جامعة المجمعة
Majmaah University

Course Specifications

Muharram 1437 H

Institution:	Majmaah University
Academic Department :	Civil and Environmental Engineering
Programme :	Civil Engineering (Structural Track)
Course :	Structural Steel Design 1 (CE 320)
Course Coordinator :	Dr. Zafar Iqbal Baig
Programme Coordinator :	Dr. Sameh S Ahmed
Course Specification Approved Date :	10/ 05 / 1437 H

A. Course Identification and General Information

1 - Course title : Structural Steel Design 1	Course Code: CE 320
2 - Credit hours : 3	
3 - Program(s) in which the course is offered:	Civil Engg. (Structural Track)
4 - Course Language : English	
5 - Name of faculty member responsible for the course:	Dr. Zafar Iqbal Baig z.baig@mu.edu.sa
6 - Level/year at which this course is offered :	Level 8 / Year 3
7 - Pre-requisites for this course (if any) : • Structural Analysis 1(CE 214)	
8 - Co-requisites for this course (if any) : • None	
9 - Location if not on the main campus : Majmaah University Old Building	

10 - Mode of instructions (mark all that apply)

A - Traditional classroom	X	What percentage?	100 %
B - Blended (traditional and online)		What percentage?	..... %
D - e-learning		What percentage?	..... %
E - Correspondence		What percentage?	..... %
F - Other		What percentage?	..... %

Comments :

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B Objectives

What is the main purpose of this course?

To analyse and design of roof trusses, learn design of tension and compression members, learn the design of column bases and footings, learn the design of steel beams, learn the design of welded and bolted connections, learn the design of steel framed structures, tackling real steel structure designing problems in the form of a project.

Briefly describe any plans for developing and improving the course that are being implemented :

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C. Course Description:

1. Topics to be covered:

List of Topics	No. of Weeks	Contact Hours
Design of tension and compression members.	1, 2, 3	15
Design of steel beams.	4, 5	10
Analysis and design of roof trusses.	6, 7	10
Design of steel frames.	8, 9	10
Welded and bolted connections.	10, 11	10
Column bases and footings.	12, 13	10
Design project.	14, 15	10
Total	**15**	**75**

2. Course components (total contact hours and credits per semester):

	Lecture	Tutorial	Laboratory	Practical	Other:	Total
Contact Hours	**45**	**30**	**-**	**-**	**-**	**75**
Credit	**3**	**-**	**-**	**-**	**-**	**3**

3. Additional private study/learning hours expected for students per week.

2 – 3 Hours

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	**Knowledge**		
1.1	An ability to apply knowledge of mathematics, science and engineering.	• Midterm and final exams. • Assignments and quizzes.	• See SLOs
1.2	.....	.....	.....
1.3	.....	.....	.....
1.4	.....	.....	.....
1.5	.....	.....	.....
1.6	.....	.....	.....
2.0	**Cognitive Skills**		
2.1	An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.	• Midterm and final exams. • Assignments and quizzes.	• See SLOs
2.2	.....	.....	.....
2.3	.....	.....	.....
2.4	.....	.....	.....
2.5	.....	.....	.....
2.6	.....	.....	.....
3.0	**Interpersonal Skills & Responsibility**		
3.1	.....	.....	.....
3.2	.....	.....	.....
3.3	.....	.....	.....
3.4	.....	.....	.....
3.5	.....	.....	.....
3.6	.....	.....	.....
4.0	**Communication, Information Technology, Numerical**		
4.1	An ability to identify, formulate, and solve engineering problems.	• Midterm and final exams. • Assignments and quizzes.	• See SLOs
4.2	.....	.....	.....
4.3	.....	.....	.....
4.4	.....	.....	.....
4.5	.....	.....	.....

	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
4.6	.....	.....	.....
5.0	**Psychomotor**		
5.1	.....	.....	.....
5.2	.....	.....	.....
5.3	.....	.....	.....
5.4	.....	.....	.....
5.5	.....	.....	.....
5.6	.....	.....	.....

5. Schedule of Assessment Tasks for Students During the Semester:

	Assessment task	Week Due	Proportion of Total Assessment
1	First Midterm Exam	6th	15
2	Assignments	During the Term	15
3	Quizzes	During the Term	15
4	Second Midterm Exam	12th	15
5	Final Exam	15th	40
6	.....	.....	.....
7	.....	.....	.....
8	.....	.....	.....

D. Student Academic Counseling and Support

Office hours are dedicated for the students in each week.

E. Learning Resources

1. List Required Textbooks:

- Dayaratnam, "Design of Steel Structures". Second edition, S. Chand & Company, 2003.
- .....

2. List Essential References Materials :

- .....
- .....
- .....

3. List Recommended Textbooks and Reference Material :

- AISC Manual of Steel Construction.
- Leonard Spiegel & Limbrunner, "Applied Structural Steel Design", 4th edition, Prentice Hall.
- Charles salmon, John Johnson, "Steel Structures", 4th edition, Harper Collins College Publisher.
- Vazirani and Rawtani, "Design of Steel Structures".
- Negi L.S., "Design of Steel Structures", Tata McGraw Hill.
- Kazimi S.M. A. & Jindal R.S., "Design of Steel Structures", Prentice Hall of India.
- Arya and Ajmani, "Design of Steel Structures", New Chand & Bros.
- Ramchandran "Design of Steel Structures", Vol I & II.

4. List Electronic Materials :

- Selected research papers, and video clips from U-tube and trustable web sites.
- .....
- .....

5. Other learning material :

- .....
- .....
- .....

F. Facilities Required

1. Accommodation

- .....
- .....
- .....

2. Computing resources

- .....
- .....
- .....

3. Other resources

- .....
- .....
- .....

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

- Confidential questionnaire.
- Discussion with the students.
- .....

2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor :

- Observation of the students' performance.
- Observation of the faculty members.
- .....

3 Processes for Improvement of Teaching :

- Teaching is improved by using innovative teaching methods and strategies to establish constructive and positive relations with all students in guiding them in their development of critical, analytical thinking and problem solving abilities.
- .....

4. Processes for Verifying Standards of Student Achievement

- .....
- .....
- .....

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :

- Review the course contents each year by a faculty committee.
- .....
- .....

Course Specification Approved
Department Official Meeting No (11) Date 10 / 05 / 1437 *H*

Course Coordinator		Department Head	
Name :	**Dr. Zafar Iqbal Baig**	***Name :***	Dr. Abdullah AlShehri
Signature :	Zafar Baig	***Signature :***	AlShehri
Date :	02/ 04 / 1437 *H*	***Date :***	10/ 05 / 1437 *H*