جامعة المجمعة
Majmaah University

Course Specifications

Muharram 1437 H

Institution:	Majmaah University.
Academic Department :	Civil and Environmental Engineering
Programme :	Civil Engineering
Course :	Computer Applications in Structural Engineering
Course Coordinator :	Dr.Yassir Elaraki
Programme Coordinator :	Dr. Abdallah Alshihri
Course Specification Approved Date :	10/ 05 / 1437 H

This form compatible with NCAAA 2013 Edition

A. Course Identification and General Information

1 - Course title : Computer Applications in Structural Engineering.		Course Code:	CE 425
2. Credit hours : 2 (1-0-2)			
3 - Program(s) in which the course is offered:			
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 : 9 th			
7 - Pre-requisites for this course (if any) :CEN 209			
8 - Co-requisites for this course (if any) :.**N/A**			
9 - Location if not on main campus **:** **Al-Yahiya Building- Majmaah**			
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?	**……. %**
E - Correspondence	√	What percentage?	**……. %**
F - Other		What percentage?	**20%**
Comments :			

B Objectives

What is the main purpose for this course? **To introduce the student to the computer applications in Civil engineering**.
Briefly describe any plans for developing and improving the course that are being implemented : .....

C. Course Description

1. Topics to be Covered

List of Topics	No. of Weeks	Contact Hours
Introduction in Writing Computer Programs using BASIC or VISUAL BASIC, C++	2	4
Introduction of using Excel in Civil Engineering (Structural Analysis, Reinforced Concrete Design, Steel Structures Design, Foundation Engineering, hydraulics and water Engineering).	2	4
Using SAP Software (Structural Analysis Program) for analysis and design of structural members and multistory building.	4	14
Midterm 1	0.5	2
Use of INTERNET in Search about Civil Engineering Topics	1	2
Midterm 2	.05	2
Using AUTOCAD Software	4	14
Final Exam	1	3
Total	15	45

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

	Lecture	Tutorial	Laboratory	Practical	Other:	Total
Contact Hours	15	0	30	0	0	45
Credit	1	0	0	0	0	2

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

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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	Ability to write programs in C ++ or VB or excel for design of simple element of structures	– 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	Ability to use application programs like AutoCAD and SAP for design and analysis of structures commonly used in the industry		
2.0	**Cognitive Skills**		
2.1	**.....**	.....	.....
3.0	**Interpersonal Skills & Responsibility**		
3.1	**.....**	.....	.....
4.0	**Communication, Information Technology, Numerical**		
4.1	**.....**	.....	.....
5.0	**Psychomotor**		
5.1	**.....**	.....	.....

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

	Assessment task	Week Due	Proportion of Total Assessment
1	.....	.....	.....
2	.....	.....	.....
3	.....	.....	.....
4	.....	.....	.....
5	.....	.....	.....
6	.....	.....	.....
7	.....	.....	.....
8	.....	.....	.....

D. Student Academic Counseling and Support

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E. Learning Resources

1. List Required Textbooks : • ..... • ..... • .....
2. List Essential References Materials : • **Computers and Structures, Inc.: "SAP2000 Integrated Finite Elements Analysis and Design of Structures, TUTORIAL MANUAL", Version 6.1, September 1997** •
3. List Recommended Textbooks and Reference Material : • ..... • ..... • .....
4. List Electronic Materials : • ..... • ..... • .....
5. Other learning material : • **Munir Hamad: "Autocad® 2010 Essentials", Jones & Bartlett Learning, 2009** .

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: • ..... • ..... • .....
2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor : • ..... • ..... • .....
3 Processes for Improvement of Teaching : • ..... • ..... • .....
4. Processes for Verifying Standards of Student Achievement • ..... • ..... • .....
5 Describe the planning arrangements for periodically reviewing course effectiveness 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*