

Ministry of Education
West Yangon Technological University
Department of Architecture
Syllabus for Bachelor of Architecture (6-Year Direct Intake System)

Arch 11011 BASIC ARCHITECTURAL DRAWING I (1-0-3)

Fundamentals of graphical presentation studies through the of medium of drawing (simple forms and lines and tone), with emphasis on sound observation and accurate presentation.

Arch 12011 BASIC ARCHITECTURAL DRAWING II (1-0-3)

Free hand sketching of natural and human forms and buildings; Development of different media to express different composition; Rendering techniques; In addition to class work, homework assignments will be given and evaluated.

PROJECTS

Arch 11021 DESCRIPTIVE GEOMETRY I (1-0-3)

Geometrical drawings: elementary forms, lines, planes, curve, solids, plans, elevations, section. Interpenetration of solids and planes

Arch 12021 DESCRIPTIVE GEOMETRY II (1-0-3)

Analysis of complex and axonometric projections and the study of skiagraphy. Perspective drawings; In addition to class work, homework assignments will be given and evaluated.

PROJECTS

Arch 21031 ARCHITECTURAL DRAWING AND PRACTICES I (1-0-3)

Perspective variables shade and shadows applications in perspectives, rendering techniques for two dimensional and three-dimensional drawings.

Arch 22031 ARCHITECTURAL DRAWING AND PRACTICES I (1-0-3)

Architectural Drafting expressions; working drawings of simple buildings, Typical Architectural Details. Three- dimensional presentation of building.

PROJECTS

Arch 21014 INTRODUCTION TO VISUAL DESIGN I (1-0-3)

Basic principle of Art in Architecture and Design elements

Arch 22014 INTRODUCTION TO VISUAL DESIGN II (1-0-3)

Exercises in three dimensions emphasizing visual sensitivity in the organization of form and space. In addition to class work, homework assignments will be given and evaluated.

PROJECTS

Arch 22018 COMPUTER APPLICATIONS IN ARCHITECTURAL DESIGN (1-0-2)

Projects on Computer-Aided Drafting with Auto-CAD; Two Dimensional Architectural Drawings & Graphic Presentation, Key Graphic Principles for CAD.

PROJECTS

Arch 31024 FUNDAMENTALS OF ARCHITECTURAL DESIGN I (2-1-0)

A study on the interrelationship between units, form, space and function as well as the principles of design as applied to architectural design. Understanding the vocabulary of architectural design; Aesthetics, Expression, Scale Orientation and related design principles and their implications in the design solutions.

Arch 32024 FUNDAMENTALS OF ARCHITECTURAL DESIGN II (2-1-0)

This course gives an outline of the process of architectural design. Attention is also given to design considerations such as functional relationships, approach, the architectural character, the environments, circulation, and comfort for the users.

EXAMINATION

Arch 31034 HISTORY AND THEORY OF ARCHITECTURE (WESTERN ARCH) (2-0-1)

Architectural development of early Egypt, high-light of West Asiatic and Saracenic, Greek, Roman, Byzantine gothic, Renaissance styles in Europe and influences.

Appreciation of proportion and human scales in relation to architectural space in the respective periods of the regions.

Civic Design concept and development of Regional-wise town planning theories ranging from classical periods to 20th century.

TERM PAPER

Arch 32034 HISTORY AND THEORY OF ARCHITECTURE (EASTERN ARCH) (2-0-1)

The outstanding characteristics of Indian, Myanmar, Cambodian (Khmer), Laotian, Thailand, Malaysian, Vietnamese and Indonesia Architecture; The outline of the architectural development of secular and religious buildings in China, Korea, Mongolia, Japan, and Tibet

Concept of maintenance of Historical Architectural elements, conventional methods of preservation, scientific methods of maintenance of Architectural structures of cultural and Historical values, Restoration problems and methods.

Appreciation of proportion & human scale in relation to the architectural space in the respective periods of their selected regions; Civic design concepts and development of regional-wise town planning theories

TERM PAPER

Arch 31015 ARCHITECTURAL MATERIALS & CONSTRUCTION I (2-1-0)

The properties of Building Materials: Stones, bricks, tiles, slates, lime, cements, mortar, plaster, concrete, timber, damp proofing materials, single storey, level site, simple roof, masonry and timber, framed walls, footings, external doors, windows, damp proofing course, linings, gutters, rain water disposal. Construction drawing assignments.

Arch 32015 ARCHITECTURAL MATERIALS & CONSTRUCTION II (2-1-0)

Basic of maintenance concept. Common causes effecting the decaying process of building elements. Appropriate choices of building materials and adoption of constructional technologies either in designing a new building in a given situation or renovation & maintenance of old ones.

EXAMINATION

Arch 31016 ENVIRONMENTAL SCIENCE & BUILDING TECHNOLOGIES I (2-1-0)

(Water Supply, Sanitation, Sewage, Acoustics & Air-conditioning system)

Hygiene, diseases of insanitation and agents in the dissemination of diseases, and waste disposal systems.

Septic tanks, sanitary fittings, drainage and sewers, sewage ejectors and purification plants. Water supply, analysis of testing, methods of connection, fire hydrants, services pipes and fittings, pumps, hot water supply systems, plumbers materials, joints and pipe layouts. Concept of maintenance. Design spectrum and objectives in relation to simple and complex system of sanitation, water supply & drainage and their respective components, affecting efficient functioning of each and every part as well as of the system as a whole, Maintenance problems and methods at site. Observation of existing bye-laws.

Arch 32016 ENVIRONMENTAL SCIENCE & BUILDING TECHNOLOGIES II (2-1-0)

(Tropical & Sustainable Architecture)

(a) CLIMATIC CONTROL

Climate and Architecture: Macroclimate and micro-climate; problems of ventilation and air flow in buildings, the elements of comfort, thermal Energy and transmission of heat. Selection of appropriate materials, solar radiations. Humidity and condensation, wind effects around buildings, Sun position, Global issues. Integrated environmental design; Adaptation of buildings to various climates.

(a) ARCHITECTURAL ACOUSTICS

Sound, its nature and sour, propagation, reception and measurements, loudness, echo, reverberation, resonance, interference and absorption.

Principles of architectural analysis, shape, size, volume and density of auditoriums, materials for sound proofing. Design of good acoustics for cinema, theatre, music halls, broadcasting studio, lecture halls.

(b) AIR-CONDITIONING SYSTEMS

Factors affecting air condition, criteria for thermal comfort, Heat transmission and air infiltration in buildings, Estimation of Air-conditioning loads. Design of buildings to minimize air-conditioning loads. Modern air-conditioning systems; gravity flow, central and unit systems. Noise in Air-conditioning systems. Use of heat pumps in air - conditioning. Performance of an air-condition building, maintenance and running costs.

EXAMINATION

Arch 31019 DESIGN STUDIO I (1-0-6)

Design subjects on simple design based on efficient utilisation of timber and brick supported with constructional and working drawings integrated with the disciplines of technical infrastructure.

Arch 32019 DESIGN STUDIO II (1-0-6)

Sketch design: Short-term design subjects to stimulate the imagination and techniques of expression.

Architectural training: Measured drawings, architectural study tour.

PROJECTS

Arch 41012 INTERIOR DESIGN I (2-0-1)

Making practical Analysis on Spatial and Volumetric Effects,

Arch 42012 INTERIOR DESIGN II (2-0-1)

Anthropometric Applications in elements of visual design, Functional Usage, Designing new interior spaces.

PROJECTS

Arch 41025 ARCHITECTURAL MATERIALS & CONSTRUCCION III (2-1-0)

Single and higher storey, multi-cell shelters, group activities shelter, sloping sites. Load bearing wall, non-bearing wall and movable partition walls, Ridged roofs, build-up roofs, upper timber floors, stairs, retaining walls and membranes, semi-basements, concrete floors, (Ground floor, basements floor);

Arch 42025 ARCHITECTURAL MATERIALS & CONSTRUCCION IV (2-1-0)

Timber detailing; Insulation, condensation, vapour barriers, roof coverings. Introduction to single span, R.C. Floors, simple trusses and connections, steel sections floor finishes. Design of concrete mixes, graphic statics, connection details of building components; Construction drawing assignments.

EXAMINATION

Arch 41044 ARCHITECTURAL THOUGHTS AND THEORY OF DESIGN I (2-0-1)

Modern trend and thoughts of well-known architects dealing with the relationships of physical, social, cultural and environmental factors in Architecture

Arch 42044 ARCHITECTURAL THOUGHTS AND THEORY OF DESIGN II (2-0-1)

Thoughts of Architectural Design: Brunelleschi, Alberti, Bramante, Michelangelo, Palladio, Bernini. F.L.Wright, Mies Vander Rohe, Le Corbuseir, etc.

TERM PAPER

Arch 41013 BUILDING ECONOMICS & CONSTRUCTION MANAGEMENT I (2-1-0)

Aims of cost control, Cost control procedure, the factors which govern building costs, maintenance and running costs, theoretical cost research studies in planning and construction, cost analysis, preparation of cost plans, capital costs land, labour and materials; capital and management. Introduction to scientific management principles: Operations research, systems analysis, evaluation criteria and standards.

**Arch 42013 BUILDING ECONOMICS & CONSTRUCTION MANAGEMENT II
(2-1-0)**

Management – functional planning, organizing, staffing, co-ordinating, construction management, technical supervision: preparation of construction schedules, (critical path method, functional adjacency chart method) check-lists, pitfalls in construction, labour-management relations, quality control.

EXAMINATION

Arch 41029 DESIGN STUDIO III (1-0-3)

Complex public, civic and industrial buildings, and the problems arising in connection with more complex plan organization of technical, social & economical infrastructure.

Arch 42029 DESIGN STUDIO IV (1-0-6)

Buildings of multistorey, requiring specialised space forms of multiple uses, allowed by the present socioeconomic and technological conditions of our country, anticipating futurology detail design, working drawings and short-time sketches; Training in an Architectural Office

PROJECTS

Arch 51017 INTRODUCTION TO URBAN PLANNING I (2-0-1)

Economic Basic relating to settlement development. Urban settlements and population analysis.

Formation of villages and towns, siting of towns in relation to physical conditions, geography, climate and land-use; functional social cultural arrangement al human objectives.

Arch 52017 INTRODUCTION TO URBAN PLANNING II (2-0-1)

Evaluation of modern cities and relationship of architecture and engineering in the city development.

Urban and rural areas with modern amenities, town planning legislation and administration; (Generalisation) Housing and urban facilities. Traffic and transportation.

PROJECTS

Arch 51022 ENVIRONMENTALANLYSIS & LANDSCAPE ARCHITECTURE I

(2-0-1)

HISTORY

Analytical studies on the development of environmental & ecological landscape design considered as contribution to culture in various historical periods in the East (China, Japan, Korea, etc.) and in the West (France, Italy, Spain, etc.). Modern trends of environmental landscape architecture and problems dealing with domestic and public projects.

Arch 52022 ENVIRONMENTALANLYSIS & LANDSCAPE ARCHITECTURE II

(2-0-1)

LANDSCAPE ELEMENTS

Botanical species affecting landscape design, identification of plants. (Trees, Shrubs, etc.) and effect of their uses under various conditions of composition integrating to architecture. Water, stone, rocks, falls, etc. and other man-made elements.

SITE PROBLEMS AND DESIGN

Site planning problems of various land spaces and their aesthetics aspects in relation to socio-economic needs, and ecological control.

TERM PAPER

Arch 51035 STRUCTURE IN ARCHITECTURE I (2-1-0)

Group and multiple activities buildings- buildings requiring structural framing systems. Framing system and floors. Dimensional co-ordinations. Roofs cladding, internal provisions, water and drainage services, lifts and mechanical equipment's, fire protection and fire-prevention.

Integration of disciplines

Arch 52035 STRUCTURE IN ARCHITECTURE II (2-1-0)

Footings, foundations, introduction to soil mechanics for building, retaining wall, construction drawing assignments. Maintenance concept, design scopes and objectives.

Causes affecting the process of decay in architectural structures; Preventive measures and methods of maintenance following the periodical check-up and investigation of components of buildings in the state of dilapidation.

Architecture/ construction detailing.

EXAMINATION

- Arch 51023 QUANTITY SURVEYING & COST ESTIMATING I (2-1-0)**
- Preliminary specifications in general building design; Final specifications, procedure and methods of writing;
- Arch 52023 QUANTITY SURVEYING & COST ESTIMATING II (2-1-0)**
- Quantity surveying, cost estimating factors affecting cost of buildings and estimates of current unit costs
- EXAMINATION
- Arch 51033 PROFESSIONAL PRACTICES & BUILDING LAWS I (2-1-0)**
- Duties and responsibilities of an Architect, documentation, his relationship with clients, consultants and builders.
- Arch 52033 PROFESSIONAL PRACTICES & BUILDING LAWS II (2-1-0)**
- Office administration. Architectural Ethics and Professional conduct, land and building laws.
- EXAMINATION
- Arch 51039 DESIGN STUDIO V (1-0-6)**
- Complex public, civic and industrial buildings, and the problems arising in connection with more complex plan organization of technical, social & economical infrastructure.
- Arch 52039 DESIGN STUDIO VI (1-0-6)**
- Buildings of multi-storey, requiring specialized space forms of multiple uses, allowed by the present socioeconomic and technological conditions of our country, anticipating futurology detail design, working drawings and short-time sketches; Training in an Architectural Office
- PROJECTS
- Arch 61027 URBAN AND REGIONAL DEVELOPMENT PLANNING (2-0-1)**
- Introduction to Regional development Planning; Justification of regional planning; Development objectives & the concept of sustainable development; Basic concepts of development planning; Forecasting demographic development; Glossary of Technical geographical terms.
- PROJECTS

Arch 61010 B.ARCH GRADUATION DESIGN THESIS I (1-0-11)

(Research Methodology & Design Development)

The student is to select his/her own Thesis topic and program for his/her Design Thesis to be submitted as a partial fulfilment in the requirements for the Bachelor of Architecture. The students will determine the scope of the project, the requirements and conditions and present a full report of analysis to the Graduation Thesis committee on approval, the student will proceed with his/her thesis design, defining his/her own problems, under the guidance of a supervisor. At the end of the term the student will be required to present & defend his/her Thesis before a jury panel selected by the Graduation Thesis Committee.

Arch 62010 B.ARCH GRADUATION DESIGN THESIS II (1-0-16)

After completion of two semesters in B.Arch, the students are required to submit Scaled Model of Designed Building from his/her B.Arch Graduation Design Thesis.

PROJECTS