural design. Scenario preparation will be used to describe activities leading to space programming. Colour and texture and their applications in building design will be explored. Simple weekly design exercises will be conducted showing furniture arrangements in different architectural spaces with emphasis placed on the 2-dimensional organisation of forms. The objectives, learning outcomes and course contents for the course are itemised below.

Objectives

The objectives of this course are to:

1. Define and describe the basic elements of design;
2. Define and describe the principles of design;
3. Illustrate how forms can be articulated and transformed into meaningful compositions;
4. Illustrate the use of texture in design;
5. Explain the perceptions of colour use and its applications in design;
6. Describe the applications of anthropometrics in architectural design;
7. Describe the applications of ergonomics in architectural design.

Learning Outcomes

On completion of this course, the student should be able to:

1. Identify 3 basic elements of design;
2. Identify 8 principles of design;
3. Design 5 forms transformed from 5 basic shapes;
4. Apply 4 appropriate textures to 4 different building elements;
5. Apply 5 colour schemes appropriately to 5 different buildings;
6. Generate 2 simple designs based on anthropometric measurements;
7. Generate 2 simple architectural spaces based on ergonomic data.

Course contents

Introduction and importance of design. Elements of design- point, line, shape, form, space, texture, value, colour and material. Introduction to the principles of design- unity, balance, symmetry, proportion, scale, hierarchy, rhythm, contrast, harmony, focus etc. Transformations of form in two dimensions. Shapes and patterns. Architectural scale. Colour theory- colour wheel, primary, secondary, tertiary colours, colour schemes, colour value and intensity. Exercises in line, shape, form applied to figure & ground relationships and patterns. Visual properties of two-dimensional forms of both geometric and nongeometric. Visual textures and tonal variations - colour, contrast, brightness, hatch etc. Principles of two-dimensional compositions - spatial tension, likeness basis, balance, movement, scale, proportion, rhythm dominance and subordination. Principles of three-dimensional composition - form, mass, volume, scale, surfaces of solids, voids, planes etc. their combination, variation, assimilation, orientation etc. Elementary principles of Architectural Design on the basis of structure, function and aesthetics. Anthropometrics. Circulation, light, ventilation. Ergonomics. Aesthetics - composition, form, volume, mass, etc. with site and landscaping. Space planning.

Minimum Academic Standards

The minimum academic standards are as provided for by the NUC CCMAS for B. Sc Architecture

.

BHU-BST 104 **Christian Belief** (2 Units; Elective; L=30)

Senate-approved relevance

The world is changing fast and values are changing with it. What is clear to the Christian is that the Word of God does not change, and it still remains the standard of belief and behaviour. This necessitates the stance of Bingham University on the Biblical perspective on Academic achievement. Bingham University believes that behaviour is sharpened by belief. So, The Bible study courses are created to bring peculiarity in the academic life of the institution. Christian Belief is enlisted under the General Studies Courses (GST). As a Faith-based institution, it is required to be studied by every student in the first year of academic study in Bingham University.

Overview

The Bible is vast and different teachings have been crafted from different school of thoughts in order to serve the purpose of those who crafted the teachings. So this course is purposely designed to encourage students understand that the best way to know God and enjoy personal relationship with Him is to appropriate God's redemptive plan for their lives.

This course is designed to teach students the fundamentals of the Christian faith. It is hopes to enlighten students to be deeply rooted in the knowledge of God, broaden their spiritual horizon, as well as help them build solid and excellent character. With this course, students are trained as spiritual giants in this end time to confront the wiles of the devil. The objectives of the course, learning outcomes and course content are provided to give a clear picture of how this knowledge will be acquired and applied.

Objectives

The objectives of the course are to:

1. Describe the meaning of theology;
2. Identify the types of theology;
3. State the purpose of theology;
4. Describe the meaning of Trinity;
5. Distinguish between Christology and Pneumatology;
6. List the types of Anthropology;
7. Appraise the nature of Ecclesiology;
8. Criticize the current understanding of Soteriology and Eschatology;
9. Appraise the understanding of Angelology in some churches;
10. Outline the content of Pneumatology.

Learning Outcomes

On completion of the course, the students should be able to:

1. Explain at least 3 meanings of theology;
2. Identify 5 types of theology;
3. Identify at least 5 purposes of theology;
4. Outline at least 3 meanings of Trinity;
5. Differentiate at least 2 facts about Christology and Pneumatology;
6. List at least 3 types of Anthropology;
7. Identify at least 5 natures of Ecclesiology;
8. Describe at least 2 current understandings of soteriology and eschatology;

9. Appraise at least 6 kinds of understanding of Angelology in at least 5 church denominations;
10. Appraise 10 effects of demons work in the world.

Course contents

Definition of theology. Types of theology. The study of God. God the Father. God the Son. God the Holy Spirit. Study of the Bible-Bibliology. Lessons on Trinity. Comprehending Christology. Pneumatology. Anthropology. Study of the church-Ecclesiology. Study on salvation-Soteriology. Study of the events of the latter days-Eschatology. Heaven and earth. Angelology. Demonology.

Minimum Academic Standards

The minimum academic standards are as provided for by the NUC CCMAS for B. Sc Architecture.

BHU-ARC 116 **Elements of Design Studio** (2 Units; Core; L = 15; P = 45)

Senate-approved relevance

Elements of Design Studio combines the theories and skills learned in the Elements of Design and applies its concepts to the design process. Architects must be able to apply concepts to design in line with the accepted conventions. The vision of Bingham University to make our graduates knowledgeable and self-reliant maps a path for this course in critical thinking. The proximity of the university to major towns will aid the students in being able to appreciate the process of the production of architectural drawings in two unique environments.

Overview

This course is designed to teach students the sequential process of producing architectural drawings from the client's brief to the point where they will be able to provide the client with a graphical representation of the brief. The student will be taught how translate the clients' requirements into a cohesive brief, analyse the client's site and produce a design having out all this information into consideration.

The course introduces the design process from the conceptual stage to the finished design and drawings. It will teach how to transform the client's site and brief into a meaningful form, as theories are transformed into conceptual designs using the basics element and principles of design. The objectives, learning outcomes and course contents for the course are itemised below.

Objectives

The objectives of this course are to:

1. translate the client's requirements into a brief;
2. analyse the site to determine planning options;
3. determine space requirements required for planning;
4. demonstrate the process of developing conceptual designs;
5. analyse anthropometric and ergonomic requirements for design;
6. illustrate critical thought in site planning
7. develop architectural drawings from analysis and concepts.

Learning Outcomes

By the end of the course, the student should be able to:

1. develop 1 cohesive client's brief from his requirements;
2. identify 8 site features and analyse their effect on architectural design;
3. generate 1 table showing1 space requirement for each designed space;
4. develop 1 architectural concept for 1 design;
5. identify 5 anthropometric measurements and 5 ergonomic data for 1 design;
6. draw 8 functional site planning features in a site plan;
7. produce 1 complete set of presentation drawings.

Course Content

The client and the architect. The site location analysis. Brief development. Ergonomic and anthropometric analysis. Space programming. Relationship matrix. Functional flow charts. Bubble diagrams. Schedule of accommodation. Sketch plans. Concept development. Case studies. Site planning. Site zoning. Floor plans and Roof plans. Sections and Elevations. 3-D drawings and working drawings.

Minimum Academic Standards

The minimum academic standards are as provided for by the NUC CCMAS for B.Sc. Architecture.

BHU-ARC 122 **Environmental Science** (1 Unit; Core; L = 15)

Senate-approved relevance

The natural environment responds to the atmosphere and anthropogenic activity and this in turn affects the way we build and live. Knowledge of the inner workings of the environment and its systems will guide the Bingham university student toward designing adaptable and environmentally sustainable designs. This course aligns with the vision of Bingham University to produce graduates who can skilfully design energy efficient and sustainable buildings based on their knowledge of environmental science.

Overview

This course introduces environmental science in the context of the natural environment, the people and how they have influenced various systems around them. This course will look at the requirements for human comfort with emphasis on fundamentals of atmospheric sciences, climate, and climatic factors in design. The course will provide information on dealing with ecology, the atmosphere. water, and energy.

This course introduces the concepts of climate variability of a region, microclimate in the urban heat islands created by the nature of the urban centres around Bingham university. The major express road passing by the university, contributes to the proliferation of anthropogenic impacts on the built and natural environment in the area of the university make this course ideally suited to be taught in Bingham University. The objectives, learning outcomes and course contents for the course are itemised below.

Objectives

The objectives of this course are to:

1. Describe the concepts associated with environmental science;
2. analyse environmental problems and their solutions;
3. examine the different layers of the atmosphere;
4. analyse climate variability and climate change affecting design decisions;
5. discuss climate control measures;
6. discuss design considerations in different climate zones;
7. discuss the effects of seismic activity on buildings;
8. discuss the impacts of development on the ecosystem;
9. discuss the aquatic environment;
10. discuss energy efficiency in renewable and non-renewable systems.

Learning Outcomes

By the end of the course, the student should be able to:

1. Describe 5 concepts associated with environmental science;
1. Critically analyse 2 real-world environmental problems and their solutions;
2. List 6 different layers of the atmosphere and their effects on the environment;
3. Discuss 6 ways climate variability and climate change affect design decisions;
4. Discuss 5 climate control measures;
5. List 4 climate zones in Nigeria and discuss 2 design considerations for each zone;
6. Identify 2 locations where there is seismic activity in Nigeria and 2 effects on buildings;
7. Identify 5 impacts of development on the ecosystem;
8. Identify 5 sources of water and 2 anthropogenic impacts on its supply and quality;
9. Identify 2 sources each of renewable and non-renewable energy.

Course Content

Definitions and concepts in environmental science. Environmental problems. The atmosphere. Solar radiation and climatic conditions. Air pollution and ozone depletion. Climate change. Climatic analysis and design decisions. Climatic control methods. Climatic zones and design considerations. Seismic activity and building design. The ecosystem. Ecological systems. Environmental impact factors. Water resources and water pollution. Non-renewable energy technology (fossil fuels). The concept of Energy. Energy efficiency and renewable energy technology.

Minimum Academic Standards

The minimum academic standards are as provided for by the NUC CCMAS for B.Sc. Architecture.

BHU-ARC 124 **Free Hand Drawing** (1 Unit; Core; P = 45)

Senate-approved relevance

Training the architect involves empowering him/her to be able to seize opportunities at any given time. Free hand drawing responds to that need by being able to help the client to visualise the work they want done graphically. In line with Bingham University's mission to provide the students with self-reliant skills, this course will train the architect to quickly and produce concepts that will convince any client of their understanding of the brief and the architects ability to deliver.

Overview

This course provides practical training in the application of the basic technical processes and manual skills required in free hand drawing for architects. Freehand drawing enables the visualisation of an idea in form of a sketch. It is also a universal language designers use to communication with other participants of a project The architect must be able to sketch on the spot to capture client briefs, concepts and to be able to describe graphically works that need to be done and the drawings must be proportional.

This course is organised around the concepts of drawing from perception and observation. In keeping with the mission and vision statement of the university of becoming a world class university in knowledge and skills by producing graduates that are excellent in knowledge, and skills with moral and spiritual values with the fear of God, it is essential to teach the students how to quickly show comprehension of the clients brief and be able to provide him/her with graphical concepts on the spot. The objectives, learning outcomes and course contents for the course are itemised below.

Objectives

The objectives of this course are to:

1. Illustrate the concepts of free hand drawing
2. Illustrate the techniques required to draw from observation
3. Illustrate presentation techniques in free hand drawing
4. Illustrate geometric forms in the correct scale and proportion
5. Illustrate the human figures in free hand
6. Illustrate means of transportation in free hand
7. Illustrate the built environment in free hand
8. Illustrate how to project 3-dimensional images in free hand

Learning Outcomes

By the end of the course, the students should be able to:

1. Illustrate 7 concepts of free hand drawing
2. Draw 10 objects from observation
3. Illustrate presentation techniques in the form of 5 free hand presentation sheet formats
4. Draw 5 geometric forms in the correct scale and proportion
5. Draw 50 human figures in different positions in free hand

6. Draw 10 vehicles in free hand
7. Draw 10 landscapes on the built environment in free hand
8. Draw 10 perspective drawings in free hand

Course Content

Tools and materials for free hand sketching. Basics of freehand drawing. Rendering techniques. Point and line. Proportion and order. Geometry and space. Perspective and space. Composition and space. Man, and space. light and colour. Nature and design. Two-minute sketches. plein-air drawing. Transportation and design. Interior spaces and design. Furniture and design. Buildings and design. Computer -aided freehand sketching.

Minimum Academic Standards

The minimum academic standards are as provided for by the NUC CCMAS for B.Sc. Architecture.

200 Level

GST 212: Philosophy, Logic and Human Existence (2 Units C: LH 30)

Learning Outcomes

A student who has successfully gone through this course should be able to:

1. know the basic features of philosophy as an academic discipline;
2. identify the main branches of philosophy & the centrality of logic in philosophical discourse;
3. know the elementary rules of reasoning;
4. distinguish between valid and invalid arguments;
5. think critically and assess arguments in texts, conversations and day-to-day discussions;
6. critically asses the rationality or otherwise of human conduct under different existential conditions;
7. develop the capacity to extrapolate and deploy expertise in logic to other areas of knowledge, and
8. guide his or her actions, using the knowledge and expertise acquired in philosophy and logic.

Course Contents

Scope of philosophy; notions, meanings, branches and problems of philosophy. Logic as an indispensable tool of philosophy. Elements of syllogism, symbolic logic— the first nine rules of inference. Informal fallacies, laws of thought, nature of arguments. Valid and invalid arguments, logic of form and logic of content — deduction, induction and inferences. Creative and critical thinking. Impact of philosophy on human existence. Philosophy and politics, philosophy and human conduct, philosophy and religion, philosophy and human values, philosophy and character moulding.

ENT 211: Entrepreneurship and Innovation (2 Units C: LH 15; PH 45)

Learning Outcomes

At the end of this course, students should be able to:

1. explain the concepts and theories of entrepreneurship, intrapreneurship, opportunity seeking, new value creation, and risk taking;
2. state the characteristics of an entrepreneur;
3. analyse the importance of micro and small businesses in wealth creation, employment, and financial independence;
4. engage in entrepreneurial thinking;
5. identify key elements in innovation;
6. describe stages in enterprise formation, partnership and networking including business planning;
7. describe contemporary entrepreneurial issues in Nigeria, Africa and the rest of the world; and
8. state the basic principles of e-commerce.

Course Contents

Concept of entrepreneurship (entrepreneurship, intrapreneurship/corporate entrepreneurship); theories, rationale and relevance of entrepreneurship (schumpeterian and other perspectives, risk-taking, necessity and opportunity-based entrepreneurship and creative destruction); characteristics of entrepreneurs (opportunity seeker, risk taker, natural and nurtured, problem solver and change agent, innovator and creative thinker); entrepreneurial thinking (critical thinking, reflective thinking, and creative thinking); innovation (concept of innovation, dimensions of innovation, change and innovation, knowledge and innovation); enterprise formation, partnership and networking (basics of business plan, forms of business ownership, business registration and forming alliances and join ventures); contemporary entrepreneurship issues (knowledge, skills and technology, intellectual property, virtual office, networking). Entrepreneurship in Nigeria (biography of inspirational entrepreneurs, youth and women entrepreneurship, entrepreneurship support institutions, youth enterprise networks and environmental and cultural barriers to entrepreneurship); and basic principles of e-commerce.

FAA 221: Introduction to Computer-Aided Design (2 Units C: PH 90)

Learning Outcomes

At the end of this course, the students should be able to:

1. demonstrate mastery of basic concepts of the AutoCAD software;
2. apply basic concepts to develop construction (drawing) techniques;
3. manipulate drawings through editing and plotting techniques;
4. make geometric construction;
5. produce template drawings;
6. produce 2D orthographic projections; and
7. demonstrate skills in dimensioning concepts and techniques, section and auxiliary views.

Course Contents

Use of modern CAD software to produce two-dimensional drawings for architectural design. Coordinating systems. Proper dimensioning. Use of sectioning and projections for visualization, symbol libraries, file management, and collaborative techniques. Basic principles of Computer Aided Design (CAD).

ARC 201: Architectural Design Studio I (6 Units C: PH 270)

Learning Outcomes

At the end of this course, the students should be able to:

1. create ergonomically effective spaces with appropriate relationships with human dimensions;
2. interpret the relationship between enclosure and form;
3. integrate passive design principles to design projects given;
4. make presentation drawings in 2D CAD format and in freehand; and
5. demonstrate familiarity with residential building typologies.**Course Contents**

Basic characteristics of space and place. Spatial and formal qualities of places. Exercises on the exploration of space and form through measured drawings and sketches. Exercises on spaces as a place as activity and function. The role of anthropometrics/ergonomics. Spatial composition. Climatic considerations. Understanding of aesthetics and typology demonstrated in relevant projects and the design process of analysis, synthesis and evaluation.

ARC 202: Architectural Design Studio II (6 Units C: PH 270)

Learning Outcomes

At the end of this course, the students should be able to:

1. create spaces using appropriate human body dimensions and in response to simple functional needs;
2. integrate passive design principles in design projects;
3. analyse sites in relation to basic climatic factors;
4. think conceptually for small design problems;
5. analyse design problems, as a basis for developing ideas;
6. interpret the relationship between enclosure and form;
7. demonstrate familiarity with residential, and educational building typologies; and
8. make presentation drawings in 2d cad format and in freehand.

Course Contents

Advanced characteristics of space and place. Spatial and formal qualities of places. Relationship between anthropometrics/ergonomics and space; exercises in spatial composition. Exercises in space planning. Climatic considerations. Aesthetics demonstrated through relevant projects. Design process of analysis, synthesis and evaluation.

ARC 203: Building Components and Methods I (2 Units C: LH 30)

Learning Outcomes

At the end of this course, the students should be able to:

1. describe the various types, designs and methods of construction of foundations;
2. identify the conditions/rationale for choosing each type or design of foundation;
3. describe the characteristics and properties of materials used in the construction of foundations;
4. identify sustainable issues in substructure materials and construction;
5. create, draw and label different foundation plans and sections in 2D;

6. demonstrate the use of software packages for taking measurements on site/spaces such as level, sun seeker, my measures, and magic plan;
7. set-out a simple building on site; and
8. demonstrate understanding and recall the major building codes (local and global) for foundations.

Course Contents

Site preparation and the major sub-structural elements (in foundation). The types of foundations. Materials used in the construction of foundations. The different foundation designs and methods of constructing foundations. The sustainability of various types of foundations and their construction methods. Factors which influence the choice of foundations. Setting out buildings on site. Manually measured drawings of existing buildings manually. Measured drawings of existing buildings with the use of software/digital measuring apps such ARPlan 3D, easy measure, roomscan pro, archisnapper or compass. Local and international building codes and regulations associated with the materials, design and construction of foundations.

ARC 204: Building Components and Methods II (2 Units C: LH 30)

Learning Outcomes

At the end of this course, the students should be able to**:**

1. identify the major structural elements of the construction of buildings; walls and roofs and the terminologies used to describe them;
2. describe the various types, designs and construction techniques associated with each of these elements;
3. identify the conditions/rationale for choosing each type or design of these elements;
4. describe the characteristics and properties of the materials used for each of these structural elements;
5. identify sustainable issues in the materials and construction of walls and roofs;
6. create and combine a variety of roof forms given a simple plan;
7. appraise the qualities of walls and roof commonly used;
8. draw and label wall and roof structures of different types; and
9. identify and state both local and international codes and regulations for the materials, design and construction of walls and roofs.

Course Contents

Walls – types and construction techniques. Walls - materials, design. Roofs - types, and construction techniques. Roofs – materials and design. Sustainability of materials and the construction of walls. Sustainability of materials and the construction of roofs. Factors that influence choice of walls types/materials. Factors that influence choice of roof types/materials. Local building codes and regulations associated with the material, design and construction of walls and roofs. International building codes and regulations associated with the material, design and construction of walls and roofs.

ARC 205: History of World and Traditional Architecture (2 Units C: LH 30)

Learning Outcomes

At the end of this course, the students should be able to:

1. identify and classify the architecture of the earliest historical periods up to the gothic period;
2. discuss the factors which determine the built form in each of these periods;
3. identify the distinguishing characteristics of especially, Greek, Roman, Egyptian, Chinese, Japanese, early Christian and Islamic architecture;
4. discuss the role of the patrons, traditions and structural innovations on the architecture of these periods;
5. describe using technical and formal vocabulary the architectural styles of these periods and their underpinnings;
6. discuss the significance of architectural history, design, and design periods verbally and in writing;
7. distinguish significant developments in construction and design: concepts, architects and movements that shaped architecture and how their ideas affect current design;
8. interpret motivation and societal forces behind the design, and the process of creating new relevant forms; and
9. apply critical thinking to theories in the history of architecture.
10. identify and classify vernacular building;
11. analyse the factors which determine the built form in traditional environments;
12. analyse vernacular buildings from various dimensions;
13. identify the distinguishing characteristics of domestic and non-domestic traditional architecture;
14. describe the role of colonization and other foreign influences on traditional architecture; and
15. identify the distinguishing characteristics of traditional architecture across African regions.

Course Contents

Defining traditional and vernacular architecture. Traditional building types in Africa. Identification and analyses of vernacular buildings. Introduction to vernacular architecture. Methods and skills needed to analyse traditional and vernacular architecture. Cultural influences on built form, use of space and meaning. Knowledge from this classification by type, and geographic location. The history of vernacular architecture in Nigeria. The characteristics of vernacular architecture in Nigerian. The meaning of vernacular architecture in the Nigerian context.

Buildings and architectural thought in the West from antiquity to Gothic times (i.e., from "caves to cathedrals"). Major periods of architectural history and relevant building types. Patrons of Greek, Roman, Egyptian, Chinese, Japanese, early Christian and Islamic Architecture. Materials and building traditions for Greek, Roman, Egyptian, Chinese, Japanese, early Christian and Islamic Architecture. Structural innovations and other critical aspects of Greek, Roman, Egyptian, Chinese, Japanese, early Christian and Islamic Architecture. Detailed study of monuments, the historical styles from antiquity to Gothic: (their defining characteristics and the spirit of each age which produced the styles). Essays in Greek, Roman, Egyptian, Chinese, Japanese, early Christian and Islamic Architecture.

ARC 206: Building Materials and Workshop Practice (2 Units C: PH 90)

Learning Outcomes

At the end of this course, the students should be able to:

1. identify the basic masonry and carpentry tools used in small scale construction;
2. lay masonry blocks and tiles using different techniques and in different patterns;

3. construct simple roof forms using timber on a small scale;
4. build simple building components such as window, and cabinets;
5. construct on a small scale simple electrical and plumbing systems;
6. demonstrate an understanding of the use of basic building tools; and
7. collaborate in teams.

Course Contents

Using basic materials such as timber, masonry, aluminium and metals to design and fabricate building components. Basic masonry and carpentry tools. Simple block laying projects. Simple concreting projects. Simple cabinetry and joinery projects. Simple tiling and plumbing projects. Metal works, stone works, panelling, and general building repairs. Exercises in working with plumbing materials, electrical materials and other materials such as aluminium and metals to design and fabricate plumbing systems and other building components.

ARC 207: Building Structures I (2 Units C: LH 30)

Learning Outcomes

At the end of this course, the students should be able to:

1. identify and explain basic structural concepts;
2. distinguish between the roles and relationship of the architect and the structural engineer;
3. distinguish between different types of loads;
4. identify different structural materials in construction and their properties; and
5. describe the relationship between structure, form and aesthetics.

Course Contents

History of structures. Basic structural concepts. Fundamental structural theories. The roles and relationship between the architect and the engineer. Reasons for building failure. The purpose of structures. Loads in buildings. The relationship between loads and structural materials. The relationships between structures and architectural design. Structural design goals and principles.

ARC 208: Building Structures II (2 Units C: LH 30)

Learning Outcomes

At the end of this course, the students should be able to:

1. describe the basic structural concepts and basic structural theories;
2. itemize basic structural design principles;
3. identify the role of different materials, economy and aesthetics in the choice of structural systems; and
4. describe the relationship between structure, form and aesthetics.

Course Contents

Basic structural requirements. Basic concepts and issues of stress and tension in buildings structures Equilibrium, Stability, Strength and functionality. Tension, compression, shear; and bending. Cables and cable roof, trusses and arches. The role of building materials in building structures from the viewpoint of function, economy and aesthetics. Relationships between

structures and architectural design with focus on forces and vector components, stress, strain, loading and structural failures, structural design goals and principles.

BHU-BST 203 **Christian Worldview 1** (1 Unit; Elective, L=15)

Senate-approved relevance

The study of worldview and ethics is connected to what is called Moral Theology. At graduation, students are awarded degrees based on their qualifications academically and morally. This course is a course designed specifically to teach Christian morals to the students. As a faith-based institution, it is inevitable to give solid teaching and direction to our students on the issue of morality. This is the fort of this course. It is however, divided into two, to be taught in the second year of academic activities in both the first and second semesters.

Overview

Belief is necessary for behaviour in the community. Worldview also determines outlook in life. Objectivity or subjectivity in life is determined by one's worldview. So after understanding Christian belief, which is foundational, the next is the course in Christian worldview. This course is designed to revive the understanding of the student on rudimentary knowledge and essentials of the Christian worldview.

This course is designed to teach students the essentials of Christian worldview and guides them on which one to adopt. Students are expected to seek proper knowledge of the Christian worldview. Knowledge gained because of this course enable students to withstand the storms of this world. Their exposure to other conflicting religious worldviews stabilizes them among their peers. The objectives of the course, learning outcomes and course content are provided to give a clear picture of how this knowledge will be acquired and applied.

Objectives

The objectives of the course are to:

1. Describe the relationship between culture and worldview
2. Identify different epochs
3. Classify different worldviews in succeeding historical eras
4. Enumerate the origin of man
5. List the purpose of man in different worldview
6. Appraise the African worldview
7. Enumerate the Buddhist and Hinduist's worldview
8. Classify the Islamic and Judeo-Christian worldview
9. Differentiate between creation and evolution worldview
10. Explain the meaning of metaphysical worldview
11. Describe the marks of cults in post-modern world

Learning Outcomes

On completion of this course, the student should be able to:

1. Describe 2 relating factors between culture and worldview
2. Identify at least 5 different epochs
3. Classify 3 different worldviews in succeeding eras

4. Enumerate at least 4 views about the origin of man
5. List 5 purposes of man in different worldviews
6. Describe at least 4 characteristics of African worldview
7. Enumerate 4 features of Hindus and Buddhists' worldviews
8. Identify 4 distinguishing features of Islamic and Judeo-Christian worldview
9. List 4 differences between creation and evolution worldviews
10. Enumerate the meanings of metaphysical worldviews
11. Describe 4 different marks of cults in post-modern world

Course Content

Definition of culture and worldview. Understanding the epochs. Identifying the worldviews in the succeeding historical era. Origin of man. Purpose of man in different worldview. The African worldview. The Buddhists' worldview. The Hinduists' worldview. The Islamic worldview. The Judeo-Christian worldview. Creation or evolution. Darwinism and its flaws. Metaphysical. Postmodernism. Marks of cults. Understanding and defining truth. Developing a Christian worldview.

Minimum Academic Standards

The minimum academic standards are as provided for by the NUC CCMAS for B.Sc. Architecture.

BHU-LEM 210 **Leadership and Mentorship** (1 Unit; Elective; L=15)

Senate-approved relevance

Organisations fall or rise depending on the quality of leadership. It is leaders that drive achievements in organisation. Where there is no leadership success cannot be achieved. Good leaders bring good progress and bad leaders suffocate the organization. However, leaders are not born, they are developed and mentored, hence the necessity of this course. This is in line with the mission of Bingham University to produce graduates that are excellent in knowledge, character, and skills for self-reliance and in the fear of Christ. This course addresses one of the greatest challenges of Africa, and that is in its quality of leadership. In fact, leadership has been considered as the only disaster in Africa.

Overview

This course focuses on two major areas of leadership and mentorship. The leadership aspect summarizes the essentials of Christian leadership, how to become good leaders and how to impact one's generation through acquisition of necessary godly skills. The other parts enumerate how to align oneself to a leader to be taught the principles of leadership. This is the mentorship aspect. The course then continues teaching how to be both a mentor and a protégé.

The course is designed to equip students with the fundamentals of leadership. Area of emphasis include meaning of leadership, leadership skill acquisition, precepts of godly leadership and leadership development. It fortifies them with the knowledge on mentorship and developing leadership skills them and strengthen them to build enduring mentorship and leadership pattern and lifestyle. The objectives of the course, learning outcomes and course content are provided to give a clear picture of how this knowledge will be acquired and applied.

Objectives

The objectives of the course are:

1. Define the meaning of mentorship.
2. Recognize God's purposes in life.
3. Outline Core values of SWOT and SHAPE.
4. Illustrate the strategies for mentorship.
5. Develop personal strategic life plan.
6. Demonstrate Being a mentor and becoming a mentor.
7. Sketch Pattern for mentorship.
8. Illustrate Action plans for purposeful priority areas in life.
9. Write Introductory thoughts on leadership.
10. Identify Fundamental values of leadership.
11. Develop Leadership skills.
12. Describe the essentials of teamwork.

Learning Outcomes

On completion of this course, the student should be able to:

1. Illustrate at least 3 ideological meanings of mentorship.
2. Recognize 5 of God's purposes in life.
3. Outline at least 3 Core values of SWOT and SHAPE.
4. Design 4 Strategies for mentorship.
5. Develop at least 2 personal strategic life plan.
6. Demonstrate 3 factors for Being a mentor and becoming a mentor.
7. Sketch at least 4 Patterns for mentorship.
8. Illustrate at least 3 Action plans for purposeful priority areas in life.
9. Outline at least 5 introductory thoughts on leadership.
10. Identify at least 4 Fundamental values of leadership.
11. List at least 5 Leadership skills.
12. Describe 5 essentials of teamwork.

Course content

Meaning of mentorship. God's purposes in life. Core values of SWOT and SHAPE. Strategies for mentorship. Developing personal strategic life plan. Being a mentor and becoming a mentor. Pattern for mentorship. Action plan for purposeful priority areas in life. Introductory thoughts on leadership. Fundamental values of leadership. Leadership skills. The leader we need. Personality and experience of leaders. Essential of teamwork. Acts of Delegation. Leader's relationship with God. Leader's relationship with his/her subject.

Minimum Academic Standards

The minimum academic standards are as provided for by the NUC CCMAS for B.Sc. Architecture.

BHU-BST 204 **Christian Worldview II** (1 Unit; Elective; L=15)

Senate-approved relevance

The study of worldview and ethics is connected to what is called Moral Theology. At graduation, students are awarded degrees based on their qualifications academically and morally. This course is a course designed specifically to teach Christian morals to the students. As a faith-based institution, it is inevitable to give solid teaching and direction to our students on the issue of morality. This is the fort of this course. It is however, divided into two, to be taught in the second year of academic activities in both the first and second semesters. This is the second part of the course.

Overview

Bingham University is a university anchored on the Evangelical Christian belief. This belief is adjudged accurate when the believer is seen acting in consonance with his/her belief. In an age where morals and behaviour is bedevilled by 'anything goes', a course on building solid morality becomes unavoidable. In addition, to churn out quality positively behaved graduates, a course anchored on solid moral worldview is a necessity.

This course is designed to teach students the essentials of the Christian worldview. Students are instructed on the precepts to follow to secure a solid Christian worldview, in order to help them apply the acquired knowledge in their various facets of life. The acquired knowledge is expected to also help them stay equipped to confront other confusing ideologies. The objectives of the course, learning outcomes and course content are provided to give a clear picture of how this knowledge will be acquired and applied.

Objectives

The objectives of the course are to:

1. Outline the connections between various worldviews and culture
2. Appraise the diverse scholars' worldviews
3. Demonstrate in clear terms the significance of worldviews
4. Identify the nature of various worldviews
5. Summarize the functions of worldviews
6. Compute the contextual views of interpreting history
7. Identify the realities of worldview
8. List the categories of worldviews
9. Identify the major elements of worldview
10. Contrast the revelation of God with non-Christian worldviews
11. Describe postmodern ideologies of other faiths
12. Recognize the contours of the Christian worldview

Learning Outcomes

On completion of this course, the student should be able to:

1. Outline at least five connecting thoughts between various worldviews and culture;
2. Identify 5 diverse scholars' worldviews;
3. Critique at least 3 significances of worldviews;
4. Demonstrate at least 4 natures of various worldviews;

5. Identify at least 5 functions of worldviews;
6. Illustrate at least 3 contextual views of interpreting history
7. Recognize 5 realities of worldview;
8. List at least 3 categories of worldviews;
9. Identify 5 major elements of worldview;
10. Contrast 5 aspects of the revelation of God with non-Christian worldviews
11. Describe at least 3 postmodern ideologies of other faiths;
12. Recognize at least 3 contours of the Christian worldview.

Course Content

Definition of concepts of worldview and culture II. The Analysis of scholars' conception of worldview. Significance of worldview. Nature of worldview. Functions of worldview. Contextual views of interpreting history and reality of worldview. The categories of worldviews. The major elements of worldviews. The question of the destiny of man. The revelation of God. The person of Christ. Postmodern ideologies of other faiths. Christian worldview and Christian religious cults. The model (contours) of Christian worldview.

Minimum Academic Standards

The minimum academic standards are as provided for by the NUC CCMAS for B. Sc Architecture.

BHU-ARC 218 **Descriptive Geometry** (1 Unit; Core; P = 45)

Senate-approved relevance

In descriptive geometry, the graphical presentation skills of the students' and honed to precision. The vision of Bingham university to make our graduates knowledgeable and self-reliant matches with this course's aim to make the finished design attractive, dimensionally accurate and saleable. Architects must be able to present their designs to clients in a form that is aesthetically pleasing and at the same time buildable. The proximity of the university to major and satellite towns gives students the advantage of visualising the selling points of structures within two unique environments.

Overview

Design and construction in architecture deal with visualization, and thus architects constantly employ geometry. This course is designed to provide the students with the tools to develop skills to understand and visualise space. Students are taught how to project different objects into a 2 -dimensional space-that is transforming three-dimensional objects into two-dimensional representations that can then be presented on paper. Descriptive geometry deals with solving problems in three-dimensional geometry by generating two-dimensional views.

This course is designed to expose the methods of representation of three-dimensional objects on a plane; methods of graphic solutions to various geometric problems; basic principles of geometric shaping of surfaces; methods of increasing visibility and visual accuracy of the designed object's representation (perspective). This aims to help the students comprehend and specify spatial objects from given principal views; and get an idea of the variety and combination of the geometric shapes and of geometric reasoning. The objectives, learning outcomes and course contents for the course are itemised below.

Objectives

The objectives of this course are to:

1. illustrate the various forms, points lines and planes;
2. describe geometric and isometric scales;
3. illustrate the intersection of elements of design;
4. describe different projection methods;
5. describe various rendering techniques.

Learning Outcomes

1. illustrate 10 lines, points and planes and enumerate the specific information they convey in a drawing;
2. produce 2 drawings each using geometric and isometric scales;
3. illustrate through design 5 intersections of planes and solids;
4. illustrate 5 drawings using 5 different projection methods;
5. illustrate the application of 6 rendering techniques in 6 different drawings.

Course Content

Horizontal projections of a point line and a plane. True length of a line. Geometrical and isometric scale. Intersection of planes. Intersection of solids. Revolutions. Orthographic projections. Axonometric projections. Auxiliary projections.1-,2-, and 3-point perspective. Sciography. Free form structures. Rendering techniques in pen and ink. Pencil techniques. Colour pencil and Marker rendering techniques. Water colour application techniques. Mixed media technique.

Minimum Academic Standards

The minimum academic standards are as provided for by the NUC CCMAS for B. Sc Architecture.

300 Level

GST 312: Peace and Conflict Resolutions (2 Units C: LH 30)

Learning Outcomes

At the end of the course, students should be able to:

1. analyse the concepts of peace, conflict and security;
2. list major forms, types and root causes of conflict and violence;
3. differentiate between conflict and terrorism;
4. enumerate security and peace building strategies; and
5. describe roles of international organisations, media and traditional institutions in peace building.

Course Contents

Concepts of peace, conflict and security in a multi-ethnic nation. Types and theories of conflicts: ethnic, religious, economic, geo-political conflicts. structural conflict theory, realist theory of conflict, frustration-aggression conflict theory. Root causes of conflict and violence in Africa: indigene and settlers phenomenon. Boundaries/boarder disputes; political disputes. ethnic

disputes and rivalries. Economic inequalities. Social disputes. Nationalist movements and agitations. Selected conflict case studies – Tiv-Junkun; Zango Kataf, chieftaincy and land disputes and many others. Peace building, management of conflicts and security: peace and human development. Approaches to peace and conflict management - (religious, government, community leaders and many others). Elements of peace studies and conflict resolution. Conflict dynamics assessment scales. Constructive and destructive. Justice and legal framework. Concepts of social justice. The Nigeria Legal System. Insurgency and terrorism; Peace mediation and peace keeping. Peace and security council (international, national and local levels) agents of conflict resolution – conventions, treaties community policing. Evolution and imperatives. Alternative Dispute Resolution, ADR: A). Dialogue, b). Arbitration, c). Negotiation, d). Collaboration and many others. Roles of International organizations in conflict resolution: (a). The United Nations, UN and its conflict resolution organs. (b). The African Union & Peace Security Council (c). ECOWAS in peace keeping. Media and traditional institutions in peace building. Managing post-conflict situations/crisis: Refugees. Internally Displaced Persons, IDPs and the role of NGOs in Post-conflict situations/crisis.

ENT 312: Venture Creation (2 Units C: LH 15; PH 45)

Learning Outcomes

At the end of this course, students, through case study and practical approaches, should be able to:

1. describe the key steps in venture creation;
2. spot opportunities in problems and in high potential sectors regardless of geographical location;
3. state how original products, ideas, and concepts are developed;
4. develop business concept for further incubation or pitching for funding;
5. identify key sources of entrepreneurial finance;
6. implement the requirements for establishing and managing micro and small enterprises;
7. conduct entrepreneurial marketing and e-commerce;
8. apply a wide variety of emerging technological solutions to entrepreneurship; and
9. appreciate why ventures fail due to lack of planning and poor implementation.

Course Contents

Opportunity identification (sources of business opportunities in Nigeria. Environmental scanning. Demand and supply gap/unmet needs/market gaps/Market Research. Unutilised resources. Social and climate conditions and technology adoption gap). New business development (business planning, market research). Entrepreneurial finance (Venture capital, equity finance, micro finance, personal savings, small business investment organizations and business plan competition). Entrepreneurial marketing and e-commerce (Principles of marketing, customer acquisition and retention, B2B, C2C and B2C models of e-commerce, first mover advantage, E-commerce business models and successful E-Commerce Companies,).Small business management/family business. Leadership and management, basic book keeping, nature of family business and family business growth model. Negotiation and business communication (strategy and tactics of negotiation/bargaining, traditional and modern business communication methods). Opportunity discovery demonstrations (business idea generation presentations, business idea contest, brainstorming sessions, idea pitching). technological solutions (the concept of market/customer solution, customer solution and emerging technologies, business applications

of new technologies - artificial intelligence (ai), virtual/mixed reality (vr), internet of things (iots), blockchain, cloud computing, renewable energy, digital business and e-commerce strategies).

FAA 313: Research Methods (2 Units C: LH 30)

Learning Outcomes

At the end of this course, the students should be able to:

1. define research;
2. discuss the characteristics of research;
3. describe the various research designs and identify the tools of research;
4. discuss the various methods of data collection and simple analysis;
5. discuss the basic principles of referencing and use of referencing software; and
6. draft the outline of a thesis report.

Course Contents

Research in general. Meaning and definition of research.Why we do research.Identifying researchable problems. Formulating research topics. Types and classification of research; Reviewing literature. Research design – survey, case study and experimental, variables of study. Methods and procedures for data collection. Instruments of data collection. Population and sampling. Data presentation. Descriptive and statistical data analysis and report writing.

ARC 301: Architectural Design Studio III (6 Units C: PH 270)

Learning Outcomes

At the end of this course, the students should be able to:

1. use basic design principles like harmony, symmetry, axis, hierarchy to achieve appropriate aesthetics;
2. integrate space, function and structure to create unified wholes in design;
3. work systematically through the design process from analysis, case-studies to synthesis;
4. think conceptually;
5. apply an understanding of typological issues and visual expressionism to design;
6. develop innovative design ideas from the process of design problem analysis;
7. express design concepts verbally and graphically;
8. present design drawings in 2D and 3D formats; and
9. demonstrate familiarity with commercial and educational building typologies.

Course Contents

Project exercises involving multiple functions. Integrating space, function and structures. Dealing with multiple and contrasting functions within single buildings. Simple site considerations. Complex projects of typology in architecture. Emphasis of the design process. Improving skills on spatial composition. Environmental considerations in design. Aesthetic issues of massing and proportions, and presenting the analysis of design problems.

ARC 302: Students Industrial Work Experience Scheme (SIWES) (6 Units C: PH 270)

Learning Outcomes

Work experience aims to:

1. build self-awareness, especially students' strengths and abilities in relation to the work experience;
2. build self-confidence;
3. identify skills and competencies are required in the workplace; and
4. identify job apprenticeship opportunities.

Course Contents

This placement is undertaken in the second semester of year 3. The placement should generally be of at least 12 weeks duration and should involve full-time work within the placement organisation. Students are responsible for their travel, accommodation, and general living expense while undertaking a placement. Employability skills which will be learned will include: communication, teamwork, problem solving, self-management, planning and organizing, technology, learning, initiative and enterprise.

ARC 303: Building Components and Methods III (2 Units C: LH 30)

Learning Outcomes

At the end of this course, the students should be able to:

1. identify the major building components in the construction of buildings such as doors, windows, ironmongery, stairs, partitions;
2. describe the various uses, types design and the fabrication and fixing for each of these components;
3. identify the conditions/rationale for choosing each type or design of these elements;
4. describe the characteristics of each of these components;
5. draw and label simple working drawings which emphasize these components;
6. identify sustainable issues in choosing and fixing components;
7. create innovations with components given a problematic situation;
8. appraise the qualities of components commonly used;
9. recall the major building codes for each of the components; and
10. use more technical vocabulary for materials and the construction process.

Course Contents

Building components - doors, windows, partitions, stairs, ironmongery uses and detailing, materials, fixing, installation and handling. Factors affecting choices of building components. Design and fabrication of components; joinery detailing. Panelling, windows, doors and their functional requirements. Walls and other forms of partitions. Sustainability materials and their construction. Local and international building codes and regulations associated with the materials, design and construction of building components.

ARC 304: Entrepreneurship for Architects (2 Units C: PH 90)

Learning Outcomes

At the end of this course, the students should be able to acquire:

1. special skills in construction materials fabrication and related building trades such as in wood works, masonry, cladding shells, roof members, aluminium based finishes, tiles, door and window finishes;
2. problem solving skills in architecture using information technology such as augmented and virtual realities in artificial intelligence (AI), machine learning (ml) 3D printing and fabrication;
3. skills in real estate marketing including landscape photography, environmental simulation, architectural journalism and architectural products and services marketing; and
4. skills in furnishing and interior accessories, arts, crafts and craftsmanship in building ornamentation.

Course Contents

Learning is both in person and online, and product development; attachment to recognized private sector entrepreneur as role model; full business proposal submission; and presentation of product sample for grading after 3 months. Architectural entrepreneurship programme sees universities as important engines of knowledge economy, sources of highly skilled experts and centres of technological innovation. It is structured to compliment and energize the 3 months Students Industrial Work Experience Scheme (SIWES) schedule for 300 level second semester. Students are expected to have developed interest in an entrepreneurship project idea after GST 211 (Entrepreneurship) and studio exercises.

ARC 305: Building Structures III (2 Units C: LH 30)

Learning Outcomes

At the end of this course, the students should be able to:

1. identify and draw different types of beam and frame structures;
2. demonstrate the basic principles in the design of beam and frame structures;
3. identify the effect of materials on the design of these structures; and
4. describe the relationship between types of beam and frame structures, form and aesthetics.

Course Contents

Structural analysis and effective design decisions. Structural design in timber. Structural design in concrete and steel of beams. Structural design in frames and arches. Structural systems in relation to architectural design and form. The fundamental principles of structural principles in cantilevered beams.The fundamental principles of structural principles in supported beams, posts and lintels.The fundamental principles of structural principles in gable, frames and arches.The fundamental principles of structural principles in multiple frames, and arched roofs, as well as Structural selection and choice.

ARC 307: Building Services I (2 Units C: LH 15; PH 45)

Learning Outcomes

At the end of this course, the students should be able to:

1. identify the component parts of a water supply system; sources, supply, distribution and fixtures;
2. describe water distribution of hot and cold water within a domestic building and the piping materials;
3. design a simple waste (sewage and solid waste) distribution in a residential building as well as identify the piping materials;
4. describe the treatments and recycling methods for sewage and solid wastes in residential/large buildings;
5. identify various plumbing fixtures; their uses, designs, types, materials fixing and handling;
6. identify the major building codes (local and international) associated with water supply and distribution, sewage and solid waste disposal and treatment;
7. design, draw, label with specifications plumbing layouts and fixtures plan for a simple residential building; and
8. collaborate to carry out work in groups.

Course Contents

The utility and environmental services in domestic buildings: water, sanitary, and waste. Water supply and sources. Water production and distribution, drainage, rainfall and storm water disposal. Sanitation appliances and types. Domestic and industrial waste disposal. Materials for plumbing. Pipe work details. Sewage disposal and treatment. Septic tanks and central sewage treatment. Local and international building codes and regulations associated with the building services. Practical work with plumbing materials and other materials (such as aluminium and metals). Design and fabrication of simple plumbing systems and other building components.

ARC 309: Building Information Modelling (2 Units C: LH 15; PH 45)

Learning Outcomes

At the end of this course, the students should be able to:

1. define and discuss what BIM is;
2. evaluate the historical issues within the construction industry which is driving BIM adoption;
3. demonstrate skills in the use of simple BIM software components;
4. explore the global drivers which have led to BIM adoption;
5. develop a global perspective of what BIM is; and
6. discuss the future of BIM.

Course Contents

What and the nature of BIM. The role of BIM in the construction industry. BIM in the design and construction to maintenance and operation. Sustainability from industry and research experts using state-of-the-art BIM software. The historical issues of BIM in the construction industry.

Drivers of BIM adoption. A global perspective of BIM. How BIM helps the AEC industry to succeed. The limitations of BIM. The key case studies on BIM adoption, and the future of BIM.

BHU-ARC 311 **Working Drawings and Detailing Studio** (2 Units; Core; L =15; P=45)

Senate-approved relevance

The knowledge of working drawings and details is an integral part of architectural practice required for building construction works. This important aspect in the study of architecture is essential to easy, safe and accurate construction works, and plays a crucial role in the creative transformation of the built environment and city scape. The study of working drawings and detailing exposes the students to the relationship and synergy between architects and other professionals in the built environment such as Quantity Surveyors, Land Surveyors and Engineers. Students of Bingham University would therefore, be groomed in line with the University's mission of self-reliance and best standard practice of working drawings and detailing to provide them with competence and capacity in the practice of architecture. The proximity of Bingham University to the Federal Capital Territory Abuja, which is one of the fastest growing cities in Africa in terms of housing and construction works would provide a robust field for the study of Architectural working drawings and detailing, its challenges and proponents.

Overview

This course is designed to expose the students to the knowledge of the documents/drawings required for building construction works. The concept of working drawings as graphical communication between the Architect and the contractor, details as explanatory drawings of sections and elements, and variations in design arising from changing needs are emphasized.

This course introduces the techniques and procedure used to produce fully dimensioned drawings in appropriate scales, construction details of joints, stairs, structural elements to mention a few, and the incorporation of building services are stressed. At the end of the course, complete sets of working drawings are produced from a given presentation drawing. The objectives, learning outcomes and course contents for the course are itemised below.

Objectives

The objectives of this course are to:

1. describe the meaning of working drawings and detailing.
2. differentiate between the components of presentation drawings and working drawings.
3. differentiate between structural detail and construction detail in a design.
4. describe the requirements of working drawings and details for single-storey and multi-storey designs.
5. describe the production and arrangement of architectural working drawings and those of other professions.
6. describe the requirements for the approval of working drawings by the Development Control Department of the FCDA
7. conduct field trips to ongoing construction sites to expose the students to the applications of detailing on site.

Learning Outcomes

On completion of this course, the student should be able to:

1. list 2 concepts associated with working drawings and detailing.
2. List 10 features that can differentiate presentation drawings from working drawings.
3. List 5 features that can differentiate structural detail from construction detail in a design.
4. describe 5 requirements each for working drawings and details for single-storey and multi-storey building projects.
5. produce 1 complete set of architectural working drawings
6. describe 5 requirements for the approval of working drawings by the Development Control Department of the FCDA.
7. identify 5 entrepreneurial opportunities related to acquiring knowledge of working drawings and detailing.

Course Content

The meaning of working drawings. The difference between working drawings and presentation drawings. The components of working drawings and detailing. Producing working drawings from a given presentation drawing. Architectural detailing as it applies to the use of materials. Material assemblies and their components in the construction of buildings. Details of floor. Details of partition walls. Details of exterior walls. Details of roof. Details of foundation. Materials and their responses to the elements and building loads. Technical building detailing and construction practices as they relate to residential buildings. Inter-relation of freehand drawn details and actual site-built construction will also be studied. Students will learn which parts of a house need to be detailed. And how these details relate to the overall building. Students will also study the relationship between architectural working drawings and those of other professionals in the building industry. And relate them to the physical building project and entrepreneurial opportunities.

Minimum Academic Standards

The minimum academic standards are as provided for by the NUC CCMAS for B.Sc. Architecture.

400 Level

FAA 484: Professional Practice (2 Units C: LH 30)

Learning Outcomes

At the end of this course, the students should be able to:

1. demonstrate knowledge of the scope of professional practice;
2. demonstrate knowledge of the stages of a project procurement; from client engagement, design and documentation, tendering work, superintendence and construction administration through to post-construction;
3. demonstrate knowledge of the ethical obligations of the architect to client, other architects and profession;
4. identify available procurement methods and demonstrate knowledge of the selection process for appropriately qualified contractors in accordance with the procurement method and project contract;

5. discuss career paths in architecture; and
6. prepare a simple procurement plan.

Course Contents

The practice of the profession of architecture globally and in Nigeria. Ethical practice. The character and operation of firms. Administration of the business of architecture. Professional memberships and registration in Nigeria. Professional memberships and registration in other regions of the world.The project procurement process.contracts and contract administration. Alternative and innovative pathways through the profession. Career planning in architecture. The procurement act and professional practice.

ARC 401: Design Studio IV (6 Units C: PH 270)

Learning Outcomes

At the end of this course, the students should be able to:

1. design with non-conventional materials, construction methods and in attention to details;
2. integrate seemingly unrelated functions such as office and recreational functions i.e mixed-use designs;
3. think conceptually and develop conceptual projects;
4. work with sites which has complex topographies;
5. integrate building services with structure, space and form;
6. generate innovative design concepts in the design process;
7. apply accessible design principles to project design proposals;
8. cooperatively work in teams; and
9. demonstrate familiarity with office, commercial and health building typologies.

Course Contents

Complex projects in spatial composition. Complex projects in space/structures relationship. Complex projects in function/spatial relationships. Complex projects in site-planning. Projects which emphasize working with specific materials. Eco-design considerations. Projects which emphasize expressionism. Conceptual issues and typological considerations. Design process. Conceptual projects and group projects.

ARC 402: Architectural Design Studio V (6 Units C: PH 270)

Learning Outcomes

At the end of this course, the students should be able to:

1. design with non-conventional materials, construction methods and in attention to details;
2. integrate seemingly unrelated functions such as office and recreational functions i.e mixed-use designs;
3. think conceptually and develop projects conceptually;
4. integrate building services with structure, space and form;
5. generate innovative design concepts in the design process;
6. design more complex site plans and solve landscape design problems of difficult terrains;
7. develop team work abilities; and
8. demonstrate familiarity with office, commercial and health building typologies.

Course Contents

Complex projects in spatial composition. Complex projects in space/structures relationship. Complex projects in function/spatial relationships. Complex projects in site-planning. Projects which emphasize working with specific materials. Projects which emphasize eco-design considerations. Projects which emphasize expressionism. Projects which emphasize conceptual issues and typological considerations. Projects which emphasize the design process. Conceptual projects and group projects.

ARC 403: Building Components and Methods IV (2 Units C: LH 30)

Learning Outcomes

At the end of this course, the students should be able to:

1. identify the major finishes in the construction of buildings such as exterior wall claddings, floor and ceiling finishes, and simple smart technologies;
2. describe the various types and designs of each of these finishes;
3. identify the conditions/rationale for choosing each type or design of these finishes;
4. describe the materials and methods of fixing/installation for each of these finishes;
5. write simple specifications for these finishes;
6. identify sustainable issues in the materials and construction of finishes;
7. identify the international and local codes and regulations associated with finishes;
8. appraise the qualities of finishes commonly used; and
9. describe the building delivery process.

Course Contents

Finishes and details in building construction as well as the building delivery process. Types, materials, production, design, and installation, fixing and handling of ceiling finishes. Types, materials, production, design, and installation, fixing and handling of wall finishes. Types, materials, production, design, and installation, fixing and handling of floor finishes. Types, materials, production, design, and installation, fixing and handling of exterior claddings. Qualities, characteristic of finishes, simple specifications, working drawings for finishes. The sustainability of finishes. Local and international building codes and regulations associated with the material, design and construction of finishes.

ARC 405: Building Services II (2 Units C: LH 30)

Learning Outcomes

At the end of this course, the students should be able to:

1. identify the component parts of the electrical and fire system; sources, supply, distribution and fixtures;
2. describe the electrical distributions within a domestic building and the electrical materials;
3. describe fire equipment, fire codes and regulations distributions within a domestic building;
4. discuss artificial lighting and daylighting, their types, qualities and measurements
5. discuss theories and principles of lighting design;
6. calculate lighting required for various facilities/tasks using simple lighting software packages such as AGi32 and DIALux;
7. identify various electrical and lighting fixtures; their uses, designs, types, materials fixing and handling;

8. state the major building codes associated with electrical/lighting installations and fixtures;
9. design, draw, label with specifications electrical layouts and lighting plan for a simple residential building; and
10. collaboratively work together.

Course Contents

Electrical systems, lighting and fire systems mainly in domestic buildings. General principles of electricity generation, transmission and domestic supply. Basic domestic wiring systems. Principles of circuit-breakers, fuses, switches, relays and safety precautions. Earthing. Lighting protectors. Wiring for industrial installation. Telephone and communication systems. Gas and its distribution for use in domestic buildings. Fire prevention. Fire codes and fire equipment in buildings. Local and international building codes and regulations associated with the building services.Design of simple wiring systems in domestic spaces. Theories, concepts and methods of lighting design in buildings and sustainable principles. Lighting fundamentals. Light sources; Lighting, comfort and performance, and Lighting design.

ARC 406: Research Project (2 Units C: PH 90)

Learning Outcomes

At the end of this course, the students should be able to:

1. formulate a research topic, aim and objectives in architecture;
2. review relevant literature in the areas of architecture;
3. conduct simple research in any area of architecture;
4. make presentations of a research proposal and the results and findings; and
5. produce a project report.

Course Contents

Development of research instruments. Pretesting instruments. Field work. Presenting the field experience. Reporting the results of independent research. Interpreting the results of independent research. Synthesis of knowledge and skills acquired during the entire training in architecture. Oral and written presentation skills. Report writing skills and data collection skills.

ARC 407: Theory and Methods of Contemporary Architecture (2 Units C: LH 30)

Learning Outcomes

At the end of this course, the students should be able to:

1. identify the predisposing factors of contemporary architecture;
2. discuss the characteristics of the Arts and Crafts movement, the Bauhaus movement, the Chicago school and the International Style;
3. discuss the influence of the Masters (Le Corbusier, Gropius, Mies Van der Rohe and Frank Llyod Wright and Nigerian Architects such as Femi Majekodunmi, Godwin Aduku, Ekundayo Adeyemi on contemporary Masters) on Contemporary Architecture;
4. appraise the role of technology on Architecture in the 19th century;
5. describe the development of Modern Architecture in Nigeria;
6. describe the influence of key female architects in contemporary architectural history; and
7. describe using technical and formal vocabulary the contemporary architectural styles and their underpinnings.

Course Contents

Contemporary architecture. Buildings and building practices of the late 19th and 20th centuries. Contemporary architects and philosophies in architecture worldwide including Nigeria. Modern architecture in Europe and USA. Postmodern architecture in Europe and USA. The architecture and masters of the "modern movement". The architecture and masters of modern, postmodern architecture. The architecture and masters of contemporary architecture (such as deconstructivism) globally. Feminist architecture. Key female architects of the 21st century. The architecture and masters of contemporary architecture (such as deconstructivism) in Nigeria.

ARC 409: Building Economics, Quantities and Estimating (2 Units C: LH 30)

Learning Outcomes

At the end of this course, the students should be able to:

1. define the advanced concepts in quantities and estimating;
2. explain the advanced principles and practices of measurement and estimating;
3. demonstrate the use of the standard method used in the building industry;
4. measure quantities and estimate unit rates to prepare tenders for simple buildings;
5. use software packages in measurement and estimating;
6. explain basic economic concepts in the construction of buildings;
7. demonstrate an understanding of factors and policies influencing costs in a construction project and in the construction business;
8. calculate present and future value problems;
9. assemble key financial components of a project construction and prepare a pro-forma statement;
10. convert material quantities to final estimate costs by applying current pricing techniques and methodologies;
11. describe crew assembly, and develop corresponding crew rates;
12. identify the process of final tender assembly and preparation; and
13. use software packages in analysing project competitiveness, tender documents preparation, and evaluating value.

Course Contents

Principles and practice of measurement and estimating in simple facilities and construction. Construction documentation as a critical form of information transmission. The roles and uses of bills of quantities. Builders' quantities and estimates. Measurement and billing of quantities for a wide range of construction trades and estimating of unit rates. Computer software packages for estimating. The concept of the time value of money using simple rates of return, interest rates and types, and decision criteria. Pricing techniques and methodology as part of the estimating process and bid preparation. Various forms of budget pricing, study of elemental analysis. The principles of economics and the rationalities behind the production, distribution, and consumption of goods and services.

BHU-ARC 405 **Architectural Structures I** (2 Units; Core; L =30)

Senate-approved relevance

Building collapse is one of the results of poor structural design. Building structures is concerned about the material and structural analysis that affect the design of building structures. The

knowledge that will be acquired in this course is line with the vision of Bingham University to produce graduates that are skilled and highly competent in their field of endeavour.

Overview

This course introduces the student to the analysis of the structural elements of the building as a way of ensuring stability of the building. It will acquaint the students with the works of structural engineers to enable them to read structural drawing. This will in turn improve their structural concepts when they are designing.

This course is designed to guide students through the various analysis required for them to be able to compute the various forces acting on a building and survey the structural elements used to resist them. The course will use case studies of ordinary and unusual structures to illustrate concepts of structural design. The objectives, learning outcomes and course contents that will facilitate in acquiring this knowledge are listed below.

Objectives

The objectives of this course are to:

1. Describe the forces and reactions acting upon a building structure.
2. Describe how the loads created by these forces are distributed.
3. Define engineering terms that describe the structural characteristics of a material.
4. Describe how the forces acting on a structure are transmitted to the ground.
5. Define and describe a bearing wall structure.
6. Define and describe a skeletal structure.
7. Read and interpret structural drawings.

Learning Outcomes

On completion of this course, the students should be able to:

1. Describe the effects of 5 forces and reactions acting on a building structure.
2. Describe how 5 types of loads created by these forces are distributed.
3. Outline at least 6 engineering terms that describe the structural characteristics of a material.
4. Describe how at least 5 forces acting on a structure are transmitted to the ground.
5. Illustrate 2 designs of bearing wall structures.
6. describe in detail 1 skeletal structure of floor slab.
7. Read and interpret 1 structural drawing.

Course Content

Forces acting upon a building structure. Load reactions and distribution. Structural characteristics of materials. Section modulus and fibre strength. Foundation design. Bearing wall structures. Skeletal structures. Column Design. Floor Structure Design. Roof Design. Reading structural drawings. Basic Concepts and design of different types of slab. Slabs spanning in one direction and two directions. Continuous slab. Cantilevered slab. Circular slab. Flat slab.

Minimum Academic Standards

The minimum academic standards are as provided for by the NUC CCMAS for B.Sc. Architecture.

BHU-ARC 406 **Architectural Structures II** (2 Units; Core; L =30)

Senate-approved relevance

Structures not only carry loads but also fulfil the intended architectural expression in terms of achieving structurally sound spatial and aesthetic forms with concrete. The knowledge that will be acquired in this course will teach the students skills that are in line with the vision of Bingham University to produce students who are highly skilled and knowledgeable. The course focusses on the techniques of ensuring that the concrete elements that form part of the building envelop are designed to be strong and stable and not to fail or collapse which is one the problems with poor skill and knowledge in the field of structures.

Overview

The course is designed to strengthen students' knowledge about reinforced cement concrete and its applications in buildings. Students will be taught about the methods of designing various structural members using reinforced cement concrete. They will be introduced to the concepts of designing with steel structures and its components. The students will also be taught how to prepare structural drawing for a simple structure.

Structures as a course will elucidate the role of steel ropes/strands in pre-stressing in concrete members. This will enable students to understand and design components such as staircases and other building elements that are designed with steel structural members. The objectives, learning outcomes and course contents are listed below to further explain how this knowledge will be acquired.

Objectives

The objectives of this course are to:

1. Describe the design of reinforcement in beams
2. Describe the design of reinforced concrete columns
3. Describe the design of reinforcement in different types of staircases
4. Identify steel members in tension and compression
5. Describe the design of streel beams
6. Describe the design of steel columns
7. Describe the analysis of different members for stress.
8. Describe processes involved in designing a simple structure.

Learning Outcomes

On completion of the course, the student should be able to:

1. design 2 reinforced concrete beams
2. design 2 reinforced concrete columns
3. design 2 plan and 2 section views of reinforcement in different types of staircases
4. Identify 4 steel members in tension and compression
5. design 1 universal beam to satisfy ultimate serviceability and limit state requirements
6. calculate the loads acting on 2 steel columns from the influence area

7. Analyse the shear and bearing stresses of 2 beams and 2 columns.
8. Prepare 1 set of structural drawings for a simple structure.

Course Content

Introduction to RCC. Balanced, under & over reinforced sections. Design of Reinforcement in Beams. Design of RCC Columns and Staircases. Concepts and Design of different types of staircases. Introduction to Steel Structures. Design of steel structural members. Tension, compression and bending members steel connections. Steel Connections. Design of Steel Beams. Design of Steel Columns. Theory of columns. Design of axially loaded steel columns. Design of built-up lacing and battened columns. Pre-stressed Concrete Structures. Analysis for stress. Simple calculations in design of cross-section details.

Minimum Academic Standards

The minimum academic standards are as provided for by the NUC CCMAS for B.Sc.

Architecture.BHU-ARC 408 **Law of Contracts** (1 Unit; Core; L =15)

Senate-approved relevance

Bingham University, in addition to being science and technology oriented and driven, also aims at producing professionals that are excellent in knowledge and skills for self-reliance with strong Christian ethics and morals. The two religious ordinances mentioned here (Christian ethics and morals) are based on laws. Laws, broadly speaking, are for maintenance of moral, justice, equity, etc in the society, hence the necessity to introduce a course on law peculiar to architectural profession in the architectural departmental programme.

Overview

In the absence of laws in any society, chaos and anarchy will be the order of the day. Every society is, therefore guided by sets of laws to guarantee justice, equity, peace, safety among other societal needs for all its members. Law discipline is so broad that every aspect of the society has special laws made for it to meet its own peculiarities. This explains the reason for a special set of laws to be made to meet the conditions prevailing in the building industry. This set of laws is often referred to as "The law of building contract". It is taught as a compulsory course in the schools of Architecture in the country.

The course is aimed at acquainting the students of Architecture with the laws guiding the building industry. The main objective is to equip the students with enough legal knowledge concerning the building industry which will guide them in their day to day professional activities after graduation. As future leaders of building teams, this course is also aimed at enabling them to learn all the rights, privileges and responsibilities of all the members of building teams. It is expected that the course will also expose them to their legal responsibilities as future leaders of building teams and empower them to enforce such laws as practicing architects.

Objectives

The objectives of the course are to:

1. introduce the concept of law;

2. outline the purposes of laws in societies;
3. describe various kinds of laws;
4. define the various kinds of laws operating in Nigeria;
5. introduce the law of building contract;
6. expose the various aspects of the law of building contract.
7. Outline processes to guide in day to day professional activities and business relationship;
8. identify the rights, privileges and responsibilities of all the members of the building team;
9. outline the legal responsibilities of the architect;
10. identify the legal relationship between the profession of Architecture and other legal entities in the society.

Learning outcomes

It is expected that after undergoing this course the students will be able to;

1. list at least 5 factors concerning societies and laws;
2. identify 5 reasons for a society to have laws;
3. identify 4 types of legal system operating in Nigeria;
4. outline at least the 6 types of laws operating in Nigeria;
5. identify 5 differences between the law of building contract and other laws in the Nigeria;
6. outline 37 clauses of the contract conditions of the law of building contract;
7. list 37 clauses of the conditions of the law of building contract;
8. apply 37 clauses of the law of building contract correctly with regards to rights, privileges, and responsibilities of the members of building teams;
9. list 7 legal obligations as the leader of the building team after graduation;
10. list 5 types of legal relationships between Architecture and other societal legal entities.

Course Content

Introduction and general overview of the law discipline and legal systems including a discussion on the essence of laws in the society. The need for the law of building contract. Types of the laws of building contract including the JCT version. Consultancy services agreement. Contract documents. The contracting Parties and their legal responsibilities. Articles of agreement. The schedule of conditions of building contract. Trade preambles. Bills of quantities. Architects' instructions. The procurement act of the Federal Republic of Nigeria. Building contract template or check list. The role of the architect in the administration of a building contract. Violation of a building contract and its consequences. Steps to curb violation of a building contract. Arbitration and arbitration procedure.

Minimum Academic Standards

The minimum academic standards are as provided for by the NUC CCMAS for B.Sc. Architecture.

DEFINITION OF TERMINOLOGIES AND CONCEPTS CONTAINED IN THE PROGRAMME

The Department of Architecture of the Bingham University Karu runs a two-semester programme in an academic session based on the course credit system. A semester is expected to last for upwards of 16 weeks in which 14 weeks must be dedicated lectures. The salient points to be noted: No student may be required to repeat a whole year in any course level. A student shall only repeat course failed at any given level. Academic work in the Environmental Sciences is organized in concentrated modules of subject materials referred to as courses. Each course is planned as a complete unit of study with a scheduled period of instructional/contact hours each semester.

Course System

This should be understood to mean a quantitative system of organization of the curriculum in which subject areas are broken down into unit courses which are examinable and for which students earn credit(s) if passed. The courses are arranged in progressive order of complexity or in levels of academic progress. For example, 100 Level or year 1 courses are 100, 101 e.t.c. and 200 Level or year 2 courses are 200, 202; and so on for levels 3, 4 and 5.

The second aspect of the system is that courses are assigned weights allied to units. Units consist of specified number of student-teacher contact hours per week per semester. Units are used in two complementary ways: one, as a measure of course weighting, and the other, as an indicator of student work load. The minimum number of credit units for the award of a degree is subject to the usual Department and Faculty requirements. A student shall therefore qualify for the award of a degree when he has met the required conditions. The minimum credit load allowed per semester is 16 credit units and the maximum is 24.

Course

A course is a subject of study consisting of only one syllabus, lasting one semester and associated with a single or two examination paper(s) and as per need, a course may last for more than one semester, provided that such a course is divided into two parts, either part of which carries equal credit weighting and last for only one semester and is examinable at the end of the semester.

Credit Units

Credit units refers to the weights attached to a course. One credit is equivalent to one hour per week per semester of 16 weeks of lectures or three hours of laboratory/studio/workshop work per week per semester of 16 weeks.

Core/Compulsory Course

A course which every student must compulsorily take and pass in any particular programme at a particular level of study. They are central to the course of study. They must be taken and passed by the student before he/she will be deemed to have fully satisfied the conditions for successful completion of the programme. These are courses which are important for each programme without which the student cannot be awarded the requisite degree. Additionally, such courses are requirements for professional registration and license. These courses account for 60% of the total weighting of the programme. The core of any Architectural education programme should consist mainly of studio courses from Architectural design and communication Skills, lecture courses from History and Architectural Theory and Technical Courses from Building Construction Technology, Environmental Control Systems and Management Studies.

Elective Course
A course that students take within or outside the faculty. This is chosen by the student from a course list provided by the various departments for each semester. An elective may be taken along with the core courses to broaden the intellectual base and interdisciplinary perception of the students so long as the maximum credit for that session had not been exceeded. Students may graduate without passing the course provided the minimum credit units for the course required for graduation has been attained. This group of courses accounts for approximately 1-15% of the total weighting of the programme. This should constitute a set of courses from which a student can make a selection and should account for approximately 10% - 15% of the total weighting of the programme.

Practical Work
Practical work is the name given to experimental laboratory, workshop assignments or design work designed for the student at various semesters in the programme. These include computer, wood/metal, modelling and concrete technology practical work.

Continuous Assessment
Continuous assessment is a method of periodic assessment for students so as to assess the level of comprehension of the students and also to reduce the dependence of the total grade of the course on the end of course examinations. It normally contributes to the maximum 100% of the total course mark for each of the theory-based courses.

Pre-requisite Course
A course which student must take and pass before taking a particular course at a higher level. Architectural Design, Construction and Structures are examples of such courses

General Course
A mandatory course, common to all students, that is taken at different levels of study and must be passed before graduation

SEMESTER COURSE CREDIT LOAD FOR STUDENTS

A student shall register according to the programme prescribed by the department. This will comprise a minimum load of 24 credit unit and a maximum of 48 credits per session.

Grade Point Average (GPA) and Cumulative Grade Point Average (CGPA)
A system of Grade Point Average (GPA) and Cumulative Grade point Average (CGPA) is currently in use in the Nigerian University system. Grade Point Average and Cumulative Grade Point Average are calculated as numerical representations of a student's quality of performance. These averages are used to determine if a student ualifies for certain academic actions (e.g., probation, promotion, graduation and class of degree)

A student's Grade Point Average (GPA) is the weighted mean value of all grade points earned through examinations and other forms of formal assessment in a particular academic semester/session. While the Cumulative Grade Point Average (CGPA) is the weighted mean value of all the Grade Point Averages earned since enrolment on the particular programme.See the table below to know how to calculate the GPA.

How to Calculate Grade Point Average

Course	Credit Units Registered (CUR)	Grade	Grade Point (GP)	Credit Units Earned (CUE)	CUR x GP = Weighted Grade Point (WGP)	
C1	6	C	3	6	18	
C2	4	A	5	4	20	
C3	4	F	0	0	0	
C4	3	B	4	3	12	
C5	2	E	1	2	2	
C6	2	D	2	2	4	
C7	1	A	5	1	5	
C8	1	C	3	1	3	
total	Total credit units registered			Total credit units earned	Weighted Grade Point (WGP)	Grade Point Average (GPA)= WGP ÷CUR
	23			19	64	64÷23=
						2.78

The more carry overs a student has, the larger the sum of the total credit units registered becomes and this keeps lowering the value of the student's CGPA . The carry overs a student does not register or pass, will continue to reflect in the remarks page of the results page until the student registers and passes them. Compulsory courses a student is supposed to register but did not will also appear on the remarks page, but does not indicate that the course is a carry over.

SIWES RATING AND ASSESSMENT

Students will be exposed to a combination of field and office experience both in the public and private sectors and/or construction activities relevant to Architecture. Supervised Student Industrial Work Experience Scheme (SIWES) in addition to Laboratories/Workshop/Practical/Studio Training shall be undertaken in an approved establishment. A minimum period of a semester (3 months)is considered to be adequate. The student is expected to submit a systematic log-book for assessment at the end of the training period. The students are also expected to write a report and present their work in PowerPoint in front of a panel which will consist of staff of the Department and Faculty and representatives from the Offices of the SIWES director and the Vice Chancellor. Students with an unsatisfactory performance shall be required to repeat the training programme.

ARCHITECTURE STUDENTS ASSOCIATION (A.S.A)

As part of a comprehensive curriculum development, students are advised to belong to their society, ASA for social and extra-curricular activities. The association exists to help students create connections, build relationships and expand their skills outside the studio. The functions organised by the association include but are not limited to organising orientation for new students, organising tutorials and social interactions. This association is run by representatives elected from among the student body in the Department of Architecture. The rules and regulations of the activities that will take place in the name of the association are outlined in its constitution.

GRADING SYSTEM FOR THE COURSE

As an integral part of the course credit system, students will be given the opportunity to evaluate the courses taken in the semester based on the following criteria:

1. Course relevance
2. Adequacy in terms of time and content coverage
3. Students understanding of the courses
4. Adequacy of Teaching, tutorials and practical technology/aids
5. Instructor evaluation

The students' course evaluation is aimed at improving the efficiency of course delivery by offering timely feedback to the course lecturers/instructors. A grade comprising a percentage score and a corresponding letter grade is awarded to each student. These grades will include the results of both formative and summative assessments conducted throughout the programme duration. The range of percentage scores, letter grades and numerical grade point equivalents are indicated in the table below.

Grading System

S/NO	SCORE (%)	LETTER GRADE	GRADE POINT EQUIVALENT
1.	70-100	A	5.0
2.	60-69	B	4.0
3.	50-59	C	3.0
4.	45-49	D	2.0
5.	40-44	E	1.0
6.	Below 40	F	0.0

Probation

A student shall be placed on academic probation if at the end of the second semester of an academic year the student scored less than 1.0 Cumulative Grade Point Average (CGPA).

Withdrawal

A student shall be requested to withdraw from a particular programme if at the end of a probation period, the student still does not make satisfactory progress. Such student shall be at liberty to apply for a change of programme within the university.

DEGREE CLASSIFICATIONS

Students are ordinarily expected to register for a minimum of 16 units each semester including all compulsory and required courses. Courses in all the programmes are normally taught for a semester of fifteen (16) weeks duration. In addition to these general provisions, students are expected to satisfy the specific requirements of individual programmes with regards to compulsory and required courses in order to qualify for graduation. The overall performance of each student shall be based on a 5-point scale Cumulative Grade Point Average (CGPA) system. For students enrolled on a four year degree programme, a maximum period of ten (10) or twelve (12) semesters respectively is allowed for the award of a degree. Any additional period of study beyond this will qualify the candidate for the award of a pass degree. Candidates admitted

through direct entry, will be allowed eight (8) or ten (10) semesters for 4- and 5-year programmes respectively to earn a degree.

Degree qualifications are classified in the next table.

Degree Classification

B.Sc. Architecture Class of Degree	CGPA
First Class Degree	4.50-5.00
Second Class Upper Degree	3.50-4.49
Second Class Lower Degree	2.40-3.49
Third Class Degree	1.5-2.39
Pass	Below 1.5

REQUIRED EQUIPMENT FOR STUDENTS

1. Note books
2. Writing material
3. Basic drafting tools and materials will be needed, such as: A3 sketchbooks, pencils, ink pens, T-square, metal rule, scale rule, set square, erasers, sharpeners, cutting knife, cutting board, furniture templates, circle templates, measuring tape, masking tape, A3 and A0 size paper, cardboard paper, coloured pencils, markers, modelling materials etc.
4. A graphics compatible laptop computer with the following minimum requirements. Laptop Computer installed with MS Office 2016 or later, Adobe Reader. Processor: 2.5 to 3+ GHz Memory: 8-16GB Disk Space: 6 GB Display Card: 1 GB – 4 GB CPU 29-106GB/s bandwidth DirectX 9 Compatible Graphics card .NET Framework 4.7 or later Display Resolution: 1920 x 1080 million colours Graphics card: 1-2 GB OpenGL capable

EXAMINATION AND CONTINUOUS ASSESSMENT

The primary goal of assessment is to improve the overall quality of learning as well as evaluate the quality of instruction. Different types of evaluation methods are adopted through the semester for all courses offered in the architecture discipline which include but are not limited to: Oral presentations, Jury Assessments, Design studio exercises, SIWES report evaluations, Continuous assessment, quick approach, end of semester examinations.

Students Design Portfolio

Each student of Architecture will maintain a design portfolio of every project undertaken throughout the 4 years programme. All drawings shall be kept flat in the portfolio instead of being rolled. Drawings not submitted in a portfolio shall normally not be accepted for assessment.
All work done, by students in the Department in fulfilment of course requirements are personal to students and should be kept by them. Only exceptional students work shall be retained by the Department for reference purposes.

Project Reviews

During the review of students work at any given level, all students of that level must be present throughout the entire period of the review as this forms part of the vital teaching/learning experience of Architectural design. Architecture design projects shall normally be assessed according to the criteria, set out by the examination panel. The maximum percentage score under each criterion is also indicated. Each student is personally responsible for his/her personal conduct in the studio.

Examination Regulations

1. Only students who have been duly admitted, registered, matriculated, paid their school fees in full, undergone a regular course of study in the University in line with the rules and regulations of the university and have attained a minimum class attendance of 70% shall be allowed to take their examinations.
2. Candidates must display their current University Identity cards during each examination.
3. Candidates must attend punctually at the times assigned to their papers, and must be at the venue of the examination thirty (30) minutes before the time the examination is due to start. She/he must be ready to be admitted into the examination hall, at least, ten (10) minutes before the time appointed for the commencement of the examination. Candidates should, therefore, refrain from studying in halls and lecture rooms earmarked for examinations. Candidates arriving more than half an hour after the examination has started shall not be allowed to participate in the examination, or may be admitted only at the discretion of the Chief Invigilator (i.e., provided the cause(s) of lateness by the student are reasonable, cogent and sufficiently convincing).
4. Similarly, except with the special permission of the Chief Invigilator, candidates may not leave the examination hall during the first and last half hour of the examination. Outside those periods, candidates, with the permission of the Invigilator, may leave the room temporarily, and then only if accompanied by an invigilator.
5. Candidates must bring with them to the examination hall their own ink, pens and pencils and any materials which may be permitted by these regulations (see below), but they are not allowed to bring any other books or papers. Candidates are warned, in their own interest, to ensure that lecture notes, textbooks, bags, mobile telephones, etc. are not brought into the examination hall.
6. Candidates may be searched by the Invigilator before they are allowed into the examination hall.
7. While the examination is in progress, communication between candidates is strictly forbidden, and any candidate found to be giving or receiving irregular assistance may be required to withdraw from the examination.
8. Silence must be observed in the examination hall. The only permissible way of attracting the attention of the invigilator is by the candidate raising his/her hand for recognition.
9. The use of scrap paper is not permitted. All rough work must be done in the answer booklet and crossed neatly through. Supplementary answer sheets, even if they contain only rough work, must be tied to the main answer booklet.
10. Candidates are advised, in their own interest, to write legibly and to avoid using faint ink. Answers must be written in English, except as otherwise instructed. The answers to each question must start on a fresh page of the answer booklet.
11. Before handing in their answer scripts at the end of the examination, candidates must satisfy themselves that they have inserted at the appropriate places, their Matriculation Numbers and the numbers of the questions they answered.
12. It will be the responsibility of each candidate to hand in his/her script to the Invigilator before he/she leaves the hall. Except for the question paper, and any materials he/she has brought with him/her, the candidate is not allowed to remove or mutilate any paper or material supplied by the University.
13. Examination answer scripts/sheets whether used or unused should not be taken out of the examination hall by students.
14. Candidates must adhere strictly to the sitting arrangement made by the Chief Invigilator.

Forms of Malpractice

The following lists but is not limited to what is considered to be malpractice:

1. Impersonation
2. Plagiarism
3. Falsifying academic records
4. Falsifying medical records
5. Re-submission of used materials
6. Soliciting for marks
7. Refusal to fill malpractice form
8. Unauthorized communication
9. Un-authorised change of seating location
10. Illegal possession of exam materials
11. Possession of unapproved written material
12. Passing un-authorised materials to others
13. Aiding and abetting others to copy
14. Disobeying exam instructions

Procedure for handling Misconduct in the Examination Hall

Examination misconduct can occur during examinations or be observed by the Lecturer in the course of marking examination scripts. When such a situation arises:

1. The invigilator or Lecturer, who caught the student in action shall apprehend the student and make him/her fill and sign the examination misconduct report form on the circumstance that leads to his/her apprehension; the invigilator, examination attendant or the security officer should sign as a witness and submit to the Chief Invigilator.
2. The student(s) shall be allowed to finish his/her examination as soon as the documentation of his/her alleged offence is completed; he/she shall be given a fresh question paper and booklet to continue.
3. The answer script(s) containing the infringement and all other material evidence shall be collected, acknowledged and initialled by the student(s)
4. Where an examiner notices any irregularity during the marking of scripts, she/he shall report in writing. In both cases, the invigilator/examiner is required to complete the prescribed forms provided by the Examinations Officer. The form and a covering memorandum, the student(s) answer script(s), a written statement by the student(s) involved (where the suspect(s) is/are apprehended in the course of the examination), and other relevant documents or materials shall be forwarded through the Head of Department and the Dean to the Examinations Officer.
5. The Examinations Officer, on receipt of the above documents, shall communicate in writing to the candidate(s) concerned, the offence and regulations contravened with a request that the candidate(s) submit(s) a defence (if any) in writing to the Examinations Officer.
6. The examination result of such candidate(s) shall automatically be deferred until the relevant Committees of the University dispose of the case.
7. A copy of the letter written by the Examinations Officer shall also be sent to the Head of Department (and other relevant officers of the University) with a request that the scripts and other relevant documents connected to the case be forwarded to the Examinations Officer for the benefit of the relevant Committee if such documents had not been sent with the report already to the Examinations Officer.

8. On receipt of the letter of defence from the student, the Examinations Officer shall forward the letter and all other documents on the case to the Committee. The list of all documents forwarded shall be itemized in a covering memorandum to the Secretary, Faculty Student Disciplinary Committee of the Faculty where the reported examination misconduct took place.
9. Where there is need to call for further documents or statement from the student e.g. lecture notes for comparison with the student's answer scripts, when the allegation is about suspected unauthorized assistance to a student by another student during the examination, further communication shall be made with the student(s) and all such documents shall be passed to the Secretary of the aforesaid Committee by the Examinations officer.
10. At the appropriate Faculty Student Disciplinary Committee meeting, the Examinations Officer (or his/her Schedule Officer) shall present the exhibits for scrutiny by members of the Committee.
11. The appropriate Faculty Student Disciplinary Committee shall recommend any Student against whom a prima facie case has not been established for acquittal/ discharge.
12. The Examinations Officer shall, after the acceptance of the recommendation to discharge the affected student for lack of prima facie evidence, communicate to the Head of Department and the Dean, the outcome of the case, with the information that the Head of Department shall be requested to mark the script(s) and process the deferred results for approval and release to the student(s).
13. Each case shall be considered on its own merit and where a prima facie case of misconduct is established, the case shall be referred to the Senate Student Disciplinary committee for further disciplinary action in accordance with the procedures laid out in the student handbook.

Notes on Special Materials

1. Candidates taking Design/Graphics/Drawing curses must bring their own instruments, which should include T-squares, scale rules, pencils, pens, colouring materials, compasses and dividers, protractors, diagonal scales and set squares. Simple calculators, not programmable ones, are also allowed upon clearance with the Chief Invigilator.
2. All the reagents, materials, and apparati necessary for practical examinations will be supplied, but candidates must provide themselves with any drawing instruments they need.

GENERAL INSTRUCTIONS

Attendance

1. Attendance of 70% minimum is mandatory
2. Attendance records will be kept and used to determine each person's qualification to sit for the final examination.
3. In case of illness or other unavoidable cause of absence, the student must communicate as soon as possible with any of the instructors, indicating the reason for the absence.

Academic Integrity

Academic integrity is the expectation that all members of the department should exhibit honesty and responsibility. The following constitute academic dishonesty.

1. Violations of academic integrity, including dishonesty in assignments, examinations, or other academic performances are prohibited.
2. You are not allowed to make copies of another person's work and submit it as your own; that is plagiarism.

All cases of academic dishonesty will be reported to the University Management for appropriate sanctions in accordance with the guidelines for handling students' misconduct as spelt out in the Students' Handbook.

SUPERVISORS AND EXAMINERS

The job of the supervisor, coordinator or advisor is to guide and advise students during the course of his studies, while the job of the examiner is to examine the student during whatever is considered to be an exam. Examiners will assess both theory and Studio projects. Below are the categories of supervisers and examiners the students in the department are most likely to encounter.

Level Coordinator

There is a Level Coordinator for every level who is to lead and co-ordinate the academic orientation of the students at that level. The Level Coordinator will have responsibility for the following activities:

1. Meet with the students for the purpose of establishing consistency and continuity of curriculum
2. Lead year level meetings
3. Coordinate the timely completion of required year level tasks.
4. Coordinate year level specific activities.

Module Supervisor

A Module Supervisor is a mentor for a group of students in a design class, who provides the brief for their design and guides them through the design process for that module. Supervisors help to clarify, focus and discus the work which the students have been given.

Internal Examiner

These are examiners who are from Bingham University, and who most likely will be the course lecturers except during jury and SIWES presentations.

External Examiners

An External Examiner shall be invited for the moderation of final year projects. The role of external examiners is to assure the quality of students' learning experiences and ensure that they are assessed fairly in relation to other students on the same course and to all students across our university and nationally.

CONDUCT FOR ASSIGNMENTS AND PRACTICALS

1. Students are expected to submit assignments as scheduled. Failure to submit an assignment as at when due will earn you zero for that assignment.
2. Only under extenuating circumstances, for which a student has notified any of the instructors in advance, will late submission of assignments be permitted.
3. Students are expected to own their own drawing instruments and materials and are not expected to borrow from others.
4. Students should always come for practical with their own drawing instruments; failure of which could mean absence from the class.

5. Students should take adequate care of their drawing instruments to avoid damage, etc. Students should be aware that for every week there would be a tutorial class to teach the students the work to be carried out during the practical class for that week. For the practical classes, there would be two groups according to discipline.

CONDUCT FOR LECTURES, EXAMINATIONS AND STUDIO

1. Students should turn off their cell phones during lectures.
2. Students are prohibited from engaging in other activities (such as texting, watching videos, etc.) during lectures.
3. Food and drinks are not permitted in the lecture room and studios.
4. Students are encouraged to attend lectures and studio on time and discouraged from leaving class when it has not been dismissed.
5. Students are to avoid distractive talking and activities
6. Students are not allowed to use any electronic device not related to the class.
7. Disrespectful behaviour to fellow students and staff will attract penalties.

Studio Learning

The Department of Architecture focuses on fostering a studio environment that enhances the ability of students to experience high quality educational experiences while pursuing new knowledge through research and creative expression. By creating and maintaining an environment that is both positive and respectful, the creative process is much more likely to emerge and succeed.

Studio Regulations

The studio is a professional workplace – it should be treated as such. While the Department of Architecture provides every student enrolled in a studio course a designated place in the appropriate studio, this is a privilege, not a right, and the following rules must be followed.

1. Respect others in the studio.
2. Respect the work and workspace of others.
3. Respect your own work and workspace.
4. Do not borrow supplies or equipment from others without their knowledge and approval.
5. Use only personal stereos with earphones – do not play music at a level that is distracting to others. Do not use a desk that is not assigned to you unless first given permission.
6. Do not use spray fixative, spray adhesive, paint, stain or any similar materials on unprotected desktops, floors or other work surfaces in the studio, classrooms, corridors and/or stairways.
7. Do not cut materials on an unprotected drawing board or work surface.
8. Do not use the plastic edge of a parallel rule as a straightedge when cutting material.
9. Clean up your workspace after you are finished for the day.
10. Do not apply decals, stickers, or used tape or drafting dots to the equipment or furnishings. Properly dispose of chewing gum in trash receptacles.
11. Do not otherwise deface or abuse the studio, equipment or its contents.
12. Do not place personal locks on flat files drawers – use only combination locks provided by the Department. Unauthorized locks will be cut off.
13. Do not wear excessive cologne or perfume (if others can smell it, it is excessive).
14. Always be sure that the door to the studio is securely locked when you leave and turn on the alarm if you are the last to leave.

15. All personal belongings and materials must be removed from the studio at the end of each semester. Workspaces must be left clean and in good working order. Students failing to do so may receive a grade of "Incomplete" until the workspaces are properly attended.
16. Properly secure valuable personal belongings (laptops, cameras, calculators, personal electronics, etc.) when leaving the room. Neither the Bingham University nor the Department of Architecture is responsible for loss due to theft.

Studio Hours

Most architecture school buildings maintain 24-hour accessibility to the studio, but this is not the case in Bingham University. Students are not expected to be in the studio past their hostel curfew time. Due to this fact, the timetable provides studio hours every day of the week during the daytime and students are expected to use this time and the time before the curfew to work on their design.

Maintaining health, being good time mangers and safety is the culture we strive to inculcate into the studio culture. Make sure you eat at the right time and drink lots of water.

Consistency and time management will help you complete your design projects on time. Make sure you complete tasks like paneling your sheets and filling your title blocks even when the creative juices are not flowing.

To prevent theft, trespassing or vandalism, exterior doors must be kept closed when the studio is not in use - avoid leaving drawing equipment and electronic devices unattended. Be responsible for the guests you invite into your studio and avoid allowing strangers who are not accompanied by a known studio member into the studio.

Green Studio Culture

Studio spaces are intended for computing, drawing, and model making. When models require materials like plaster, concrete, wax and large pieces of wood, metal, or other unconventional material, then the work should be done under the supervision of qualified personnel in the approved area. Each student is responsible for promptly removing the resulting waste and spills from these endeavours.

At the end of every semester each student is responsible for disposing of all trash, unwanted models and drawings, and other discarded items. Any models and supplies left at the end of a semester are subject to removal by the Department for being reused for next semester. At the conclusion of each semester, dismantle any models and their bases that students do not wish to take home. Models may not be stored in the building unless the design studio instructor has kept them for documentation. The College, the School, or the Department is not responsible for any items that are left with in the studio space. Students are encouraged to utilize the bins as provided to promote sustainable practices of recycling and waste minimization.

During semester breaks students may leave their materials secured in their desks or studio area. They must clean up the surrounding areas and any loose materials must be secured or placed underneath their desks to allow for appropriate cleaning during the breaks. Any models, materials, or supplies need to be securely placed on top of their desks. Supplies not on the desk should have their owners' name and course number placed upon them. Students are advised to lock personal possessions and valuable belongings for safety, particularly during nights, on weekends, and over breaks.

Critique Sessions/Presentations

The formal and informal critique is an inherent and integral part of the evaluation process in design education. Faculty and invited reviewers are encouraged to deliver criticism constructively when engaging students and others in the review of student work. Design studios are inherently places where ideas are exchanged, and studio projects are common ground for open discussion and creative design exploration. All studio participants are encouraged to exchange ideas, opinions, and experiences in a collegial manner. Some tips for a successful critique session include:

1. Be prepared and present with confidence.
2. Pin-up in a timely manner and take the work down when finished (unless otherwise instructed) so that others may use the space.
3. Assist your colleagues in setting up and taking down work.
4. Respect the person presenting at all times.
5. Offer constructive criticism only of the work; your comments should never be structured as a criticism of an individual.
6. Give your full attention to the person and work being presented; do not engage in distractive conversations or activities.
7. Do not leave the room if you are a member of the level presenting. If the jury is in the room you should be in the room listening and taking notes.
8. Respect persons who lose their composure while presenting, it may happen to you too.
9. It is expected that all students enrolled in the design studio courses and guests visiting the studios will abide by these rules. Failure to abide by these rules may result in the violator being asked to leave the studio and a grade of "F" assigned to the work in question or for the course.
10. In the case of formal presentations (with the exception of the final presentation at the end of the 400 level where the requirements are different), the students are required to receive approval from their module supervisor.

Common Studio Myths

1. Students must work all night to be successful.

You don't need to work all night - all the time. Many architecture students have graduated without long nights in studio. There may be times when students may have to work all night but most of the time it comes about as a result of poor planning and a lack of time management.

2. Students can do all of their work the night before the deadline.

Architecture students constantly underestimate the time a model, drawing, or other work will take. You must plan on allocating more time than you may need for any tasks, and stick to it. Work should not be saved for the night before.

3. Carbonated drinks and buns are the only food sources.

Make time to get real food. Eating a well-balanced diet can help with sleep, productivity, and overall wellness. You should endeavor to leave studio and get a healthy meal.

4. Studio is the most important thing during the semester.

Your health is the most important thing. You should use resources like the student clinic and guidance and counselling unit if they are stressed or overwhelmed. You must remember that you are still taking a lot of other courses you need to pass before you can graduate.

DRESS CODE

Students in the Department of Architecture are expected to be formally dressed in a black suit and tie on Mondays, Thursdays and all presentation days. Failure to do so will mean absence from the class or presentation as the case may be.

AVAILABLE LIBRARY FACILITIES RELEVANT TO PROGRAMME

There is a Departmental Data Room and E-Library which all the students have access to on identification as a registered student of the Department.

GUIDELINES FOR PREPARATION AND SUBMISSION OF PROJECTS

In Bingham University and indeed all tertiary institutions in Nigeria and beyond, research project writing is required of all undergraduate students. As an undergraduate, you are expected to carry out a research project; the work is usually divided into five chapters excluding the preliminary pages.

Components of a Project

This section contains a summary of the different sections that usually make up a project report. It should be noted that each of these pages must be started on a new page.

Cover page

The cover page contains the title of the project, the name and matriculation number of the author. The Department, Faculty and School must be written out in full. The month and year of submission must also be indicated on the cover page.

TITLE OF PROJECT

NAME OF STUDENT
MATRICULATION NUMBER OF CANDIDATE

Department of _name of department_,
Faculty of Environmental Sciences,
Bingham University, Karu

MONTH YEAR

Title page

Here, the name of the institution is put, the title of the report, the name of the Author, then the reason for the report (this is why it is required that students add that it is 'in partial fulfilment of the course requirement required for the award of the B.Sc degree.' Then the date is added. It is advised that you use same font type and size as used in the body of the work. Times New Roman, 14 font size and single line spacing will be fine and normal for most departments and schools. The month and year to be used should be the tentative/fixed date/month of your defence, not the month you finished the work as there'll be different months and year of completion for different students in same department and school.

TITLE OF PROJECT

NAME OF STUDENT
MATRICULATION NUMBER OF CANDIDATE

A Project Report in the Department of _name of DEPARTMENT_, Faculty of Environmental Sciences, Bingham University, Karu
Submitted in partial fulfilment of the requirements for the award of the Degree of
Bachelor of Science in _name of department__

MONTH YEAR

Declaration page

This page contains a written statement by the student claiming authorship of the work contained in the project report, and denying any form of plagiarism. This must be signed and dated by the student. The student must indicate the name of the department and school, the name of the person or people who supervised the work and also attest to the fact that the work has not been copies and that the sources that any information has been obtained from in the course of the work have been duly acknowledged. The student must then clearly write out his/her name and matriculation number , sign and write the date the declaration was made.

DECLARATION

I hereby declare that the project entitled, ' name of project' submitted in the Department of name of department, Bingham University, Karu is an original work done by me the supervision of____ name of supervisor____ and has not been in any way duplicated or submitted to any University for the award of any degree. All sources have been duly and properly acknowledged.

Signature and Date
Name of Student

Matriculation Number

Certification page

The name of the institution and department, then a statement signifying approval for the work by the supervisor, head of department and external supervisor. Space should be reserved for signatures of all listed parties as well. See example below

CERTIFICATION

This is to certify that the project entitled, ' title of project', is the original work of Name of student with matriculation number BHU/__/__/__/_____ submitted in partial fulfilment of the requirements for the award of a degree of a Bachelor of Science in Architecture from Bingham University, Karu. We also certify that he/she has complied with the guidelines for the preparation and submission of project reports of the University.

_____	_____
Name of Supervisor Supervisor	Date
_____	_____
Name of Head of Department Head of Department	Date
_____	_____
Name of Dean	Date

Dedication page

This is where you dedicate your work to anyone you like, it could be dedicated to God, your parents, your brother or sister, it could also be to your friends, dead or alive. Please note that this is different from the acknowledgement page.

DEDICATION

Insert text below

Acknowledgement page

The researcher here writes to appreciate all that contributed, (technical, financial, moral and otherwise) to the success of the research.

ACKNOWLEDGEMENT

Insert text below

Abstract

This is the synopsis of the project report. It is often written last with the tense in past. Usually less than 100 words summarizing the problem statement, the methodology employed, the findings, conclusion and recommendations. This should be in a single paragraph and the word limit not exceeded. It has no paragraphing or indentation and the paragraph must be justified.

ABSTRACT

Problem statement…… Methodology …… Findings…… … Conclusion…… Recommendations.

Table of contents

The main headings and sub-headings and page numbers are listed. This allows for easy page identification and reference. The table of content should be edited at the final stage as well, to correctly capture the reflections in the work.

TABLE OF CONTENTS

CONTENT PAGE NUMBER

List of Tables

LIST OF TABLES

List of Figures

LIST OF FIGURES

List of Appendices

LIST OF APPENDICES

A summary of what is expected in the body of the project work is seen below.

Chapter 1

This is usually the introduction. It describes the background, scope and purpose of the research. The rest of the report should be tied to the information supplied. The researcher should strive to present sufficient details regarding why the study was carried out.

Chapter 2

This is usually the literature review. This presents basically, the work done by others. It is on the ground work done by others that the current research is to be based, hence the review.

Chapter 3

This is usually the research methodology. Here the language used should be in past tense. It is a sum-up of the research design, procedures, the area and population of study. The data sampling and data sources are detailed as well.

Chapter 4

This is usually for data presentation and analysis (results and discussion).The results obtained in the research are presented her, usually, tables are used or any other visual aid like graph or charts.

Chapter 5

This is the conclusions and recommendations. From the results of the research, conclusions are made, then suggestions for improvement for other researchers with similar interest. Based on the whole happenings, recommendations are proffered.

References

This is a list of all the relevant journals, books and all sources of information consulted in the research work, either online or print. You are to use American Psychological Association (APA) style of referencing. The Level coordinator for that year will inform the students which edition they are required to use

Appendix

This is for all extra materials that were not added to the body of the work.

Formatting Requirements

Paper quality and size

Use paper of good quality A4 sized paper. Every page must have the same margins: 25 mm all around, preferably a larger margin 38 mm on the left. If sufficient margins are not observed text or diagrams extending into the margins could be destroyed in the binding process.

Typing Format

The pages must bear print on only one side of the sheet. The spacing of the typed lines should be consistent throughout the document. Double line spacing is recommended, with the exception of notes, long quotations, figure and table captions, appendices, and references. All work must be justified. The font type to be used is Times New Roman and the font size should be 12 points or larger; a smaller font size may be used for graphs, formulas, figure and table captions, and appendices.

Pagination

All preliminary pages (those preceding the body/main text of the project) are assigned Roman numerals (i, ii, iii, iv, etc.), however, the number does not appear on the cover page.

The pages within the body of the thesis are assigned Arabic numerals, beginning with one ("1") at the beginning of chapter 1-introduction, consecutively to the end of the thesis.

Do not begin new pagination sequences at the beginning of appendices. If appendices include material taken from other sources on which page numbers already appear (permission to

reproduce this material having been received, if necessary), they must also carry numbers conforming to the pagination of the thesis or dissertation.

Requirements for Submission

Binding

You must make sure that your project meets the university's formatting and binding requirements. Your project must be written in English. The approved project report must be hard bound in black. The writing should be in gold.

On the spine, the author's initials, surname, title of degree, and year of award shall be written in that order all in capital letters starting from the lower end of the project report (with the project report held vertically).

DEGREE	YEAR	SURNAME, INITIALS

Submission

After the approval of your project report, you are required to submit signed and stamped copies of the project report. You are required to submit 5 copies. 1 copy to the school library, 1 to the faculty library, 1 to the departmental data room, a copy to your supervisor, a soft bound copy to your supervisor and a personal copy.

LIST OF CCMAS REVIEWERS

Title	Surname	First Name	Institution	Programme
Professor	QURIX	Williams Barnabas	Bingham University, Karu. Former Commissioner of works and transport, Kaduna State, former Vice Chancellor, Kaduna State University, present Vice Chancellor Bingham University New Karu, Nasarawa State.	Chairperson,
Professor	AMOLE	Dolapo	Obafemi Awolowo University, Ife	Architecture
Professor	UJI	Zanzan Akaka	University of Jos	Architecture
Architect	OKAH-AVAE	Justus	ARCHI_VIRON Associates, Lagos	Architecture

NUC REPRESENTATIVE

Title	Surname	First Name	Rank	Programmes
Arc. (Mrs.)	MOHAMMED	Faiza	Assistant Chief Architect	Architecture

LIST OF REVIEWERS FROM THE DEPARTMENT

S/NO	NAME OF STAFF	DESIGNATION	
1.	Arc. W. B. Qurix	Professor	Chairman
2.	Arc. L. D. Abalaka	Associate Professor Head of Department	Member
3.	Arc. G. C. Nsude	Senior Lecturer	Member
4.	Arc. W.A. Idakwoji	Senior Lecturer	Member
5.	Arc. E. Orewere	Lecturer I	Member
6.	R. R. Martins	Lecturer I	Member
7.	H. Emusa	Lecturer II	Member
8.	J. Audu	Lecturer II	Member
9.	D. Lucas	Assistant Lecturer	Member
10.	Arc. B. Chapi	Assistant Lecturer	Member
11.	J. Yembo	Technical Staff	Member