



College of
Engineering and Architecture

Department of
Architecture

Architecture and Planning Programme

**Intended Learning Outcomes
(ILOs)**



Architecture and Planning 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 Architecture and Planning 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 Architecture and Planning Programme

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

K1	Demonstrate a comprehensive understanding of the built environment.
K2	Demonstrate an in-depth understanding of systems, technologies, safety and assemblies of the built environment.
K3	Demonstrate an in-depth understanding of professional ethics, regulatory, and responsibilities of architects.
K4	Explain concepts of mathematics and scientific theories relevant to architecture.

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

S1	Make decisions for complex design problems in creative and scientific manners.
S2	Analyze the Islamic values and its impact on the formation of the human and built environment at multiple scales.
S3	Apply scientific research for complex issues of the built environment.
S4	Execute drawings, craftworks and physical models efficiently.
S5	Communicate in different forms to demonstrate understanding and transfer knowledge.

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 Architecture and Planning Programme

2.1 Knowledge

K1-a	Demonstrate an understanding of processes, methods and fundamentals of designing the built environment.
K1-b	Define functional requirements and relationships for different sectors of the built environment.
K1-c	Demonstrate an understanding of the basics of architectural formation.
K1-d	Demonstrate an understanding of various ways of representing the built environment.
K1-e	Demonstrate an understanding of the history of the built environment.
K1-f	Demonstrate an understanding of theories of the built environment.
K1-g	Describe the conservation methods of the built heritage.
K1-h	Explain the impact of different aspects on the built environment.
K1-i	Demonstrate an understanding of the mutual integration between human and the environment.
K1-j	Demonstrate adequate understanding of the means to achieve an environmentally sustainable built environment.
K1-k	Demonstrate an understanding of wide range of specialized knowledge related to the built environment.
K1-l	Demonstrate an understanding of the knowledge required to use computer programs in designing the built environment.
K1-m	Illustrate fundamentals of economics of the built environment sector.
K1-n	Illustrate fundamentals of project management of built environment sector.
K1-o	Demonstrate an understanding of the visual arts as an influence on the quality of the design.
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.
K2-d	Explain the nature of construction industry.
K3-a	Identify the professional ethics and responsibilities related to the built environment.
K3-b	Identify the relevant laws, rules and legislations that regulate the built environment.
K4-a	Demonstrate an understanding of mathematical concepts relevant to the built environment.
K4-b	Demonstrate an understanding of engineering concepts relevant to the built environment.

2.2 Skills

S1-a	Make design decisions considering user requirements and various environmental impacts.
S1-b	Solve complicated problems associated with the built environment.
S1-c	Create innovative concepts and forms for the built environment.
S1-d	Apply the knowledge of theories and methods of designing the built environment.
S1-e	Apply the knowledge of bearing structure and materials selection.
S1-f	Apply the knowledge of historical, social and cultural references in the design of the built environment.
S1-g	Apply the knowledge of professional and regulatory requirements.
S1-h	Apply the knowledge of built environment economics.
S1-i	Apply the knowledge of project management.
S1-j	Effectively employ digital skills in different stages of designing the built environment.
S1-k	Apply various means to achieve sustainable built environment.
S1-l	Apply various conservation methods to preserve the built heritage.
S2-a	Analyze the Islamic values and its impact on the formation of the human and built environment at multiple scales.
S3-a	Independently seek information and use it appropriately.
S3-b	Analyze data from a variety of sources.
S3-c	Formulate results of different experiments.
S4-a	Employ manual skills to develop and present projects.
S4-b	Execute physical models efficiently.
S4-c	Perform drawings efficiently and accurately.
S5-a	Communicate effectively with others.
S5-b	Utilize computer programs effectively in communication.



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.



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 design,
- 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,

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- 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 supporting 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 design 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,

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- have an awareness of the operating principles of the real estate industry, financial relationships, 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 practice 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-c	Create innovative concepts and forms for the built environment.
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2- gather information, define problems, apply analysis, make critical judgements and formulate strategies for action,

S1-b	Solve complicated problems associated with the built environment.
S3-b	Analyze data from a variety of sources.
S3-c	Formulate results of different experiments.

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

K1-a	Demonstrate an understanding of processes, methods and fundamentals of designing the built environment.
K1-c	Demonstrate an understanding of the basics of architectural formation.
S1-d	Apply the knowledge of theories and methods of designing the built environment.

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

K1-k	Demonstrate an understanding of wide range of specialized knowledge related to the built environment.
S1-a	Make design decisions considering user requirements and various environmental impacts.
S1-d	Apply the knowledge of theories and methods of designing the built environment.
S1-e	Apply the knowledge of bearing structure and materials selection.
S1-f	Apply the knowledge of historical, social and cultural references in the design of the built environment.
S1-g	Apply the knowledge of professional and regulatory requirements.
S1-j	Effectively employ digital skills in different stages of designing the built environment.
S4-a	Employ manual skills to 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-f	Apply the knowledge of historical, social and cultural references in the design of the built environment.
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2- can apply knowledge of the influence of the visual arts on the quality of architectural design,

K1-c	Demonstrate an understanding of the basics of architectural formation.
K1-o	Demonstrate an understanding of the visual arts as an influence on the quality of the design.

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

K1-g	Describe the conservation methods of the built heritage.
S1-l	Apply various conservation methods to preserve the built heritage.
S2-a	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-k	Demonstrate an understanding of wide range of specialized knowledge related to the built environment.
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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 and relationships for different sectors of the built environment.
S1-a	Make design decisions considering user requirements and various environmental impacts.

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

V2-a	Actively participate in finding effective solutions to social issues related to the built environment.
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3- have an understanding of the ergonomic and spatial requirements of the working environment,

K1-b	Define functional requirements and relationships for different sectors of the built environment.
S1-a	Make design decisions considering user requirements and various 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-b	Identify the relevant laws, rules and legislations that regulate the built environment.
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5- have knowledge of philosophy, political science and ethics relevant to architecture,

K3-a	Identify the professional ethics and responsibilities related to the built environment.
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6- can apply the knowledge of society, builders and users,

S1-f	Apply the knowledge of historical, social and cultural references in the design of the built environment.
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7- can identify and define functional conditions for different environmental areas.

K1-b	Define functional requirements and relationships for different sectors of the built environment.
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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-h	Explain the impact of different aspects on the built environment.
K1-i	Demonstrate an understanding of the mutual integration between human and the environment.
K1-j	Demonstrate adequate understanding of the means to achieve an environmentally sustainable built environment.

2- have an awareness of technology and technology implications,

K1-i	Demonstrate an understanding of the mutual integration between human and the environment.
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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 of the built environment.
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4- can apply their knowledge to natural systems and the built environment.

S1-k	Apply various means to achieve sustainable built environment.
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e. Engineering Sciences

Graduates

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

S1-e	Apply the knowledge of bearing structure and materials selection.
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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.
K4-b	Demonstrate an understanding of engineering concepts relevant to the built environment.

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.
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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,

K1-m	Illustrate fundamentals of economics of the built environment sector.
K1-n	Illustrate fundamentals of project management of built environment sector.
K2-b	Demonstrate an understanding of various types of infrastructure systems.

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.

K1-j	Demonstrate adequate understanding of the means to achieve an environmentally sustainable built environment.
K4-b	Demonstrate an understanding of engineering concepts relevant to the built environment.



f. Design methodology

Graduates

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

S1-d	Apply the knowledge of theories and methods of designing the built environment.
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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, methods and fundamentals of designing the built environment.
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3- have knowledge of the history of design and architectural criticism.

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

g. Construction economics / construction management

Graduates

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

S1-g	Apply the knowledge of professional and regulatory requirements.
S1-h	Apply the knowledge of built environment economics.
S1-i	Apply the knowledge of 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,

K1-m	Illustrate fundamentals of economics of the built environment sector.
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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-a	Identify the professional ethics and responsibilities related to the built environment.
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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,

K1-m	Illustrate fundamentals of economics of the built environment sector.
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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 related to the built environment.
V1-c	Demonstrate commitment to ethics; and professional and academic values.

6- can plan and coordinate the construction process,

K1-n	Illustrate fundamentals of project management of built environment sector.
S1-i	Apply the knowledge of project management.

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

K1-m	Illustrate fundamentals of economics of the built environment sector.
K1-n	Illustrate fundamentals of project management of built environment sector.
S1-h	Apply the knowledge of built environment economics.
S1-i	Apply the knowledge of project management.



h. Skills

Graduates

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

K1-d	Demonstrate an understanding of various ways of representing the built environment.
S1-j	Effectively employ digital skills in different stages of designing the built environment.
S4-a	Employ manual skills to develop and present projects.
S4-b	Execute physical models efficiently.
S4-c	Perform drawings efficiently and accurately.
S5-a	Communicate effectively with others.
S5-b	Utilize computer programs effectively in communication.
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,

K1-l	Demonstrate an understanding of the knowledge required to use computer programs in designing the built environment.
S1-j	Effectively employ digital skills in different stages of designing the built environment.
S3-b	Analyze data from a variety of sources.

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

S3-b	Analyze data from a variety of sources.
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