

TISHK INTERNATIONAL UNIVERSITY
FACULTY OF ENGINEERING
Department of ARCHITECTURE,
2021-2022 Fall
Course Information for ARCH 329 STEEL STRUCTURE

Course Name:	STEEL STRUCTURE				
Code	Regular Semester	Theoretical	Practical	Credits	ECTS
ARCH 329	5	2	-	2	3
Name of Lecturer(s)- Academic Title:	Yousif Abdullah - Assistant Lecturer				
Teaching Assistant:	N/A				
Course Language:	English				
Course Type:	Main				
Office Hours	Tuesday 9:00-12:00				
Contact Email:	yousif.abdullah@tiu.edu.iq Tel:07501380640				
Teacher's academic profile:	B.Sc. Civil Engineering (2002) M.Sc in Geotechnical Engineering (2005) PhD. in Geotechnical Engineering (2015)				
Course Objectives:	The objectives are to learn the behavior of steel as a structural material and then to design and analysis steel members according to the Load and Resistance and Factor Design (LRFD). Analysis and design including, tension members compression members. Upon completion of this course the students will be able to analysis and design real-life problems related to steel structures.				
Course Description (Course overview):	-				

COURSE CONTENT

Week	Hour	Date	Topic
1	2	4-7/10/2021	Introduction, advantage and disadvantages of steel as a structural material.
2	2	10-14/10/2021	Stress-strain behavior of steel. Steel members and their properties Computing of dead, live, and environmental loads
3	2	17-21/10/2021	Analysis of tension members-1
4	2	24-28/10/2021	Analysis of tension members-2
5	2	31/10-4/11/2021	Design of tension members-1
6	2	7-11/11/2021	Design of tension members-2
7	2	14-18/11/2021	Midterm Exam
8	2	21-25/11/2021	Midterm Exam
9	2	28/11-2/12/2021	Design of axially loaded compression members-1
10	2	5-9/12/2021	Design of axially loaded compression members-2
11	2	12-16/12/2021	Design of axially loaded compression members-3
12	2	19-23/12/2021	Introduction to design of beams
13	2	26-30/12/2021	Design of beams-1
14	2	2-5/1/2022	Design of beams-2
15	2	9-13/1/2022	Final Exam
16	2	16-20/1/2022	Final Exam

COURSE/STUDENT LEARNING OUTCOMES

- 1 To understand and compute loads acting on structures and their importance in structural design.
- 2 To compute critical loads (dead, live, and environmental) combinations.

- 3 To analyze and design structural connections.
- 4 To perform structural analysis and design based on the loads combinations.
- 5 To design various structural-steel elements (Beams, columns, beam-column connections).

COURSE'S CONTRIBUTION TO PROGRAM OUTCOMES

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

Program Learning Outcomes

	Cont.
1 Apply problem-solving skills in the architectural context.	P
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.	
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.	I
5 Apply knowledge of mathematics, science, engineering and technology in solving architectural design problems.	A
6 Develop designs that meet desired needs within realistic economic, social, political, and cultural constraints.	P
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.	A
9 Demonstrate the necessary knowledge for applying laws, codes, regulations, standards and practices in relation to building construction systems.	
10 Show their ideas through high quality drawing skills and artistic sense.	
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):

Engineering mechanics: statics. Steel Manual (Load and Resistance and Factor Design (LRFD)), STRUCTURAL STEEL DESIGN by JACK C. McCORMAC

Student's obligation (Special Requirements):

Lecture notes: calculator. Attending all lectures

Course Book/Textbook:

JACK C. McCORMAC and STEPHEN F. CSERNAK (2012) "STRUCTURAL STEEL DESIGN", 5th Edition

Other Course Materials/References:

Duggal (2009) "Design Of Steel Structure" 3rd Edition

Teaching Methods (Forms of Teaching):

Lectures, Presentation, Assignments, , ,

COURSE EVALUATION CRITERIA

Method	Quantity	Percentage (%)
Quiz	2	11
Homework	1	6
Project	1	2
Midterm Exam	1	30
Final Exam	1	40
Total		100

Examinations: Essay Questions, True-False, Multiple Choices, Short Answers, , ,

Extra Notes:

ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD

Activities	Quantity	Workload Hours for 1 quantity*	Total Workload
Theoretical Hours	16	2	32
Practical Hours	16	0	0
Final Exam	1	10	10
Quiz	2	12	24

Homework	1	4	4
Project	1	6	6
Midterm Exam	1		0
Total Workload			76
ECTS Credit (Total workload/25)			3.04

Peer review

Signature:

Name:

Lecturer

Signature:

Name:

Head of Department

Signature:

Name:

Dean