جامعة المجمعة
Majmaah University

Course Specifications

Muharram 1437 H

Institution:	Majmaah University.
Academic Department :	Civil and Environmental Engineering
Programme :	Civil Engineering
Course :	Structural Steel Design-2
Course Coordinator :	Dr.Yassir Elaraki
Programme Coordinator :	Dr. Sameh S Ahmed
Course Specification Approved Date :	10/ 5/ 1437 H

This form compatible with NCAAA 2013 Edition

A. Course Identification and General Information

1 - Course title : Structural Steel Design 2. Course Code: CE 421.			
2. Credit hours : 3 (3,2,0)			
3 - Program(s) in which the course is offered: Civil Engineering.			
4 – Course Language : English			
5 - Name of faculty member responsible for the course: Dr. Yassir Elaraki			
6 - Level/year at which this course is offered : level 9/ year 5			
7 - Pre-requisites for this course (if any) ***CE 320***			
8 - Co-requisites for this course (if any) :**N/A**.			
9 - Location if not on main campus			
10 - Mode of Instruction (mark all that apply)			
A - Traditional classroom	✓	What percentage?	**80%**
B - Blended (traditional and online)		What percentage?	**……. %**
D - e-learning	✓	What percentage?	**5 %**
E - Correspondence		What percentage?	**……. %**
F - Other	✓	What percentage?	**15 %**

Comments :

The course involves exercises part, teaching this part depends on explaining, reports, home works and assignments.

B Objectives

What is the main purpose for this course?

To enable students to design compound beams, crane beams, all components of steel railway and highway bridges that safely and economically can resist the loads and satisfy their intended function.

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

- Course delivery by citing real life examples and problems.
- Emphasis on understanding concepts and illustrating applications to problems.
- Solving problems through assignments and tutorials on each topic.
- Written notes are provided, in addition to reference and power point presentations.
- Emphasis in classroom is on understanding concepts.

C. Course Description

1. Topics to be Covered

List of Topics	No. of Weeks	Contact Hours
Compound Beams	1	5
Crane Beams	2	10
Purlins	1	5
Sheeting Rails	2	10
Midterm 1	0.5	2.5
Plate Girders	1	5
Beam Columns	1	5
Slide Column for a Single Storey Industrial Building	2	10
Midterm-II	0.5	2.5
Columns	1	5
Column Bases	1	5
Trusses	1	5
Final exam	1	5
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	0				3

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

4-6

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	The student will be able to design compound beams.	Course delivery by citing real life examples and problems. Emphasis on understanding concepts and illustrating applications to problems. Placing before the class mind provoking and thinking questions	Regularly asking questions on different topics and concepts. Midterm and End-semester tests that will force the student to think and apply the knowledge. Reports and discussions
1.2	The student will be able to design plate girder or truss steel bridges.		
1.3	The student will be able to design crane beams.		
1.4	The student will be able to design industrial buildings		
2.0	**Cognitive Skills**		
2.1	Ability of Analyzing Compound Beams, Crane Beams, Purlins, Sheeting Rails, Plate Girders, Beam Columns, Slide Column for a Single Storey Industrial Building, Crane Columns, Column Bases and Trusses. .	-Solving problems through assignments on each topic. -Assignment problems, Exercise / tutorial problems for applications that will force the students to think and apply the knowledge gained. -Setting M-1 and M-2 + quizzes and mini projects so that students can apply the knowledge gained.	-Quizzes and Exams. -Asking students to participate in oral discussion during the class. -Setting assignment problems or mini project which will apply principles and concepts. -Questions in Quiz, Midterm and End semester tests which will force the student to think and apply concepts and principles learnt.
3.0	**Interpersonal Skills & Responsibility**		
3.1	Help the student to solve the problem by asking questions during the office hours.	-Solve the problems by asking sequential	Bonus marks to those who are improving and
3.2	Different access to the student to be close with the teacher		

	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
	using, email, website and even phone calls in urgent.	questions. -Paying personal attention to each student and caring about his situation.	participating effectively in the class.
4.0	**Communication, Information Technology, Numerical**		
4.1	Developing the communication skills through interactive discussing during the seminar.	Asking student to solve problems in the class by guiding him	Asking the students to solve the numerical part and check the answers are tallying with notes.
5.0	**Psychomotor**		

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

	Assessment task	Week Due	Proportion of Total Assessment
1	First midterm exam	7	20
2	Second exam	12	20
3	Quizzes		10
4	Report, and homework assignments		10
5	Final Exam	15	40
6	**Total**		**100**

D. Student Academic Counseling and Support

- Office Hour in the Time Table of teaching staff.
- academic advice

E. Learning Resources

1. List Required Textbooks :

- Structural Design by Jack C. Mc Cormac, 3rd Edition
- Applied Structural Steel Design by Leonard Spiegel and George F. Limbrunner

2. List Essential References Materials :

- AISC Manual of Steel Construction.
- Leonard Spiegel & Limbrunner, "Applied Structural Steel Design", 4th edition, Prentice Hall.
- Negi L.S., "Design of Steel Structures", Tata McGraw Hill, (Latest edition).

3. List Recommended Textbooks and Reference Material :

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4. List Electronic Materials :

-

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:

Completion course evaluation questionnaire

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

3 Processes for Improvement of Teaching :

- Plan: The instructor will develop a strategy for teaching.
- Do: The strategy will be implemented for one semester.
- Study: The experiences of the students will be collected through a survey.

- Act: Effective teaching strategies will be implemented and revised as more experiences are gained

4. Processes for Verifying Standards of Student Achievement

- Check a sample of examination papers

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

- Continuous improvement is a circular process, encompassing student assessment, course planning and design, implementation, evaluation, and revision.
- A feedback from all relevant assessment tools must be considered in the continuous process of course objectives refinement and assessment.
- Continuous process for reviewing feedback from student on the quality of the course and planning for improvement.

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

Course Coordinator		Department Head	
Name :	**Dr. Yassir Elaraki**	***Name :***	Dr. Abdullah AlShehri
Signature :	*Yassir*	***Signature :***	*AlShehri*
Date :	09/ 05 / 1437 *H*	***Date :***	10/ 05 / 1437 *H*