

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.
К3	Demonstrate an in-depth understanding of professional ethics, regulatory, and responsibilities of architects.
К4	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

\	/1	Ethics Demonstrate self-discipline, punctuality and commitment to all required tasks.
\	/2	Responsibility Demonstrate personal, professional and social responsibility.

2. CLOs of Architecture and Planning Programme

2.1 Knowledge

F	
K1-a	Demonstrate an understanding of processes, methods and fundamentals of designing the built environment.
INZ G	Define functional requirements and relationships for different sectors of the built
K1-b	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.
1(1)	Demonstrate an understanding of wide range of specialized knowledge related to the
K1-k	built environment.
1/4	Demonstrate an understanding of the knowledge required to use computer programs in
K1-l	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.
	Demonstrate an understanding of the visual arts as an influence on the quality of the
K1-o	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.
К3-а	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.
	Demonstrate an understanding of mathematical concepts relevant to the built
K4-a	environment.
K4-b	Demonstrate an understanding of engineering concepts relevant to the built environment.
N4-N	environment.

2.2 Skills

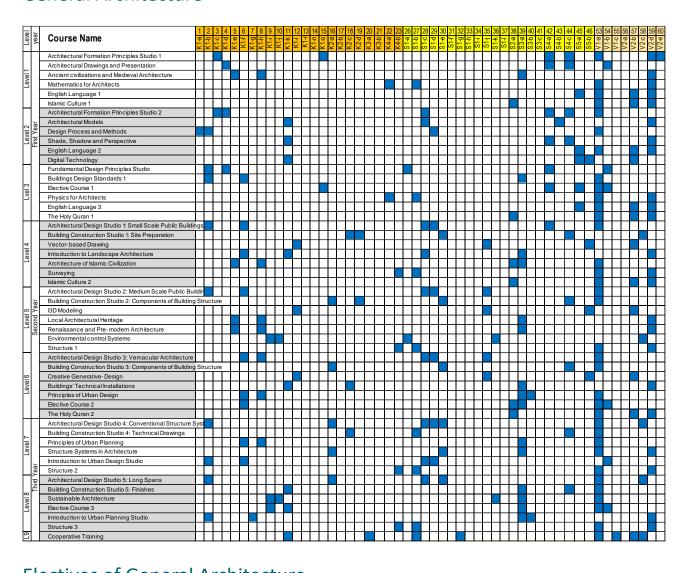
S1-a	Make design decisions considering user requirements and various environmental impacts.
S1-b	Solve complicated problems associated with the built environment.
S1-c	Create innovative concepts and forms for the built environment.
S1-d	Apply the knowledge of theories and methods of designing the built 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

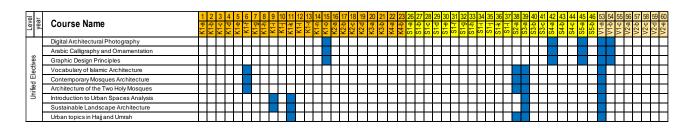
V/1 a	Domonaturate colf discipling and numeroplity
V1-a	Demonstrate self-discipline and punctuality.
V1-b	Demonstrate respect to different points of view.
V1-c	Demonstrate commitment to ethics; and professional and academic values.
	Actively participate in finding effective solutions to social issues related to the built
V2-a	environment.
	Demonstrate responsibility for self-learning and continuing personal and professional
V2-b	development.
	Work collaboratively and constructively, and lead diverse teams to perform a wide range
V2-c	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

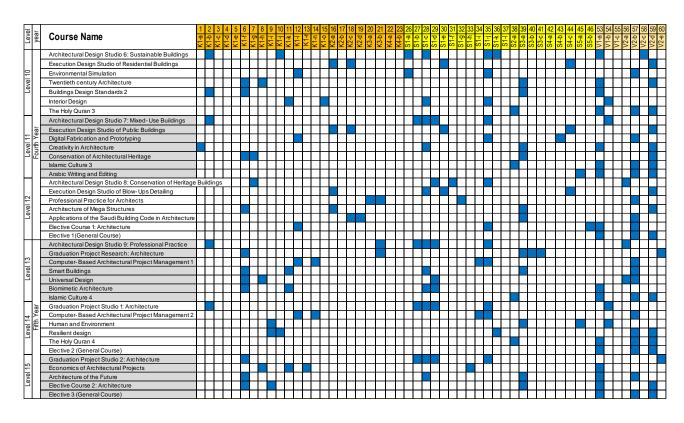
General Architecture



Electives of General Architecture



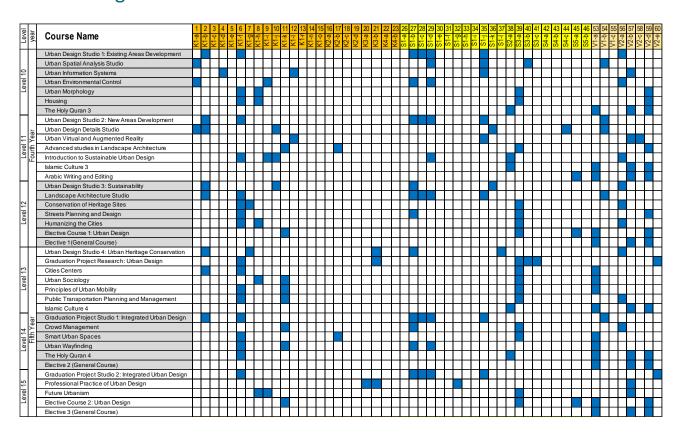
Architecture



Electives of Architecture Branch

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itecture	Human Factors in Architecture			П					Т		П								Т	П			П	Т	П	Т	Т			П				Т			П	Т	П	
5	Architectural Criticism										П							T						T			T							T				T		
*	Selected Topics in Architecture					П			T		П									П			П	T	П		T											T		

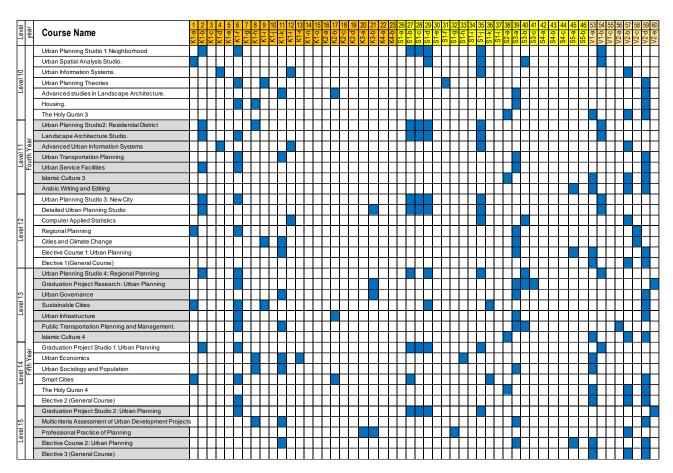
Urban Design



Electives of Urban Design Branch

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Level	Course Name	K1-a	K1-c	K1-d	K1-e	K1-0	K1-h	K1+	L 1	K1-K	K1-1	K1-n	K1-0	K2-a	K2-D	K2-d	K3-a	K3-b	K4-a	K4-b	ST-a	S1-c	S1-d	S1-e	S1-0	S1-h	S1+i	511	S14	S2-a	S3-a	S3-b	23-C	04-a	S4-c	S5-a	S5-b	V1-a	V1-b	V1-c	V2-a	V2-b	V2-C	V2-e
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Urban Planning



Electives of Urban Planning Branch

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Level	Course Name	K1-a	K1-b	K1-c	K1-e	K14	K1-g	K1-h	K 1-1	K1-k	K14	К1-п	K1-n	K1-0	K2-b	K2-c	K2-d	K3-a	K3-b	K4-a	S1-a	S1-b	S1-c	S1-d	S1-f	S1-g	S14	S1-j	S1-k	S14	S3-a	83-b	S3-c	S4-a	S4-p	S4-c	S5-a	S5-b	V1-a	V1-c	V2-a	V2-b	V2-c	V2-d V2-e
D	Urban Indicators																				Т																			Ī				
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is a	Urban Development in Saudi Arabia		П	Т	Т	П		П	Т				П	П		П				Т	Т		П	Т	П		Т			Т					П					Т				
rban	Selected Topics in Urban Planning			T																T	T		П				T													T				
18 E	Advanced Topics in Urban Transportation								T												T		П				T																	
	Planning Decision-Making Systems																				Т		П				T					П												

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,

- 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,

- 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,

	Demonstrate an understanding of processes, methods and fundamentals of
K1-a	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.

	Demonstrate an understanding of wide range of specialized knowledge related to								
K1-k	the built environment.								
	Make design decisions considering user requirements and various environmental								
S1-a	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.								
	Apply the knowledge of historical, social and cultural references in the design of								
S1-f	the built environment.								
S1-g	Apply the knowledge of professional and regulatory requirements.								
	Effectively employ digital skills in different stages of designing the built								
S1-j	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,

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

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.
	Demonstrate an understanding of the visual arts as an influence on the quality of
K1-o	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.							
	Analyze the Islamic values and its impact on the formation of the human and built							
S2-a	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.

	Demonstrate an understanding of wide range of specialized knowledge related to
K1-k	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,

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

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

	Actively participate in finding effective solutions to social issues related to the						
V2-a	environment.						

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

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

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

	Identify	the	relevant	laws,	rules	and	legislations	that	regulate	the	built
K3-b	environn	nent.									

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

	Identify	the	professional	ethics	and	responsibilities	related	to	the	built
K3-a	environn	nent.								

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

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

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

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

2- have an awareness of technology and technology implications,

	Demonstrate an understanding of the mutual integration between human and
K1-i	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 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,

	Differentiate between various types of building materials, building technologies			
K2-a	and structural systems.			
K2-c	Demonstrate an understanding of technical installations in buildings.			
	Demonstrate an understanding of engineering concepts relevant to the built			
K4-b	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 system	ns.
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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.

	Demonstrate	adequate	underst	anding	of	the	means	to	achie	ve	an
K1-j	environmental	ly sustainab	le built e	nvironm	ent.						
	Demonstrate	an understa	nding of	engine	ering	cond	cepts re	levant	to th	e b	uilt
K4-b	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.
O = G	Tripping the knownedge of theories and methods of designing the same chimenth

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

	Demonstrate an understanding of processes, methods and fundamentals o	of
K1-a	designing the built environment.	

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

К1-е	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,

	Identify	the	professional	ethics	and	responsibilities	related	to	the	built
К3-а	environn	nent.								

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,

lustrate fundamentals of economics of the built environment sector.

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,

	Identify	the	professional	ethics	and	responsibilities	related	to	the	built
К3-а	environn	nent.								
V1-c	Demonst	trate	commitment t	o ethics	; and	professional and	academi	c va	lues.	

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,

	Demonstrate an understanding of various ways of representing the built													
K1-d	environment.													
	Effectively employ digital skills in different stages of designing the built													
S1-j	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.													
	Work collaboratively and constructively, and lead diverse teams to perform a wide													
V2-c	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,

	Demonstrate an understanding of the knowledge required to use computer													
K1-l	programs in designing the built environment.													
	Effectively employ digital skills in different stages of designing the buil													
S1-j	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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5. Matrix of CLOs, and ASIIN's LOs

Start Star	A	SIIN LC	Os .	a.De	esign		b.K	(now	vled	ge &	c.Social & human sciences							d.Environmental				6	e.En	gine	ering	ı	f.E)esiç	jn	g.(Cons	truct	s/	h	.Skil	ls			
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