جامعة أم القرى
UMM AL-QURA UNIVERSITY

College of
Engineering and Architecture

Department of
Architecture

Islamic Architecture Programme

Intended Learning Outcomes

(ILOs)

2023

Islamic Architecture Programme

Intended Learning Outcomes (ILOs)

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Preface

Clear intended learning outcomes (ILOs) are a key component of good programme and course planning and assessment for students. ILOs define what a learner will have acquired and will be able to do upon successfully completing their studies. ILOs should be expressed from the students' perspective and are measurable, achievable and assessable.

The curriculum of Islamic Architecture programme enables students to achieve the intended learning outcomes which fulfil the requirements of National Qualifications Framework in KSA, Second Edition. Learning outcomes are defined for each course, which, in total, enable the achievement of the overarching programme objectives.

1. PLOs of the Islamic Architecture Programme

Knowledge: At the end of the program, student should be able to

K1	Design Knowledge **Demonstrate a comprehensive understanding of the built environment.**
K2	Technical Knowledge **Demonstrate in-depth understanding of systems, technologies, and assemblies of construction process.**
K3	Professional Practice **Demonstrate an in-depth understanding of professional ethics, regulatory, and responsibilities of architects.**
K4	Math and science **Explain concepts of mathematics and scientific theories relevant to architecture.**

Skills: At the end of the program, student should be able to

S1	Design Synthesis **Make decisions for complex design problems in creative and scientific manners.**
S2	Islamic culture **Analyze the Islamic values and its impact on the formation of the human and built environment at multiple scales.**
S3	Scientific research **Apply scientific research for complex issues of the built environment.**
S4	Craftwork **Execute drawings, craftworks and physical models efficiently.**
S5	Communication **Communicate in oral and written forms; and use mathematics and information technology to process and analyze data.**

Values, Autonomy and Responsibility:

At the end of the program, student should be able to

V1	Ethics **Demonstrate self-discipline, punctuality and commitment to all required tasks.**
V2	Responsibility **Demonstrate personal, professional and social responsibility.**

2. CLOs of the Islamic Architecture Programme

2.1 Knowledge

K1-a	Demonstrate an understanding of processes and methods of design.
K1-b	Define functional requirements for different sectors of the built environment.
K1-c	Demonstrate an understanding of architectural shapes and forms, and ways of presentation.
K1-d	Demonstrate a broad range of understanding of the impact of environmental conditions on the built environment.
K1-e	Demonstrate an understanding of the history and theories of the built environment.
K1-f	Describe the heritage of the built environment.
K1-g	Interpret the social aspects impact on the built environment.
K1-h	Demonstrate an understanding of the mutual integration between human and the environment.
K1-i	Demonstrate an in-depth understanding of wide range of specialized knowledge related to current developments of the built environment.
K2-a	Differentiate between various types of building materials, building technologies and structural systems.
K2-b	Demonstrate an understanding of various types of infrastructure systems.
K2-c	Demonstrate an understanding of technical installations in buildings.
K3-a	Identify the professional ethics and responsibilities of architects.
K3-b	Illustrate the potential roles of architects in different professional contexts.
K3-c	Identify the relevant laws, rules and legislations that regulate the built environment.
K3-d	Explain the nature of construction industry.
K3-e	Illustrate fundamentals of economics of construction sector.
K3-f	Illustrate fundamentals of project management of construction sector.
K3-g	Demonstrate an understanding of use of specialized measuring, testing and modeling tools in the design process.
K4-a	Demonstrate an understanding of mathematical concepts relevant to architecture.
K4-b	Illustrate fundamentals of computer applications in simulation and presentation of design concepts.

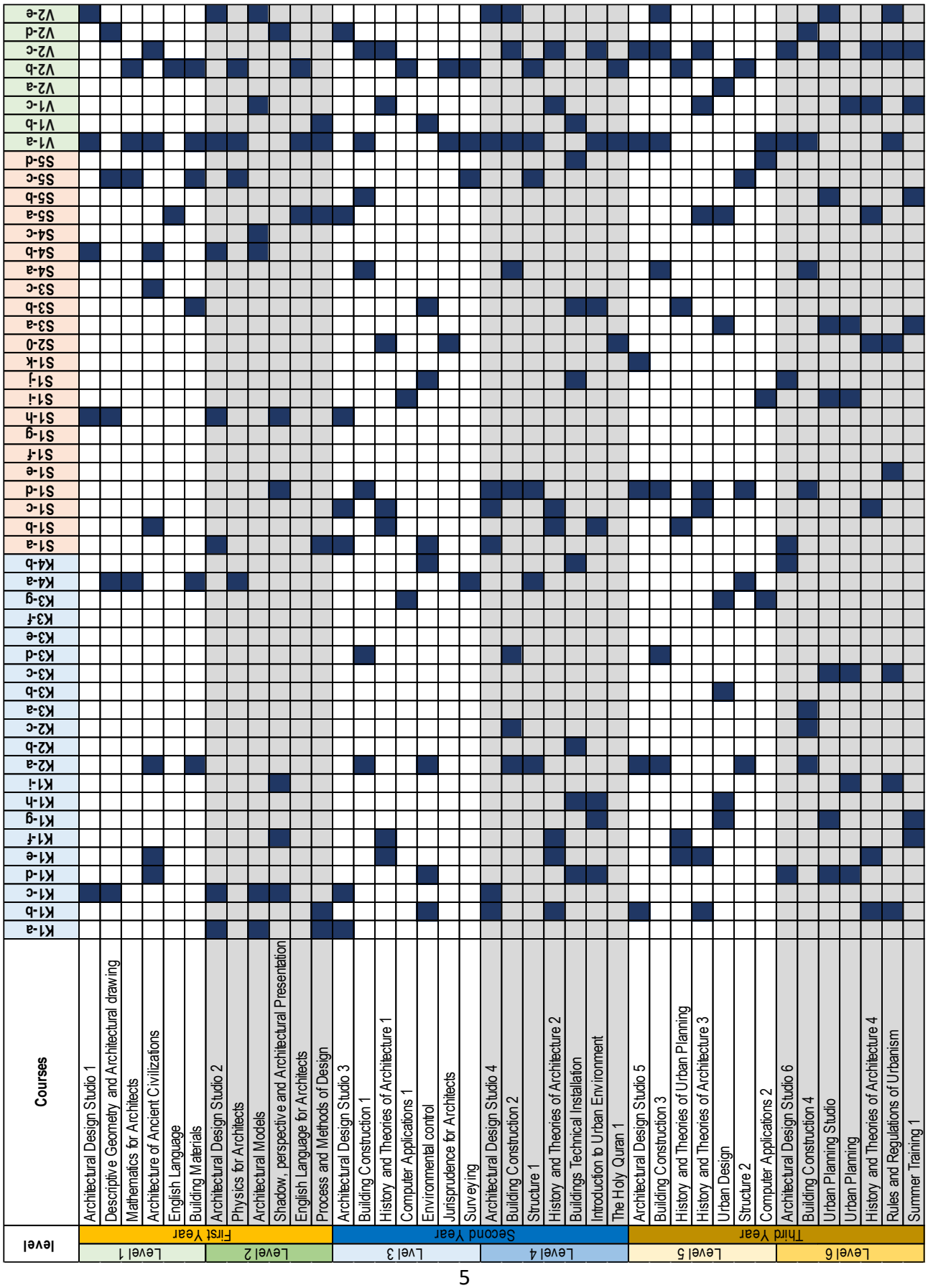
2.2 Skills

S1-a	Make design decisions considering user requirements, site analysis, and environmental impacts.
S1-b	Apply the knowledge of historical, social and cultural references in design.
S1-c	Apply the knowledge of design theories and methods.
S1-d	Apply the knowledge of bearing structure and materials selection.
S1-e	Apply the knowledge of professional and regulatory requirements.
S1-f	Apply the knowledge of construction economics.
S1-g	Apply the knowledge of construction project management.
S1-h	Employ manual skills to develop and present projects.
S1-i	Employ digital skills to analyze, develop and present projects.
S1-j	Apply various means to achieve sustainable design.
S1-k	Create innovative architectural concepts and forms.
S2-0	Analyze the Islamic values and its impact on the formation of the human and built environment at multiple scales.
S3-a	Interpret questionnaires and evaluate data from a variety of sources.
S3-b	Analyze results of various experiments.
S3-c	Apply scientific research for complex issues of the built environment.
S4-a	Perform building and execution drawings efficiently.
S4-b	Demonstrate mental-physical coordination in producing sketches and drawings.
S4-c	Execute physical models efficiently.
S5-a	Communicate effectively using oral and written forms.
S5-b	Effectively create various technical documentations.
S5-c	Use mathematics to process data and information in various complex contexts, related to architecture.
S5-d	Utilize computer applications effectively to produce graphics and models of design concepts.

3.3 Values, Autonomy and Responsibility

V1-a	Demonstrate self-discipline and punctuality.
V1-b	Demonstrate respect to different points of view.
V1-c	Demonstrate commitment to ethics; and professional and academic values.
V2-a	Actively participate in finding effective solutions to social issues related to the built environment.
V2-b	Demonstrate responsibility for self-learning and continuing personal and professional development.
V2-c	Work collaboratively and constructively, and lead diverse teams to perform a wide range of tasks with responsibility.
V2-d	Demonstrate persistence on achievement and distinction.
V2-e	Complete tasks under pressure and within the expected time frame.

3. Matrix of CLOs



level	Courses	K1-a	K1-b	K1-c	K1-d	K1-e	K1-f	K1-g	K1-h	K1-i	K2-a	K2-b	K2-c	K3-a	K3-b	K3-c	K3-d	K3-e	K3-f	K3-g	K4-a	K4-b	S1-a	S1-b	S1-c	S1-d	S1-e	S1-f	S1-g	S1-h	S1-i	S1-j	S1-k	S2-0	S3-a	S3-b	S3-c	S4-a	S4-b	S4-c	S5-a	S5-b	S5-c	S5-d	V1-a	V1-b	V1-c	V2-a	V2-b	V2-c	V2-d	V2-e
Fourth Year																																																						
Level 7	Architectural Design Studio 7		■														■						■										■																						
	Structure 3				■						■										■																																		
	Execution Design Studio 1												■																												■														
	Housing								■										■																																					
	The Holy Quran 2																																		■																				
	Islamic Culture 1																																		■																			
	Advanced Computer Applications																					■																																		
Level 8	Architectural Design Studio 8										■												■										■																						
	Landscape Architecture									■													■																																	
	Interior Design																						■																																	
	Execution Design Studio 2										■					■																																						
	The Biography of Prophet Mohammad (pbuh)																																		■																			
	Islamic Culture 2																																		■																			
	Summer Training 2															■							■																																	
Fifth Year																																																							
Level 9	Architectural Design Studio 9									■																						■																						
	Graduation Project Research																																																						
	Elective Course 1									■																																													
	Architectural Project Management															■																																							
	The Holy Quran 3																																																					
	Islamic Culture 3																																																				
	Arabic Language																																																					
Level 10	Architectural Design Studio 10															■																																					
	Economics of Architectural Projects																																																				
	Human and Environment																																																					
	Elective Course 2																																																				
	The Holy Quran 4																																																				
	Islamic Culture 4																																																				

Electives

Levels	Building Construction 3	K1-a	K1-b	K1-c	K1-d	K1-e	K1-f	K1-g	K1-h	K1-i	K2-a	K2-b	K2-c	K3-a	K3-b	K3-c	K3-d	K3-e	K3-f	K3-g	K4-a	K4-b	S1-a	S1-b	S1-c	S1-d	S1-e	S1-f	S1-g	S1-h	S1-i	S1-j	S1-k	S2-0	S3-a	S3-b	S3-c	S4-a	S4-b	S4-c	S5-a	S5-b	S5-c	S5-d	V1-a	V1-b	V1-c	V2-a	V2-b	V2-c	V2-d	V2-e
Elective 1	Urban Heritage in Saudi Arabia									■																																												
	High-Tech in Building Construction									■																																												
	Mega Structure									■																																												
	Sustainability and Green Architecture									■																																												
Elective	Architectural criticism									■																																												
	Vernacular Architecture									■																																												
	Architecture of the Two Holy Mosques									■																																											

4. ASIIN's LOs

Design competence
Graduates have the ability to

- think creatively and to manage and integrate the efforts of others involved in the planning process,
- gather information, define problems, apply analysis, make critical judgements and formulate strategies for action,
- think three-dimensionally and to develop designs methodically, both scientifically and artistically,
- bring into accordance divergent factors, integrate knowledge and apply skills in creating a design solution.

Knowledge and understanding
Cultural and artistic studies
Graduates

- can apply knowledge of historical and cultural references in international architecture,
- can apply knowledge of the influence of the visual arts on the quality of architectural de-sign,
- have developed an understanding of the heritage of the built environment and issues relating to the protection of historical monuments,
- have developed an awareness of the interconnections between architecture and philosophical and political currents and the cultural development of other creative disciplines.

Social and human sciences
Graduates

- have the ability to develop programmes for construction tasks, defining the needs of clients, the public and users,
- have an understanding of the social context of a construction task,
- have an understanding of the ergonomic and spatial requirements of the working environment,
- have knowledge of the relevant laws, rules and standards for planning, design, construction, health, safety and use of the built environment,
- have knowledge of philosophy, political science and ethics relevant to architecture,
- can apply the knowledge of society, builders and users,

- can identify and define functional conditions for different environmental areas.

Environmental Science
Graduates
- have an understanding of issues such as environmental sustainability, designs to reduce energy consumption and impact on the environment, and an understanding of passive systems and their controls,

- have an awareness of technology and technology implications,

- have an awareness of the history and practice of landscape architecture, urban design, regional and national planning,

- can apply their knowledge to natural systems and the built environment.

Engineering Sciences
Graduates
- can apply their knowledge of the supporting structure, materials, supply and disposal,

- have an understanding of the processes of technical design and the integration of the sup-porting structure, structural engineering, and technical finishing into a functional entity,

- have an understanding of infrastructure (development) and of communications, maintenance and security systems,

- have an awareness of the importance of technical infrastructure in the realisation of a de-sign and an awareness of construction cost planning and control,

- have knowledge of the physical problems and the technologies related to the function of a building to provide comfort and protection against the weather.

Design methodology
Graduates
- can apply the knowledge of design theory and methodology,

- have an understanding of design procedures and design processes as well as analysis and interpretation of frameworks,

- have knowledge of the history of design and architectural criticism.

Construction economics / construction management
Graduates
- can apply knowledge of professional, business, financial and legal requirements,

- have an awareness of the operating principles of the real estate industry, financial relation-ships, real estate investment, alternative methods of contracting, and facilities management,

- have an awareness of the potential roles of architects in familiar and in new fields of action as well as in an international context,

- have an understanding of market mechanisms and their effect on the development of the built environment, an understanding of project control, project development and client consultancy,

- have an understanding of professional ethics and codes of conduct in relation to the prac-tice of the profession and an understanding of an architect's legal obligations in relation to registration,

- can plan and coordinate the construction process,

- can organise the processes involved in the construction of buildings and their economic execution.

Skills

Graduates

- have the ability to work in a team and communicate ideas using language, text, drawing, statistics and models,

- have the ability to use analogue and digital, graphic and modelling skills to analyse and develop a design project, and to communicate this clearly,

- have an understanding of assessment systems using manual and/or electronic means to diagnose built environments.

- Appropriate knowledge, skills and abilities should be acquired by students in all courses of study that aim at a license as an architect.

5. Mapping of CLOs, and ASIIN's LOs

a. Design competence

Graduates have the ability to

1- think creatively and to manage and integrate the efforts of others involved in the planning process,

S1-k	Create innovative architectural concepts and forms.

2- gather information, define problems, apply analysis, make critical judgements and formulate strategies for action,

S3-a	Interpret questionnaires and evaluate data from a variety of sources.
S3-b	Analyze results of various experiments.
S3-c	Apply scientific research for complex issues of the built environment.
S5-b	Effectively create various technical documentations.

3- think three-dimensionally and to develop designs methodically, both scientifically and artistically,

K1-a	Demonstrate an understanding of processes and methods of design.
S5-d	Utilize computer applications effectively to produce graphics and models of design concepts.

4- bring into accordance divergent factors, integrate knowledge and apply skills in creating a design solution.

K1-i	Demonstrate an in-depth understanding of wide range of specialized knowledge related to current developments of the built environment.
S1-a	Make design decisions considering user requirements, site analysis, and environmental impacts.
S1-b	Apply the knowledge of historical, social and cultural references in design.
S1-c	Apply the knowledge of design theories and methods.
S1-d	Apply the knowledge of bearing structure and materials selection.
S1-e	Apply the knowledge of professional and regulatory requirements.
S1-h	Employ manual skills to develop and present projects.
S1-i	Employ digital skills to analyze, develop and present projects.

b. Knowledge and understanding

Cultural and artistic studies

Graduates

1- can apply knowledge of historical and cultural references in international architecture,

S1-b	Apply the knowledge of historical, social and cultural references in design.

2- can apply knowledge of the influence of the visual arts on the quality of architectural design,

K1-c	Demonstrate an understanding of architectural shapes and forms, and ways of presentation.

3- have developed an understanding of the heritage of the built environment and issues relating to the protection of historical monuments,

K1-f	Describe the heritage of the built environment.
S2-0	Analyze the Islamic values and its impact on the formation of the human and built environment at multiple scales.

4- have developed an awareness of the interconnections between architecture and philosophical and political currents and the cultural development of other creative disciplines.

K1-i	Demonstrate an in-depth understanding of wide range of specialized knowledge related to current developments of the built environment.

c. Social and human sciences

Graduates

1- have the ability to develop programmes for construction tasks, defining the needs of clients, the public and users,

K1-b	Define functional requirements for different sectors of the built environment.
S1-a	Make design decisions considering user requirements, site analysis, and environmental impacts.

2- have an understanding of the social context of a construction task,

K1-g	Interpret the social aspects impact on the built environment.
V2-a	Actively participate in finding effective solutions to social issues related to the built environment.

3- have an understanding of the ergonomic and spatial requirements of the working environment,

K1-b	Define functional requirements for different sectors of the built environment.
S1-a	Make design decisions considering user requirements, site analysis, and environmental impacts.

4- have knowledge of the relevant laws, rules and standards for planning, design, construction, health, safety and use of the built environment,

K3-c	Identify the relevant laws, rules and legislations that regulate the built environment.

5- have knowledge of philosophy, political science and ethics relevant to architecture,

K3-a	Identify the professional ethics and responsibilities of architects.

6- can apply the knowledge of society, builders and users,

S1-b	Apply the knowledge of historical, social and cultural references in the design of the built environment.

7- can identify and define functional conditions for different environmental areas.

K1-b	Define functional requirements for different sectors of the built environment.

d. Environmental Science

Graduates

1- have an understanding of issues such as environmental sustainability, designs to reduce energy consumption and impact on the environment, and an understanding of passive systems and their controls,

K1-d	Demonstrate a broad range of understanding of the impact of environmental conditions on the built environment.
K1-h	Demonstrate an understanding of the mutual integration between human and the environment.
S1-j	Apply various means to achieve sustainable design.

2- have an awareness of technology and technology implications,

K1-h	Demonstrate an understanding of the mutual integration between human and the environment.

3- have an awareness of the history and practice of landscape architecture, urban design, regional and national planning,

K1-e	Demonstrate an understanding of the history and theories of the built environment.

4- can apply their knowledge to natural systems and the built environment.

S1-j	Apply various means to achieve sustainable design.

e. Engineering Sciences

Graduates

1- can apply their knowledge of the supporting structure, materials, supply and disposal,

S1-d	Apply the knowledge of bearing structure and materials selection.

2- have an understanding of the processes of technical design and the integration of the supporting structure, structural engineering, and technical finishing into a functional entity,

K2-a	Differentiate between various types of building materials, building technologies and structural systems.
K2-c	Demonstrate an understanding of technical installations in buildings.

3- have an understanding of infrastructure (development) and of communications, maintenance and security systems,

K2-b	Demonstrate an understanding of various types of infrastructure systems.

4- have an awareness of the importance of technical infrastructure in the realisation of a design and an awareness of construction cost planning and control,

K2-b	Demonstrate an understanding of various types of infrastructure systems.
K3-e	Illustrate fundamentals of economics of construction sector.
K3-f	Illustrate fundamentals of project management of construction sector.

5- have knowledge of the physical problems and the technologies related to the function of a building to provide comfort and protection against the weather.

K3-g	Demonstrate an understanding of use of specialized measuring, testing and modeling tools in the design process.
S1-j	Apply various means to achieve sustainable design.

f. Design methodology

Graduates

1- can apply the knowledge of design theory and methodology,

S1-c	Apply the knowledge of design theories and methods.

2- have an understanding of design procedures and design processes as well as analysis and interpretation of frameworks,

K1-a	Demonstrate an understanding of processes and methods of design.

3- have knowledge of the history of design and architectural criticism.

K1-e	Demonstrate an understanding of the history and theories of the built environment.

g. Construction economics / construction management

Graduates

1- can apply knowledge of professional, business, financial and legal requirements,

S1-e	Apply the knowledge of professional and regulatory requirements.
S1-f	Apply the knowledge of construction economics.
S1-g	Apply the knowledge of construction project management.

2- have an awareness of the operating principles of the real estate industry, financial relationships, real estate investment, alternative methods of contracting, and facilities management,

K3-e	Illustrate fundamentals of economics of construction sector.

3- have an awareness of the potential roles of architects in familiar and in new fields of action as well as in an international context,

K3-b	Illustrate the potential roles of architects in different professional contexts.

4- have an understanding of market mechanisms and their effect on the development of the built environment, an understanding of project control, project development and client consultancy,

S1-f	Apply the knowledge of construction economics.

5- have an understanding of professional ethics and codes of conduct in relation to the practice of the profession and an understanding of an architect's legal obligations in relation to registration,

K3-a	Identify the professional ethics and responsibilities of architects.
V1-c	Demonstrate commitment to ethics; and professional and academic values.

6- can plan and coordinate the construction process,

K3-f	Illustrate fundamentals of project management of construction sector.
S1-g	Apply the knowledge of construction project management.

7- can organise the processes involved in the construction of buildings and their economic execution.

K3-e	Illustrate fundamentals of economics of construction sector.
K3-f	Illustrate fundamentals of project management of construction sector.
S1-f	Apply the knowledge of construction economics.
S1-g	Apply the knowledge of construction project management.

h. Skills

Graduates

1- have the ability to work in a team and communicate ideas using language, text, drawing, statistics and models,

S4-a	Perform building and execution drawings efficiently.
S4-b	Demonstrate mental-physical coordination in producing sketches and drawings.
S4-c	Execute physical models efficiently.
S5-a	Communicate effectively using oral and written forms.
S5-b	Effectively create various technical documentations.
S5-c	Use mathematics to process data and information in various complex contexts, related to architecture.
S5-d	Utilize computer applications effectively to produce graphics and models of design concepts.
V2-c	Work collaboratively and constructively, and lead diverse teams to perform a wide range of tasks with responsibility.

2- have the ability to use analogue and digital, graphic and modelling skills to analyse and develop a design project, and to communicate this clearly,

K4-b	Illustrate fundamentals of computer applications in simulation and presentation of design concepts.
S1-i	Employ digital skills to analyze, develop and present projects.

3- have an understanding of assessment systems using manual and/or electronic means to diagnose built environments.

K3-g	Demonstrate an understanding of use of specialized measuring, testing and modeling tools in the design process.

5. Matrix of CLOs, and ASIIN's LOs

ASIIN LOs			a.Design competence				b.Knowledge & understanding				c.Social & human sciences							d.Environmental Science				e.Engineering Sciences					f.Design method.			g.Construction economics / management							h.Skills		
UQU	PLOs	ILOs	1	2	3	4	1	2	3	4	1	2	3	4	5	6	7	1	2	3	4	1	2	3	4	5	1	2	3	1	2	3	4	5	6	7	1	2	3
Knowledge	K1	K1-a			■																							■												
		K1-b									■		■				■																								
		K1-c						■																																	
		K1-d																■																						
		K1-e																		■										■										
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	K2	K2-a																					■																	
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	K3	K3-a													■																				■					
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	K4	K4-a																																						
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Skills	S1	S1-a				■					■		■																											
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		S1-e				■																									■									
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		S1-h				■																																			
		S1-i				■																																	■		
		S1-j																■			■					■														
		S1-k	■																																						
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	S3	S3-a		■																																				
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		S5-d			■																																	■		
Values	V1	V1-a																																						
		V1-b																																						
		V1-c																																	■					
	V2	V2-a										■																							■					
		V2-b																																						
		V2-c																																				■		
		V2-d																																						
		V2-e																																						

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