

DEPARTMENT OF ARCHITECTURE AND INTERIOR DESIGN

# Architecture Handbook 2020/2021







### **VISION**

The vision of the College of Engineering is to be among the leading colleges in the region and to maintain a respectful international status and reputation by sustaining a high quality of engineering education and scientific research.

### **MISSION**

To educate students for positions of leadership and innovation in engineering, architecture, interior design and related fields; widening the horizon of engineering knowledge through original research, developing and transferring technologies to serve the local and regional needs and to benefit the public through service to industry, government, and the engineering profession.

### ABOUT THE DEPARTMENT

Department of Architecture and Interior Design is a unique department in the College of Engineering. Its fields of studies: Architecture is a creative, artistic, socially conscious, design-based disciplines and is situated between Arts and Engineering.

Our graduates learn to think, imagine and create exciting but purposeful built-environments from cities to room interiors and study philosophies, histories, social sciences, construction engineering as well as management and professional practice. They enjoy promising job prospects as architects as well as project managers and property developers.

Architecture is one of the best professions in the world for those who enjoy creativity, imagination and unlimited complexity and challenge to innovate. In Architecture clients pay handsomely for dreaming on their behalf. The department is well equipped with design studios, a material lab, a model workshop and lecture rooms that enable students to progressively grasp the complexity of the art of architecture and excel in becoming designers of outstanding prowess.

With a qualification in Architecture, graduates can work either in architectural firms or in government agencies dealing with built-environments or set up their own practices after appropriate work experiences. Our department offers one of the best Architectural Education in the region.



## DEPARTMENT PROGRAMS

The Department of Architecture and Interior Design offers three undergraduate programs and will soon offer a Master of Architecture with specialisations in urban design, housing, digital design, sustainability, landscape architecture and interior design.

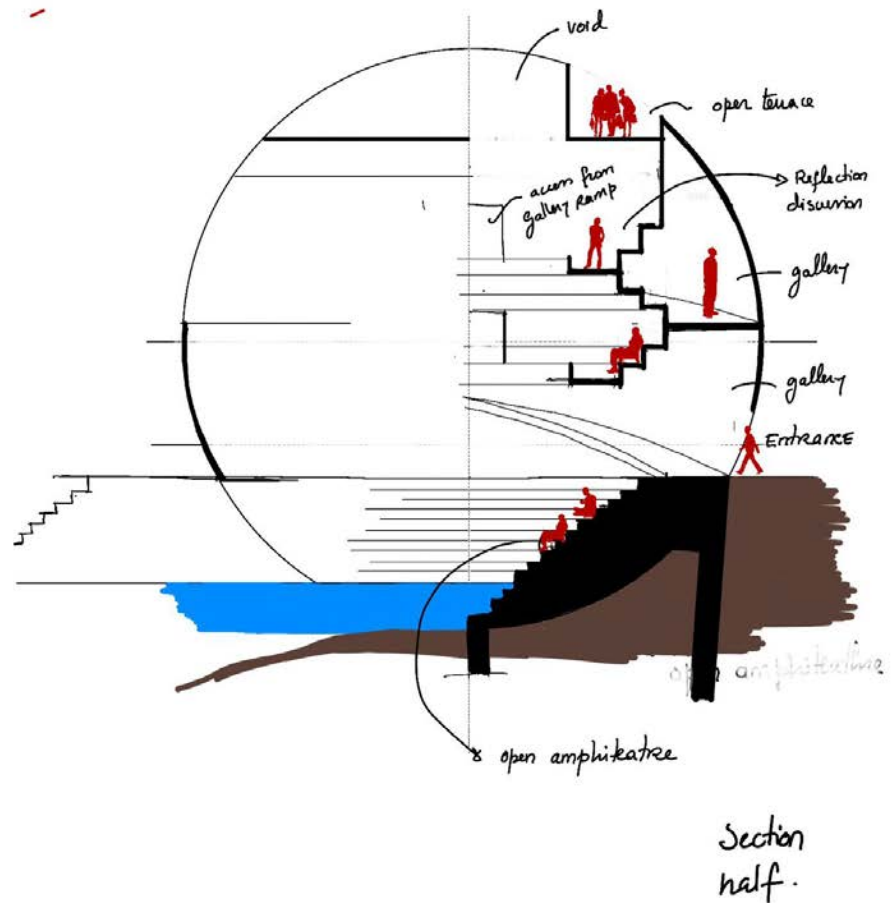
The undergraduate programs are:

- Bachelor of Architecture
- B.Sc Interior Design
- Bachelor of Landscape Architecture

### **ARCHITECTURE**

The National Architecture Accreditation Board (NAAB) of USA has awarded the NAAB substantial Equivalency status for the five-year Bachelors program in Architecture.

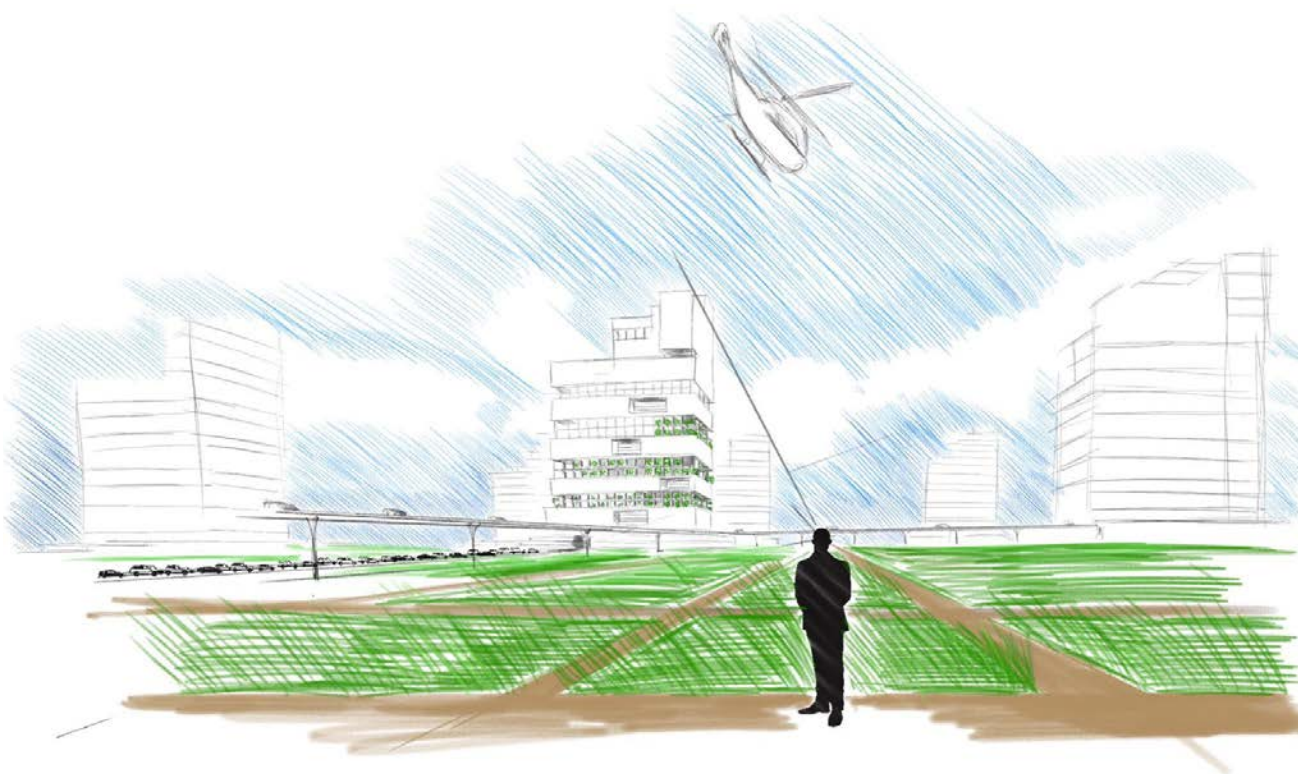
The 169 credit Bachelor of Architecture program begins with an introduction to Basic Design principles and graphics practices. These will enable the students to produce effective design communications. The program evolves from the first year to the fifth year around a core activity; Design. Design progresses from a simple small scale project to a large and complex project in the Final year with a Graduation Project. The students learn to design a variety of projects from a simple house to complex buildings like hospitals and hotels. They learn to understand social cultural, psychological as well as physical and environmental forces that influence the creation of spaces and structures.



## LEARNING OBJECTIVES

To provide educational opportunities to students to understand the complex nature of architecture as a socially conscious design activities are:

- To develop an effective environment for teaching, learning and research.
- To facilitate engagement in research and scholarly activities.
- To contribute to interdisciplinary and multi-disciplinary teaching and research programs.
- To serve the community by working with government agencies, private sector, and professional organisations.
- To maintain and continue to enrich the program itself by advancing the quality of education in architecture.



### LEARNING OUTCOMES

Upon graduation, a UOB graduate in Architecture should demonstrate:

- Being broadly educated in Architecture & design.
- An attitude to value lifelong inquisitiveness
- Abilities to communicate visually and graphically in a range of media.
- To trust the assessment of evidence
- An ability to comprehend people, place, and context
- The ability to recognise the disparate needs of client, community, and society.

## CURRICULUM

Each student majoring in Architecture must satisfactorily complete a minimum of 169 credits - (134 Professional studies; 35 liberal arts). These credits are divided in:

- 11 credits of University Requirement (7%)
- 12 credits of College Requirement (7%)
- 119 credits of Major Requirement (71%)
- 9 credits of Major Elective (5%)\*
- 9 credits of General Studies Compulsory (5%)
- 9 credits of General Studies Elective (5%)^
- Architectural Training

\* Student must choose three elective courses from Major Elective (Professional Studies) Courses list. One at a time.

^ Student must choose three elective courses from Liberal Arts Courses. One at a time (Sem 2, Sem 7, Sem 10)

Electives - Liberal Arts & Sciences (some examples) Electives - Professional Studies

MCM 150 Multimedia Skills( Sem 2 )

ART XXX Freehand Sketching( Sem 2 )

SOCIO 161 Introduction to Sociology( Sem 7 )

PSYC 103 Introduction to Psychology( Sem 7 )

XXX Any other University Liberal Arts course approved by the advisor- any semester

# Bachelor of Architecture Program

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## DETAILED STUDY PLAN

### YEAR ONE

#### semester 1

Course Code	Course Title	Course Hours			Course Type	Pre Requisite	Major GPA
		LEC	PRAC	CRD			
ARCG 110	Basic Design	0	6	3	MR	___	Yes
ARCG 111	Architectural Graphics I	0	6	3	MR	___	Yes
ARCG 112	Surveying in Architecture	1	4	3	MR	___	Yes
MATHS 101	Calculus I	3	0	3	CR	___	No
ENGL 101	Communication Skills	3	0	3	CR	___	No
LAW 107	Human Rights Principles	2	0	2	UR	___	No

#### semester 2

Course Code	Course Title	Course Hours			Course Type	Pre Requisite	Major GPA
		LEC	PRAC	CRD			
ARCG 120	Basic Design II	0	6	3	MR	ARCG111 & ARCG110	Yes
ARCG 121	Architectural Graphics II	0	6	3	MR	ARCG111 & ARCG110	Yes
PHYCS 107	Physics for Building Design	3	0	3	MSR	___	No
MATHS 102	Calculus II	3	0	3	CR	MATHS 101	No
ENGL 102	Composition & Reading II	3	0	3	CR	ENGL 101	No
XXX	Elective - Liberal Arts	3	0	3	MSR	___	No

## YEAR TWO

### semester 1

Course Code	Course Title	Course Hours			Course Type	Pre Requisite	Major GPA
		LEC	PRAC	CRD			
ARCG 210	Architectural Design I	0	10	5	MR	ARCG120 & ARCG121	Yes
ARCG 211	History of Architecture I	2	0	2	MR	ARCG120	Yes
ARCG 213	Architectural Construction I	1	2	2	MR	PHYCS107	Yes
ARCG 215	Computer Aided Architectural Design I	1	4	3	MR	ARCG120 & ARCG121	Yes
ARCG 216	Environmental Systems I	2	2	3	MR	ARCG121	Yes
CEG 210	Structural Systems I	3	0	3	MSR	MATHS 102 & ARCG120	No

### semester 2

Course Code	Course Title	Course Hours			Course Type	Pre Requisite	Major GPA
		LEC	PRAC	CRD			
ARCG 220	Architectural Design II	0	10	5	MR	ARCG210	Yes
ARCG 221	History of Architecture II	2	0	2	MR	ARCG211	Yes
ARCG 223	Architectural Construction II	1	2	2	MR	ARCG213	Yes
ARCG 225	Computer Aided Architectural Design II	1	4	3	MR	ARCG215	Yes
ARCG 226	Environmental Systems II	2	2	3	MR	ARCG216	Yes
CEG 220	Structural Systems II	3	0	3	MSR	CEG210 & ARCG210	No

## Bachelor of Architecture Program

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### YEAR THREE

#### semester 1

Course Code	Course Title	Course Hours			Course Type	Pre Requisite	Major GPA
		LEC	PRAC	CRD			
ARCG 310	Architectural Design III	0	10	5	MR	ARCG220 & ARCG216	Yes
ARCG 313	Architectural Construction III	2	2	3	MR	ARCG223 & CEG220	Yes
ARCG 314	Theory of Architecture I	2	0	2	MR	ARCG220	Yes
ARCG 316	Environmental Systems III	2	2	3	MR	ARCG226	Yes
ARCG 317	Urban Design	1	2	2	MR	ARCG220	Yes
ARCG 318	Vernacular Architecture	2	0	2	MR	ARCG221	Yes

#### semester 2

Course Code	Course Title	Course Hours			Course Type	Pre Requisite	Major GPA
		LEC	PRAC	CRD			
ARCG 320	Architectural Design IV	0	10	5	MR	ARCG310	Yes
ARCG 323	Islamic Architecture	2	0	2	MR	ARCG318	Yes
ARCG 325	Housing	2	0	2	MR	ARCG317	Yes
ARCG 326	Theory of Architecture II	3	0	3	MR	ARCG314	Yes
ARCG 327	Building Service Systems	2	2	3	MR	ARCG313	Yes
ARCG XXX	Elective - Professional Studies	3	0	3	ME	ARCG310	Yes

## YEAR FOUR

### semester 1

Course Code	Course Title	Course Hours			Course Type	Pre Requisite	Major GPA
		LEC	PRAC	CRD			
ARCG 399	Architectural Training	0	0	0	MR-training	Completion of 85 Credits	No
ARCG 410	Architectural Design V	0	10	5	MR	ARCG320	Yes
ARCG 412	Working Drawings I	0	8	4	MR	ARCG313 & ARCG320 & ARCG327	Yes
ARCG 413	Contracts & Implementations of Documents	3	0	3	MR	ARCG320	Yes
ARCG 414	Contemporary Architecture	3	0	3	MR	ARCG326	Yes
XXX	Elective - Liberal Arts	3	0	3	GSE	—	No

### semester 2

Course Code	Course Title	Course Hours			Course Type	Pre Requisite	Major GPA
		LEC	PRAC	CRD			
ARCG 420	Architectural Design VI	0	10	5	MR	ARCG410	Yes
ARCG 423	Working Drawings II	0	8	4	MR	ARCG412	Yes
ARCG XXX	Elective - Professional Studies	3	0	3	ME	ARCG410	Yes
ISLM 101	Islamic Culture	3	0	3	UR	—	No
HIST 122	Modern Bahraini History & Culture	3	0	3	UR	—	No

## Bachelor of Architecture Program

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### YEAR FIVE

#### semester 1

Course Code	Course Title	Course Hours			Course Type	Pre Requisite	Major GPA
		LEC	PRAC	CRD			
ARCG 510	Architectural Design VII	0	10	5	MR	ARCG420	Yes
ARCG 511	Graduation Project I - Program Stage	2	0	2	MR	ARCG420	Yes
ARCG XXX	Elective - Professional Studies	3	0	3	ME	ARCG420	Yes
ARAB 110	Classic Arabic Literature	3	0	3	UR	—	No

#### semester 2

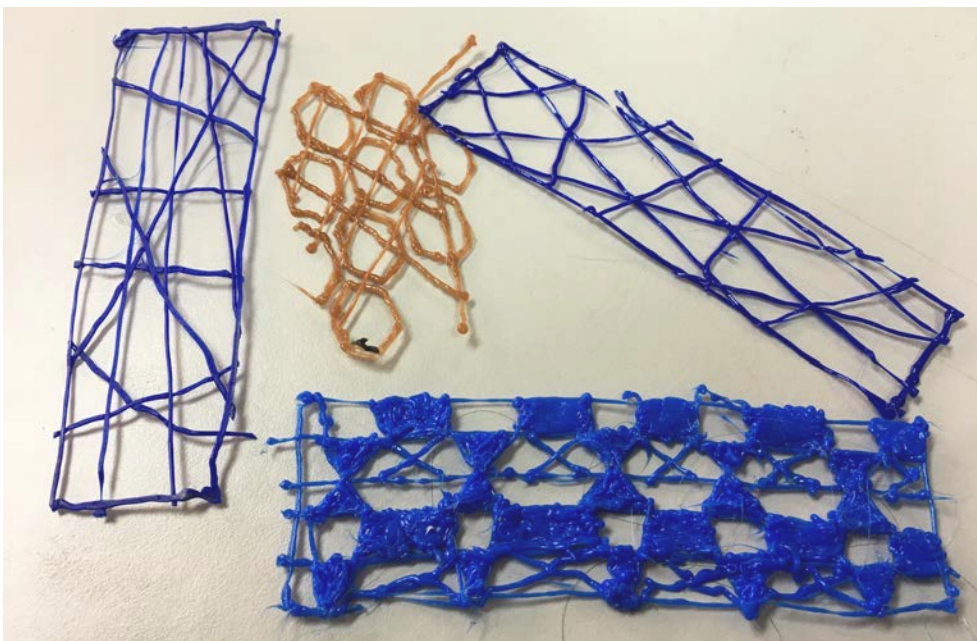
Course Code	Course Title	Course Hours			Course Type	Pre Requisite	Major GPA
		LEC	PRAC	CRD			
ARCG 520	Graduation Project II - Design Stage	0	14	7	MR	ARCG511. & ARCG510	Yes
ARCG 521	Architectural Professional Practice	2	0	2	MR	ARCG413	Yes
ARCG 522	Project Management	1	2	2	MR	ARCG413	Yes
XXX	Elective - Liberal Arts	3	0	3	GSE	ARCG420	No

## LIST OF ELECTIVES - Liberal Arts and Sciences (Examples)

Course Code	Course Title
MCM 150	Multimedia Skills
ART XXX	Freehand Sketching
SOCIO 161	Introduction to Sociology
PSYC 103	Introduction to Psychology
XXX	Any other university Liberal Arts and Sciences course approved by the Advisor

## LIST OF ELECTIVES - Professional Studies

Course Code	Course Title	Course Hours			Pre Requisite
		LEC	PRAC	CRD	
ARCG 328	Interior Design for Architects	3	0	3	—
ARCG 329	Computer Animations	3	0	3	—
ARCG 330	Advanced Building Technology	3	0	3	—
ARCG 331	Special Topics in Architecture	3	0	3	—
ARCG 424	Landscape Architecture	3	0	3	—
ARCG 426	Advanced Topics in Computer Applications	3	0	3	—
ARCG 427	Research Methods in Architecture	3	0	3	—
ARCG 555	Energy Efficient Architectural Design	3	0	3	—
ARCG 557	Architectural Heritage and Conservation	3	0	3	—
ARCG 559	Behavioral Factors in Architecture	3	0	3	—



### COURSE DESCRIPTIONS

**Course Code: ARCG 110 Course Title: Basic Design I**

Role of Basic Design in architectural context. Design elements: point, line, shape, form, space, colour, texture, and light. Design principles: proportion, harmony, rhythm, emphasis, dominance, focal point, balance, and unity. Spatial relationships: space within a space, adjacent spaces, interlocking spaces, spaces linked by a common space. Types of design organisations: centralised, linear, clustered, radial, and grid. Two and three dimensional design problems emphasising creative thinking and processing the given information.

**Course Code: ARCG 112 Course Title: Surveying in Architecture**

Surveying instruments and their use. Mapping the site; determining the surface configuration, contour lines and dimensions of the site features such as existing buildings on site, roads, sidewalks, plants etc. Sectional drawings of site, definition of slopes in third dimension. Producing measured drawings of buildings and building elements.

**Course Code: ARCG 120 Course Title: Basic Design II**

Basic information on colour, texture and light and their effects on perception of spaces and surfaces. Relationships and differences between abstract and architectural design. Functional definition of a space; identifying users' activities and requirements. Movement through space and/or space groups. Space requirements for activities, circulation, furniture, and equipment. Functional relationships among activity areas and/or spaces. Emphasis will be placed on creativity, conceptual thinking and implementation of information given in Basic Design I.

**Course Code: ARCG 121 Course Title: Architectural Graphics II**

Drafting capabilities in 3-dimensional representation of architectural mass and space, with the aid of perspective projection for architectural interiors and exteriors. Shades and shadows in plans and elevations, as well as shadows in perspective projections. Enhancing architectural communication techniques with the aid of instruments in a variety of assignments.

**Course Code: PHYCS 107 Course Title: Physics for Building Design**

Fundamentals of heat transfer through building envelope: Air to air heat transmittance (U), internal and external surface conductance (h), thermal conductivity of building materials (k). Relationships between interior finishing materials and (U) values. Nature of light, light transmission, reflection and absorption. Basic properties of light (photometric quantities): Light intensity (I), luminous flux (lx), illumination level (E), luminance (L). Photometric laws: Abney's law, inverse square law, cosine law.

Nature of sound: Audible sounds. Sound quantities: Sound intensity level (I) and sound pressure level (p). Sound reflection and absorption in enclosed spaces. Reverberant sound and reverberation time (RT). Sound transmissions through partitions and building envelope. Sound reduction index.

**Course Code: ARCG 210 Course Title: Architectural Design I**

Architectural Design I is intended to build upon the ideas and skills developed in the core courses of Basic Design. It is an introductory design course aiming at understanding principles and processes of solving architectural problems in a studio setting. Students are encouraged to explore fundamental architectural concepts of space, form, composition, function, circulation, orientation, as well as the aesthetical issues.

**Course Code: ARCG 211 Course Title: History of Architecture I**

The architectural heritage of ancient civilisation, Egyptian, Mesopotamian, Greek and Roman, and initiating the form concepts pertaining to these cultures. To study particular examples examining the various factors affecting the evolution of the built environment and ensuing architectural developments, the appreciation of the theoretical bases and architectural concepts underlie these accomplishments. The course also includes field trips and applied studies.

**Course Code: ARCG 213 Course Title: Architectural Construction I**

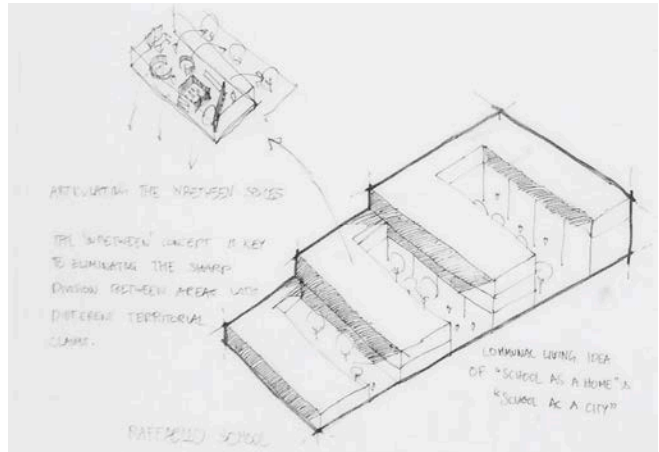
The concept of 'production of the built-environment' as a series of interrelated processes starting with initiation and extending to design, construction and operation & maintenance. An overall analysis of 'building construction' process. Viewing the building itself as a system, identifying its sub-systems such as, structure, enclosure, vertical transportation, mechanical, electrical, sanitary etc. Starting with the 'structural system', introducing major types of structures (such as, bearing wall, framed, shell, space structures etc.) employed in Architectural design in the past and at present. Review of principal types of building materials (such as, timber, stone, metals and concrete) that are generally applicable to the construction of different building sub-systems.

**Course Code: ARCG 215 Course Title: Computer Aided Architectural Design I**

Applying standard computer programs widely being used in the market to produce models and create working drawings. Current and potential digital applications of computers in the design profession.

**Course Code: ARCG 216 Course Title: Environmental Systems I**

Climatic elements which affect and interact with the building and human being. The interaction between man and climate. Human thermal comfort requirements. The interaction between climate and building. Means of sun protection, requirements and importance of natural ventilation shall be investigated. Thermal insulation requirements and thermo physical properties of building materials.



**Course Code: CEG 210 Course Title: Structural Systems I**

Fundamental concepts of structural modelling and structural behaviour. Free body diagrams and equilibrium equations. Analysis of simple structural systems. Internal forces in trusses and beams. Shear force, bending moment and axial force diagrams. Centroids and moment of inertia. Stress and strain concepts. Axial, bending and shear stresses. Deflection of beams.

**Course Code: ARCG 220 Course Title: Architectural Design II**

Architectural Design II aims at deepening the understanding of architectural processes and concepts introduced in Architectural Design I. The projects seek to raise awareness of the multiple considerations that shape exterior and interior spaces of buildings. In addition to site analysis and basic structural considerations, gathering and analysing information about human needs and aspirations are required to guide design development stages.

**Course Code: ARCG 221 Course Title: History of Architecture II**

The ramifications and concepts underlying the architectural heritage ranging from the early Christian, Byzantine, Romanesque, Gothic eras, through the Renaissance and Classical Revivals in Europe and USA. Various factors affecting the evolution of the built environment, and the ensuring of architectural developments. Examples of ancient buildings in these eras are studied and analysed to enhance the students' ability to appreciate the theoretical bases and architectural concepts underlying these accomplishments. The course also includes field trips and applied studies.

**Course Code: ARCG 223 Course Title: Architectural Construction II**

According to the erection sequence, analysis of structural and vertical transportation systems of building. Site work: soils, excavation, slope retention and drainage. Sub-structure: foundations, basements. Superstructure: masonry bearing wall construction, steel and concrete framing, structural floors of steel and concrete and ground floors, roof structures. Vertical transportation systems: stairs, ramps and lifts.

**Course Code: ARCG 225 Course Title: Computer Aided Architectural Design II**

Advanced techniques and capabilities through applying standard computer programs for modelling, representation, lighting, materials, mapping and rendering.

**Course Code: ARCG 226 Course Title: Environmental Systems II**

Psychometric chart. Air conditioning, mechanical refrigeration, unitary systems, window unit, split unit, packaged units, central systems, air distribution systems, evaporative coolers, calculation of air-conditioning load, vertical transportation systems in buildings, elevator and escalator selection, an introduction to fire protection systems in building.

**Course Code: CEG 220 Course Title: Structural Systems II**

Behaviour and design of overall structural systems for buildings made out of wood, concrete and steel materials. Systems used for resisting lateral loads such as rigid frames, braced frames and shear walls. Systems used to span long distances such as trusses and space frames, cables and membranes, arches, domes and shells.

**Course Code: ARCG 310 Course Title: Architectural Design III**

Architectural Design III emphasises the environmental issues as a major determinant of architectural form. Analysis and synthesis of climatic information of the physical environment in deciding the orientation, form, layout, openings, shading devices, and built and open spaces. Traditional environmental control techniques in the present context.

**Course Code: ARCG 313 Course Title: Architectural Construction III**

Review of building enclosure: Roofing (low-slope roofs, steep roofs). Non-structural walls and partitions, windows and doors. Various types of cladding (masonry veneer, stone, precast concrete, GRC, metal, glass etc. claddings) and suspended ceilings. Finishes: materials and components for finishing walls (plasters, paints, gypsum boards, etc.) and floors (stone, ceramic and plastic tiling, parquet floors, terrazzo, carpeting etc.).

**Course Code: ARCG 314 Course Title: Theory of Architecture I**

The course introduces architecture as a creative domain and the numerous approaches that inform its practice. It examines the generative processes of other art forms such as music, and sculpture to construct an understanding of the process. It positions architecture within the historical and cultural domains and emphasises its visual presence. It introduces the philosophies articulated by celebrated architects and offers an understanding of the value of architectural ideas in generating architecture.



**Course Code: ARCG 316 Course Title: Environmental Systems III**

Principles and requirements for good and comfortable vision. Light and its characteristics. Effects of colours on the design of buildings. Surface characteristics (reflection, diffusion, brightness, glare etc) natural and artificial illumination (design, integration and evaluation of performance). Principles and requirements for good acoustics. Sound and its characteristics. Effects of sound in building design. Design for good acoustics and noise control. Measurements and evaluation of acoustical performance (special emphasis to Mosques and Auditoriums).

**Course Code: ARCG 317 Course Title: Urban Design**

Introduction to Urban Design through three perspectives: a) Historical background - most significant utopian visions of the XVIII to XX century; b) City structure and context - cultural influence of urban form c) The public as a client, social responsibility and planning processes. These will be followed by the introduction of urban design principles, such as hierarchy and spatial composition: nodes and patterns, city image and identity of place, sense of place and place-making, social interaction and public space.

**Course Code: ARCG 318 Course Title: Vernacular Architecture**

Introduces vernacular processes of building and examines the formative forces and influences that contribute to the production of indigenous architecture in the world. Focuses on the significance of culture and tradition as a form giving force that shapes architecture and the settlement patterns by looking at local, regional as well as global cultures. Contrasts the significant differences between professional practice and peoples own buildings to derive lessons for a culturally relevant production of architecture. In Architectural Design IV, students will be given an opportunity to apply the knowledge they have gained in architectural history and theory courses by working on appropriate architectural design problems in historical, urban or natural context. In this course, their understanding of Architectural design process will be further developed.

**Course Code: ARCG 323 Course Title: Islamic Architecture**

The course offers an introduction to Islamic architecture and an overview of the influence of Islam on the built- environment. It focuses on Islamic principles that shaped the built-environment such as privacy, neighbourhood, Waqf, inheritance and the direction to Quibla etc. and their evolution over time and regions giving rise to a variety of architectural forms in different contexts. A broad analysis of the development of Islamic cities and the building types such as mosques, markets and madrasas etc. is presented together with a reflection on the applicability of their principles in the contemporary architectural practice.

**Course Code: ARCG 325 Course Title: Housing**

The course provides an insight into the complex and multi-dimensional nature of housing as the spatial development of human habitations in response to social, economic, cultural, administrative, physical and environmental aspects guided by national policies. It introduces contemporary issues, their historical background and theoretical approaches and practices that have evolved over time. It explores the spontaneous development processes of people versus professional production processes. Its focus is upon understanding the architectural aspects to help architects to intervene into the design and planning of culturally appropriate human settlements.

**Course Code: ARCG 326 Course Title: Theory of Architecture II**

The course introduces architecture as a visual and spatial experience and the role of perception and habitation. It focuses on the emotional and tactile dimensions of built form and sensual and visual articulation of form and space as the means by which architecture could influence people. It offers an introduction to the ideas of 'space' and 'place'; definitions, meanings, and concepts and the ways in which spaces become places. Production of architecture is viewed as a transformation between imaginary places and real places whereby an understanding of architecture as 'place- making' is constructed. The course offers an approach to architecture based on the processes that generate ideas potent in creating meaningful poetic forms and places.



**Course Code: ARCG 327 Course Title: Building Service Systems**

Basic principles and appropriate application and performance of building service systems such as plumbing, electrical, vertical transportation, security, and fire protection systems.

**Course Code: ARCG 410 Course Title: Architectural Design V**

In Architectural Design V, students are expected to further develop their architectural design skills by also having a particular opportunity to apply the knowledge they have gained in technical courses by working on appropriate architectural design problems in any context. The 'design development' stage of the projects completed in this studio can be undertaken in ARCG 412 Working Drawings II course in the next semester.

**Course Code: ARCG 412 Course Title: Working Drawings I**

Introduction to techniques and graphics conventions and standards used in working drawings with stress on the plans, elevations, sections, and construction details. Interrelationship of design, working drawings and construction. Each student to produce at least one set of architectural working drawing for a project, which he/she designed in a previous semester. Coordination and checking of drawings (plans, elevations, sections, detail and services layouts). Teaching is by means of lectures, studio works, site visits.

**Course Code: ARCG 413 Course Title: Contracts & Implementations of Documents**

Introduction to the concepts of project, project management, project delivery and project life-cycle. Context and life-cycle of building projects extending from planning to tendering and construction phases. Different ways of selecting a contractor and making contracts in the tendering phase: Competition and negotiation, single stage and two-stage tendering, fixed price, cost reimbursement, target cost contracts etc. Analysis of the primary contract documents involved in the tendering phase: Construction drawings, specifications and bills of quantities. Overview of the various systems currently utilised in delivering (or procuring) building projects: General contracting, design and build, management contracting, construction management etc. Current laws and regulations governing construction tenders and contracts in Bahrain.

**Course Code: ARCG 414 Course Title: Contemporary Architecture**

Contemporary architectural movements. Various factors affecting the form of the present day built environments and urban developments. Study and analysis of various examples of contemporary architecture to enable the students to absorb the theoretical basis and concepts underlying the accomplishments and movements, with the aim of helping the student's to discover their personal orientations.

**Course Code: ARCG 420 Course Title: Architectural Design VI**

Architectural Design VI is an advanced level studio concerned with the design of multi-purpose buildings in urban context with particular emphasis on relating the existing features of the urban tissue with new building complexes by also taking local building regulations, codes and bylaws into account.

**Course Code: ARCG 423 Course Title: Working Drawings II**

Each student has to select 16 to 20 areas of his/her architectural working drawing which, was prepared for ARCG 412 Working Drawings I course. These areas to cover: external walls and internal partitions, balconies, staircases, roof, external and internal doors, windows, covered ways, canopies, external landscape features, ceiling, furniture and fittings. The student has to develop these items into a detailed working drawing where each area will be presented in one or more sheets. The course stresses on in depth details of each selected area with emphasis on innovation, practicality and functionality of the detail, selected materials, fixing and construction techniques. The teaching is by means of lectures, studio works, site visits.

**Course Code: ARCG 510 Course Title: Architectural Design VII**

Architectural Design VII is the last advanced level studio before Senior Projects where students are expected to demonstrate the knowledge and architectural design skills they have gained so far by working on highly complex design problems in different contexts and with equal emphasis on cultural, environmental, social and technical issues.



**Course Code: ARCG 511 Course Title: Graduation Project I - Program Stage**

Preparation of the architectural program for the graduation project which establishes its pertinent goals, user's needs and activities, and consequently design the spatial and other requirements which accommodate such users and their needs. The program takes into consideration all functional, human, technical, and environmental factors affecting the architectural design.

**Course Code: ARCG 520 Course Title: Graduation Project II - Design Stage**

The objective of this final design studio is to allow the student to express her/his own ideas, character, and architectural identity, through creative design for the project which was selected in the graduation project I.

**Course Code: ARCG 521 Course Title: Architectural Professional Practice**

Understanding of the building team: Client, designers, contracting team and the statutory authorities. Overview of the development of the Architectural profession from past to present both in Europe and in Islamic countries. The managerial aspects of Architectural practice today: Architect's registration, organising an Architectural firm and individual design projects, various ways of obtaining projects, information retrieval for design etc. Current laws, regulations and building codes pertinent to Architectural and Engineering practice in Bahrain.

**Course Code: ARCG 522 Course Title: Project Management**

Further analysis of project management concepts: Project management knowledge areas and project management context. Fundamentals of project time management: activity definition, activity sequencing, activity duration estimation, schedule development, schedule control. Fundamentals of project cost management: resource planning, cost estimating, cost budgeting, cost control. Manual and computer aided project management lab exercises regarding the time and cost management of small building projects: making work breakdown, planning resources, estimating costs (bills of quantities), determining the critical path, levelling resources etc.

**Course Code: ARCG 328 Course Title: Interior Design for Architects**

History background of interior design, ancient, classic neoclassic and contemporary styles. Space arrangements, circulatory patterns, walls, partitions, ceilings and openings, finishing materials, light, colour texture, furniture design and arrangement, indoor planting. The format includes lectures, slides demonstration and studio exercises covering static and dynamic areas.

**Course Code: ARCG 329 Course Title: Computer Animations**

Introducing the basics and concepts of animation. Implementation of computer animation techniques in architecture and urban design projects thorough standard programs. Employing advanced visualisation and walk-through principles in the design process and representation. Introduction to the Virtual Reality concepts and environments, and proceeding to create 4D and VR models of design projects.

**Course Code: ARCG 330 Course Title: Advanced Building Technologies**

Analysis of advanced technologies in building construction to include site works, plant and equipment. Classification and review of contemporary materials and methods used in manufacturing building components and in their assembly on site. Major building production trends with regard to different production location and techniques such as; system building, component approach, building with modules and unconventional cast-in-situ techniques. Integration of building systems in design.

**Course Code: ARCG 331 Course Title: Special Topics in Architecture**

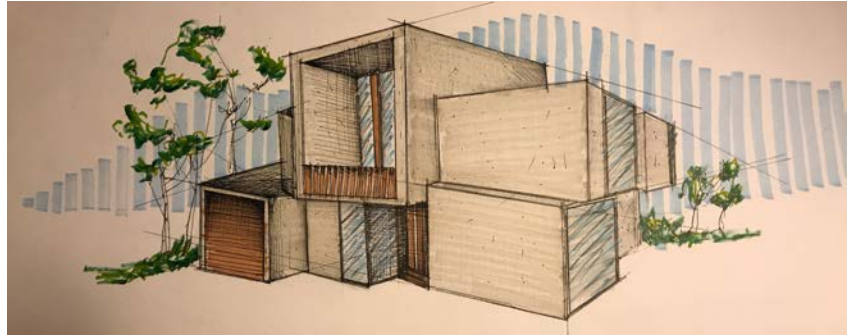
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**Course Code: ARCG 424 Course Title: Landscape Architecture**

History and applications of the process of landscape architecture through studying the relevant vocabulary, the topographic features of a site and the various ways of shaping and grading such sites and the technology and method involved. Attention is paid to the local environment and natural resources of the site, the local and regional vegetation and various ways of looking after it, and the way all these aspects influence both public health and preservation of natural resources.

**Course Code: ARCG 426 Course Title: Advanced Topics in Computer Applications.**

Introducing the basics and concepts of animation. Implementation of computer animation techniques in architecture and urban design projects thorough standard programs. Employing advanced visualisation and walk-through principles in the design process and representation. Introduction to the Virtual Reality concepts and environments, and proceeding to create 4D and VR models of design projects.



**Course Code: ARCG 427 Course Title: Research Methods In Architecture.**

Research processes in architecture. A review of research strategies, designs and settings. An exploration of research methods as related to programming, design and evaluation; experimental approaches, sampling procedures, analysis of documents and observations, questionnaires, interviews, as well as the processing, analysis and interpretation of data and presentation of findings. Several case studies from the local environment will be examined, enabling students to obtain first-hand experience in research development, administration and analysis.

**Course Code: ARCG 555 Course Title: Energy Conservation in Buildings**

Green building design strategies, Energy needs and energy requirements in buildings. Climatic design and the use of Bio-climatic Chart for designing energy efficient buildings in tropical regions with special reference to Bahrain. The use of renewable energies in buildings. Computer simulation programs for the analysis and studies of energy use in buildings.

**Course Code: ARCG 557 Course Title: Conservation of Buildings**

Introduction to Architectural Conservation and its Concepts. Terminologies in Conservation (Monument, Restoration, Preservation), Heritage theory and its practice to focus especially on how preservation theories and experimental practices helped to redefine and advance new conceptions of architecture, cities and landscapes. Documentation and recording of heritage buildings, Conservation process, analysis and design. Constructive conservation and adaptive re- use in the context of Bahrain. Phases Involved in Restoration of Single Monuments, International Organisations, International charters and legislation, World Heritage Sites in Bahrain.

**Course Code: ARCG 559 Course Title: Behavioural Factors In Architecture**

This course offers an introduction to the social and psychological aspects of architecture and to environment- behaviour research, & environmental psychology fields. It introduces the internal processes that generate human behaviour, and the external processes that influence it. The course discusses theories of environmental perception and cognition, privacy, territoriality, personal space, imageability, identity & culture. It is aimed to construct a link to architecture as 'place-making' through the theories of 'psychology of place'. The course intends to inculcate an approach to architecture based on environment-behaviour research in creating meaningful forms and places.

**Course Code: ARCG 556 Course Title: Special Topics in Advanced Studies in Architecture**

Open

**Course Code: ARCG 399 Course Title: Architectural Training**

This course exposes the students to the real world to gain practical experience in working in a professional practice

**Course Code: ENGL 101 Course Title: Communication Skills I**

This course focuses on reading skills and strategies and language development. The reading section concentrates on high-interest contemporary topics and encourages students to increase speed and efficiency. The writing component, integrated to the reading materials, reviews grammatical structures, develops language accuracy and introduces paragraph writing. Students are required to upgrade their grammar, reading, and listening skills on the internet.

**Course Code: ENGL 102 Course Title: Composition and Reading II**

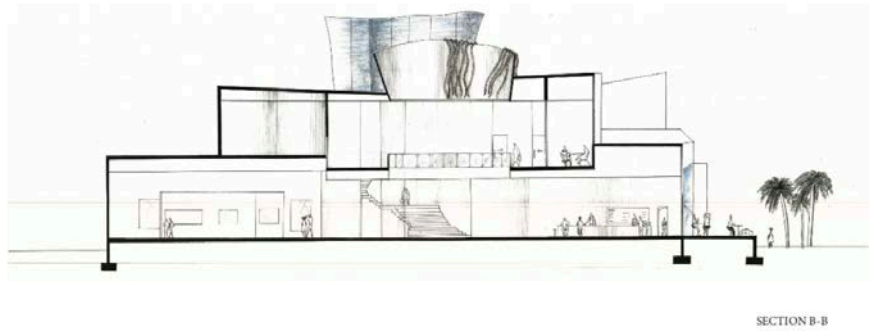
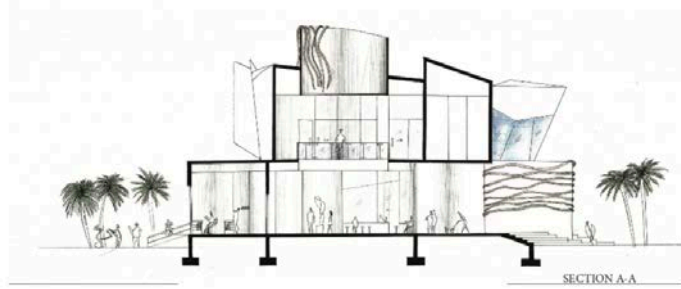
A continuation of English 101 which further develops the students' skills in reading and writing. The course exposes students to wider range of reading material aimed at developing their understanding of different styles of English.

**Course Code: MATHS 101 Course Title: Calculus I**

Algebra. Functions and graphs. Trigonometry. Conic sections. Limits and continuity. Derivatives and integrals. Applications of derivatives which include mean value theorem, extrema of functions and optimisation. Definite integrals and the Fundamental Theorem of Calculus.

**Course Code: MATHS 102 Course Title: Calculus II**

Applications of definite integrals, including areas, volumes and surface areas of solids of revolution, arc length and centroids. Transcendental functions, indeterminate form and L'Hopital's Rule. Techniques of integration and improper integrals. Infinite series, power series. Maclaurin and Taylor Theorem.



**Course Code: ARAB 110 Course Title: Arabic Language Skills**

This course focuses on basic Arabic skills including form, function, and meaning. It also helps the student to appreciate and understand structures and approach them from a critical point of view, through various genres in literature.

**Course Code: HIST 122 Course Title: Modern History of Bahrain and Citizenship**

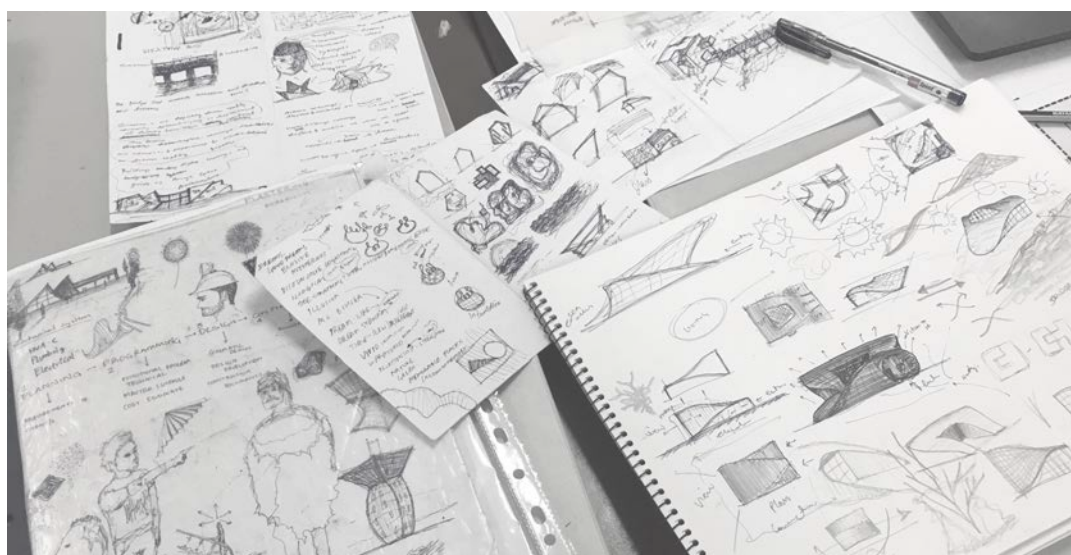
Spatial identity of Bahrain: Brief history of Bahrain until the 18th century; the historical roots of the formation of the national identity of Bahrain since the 18th century; the modern state and evolution of constitutional life in Bahrain; the Arabic and Islamic dimensions of the identity of Bahrain; the core values of Bahrain's society and citizenship rights (legal, political, civil and economic); duties; responsibilities and community participation; economic change and development in Bahrain; Bahrain's Gulf, Arab and international relations.

**Course Code: HRLC 107 Course Title: Human Rights**

This course deals with the principles of human rights in terms of the definition of human rights, scope, sources with a focus on the International Bill of Human Rights; The Charter of the United Nations; Universal Declaration of Human Rights; The International Covenant on Economics, Social and Culture rights; Convention against Torture and other Cruel, Inhuman or Degrading Treatment or Punishment; Mechanics and the Constitutional Protection of Rights and Public Freedoms in Kingdom of Bahrain.

**Course Code: ISLM 101 Course Title: Islamic Culture**

An introduction to the general outline and principles of Islamic culture, its general characteristics, its relationships with other cultures, general principles of Islam in beliefs, worship, legislation and ethics.



### ADMISSION AND APTITUDE TEST

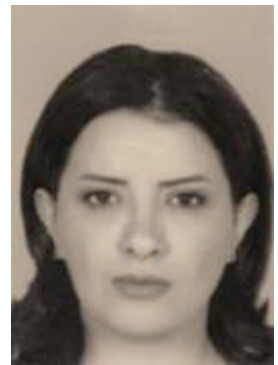
Admission to all undergraduate programs of the department is based on an Aptitude Test which examines a candidates' imaginative and creativity skills, abstract reasoning and drawing skills as well as spatial awareness, spatial memory and attention to detail. This test should measure the candidate's ability to reason with visual configurations - such as patterns - and is a non-verbal measure of reasoning ability. It is also concerned with the evaluation of visual memory, spatial organisation, drawing abilities, and communication capability in simple designs.

## **TRANSFERRING BETWEEN PROGRAMS**

Since the admission to all the three programs offered by the Department of Architecture and Interior Design is based on a single Aptitude Test, it is possible for a student registered in one program to transfer to another program specifically in the first year. However, there are specific courses in the three programs after the first year and movements across the different programs will be difficult and not all courses followed in one program could be made equivalent in the other programs.

Students who have initially registered in any other program at the UoB may also apply for transfer to any of the programs offered by the Department at the beginning of any given year. However, they will need to pass the Aptitude Test for admission and only some courses followed earlier which may have equivalencies in the Architecture program will be recognised.





## **CHAIR OF THE DEPARTMENT OF ARCHITECTURE AND INTERIOR DESIGN**

**Dr. Haifa Al Khalifa** is the Chairman of the Department of Architecture and Interior Design since December 2019. She holds a Bachelor's Degree of Science in Interior Architecture from Imam Abdulrahman Bin Faisal University and a Master's Degree in Business Administration (MBA) from New York Institute of Technology. She earned her PhD in architecture from the university of Cardiff in 2017 with specialisation in History of Islamic Architecture.

She is the Chair for the research lab of culture and architectural aspects and her primary areas of research include the history and historiography of Islamic architecture, cultures, Islamic art, urban history and traditional architecture of the Arabian Gulf region and the architecture of the contemporary mosque.

Dr. Haifa Al-Khalifa was the Program Coordinator of interior design program from September 2018 to December 2019 and held the Chair position for the CIDA accreditation committee for the interior Design Programme. She is available at 33-103.



### ARCHITECTURE PROGRAM COORDINATOR

**Dr. Huda Almadhoob** has a PhD from the Bartlett School of Construction and Project Management (CPM) at University College London. Prior to this, she received her MSc. degree in Project and Enterprise Management (with distinction) from CPM. Huda worked at the Architecture and Interior Design Department after finishing her bachelor's degree in Architecture from University of Bahrain. Her PhD research project titled: "Self-Organising Networks in Complex Infrastructure Projects: the Case of London Bank Station Capacity Upgrade Project" was part of the Centre for Organisational Network Analysis (CONA-UCL) partnership with Transport of London. Her project has won the Hamdan Bin Mohammed Award for Innovation in Project Management - Innovative use of Project Management Practices - Academic Category, 2019. The research establishes a new theoretical framework for managing large construction projects, grounded in complexity theory with reference to social network theory and its analytical techniques. Huda's main research interests involve organisational behaviours, Supply Chain Management and the application of Social Network Analysis in the study of construction project-based networks.

The Faculty of the architecture program is comprised of qualified and experienced academics of many nationalities including Bahrainis, committed to provide students with an intellectually rich and challenging learning experience. Most of them have contributed to the advancement of the discipline and profession of architecture through teaching as well as creative, scholarly, and professional work in addition to significant research.

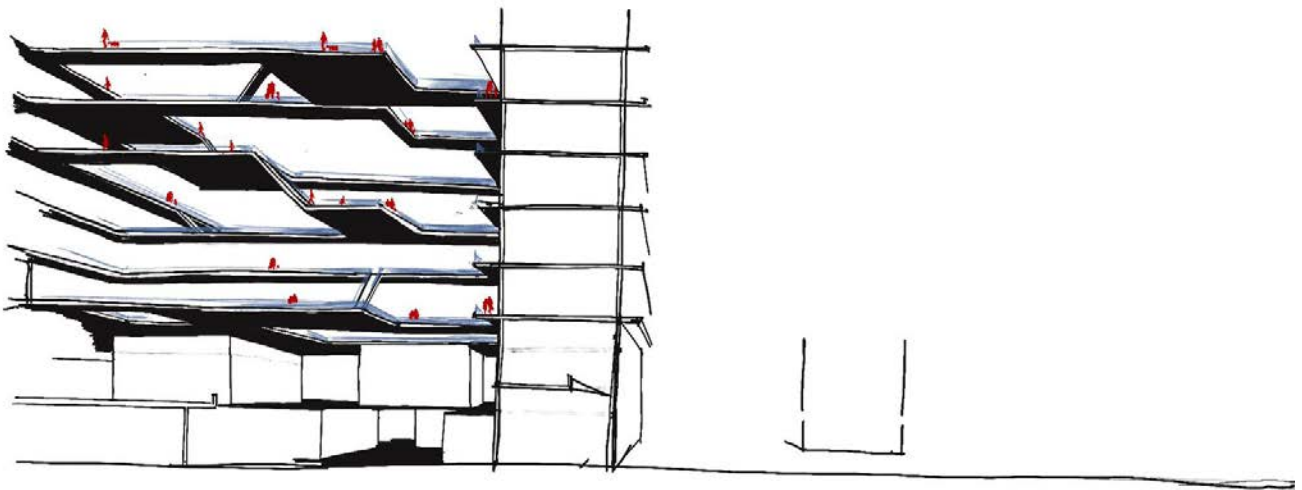
## FULL TIME FACULTY

Rank	Name	Email	Office	Extension Number
Associate Professor	Dr. Ranjith Dayaratne	kdayaratne@uob.edu.bh	35-106	6065
Associate Professor	Dr. Eslam El Ghonoimy	eelghonaimy@uob.edu.bh	35-117A	6927
Associate Professor	Dr. Naser Alnaser	nalnaser@uob.edu.bh	15-207A	6767
Assistant Professor	Dr. Fay Al Khalifa	fayalkhalifa@uob.edu.bh	33-201B	6113
Assistant Professor	Dr. Huda Al Madhoub	halmadhoob@uob.edu.bh	27A-11	6209
Assistant Professor	Dr. Manal Khalaf	mjkhalaf@uob.edu.bh	27-110	6064
Assistant Professor	Dr. May Khalfan	mkhalfan@uob.edu.bh	35-114	6707

## Bachelor of Architecture Program

### FULL TIME FACULTY

Rank	Name	Email	Office	Extension Number
Lecturer	Mrs. Layla Karajica	lkarajica@uob.edu.bh	33-205	6169
Lecturer	Mr. Weldy Eka Saputra	wsaputra@uob.edu.bh	35-213	6071
Lecturer	Mrs. Dalia Shamshuldin	samalalawi@uob.edu.bh	35-111	6212
Lecturer	Ms. Ayesha Agha Shah	aashah@uob.edu.bh	27-113	6150
Lecturer	Ms. Susana Saraiva	ssoares@uob.edu.bh	35-211	6128
Lecturer	Mrs. Sonia Lamela	slamela@uob.edu.bh	33-210A	6038
Lecturer	Mr. Abdullh Al Zobair	mzobair@uob.edu.bh	29-210	6096
Lecturer	Mrs. Afaf Ibrahim	afibrahim@uob.edu.bh	35-113	6248
Instructor	Ms. Abeer Abubaker	aibrahim@uob.edu.bh	29-104	6024
Teaching and Research Assistant	Ms. Wafa Al Ghatam	walghatam@uob.edu.bh	34-114	6267
Teaching and Research Assistant	Mr. Mahmoud Khan (on leave)	makhan@uob.edu.bh	34-113	---
Teaching and Research Assistant	Ms. Maryam Alfadhel	maalfadhel@uob.edu.bh	33-212	6173
Teaching and Research Assistant	Ms. Abeer Qaed	akayed@uob.edu.bh	35-113	6248
Teaching and Research Assistant	Ms. Nada Mahmoud	nmahmood@uob.edu.bh	33-212A	6245
Teaching and Research Assistant	Ms. Fatema Ahmed (on leave)	falhammadi@uob.edu.bh	---	---
Teaching and Research Assistant	Ms. Dina Abdullah	diabdulla@uob.edu.bh	---	---
Teaching and Research Assistant	Mrs. Noor Alalawi	nalalawi@uob.edu.bh	33-114	---
Teaching and Research Assistant	Ms. Omaima Alabbasi (on leave)	oalabbasi@uob.edu.bh.bh	---	---



## PART TIME FACULTY

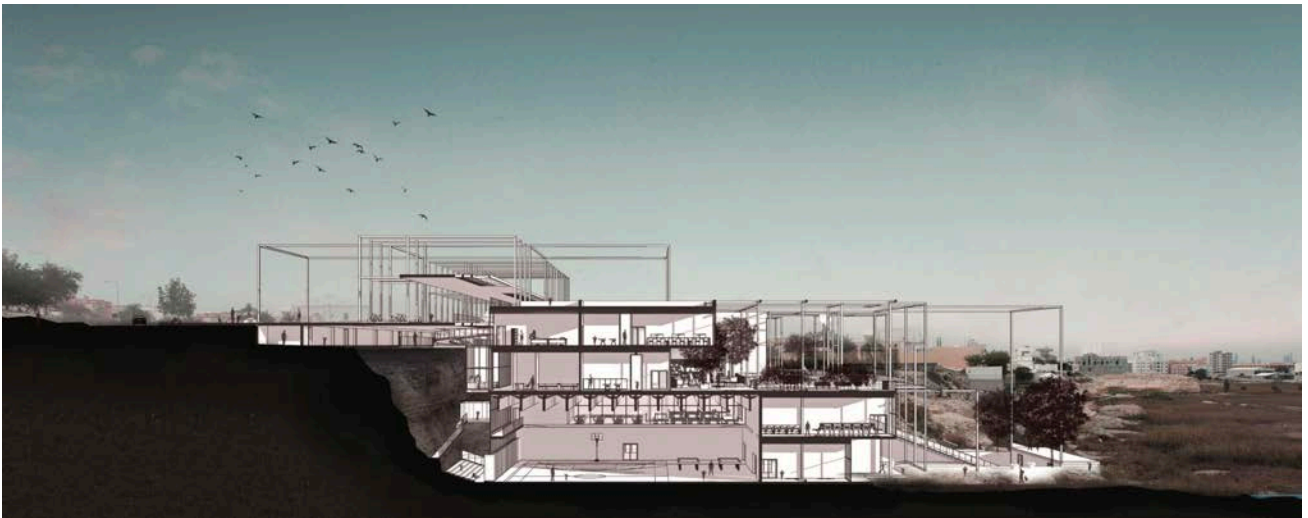
The Bachelor of Architecture program employs on a semester basis a large number of Part-Time Faculty from the Industry who bring to the program real experience from the field. They will teach courses and you will come to know them as they are assigned at the beginning of each semester. Their time tables and contact details will be available with Ms. Ayesha Ebrahim (aamebrahim@uob.edu.bh) at building 33-103.

### **STUDIO TEACHING: DESIGN**

The Architectural Design is essentially the core course that teaches the students the essence of architecture. The sequence of these courses consists of seven (7) studio courses ranging from ARCG 210 to ARCG 510. In addition to these, students are required to complete two (2) Graduation projects. The Graduation Project is the culmination of all design learning where the student chooses a project of one's own liking and develops its program and a design proposal.

### **DESIGN JURIES**

Design projects are always evaluated at 'Design Juries' which involves a student presenting the graphically produced design proposal explained verbally. The verbal presentation involves theoretical and philosophical ideas as well as explanations of practical aspects such as construction details, furniture arrangements, contextual relationships etc. Usually there are two juries for a given Design Studio: one in the Middle of the Semester - Mid Term Jury; and another at the end of the semester - Final Jury. A jury panel is comprised of the instructor who taught the course and external 'jurors' who will criticise the student's work while evaluating and offering feedback.



## ARCHITECTURE TRAINING

All students following the Bachelor of Architecture program are offered a single period of training in an architectural office either in the private sector or in the public sector during one of the summer semesters. The intention is to enable the student to understand how architecture is practiced outside in the real world where one gains hands on experience in working in an office or at a site. The course is carefully planned, through which the students are placed in an organisation under the supervision of an architect. The Training Coordinators will monitor the student's progress and the student is required to submit a report at the end of the training. This work is assessed and a student has to pass the Training to graduate.

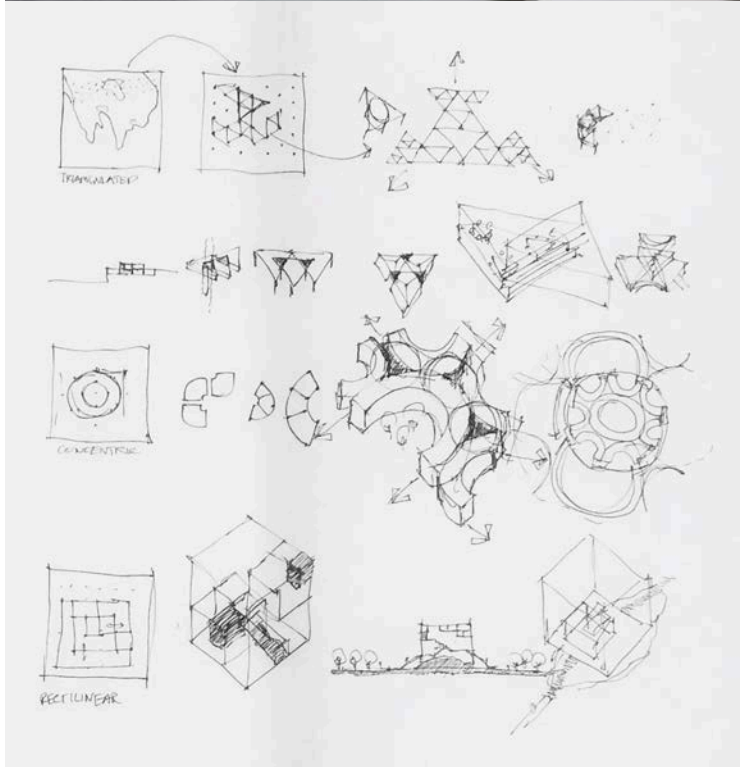
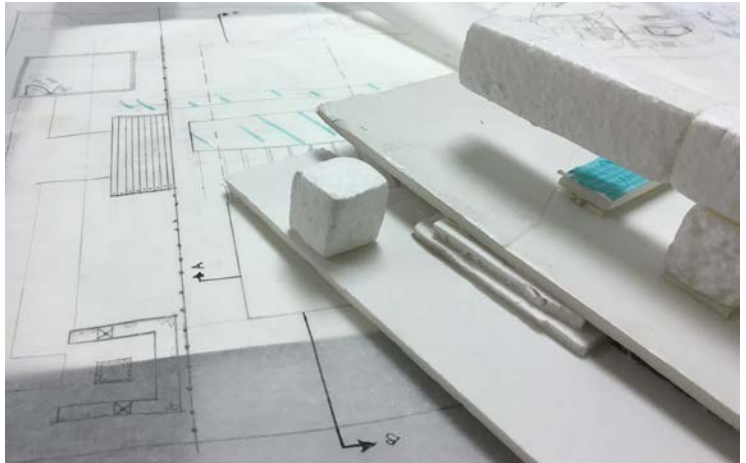
### STUDIO CULTURE

The design studios are treated as places of serious learning more than as places for fun. Students attend them regularly and attendance is registered. Students may occupy specific places when they work in the studios. We consider studios as places with individual spaces in shared settings. Each student will have a drawing board, a desk and a swivel chair and access to power supply for the use of personal computers. The university does not provide the computers but students may possess their own laptops.

The students are expected to attend the studios on time. It is the university policy that this attendance is compulsory and any failure beyond a certain percentage will disqualify a student from being graded. Once when the students are in the studio, they will usually stay the full period except break-time, either working on their own or in-group, supervised by one or more design instructors.

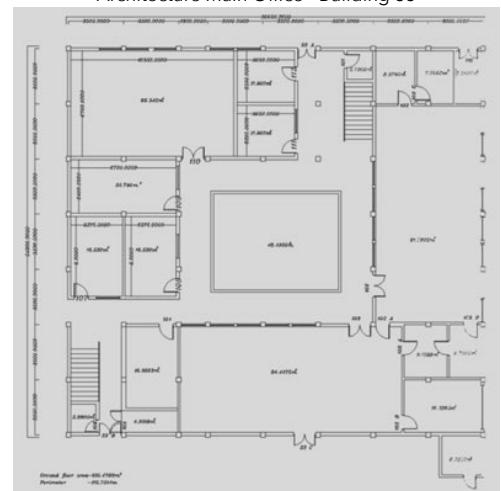
The students are expected to come prepared to learn and bring to the studios their past work, in drawings sketches or laptops and actively participate in the discussions of the studios. They are expected to actively seek tutoring by the instructors. The studio work is assessed and in the grading system, there is an instructor's share of 20% for studio performance. This may involve attendance, working in the studios and progress being made. The students are expected to participate in the collective, mid-semester design juries, in making presentations, or in commenting on other students' work. Studio is often typified by group work where pre-design development will involve a number of groups researching and developing different aspects of a project and sharing the knowledge gained. Nevertheless, progress is made as individuals, whose achievements are also evaluated often as individual achievements.

A studio culture policy is generally implemented by the Faculty teaching studios and classes as well as by the students themselves. The university administration is not involved in its implementation except when a student or Faculty member raises an issue. When issues arise, the procedure is: if it involves students, the instructor responsible for the class/studio takes up the matter; if the matter involves both students and faculty, it is taken up by the Coordinator of the Program in consultation with the Chair.





Architecture Main Office - Building 33



## STUDIOS AND CLASSROOMS

Architecture studios and classrooms are located in buildings scattered around the Isa Town Campus. Please see the map above for locations. The facilities used by the Department of Architecture are distributed between six buildings (15, 27, 27a, 28, 33, & 35) all at Isa Town Campus. In addition, there are halls (12, 16, and hall 126 in building 36) that can be occasionally booked for events such as Design Juries or public lectures. Architecture Main Office is situated in Building 33 which has a courtyard. The courtyard is often a place where exhibitions and other social events take place.

## **GATHERING SPACES**

Apart from the studios and classrooms, the Isa Town campus has a number of common spaces where students can gather together and work together. They are the Library and the cafeterias. Design studios or classrooms can also be used if they are available.

## **WORKING LATE HOURS**

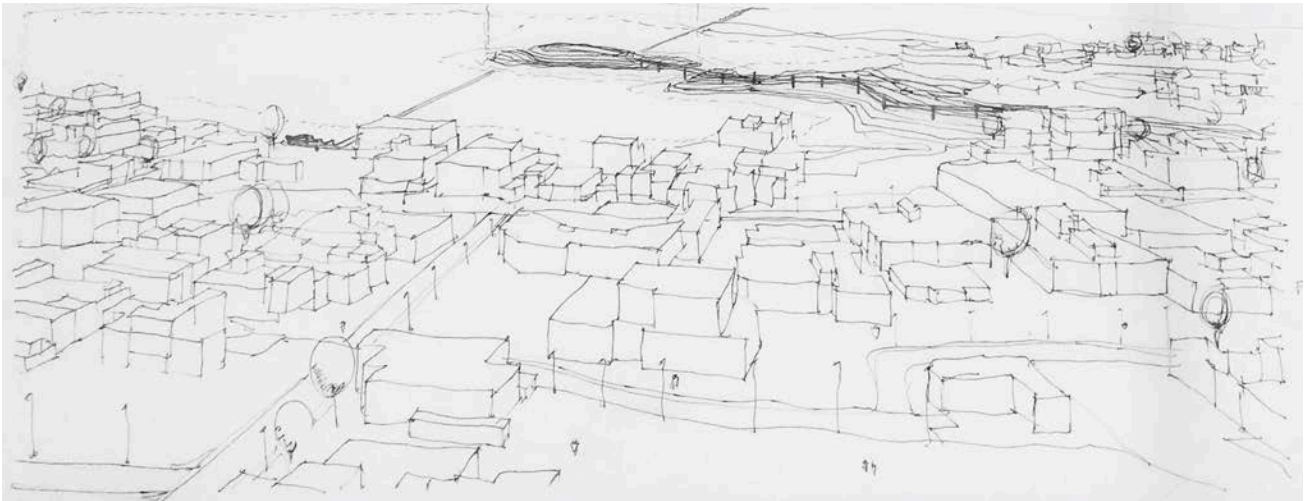
Students are entitled to use the spaces of the University under the supervision of an instructor until 7.00 PM on any working day. No student will be allowed to stay after 7.00 without permission and without the presence of an instructor.

## **WORKING ON WEEKENDS**

Sometimes students may want to come to the university on week-ends. This is permitted provided there is a written approval from security and an instructor is present. Such requests must be approved by an instructor and the Chair. Any such requests must be made before 12.00 AM on Thursdays.

## **COLLABORATION AND SHARING OF KNOWLEDGE**

University is a place where students acquire knowledge and learning individually as well as collectively. Studios and classrooms only provide guidance and the students must endeavour to actively seek knowledge collectively outside the studio and class times.



### WORK ETHICS

#### **Cheating:**

The university considers academic integrity important, and cheating at examinations a serious offence. It imposes heavy penalties for cheating. Hence, a week prior to the examination, a policy statement is circulated in the campus and an announcement is displayed at designated locations outlining this policy. The examiners and invigilators report such matters to the disciplinary committee who will penalise the students found guilty.

#### **Plagiarism:**

Submission of any material not authored by the student for an examination or assignment is considered plagiarism; In written text, work of others must be properly acknowledged academically. If found to have been plagiarised, a student is penalised by failing the assignment; assessment task or the entire course. Please consult your instructors for plagiarism rules.

## **REGISTRATION**

University registration takes place in a number of cycles; pre-registration and registration immediately prior to the start of a semester. You could access the SIS system using your student ID and password to access the system and register. Please consult your advisor before deciding the courses to register. Please follow the program as planned, to avoid delays and registration issues.

## **ADVISORS**

Immediately after admission, each student is assigned an academic advisor by the Department. The name appears in your SIS data and please make contact with your advisor and follow his/her advise on all academic matters. Any issue of registration, program, courses or academic performance must be communicated to and discussed with the advisor. A student cannot graduate without the approval of the advisor.

## **GRIEVANCES**

During the university life, a student may encounter issues such as the conduct of the courses, grading that need and special care and listening to. A student has a right to file a request for re-correction of grades, if he/she feels that an instructor has penalized the student, or graded the student unfairly for whatever reasons. In such a situation, a student can, by paying a fee of 10 BD, request for the revision of the grades at the end of a semester. The department entertains all such requests and appoints at the end of every semester a committee to re-examine and propose revisions to the grades if necessary.

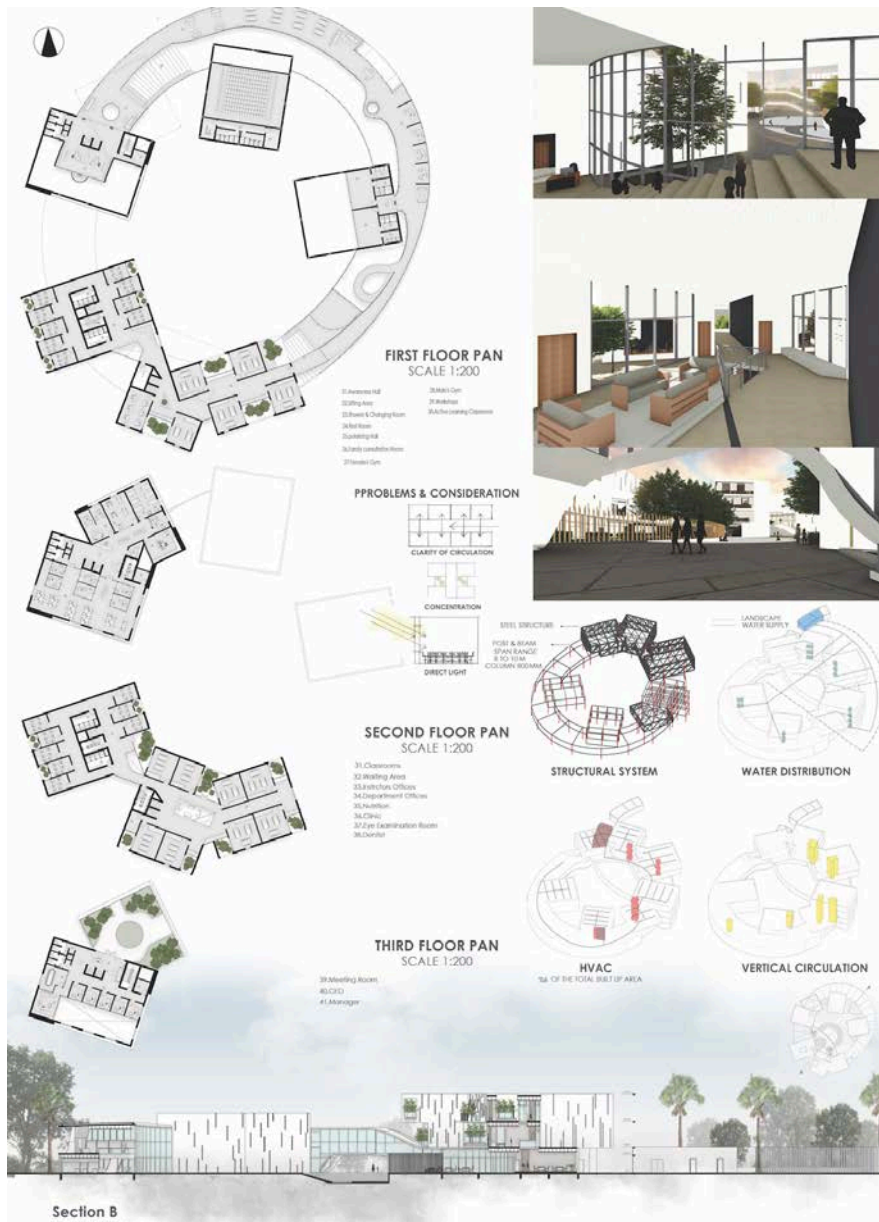
Similarly, if a student has been dismissed from the university due to any reason, he/she is entitled to submit a petition to consider re-admission. Please consult the registration for such issues.

### **BECOMING AN ARCHITECT**

Becoming an architect is a long and arduous process. The central area of study is design and to acquire design sensitivity, a student must actively engage in the experience of architecture. This involves understanding what is happening in the world of architecture visiting buildings and engaging in intellectual discussions on architecture. There are plenty of opportunities available such as attending design juries, exhibitions and many other activities organized by the AIA (S) which is the student body that promotes informal learning.

### **THINKING LIKE AN ARCHITECT**

The most significant trait of an architect is the ability to think like an architect. This means to think out of the box, challenge accepted notions and become imaginative and creative. Other disciplines such as art, drama, music and painting as well as psychology and sociology help in these endeavours. It is in the hands of the students to search for opportunities and acquire the skills to learn to think like an architect.



*The Department of Architecture and Interior Design wishes you a great learning experience at the University of Bahrain and a memorable University Life in your journey to become an architect.*

Compiled by: Dr. Ranjith Dayaratne  
Graphics and Production by: Mrs. Sónia Lamela