

TISHK INTERNATIONAL UNIVERSITY FACULTY OF ENGINEERING Department of ARCHITECTURE, 2021-2022 Spring Course Information for ARCH 236 CONCRETE STRUCTURE					
<b>Course Name:</b>		CONCRETE STRUCTURE			
<b>Code</b> ARCH 236	<b>Regular Semester</b> 4	<b>Theoretical</b> 2	<b>Practical</b> -	<b>Credits</b> 2	<b>ECTS</b> 3
<b>Name of Lecturer(s)- Academic Title:</b>	Junaid Kameran - MTc				
<b>Teaching Assistant:</b>	None				
<b>Course Language:</b>	English				
<b>Course Type:</b>	Main				
<b>Office Hours</b>	2 hrs				
<b>Contact Email:</b>	junaid.kameran@tiu.edu.iq Tel:07508965170				
<b>Teacher's academic profile:</b>	-				
<b>Course Objectives:</b>	The course aims to give comprehensive understanding of the cement properties, its manufacturing process and the chemistry of cement compositions. It also aims to understand the mechanism of hydration of cement when mixed with water. The mechanical properties and durability of concrete covered in this course also. The course gives a brief materials for the design of reinforced concrete beams, serviceability (deflection), one-way slabs, and concrete short columns.				
<b>Course Description (Course overview):</b>	-				
COURSE CONTENT					
Week	Hour	Date	Topic		
1	2	4-7/10/2021	Introductory lecture		
2	2	10-14/10/2021	introduction to concrete (material and properties of its ingredient )		
3	2	17-21/10/2021	concrete mechanical properties		
4	2	24-28/10/2021	concrete mechanical properties		
5	2	31/10-4/11/2021	introduction to reinforced concrete		
6	2	7-11/11/2021	analysis of reinforced concrete beam		
7	2	14-18/11/2021	Midterm Exam		
8	2	21-25/11/2021	Design of reinforced concrete beam		
9	2	28/11-2/12/2021	serviceability		
10	2	5-9/12/2021	analysis of reinforced columns		
11	2	12-16/12/2021	analysis of reinforced columns		
12	2	19-23/12/2021	Design of one way slab		
13	2	26-30/12/2021	Design of one way slab		
14	2	2-6/1/2022	review of the course		
15	2	9-13/1/2022	Final Exam		
16	2	16-20/1/2022	Final Exam		

<b>COURSE/STUDENT LEARNING OUTCOMES</b>		
<b>1</b>	Understanding the chemical and physical properties of cement & concrete	
<b>2</b>	Be aware about the characteristics of fresh and hardened concrete	
<b>3</b>	Understanding the basics of reinforced concrete design (Beams)	
<b>4</b>	Understanding the basics of reinforced concrete design (Columns)	
<b>5</b>	Understanding the basics of reinforced concrete design (slabs)	
<b>COURSE'S CONTRIBUTION TO PROGRAM OUTCOMES</b> (Blank : no contribution, I: Introduction, P: Proficient, A: Advanced )		
<b>Program Learning Outcomes</b>		<b>Cont.</b>
<b>1</b>	Apply problem-solving skills in the architectural context.	P
<b>2</b>	Demonstrate knowledge of architectural history, theory, and practice in solving architectural design problems.	I
<b>3</b>	Utilize freehand drawing, architectural graphics, and model building skills in solving architectural design problems.	I
<b>4</b>	Utilize the computer as a tool in a wide range of documentation and presentation applications, using CAD, 3-D visualization and rendering, electronic image composition and editing software.	
<b>5</b>	Apply knowledge of mathematics, science, engineering and technology in solving architectural design problems.	P
<b>6</b>	Develop designs that meet desired needs within realistic economic, social, political, and cultural constraints.	I
<b>7</b>	Develop designs that fulfill the environmental, health & safety, and sustainability considerations.	P
<b>8</b>	Demonstrate team-working skills and show the ability to work collaboratively with various design teams involved in the building industry, and collaborate and negotiate with clients.	P
<b>9</b>	Demonstrate the necessary knowledge for applying laws, codes, regulations, standards and practices in relation to building construction systems.	P
<b>10</b>	Show their ideas through high quality drawing skills and artistic sense.	
<b>11</b>	Utilize their skills to address professional and ethical responsibilities, diversity and commitment to the work field.	
<b>12</b>	Suggest solutions and techniques for engaging in life-long learning and knowledge about contemporary issues.	
<b>Prerequisites (Course Reading List and References):</b>	Concrete, by Sidney Mindess, S., Young, J. F., and Darwin, D., Prentice-Hall, Inc. Englewood cliffs, New Jersey, second Edition, 2003. Design of concrete structures I Arthur H. Nilson, David Darwin, Charles W. Dolan.-14th ed.	
<b>Student's obligation (Special Requirements):</b>	The attendance of students in the lectures will have extra credit. He / she is required to continuously follow the lectures, submits homework and assignments.	
<b>Course Book/Textbook:</b>	Design of concrete structures I Arthur H. Nilson, David Darwin, Charles W. Dolan.-14th ed.	
<b>Other Course Materials/References:</b>	Concrete, by Sidney Mindess, S., Young, J. F., and Darwin, D., Prentice-Hall, Inc. Englewood cliffs, New Jersey, second Edition, 2003.	
<b>Teaching Methods (Forms of Teaching):</b>	Lectures, Presentation, Seminar, Assignments, , ,	
<b>COURSE EVALUATION CRITERIA</b>		
<b>Method</b>	<b>Quantity</b>	<b>Percentage (%)</b>
Attendance	1	4
Participation	1	3
Quiz	3	5
Homework	1	4
Midterm Exam	1	30
Presentation	1	4
Final Exam	1	40
<b>Total</b>		<b>100</b>
<b>Examinations:</b> Essay Questions, True-False, Multiple Choices, Short Answers, , ,		

**Extra Notes:****ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD**

<b>Activities</b>	<b>Quantity</b>	<b>Workload Hours for 1 quantity*</b>	<b>Total Workload</b>
Theoretical Hours	16	2	32
Practical Hours	16	0	0
Final Exam	1	4	4
Attendance	1	2	2
Participation	1	2	2
Quiz	3	3	9
Homework	1		0
Midterm Exam	1		0
Presentation	1		0
<b>Total Workload</b>			<b>49</b>
<b>ECTS Credit (Total workload/25)</b>			<b>1.96</b>

**Peer review**

Signature:

Name:

Lecturer

Signature:

Name:

Head of Department

Signature:

Name:

Dean