

**TISHK INTERNATIONAL UNIVERSITY**  
**FACULTY OF ENGINEERING**  
**Department of ARCHITECTURE,**  
**2021-2022 Fall**  
**Course Information for ARCH 214 STRUCTURE I**

<b>Course Name:</b>		STRUCTURE I			
<b>Code</b>	<b>Regular Semester</b>	<b>Theoretical</b>	<b>Practical</b>	<b>Credits</b>	<b>ECTS</b>
ARCH 214	3	2	-	2	3
<b>Name of Lecturer(s)- Academic Title:</b>		Junaid Kameran - MTc			
<b>Teaching Assistant:</b>		.			
<b>Course Language:</b>		English			
<b>Course Type:</b>		Main			
<b>Office Hours</b>		Thursday 15:00-16:00			
<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 introduction about structural engineering, types of structures, and types of loads. It also gives detailed knowledge about equilibrium of structure, force analysis, and moments. It gives full understanding of finding stresses and strains in building elements.			
<b>Course Description (Course overview):</b>		Thread aims to introduce students to the subject of powers, analysis and distribution facilities as well as knowledge reflexes in facilities and give an overview of Almsenmat and the kinds and distribution of power by the structural and disposal, and then touch the subject to find centers of gravity of the areas known. Then looking at the subject stresses generated by various internal and types of forces and moments on the effects of different engineering materials, as well as the subject of elongation and impact on some parts of construction			
<b>COURSE CONTENT</b>					
<b>Week</b>	<b>Hour</b>	<b>Date</b>	<b>Topic</b>		
1	2	4-7/10/2021	Introduction to structures		
2	2	10-14/10/2021	Types of loads on the structures		
3	2	17-21/10/2021	Force systems 1		
4	2	24-28/10/2021	Moments of force resultants		
5	2	31/10-4/11/2021	Equilibrium for rigid bodies		
6	2	7-11/11/2021	Equilibrium beams		
7	2	14-18/11/2021	Midterm Exam		
8	2	21-25/11/2021	Midterm Exam		
9	2	28/11-2/12/2021	Equilibrium frames		
10	2	5-9/12/2021	Stresses in materials		
11	2	12-16/12/2021	Strains in materials		
12	2	19-23/12/2021	Truss analysis using joint and section methods		
13	2	26-30/12/2021	Internal force in beams and frames		
14	2	2-5/1/2022	Shear Force and bending moment diagrams		
15	2	9-13/1/2022	Final Exam		
16	2	16-20/1/2022	Final Exam		
<b>COURSE/STUDENT LEARNING OUTCOMES</b>					
1	Understanding the loads and forces that acts on structures				

- 2 Compute moments of force resultants
- 3 Understanding tensile and compressive stresses in structural members
- 4 Understanding the force analysis in general
- 5 Understanding the behavior and analysis of trusses

### COURSE'S CONTRIBUTION TO PROGRAM OUTCOMES

(Blank : no contribution, I: Introduction, P: Proficient, A: Advanced )

#### Program Learning Outcomes

	Cont.
1 Apply problem-solving skills in the architectural context.	A
2 Demonstrate knowledge of architectural history, theory, and practice in solving architectural design problems.	P
3 Utilize freehand drawing, architectural graphics, and model building skills in solving architectural design problems.	A
4 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.	P
5 Apply knowledge of mathematics, science, engineering and technology in solving architectural design problems.	I
6 Develop designs that meet desired needs within realistic economic, social, political, and cultural constraints.	I
7 Develop designs that fulfill the environmental, health & safety, and sustainability considerations.	I
8 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.	I
9 Demonstrate the necessary knowledge for applying laws, codes, regulations, standards and practices in relation to building construction systems.	I
10 Show their ideas through high quality drawing skills and artistic sense.	I
11 Utilize their skills to address professional and ethical responsibilities, diversity and commitment to the work field.	
12 Suggest solutions and techniques for engaging in life-long learning and knowledge about contemporary issues.	

#### Prerequisites (Course Reading List and References):

Calculus I and II BASICS OF PHYSICS

#### Student's obligation (Special Requirements):

Students must obey class policy, respect lecturer and their classmates, No foods are allowed in the class, No mobile phones are allowed in the class, they must attend at least 80% of classes, participate in class activities, do all required homework's and as much as possible of extra mark homework's, If a student break any of the above obligations he/she will be punished.

#### Course Book/Textbook:

R.C.Hibbler, Engineering Mechanics Statics, 13th Edition, Pearson education R.C.Hibbler, Structural Analysis, 8th Edition, Pearson education, UK, 2011.

#### Other Course Materials/References:

Lecture notes uploaded to university website Fundamentals of Structural Analysis, Harry H. West, John Wiley&Sons, Inc., Latest edition. Fundamentals of Structural Analysis, K.Leet, C.-M. Uang , , McGraw Hill, Latest edition.

#### Teaching Methods (Forms of Teaching):

Lectures, Exercises, Presentation, Assignments, , ,

### COURSE EVALUATION CRITERIA

Method	Quantity	Percentage (%)
Attendance	1	2
Participation	1	3
Quiz	2	10
Homework	5	2
Midterm Exam(s)	1	25
Final Exam	1	40
<b>Total</b>		<b>100</b>

**Examinations:** Essay Questions, Multiple Choices, Short Answers, , ,

#### Extra Notes:

### ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD

Activities	Quantity	Workload Hours for 1	Total Workload
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		<b>quantity*</b>	
Theoretical Hours	16	2	32
Practical Hours	16	0	0
Final Exam	1	8	8
Attendance	1	2	2
Participation	1	6	6
Quiz	2		0
Homework	5		0
Midterm Exam(s)	1		0
<b>Total Workload</b>			<b>48</b>
<b>ECTS Credit (Total workload/25)</b>			<b>1.92</b>

**Peer review**

Signature:

Name:

Lecturer

Signature:

Name:

Head of Department

Signature:

Name:

Dean