

### Course Specification

<b>Course Code: ARCH 409</b>	<b>Course Title: Building Technology</b>
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(1) Basic information				
<b>Program Title</b>	Architecture & Urban Planning			
<b>Department offering the program</b>	Architecture & Urban Planning Department			
<b>Department offering the course</b>	Architecture & Urban Planning Department			
<b>Course Code</b>	ARCH 409			
<b>Year/level</b>	Second term 2023/2024 / 4th year			
<b>Specialization</b>	major			
<b>Teaching Hours</b>	Total	Practical	Tutorial	Lectures
	3	0	0	3
<b>Date of approval of Bylaw</b>	2008			

### (2). Course Aims

No.	Aims
	<p>The course aims to:</p> <ol style="list-style-type: none"> <li>1- Present and discuss topics related to the concept of technology (technology) and technical development in the field of architectural work.</li> <li>2- Study the aspects of this development and technical progress through studying the technology of material development.</li> <li>3- Studying the development of methods (construction methods technology) and means (machines) implementation (machinery technology).</li> <li>4- Studying the development of methods Structural design and analysis, studying the development of facilities management methods.</li> <li>5- Studying the use of information technology development through computers, and the impact of technical progress and development on sustainable architecture.</li> </ol> <p><b>(AIM 2&amp;3&amp;5)</b></p>

### (3). Learning Outcomes of Course (LOs)

B2.1	Produce designs that meet building users' requirements through understanding the relationship between people and buildings, and between buildings and their environment.
B4.1	Transform design concepts into buildings and integrate plans into overall planning within the constraints of: project financing, project management, cost control and methods of project delivery.

B5.1	Prepare design project briefs and documents, and understand the context of the architect in the construction industry.
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(4). Course Contents					
Week No.	Topics	Lecture	Tutorial	Practical	Total
1	Introduction to building technology	2			2
2	Introduction to construction systems and structural systems	2			2
3	Foundations and Substructures technologies and processes	2			2
4	Concrete construction- part one: cast in site concrete structures	2			2
5	Concrete construction- part one: cast in site concrete structures	2			2
6	Concrete construction- part Two: precast concrete technology	2			2
7	Concrete construction- part Two: precast concrete technology	2			2
8	Midterm Exam				
9	prefabricated units lecture	2			2
10	Finishing material technology	2			2
11	Maintenance	2			2
12	Technology and environment	2			2
13	Case studies applications	2			2
14	Final Project	2			2
15	Practical exam				
16	Final Exam				
	Total	26			26

(5). Teaching and Learning methods	
No.	Teaching Method
1	Demonstration method

2	Discussion
3	Educational Presentation
4	Storytelling

#### (6). Teaching and Learning methods of Disabled Students

No.	Teaching Method	Reason
1	Peer Learning	
2	Enhancement Lectures	

#### (7). Matrix of course Los with teaching and learning methods

No.	Teaching and Learning method			
	lectures	Educational presentation	Interactive learning	Self-learning
B2.1	✓	✓	✓	✓
B4.1	✓		✓	✓
B5.1	✓	✓	✓	✓

#### (8). Students Assessment

##### (8.1) Students Assessment Method

No	Assessment Method	Los
1	Fast Project	B2.1
2	Mini project	B2.1, B4.1, B5.1
3	Mid-term Exam	B2.1, B4.1
4	Individual Projects	B4.1, B5.1
5	Final Exam	B2.1, B4.1, B5.1

##### (8.2) Assessment Schedule

No.	Assessment Method	Weeks
1	Mini project//Homework	Weekly
2	Fast Project	N/A
3	Mid-term Exam	8
4	Final Discussion	15

5	Final Exam	16
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<b>(8.3) Weighting of Assessments</b>			
No	Assessment Method	Weights %	Weights
1	Fast Project	5%	5
	Mini Project/Homework	10%	10
	Mid-term Exam	15%	15
	Individual Projects	25 %	15
2	Practical	0	0
3	Final Exam	50%	50
Total		100%	100

<b>(9). List of References</b>	
[1].	معدات البناء – د شفق الوكيل
[2].	<b>Building technology</b>

<b>(10). Facilities required for teaching and learning</b>	
1	Studio Hall
2	Data show
3	Google Classroom
4	White Board
5	Library
6	Internet

<b>(11).Matrix of Aims and LOs of the Course</b>			
No.	Topics	Aims	LOs
1	Introduction	-	-
2	Introduction to construction systems and structural systems	1,2	B2.1, B4.1
3	Foundations and Substructures technologies and processes		
4	Foundations and Substructures technologies and processes		
5	Concrete construction- part one: cast in site concrete structures		
6	Concrete construction- part Two: precast concrete technology		

7	Midterm Exam	1:2	B2.1, B4.1
8	Concrete construction- part Two: precast concrete technology	3,4,5	B2.1, B4.1, B5.1
9	prefabricated units lecture		
10	Finishing material technology		
11	Maintenance		
12	Technology and environment		
13	Case studies applications		
14	Final Project		
15	Final Exam	1:5	B2.1, B4.1, B5.1

**(12). Matrix of Competencies/ Program LOs with Course LOs**

No.	Competences/ Program LOs	No.	Course LOs
B2	Produce designs that meet building users' requirements through understanding the relationship between people and buildings, and between buildings and their environment; and the need to relate buildings and the spaces between them to human needs and scale.	B2.1	Produce designs that meet building users' requirements through understanding the relationship between people and buildings, and between buildings and their environment.
B4	Transform design concepts into buildings and integrate plans into overall planning within the constraints of: project financing, project management, cost control and methods of project delivery; while having adequate knowledge of industries, organizations, regulations and procedures involved.	B4.1	Transform design concepts into buildings and integrate plans into overall planning within the constraints of: project financing, project management, cost control and methods of project delivery.
B5	Prepare design project briefs and documents, and understand the context of the architect in the construction industry, including the architect's role in the processes of bidding, procurement of architectural services and building production.	B5.1	Prepare design project briefs and documents, and understand the context of the architect in the construction industry.

Title	Name	Signature
Course Coordinator	Assistant prof. Nader ibrahem	
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Date of Approval	2023/ 2024	
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