Course Specifications (2010 - 2011)

A. Basic Information

Course Title	Computer Applications (1)				Course Code:	CVE 113	
Lecture:	2	Tutorial:	1	Practical	2	Total	5
Programme (s) on which this course is given:				B.Sc. Civil Engineering (General)			
Major or minor element of program:			Major				
Department offering the program:			Civil Engineering				
Department offering the course:			Civil Engineering				
Academic Year of program:	First			Level of program:		First Semester	
Date of specifications approval:				16/3/2010			

B. Professional Information

1. Overall aims of course

By the end of the course the students will be able to:

- **Eliminate the computer phobia and computer intimidation.**
- **Learn to formulate and solve civil engineering problems on a computer.**
- **Learn many of the techniques of numerical analysis.**
- **Learn to differentiate between useful and unuseful computer applications.**

2. Intended Learning outcomes of Course (ILOs)

a. Knowledge and Understanding:

a.1) Recognize concepts and theories of mathematics and sciences, appropriate to the discipline.
a.5) Recognize methodologies of solving engineering problems, data collection interpretation.
a.8) State current engineering technologies as related to disciplines.

b. Intellectual Skills

b.1) Select appropriate mathematical and computer-based methods for modeling and analyzing problems.
b.2) Select appropriate solutions for engineering problems based on analytical thinking.

b.3) Think in a creative and innovative way in problem solving and design.
b.7) Solve engineering problems, often on the basis of limited and possibly contradicting information.
b.11) Analyze results of numerical models and appreciate their limitations.
b.12) Create systematic and methodic approaches when dealing with new and advancing technology.

c. Professional and Practical Skills

c.1) Apply knowledge of mathematics, science, information technology, design, business context and engineering practice
c.2) Professionally merge the engineering knowledge, understanding, and feedback to improve design, product and/or
c.5) Use computational facilities and techniques, measuring instruments, workshops and laboratories equipment to
c.7) Apply numerical modeling methods to engineering problems.

d. General and Transferable Skills

d.3) Communicate effectively.
d.7) Search for information and engage in life-long self learning discipline.
d.8) Acquire entrepreneurial skills.
d.9) Refer to relevant literatures.

3. Contents

Week #	Topics	No. of Hours	ILOS	Teaching / learning methods and	Assessment method
1	**Excel Fundamentals**	**4**	a1 - a5 - a8	**Lectures**	**Assignments**
			b1 -b2 -b3 -b7 - b11 -b12	**Tutorial**	**Mid-term exam**
			c1 - c2- c3- c5- c7	**Practical training / laboratory**	**Oral exam**
			d3 - d7 -d8 -d9	**Seminar / workshop**	**Final exam**

2	**Graphing Data**	**4**	a1 - a5 - a8	**Lectures**	**Assignments**
			b1 -b2 -b3 -b7 - b11 -b12	**Tutorial**	**Mid-term exam**
			c1 - c2- c3- c5- c7	**Practical training / laboratory**	**Oral exam**
			d3 - d7 -d8 -d9	**Seminar / workshop**	**Final exam**
3	**Analyzing Data**	**4**	a1 - a5 - a8	**Lectures**	**Assignments**
			b1 -b2 -b3 -b7 - b11 -b12	**Tutorial**	**Mid-term exam**
			c1 - c2- c3- c5- c7	**Practical training / laboratory**	**Oral exam**
			d3 - d7 -d8 -d9	**Seminar / workshop**	**Final exam**
4	**The Method of Least Square**	**4**	a1 - a5 - a8	**Lectures**	**Assignments**
			b1 -b2 -b3 -b7 - b11 -b12	**Tutorial**	**Mid-term exam**
			c1 - c2- c3- c5- c7	**Practical training / laboratory**	**Oral exam**
			d3 - d7 -d8 -d9	**Seminar / workshop**	**Final exam**
5	Midterm Exam		a1 - a5 - a8		
			b1 -b2 -b3 -b7 - b11 -b12		
			c1 - c2- c3- c5- c7		
			d3 - d7 -d8 -d9		
6	**Interpolating Between Data Points**	**4**	a1 - a5 - a8	**Lectures**	**Assignments**
			b1 -b2 -b3 -b7 - b11 -b12	**Tutorial**	**Oral exam**
			c1 - c2- c3- c5- c7	**Practical training / laboratory**	**Final exam**
			d3 - d7 -d8 -d9	**Seminar / workshop**	
7	**Solve Single and Simultaneous Equations**	**4**	a1 - a5 - a8	**Lectures**	**Assignments**
			b1 -b2 -b3 -b7 - b11 -b12	**Tutorial**	**Oral exam**
			c1 - c2- c3- c5- c7	**Practical training / laboratory**	**Final exam**
			d3 - d7 -d8 -d9	**Seminar / workshop**	
8	**Visual Basic Application in**	**4**	a1 - a5 - a8	**Lectures**	**Assignments**
			b1 -b2 -b3 -b7 - b11 -b12	**Tutorial**	**Oral exam**

8	**Excel**	**4**	c1 - c2- c3- c5- c7	**Practical training / laboratory**	**Final exam**
			d3 - d7 -d8 -d9	**Seminar / workshop**	
15	Final Exam		a1 - a5 - a8		
			b1 -b2 -b3 -b7 - b11 -b12		
			c1 - c2- c3- c5- c7		
			d3 - d7 -d8 -d9		
Total		**28**			

4- Teaching and Learning Methods:

Check using the symbol √

√	Lectures
√	Practical training / laboratory
√	Seminar / workshop
√	Class activity
√	Case study
	Project work
√	Tutorial
√	Computer based work
	Other :

5- Student Assessment Methods:

Check using the symbol √

√	Assignments	to assess	a1 - a5 - a8	b1 -b2 -b3 -b7 -b11 -b12	c1 - c2- c3- c5- c7	d3 - d7 -d8 -d9
√	Quiz	to assess	a1 - a5 - a8	b1 -b2 -b3 -b7 -b11 -b12	c1 - c2- c3- c5- c7	d8 -d9
√	Mid-term exam	to assess	a1 - a5 - a8	b1 -b2 -b3 -b7 -b11 -b12	c1 - c2- c3- c5- c7	d8 -d9
√	Oral exam	to assess	a1 - a5 - a8	b1 -b2 -b3 -b7 -b11 -b12	c1 - c2- c3- c5- c7	d3 - d7 -d8
√	Final exam	to assess	a1 - a5 - a8	b1 -b2 -b3 -b7 -b11 -b12	c1 - c2- c3- c5- c7	d8 -d9
	Design Project	to assess				
	Report	to assess				
	Experimental write up	to assess				
	Informally assessment	to assess				
	Other	to assess				

6. Assessment schedule

Assessment 1 Assignments on weeks	2, 5, 9, 11
Assessment 2 Quizzes on weeks	4, 6, 10, 12

Assessment 3 Mid-term exam on week	8
Assessment 4 Oral Exam on week	14
Assessment 5 Final exam on week	15
Assessment 6 Design Project on weeks	
Assessment 7 Report on weeks	
Assessment 8 Experimental write up on weeks	
Assessment 9 Informally assessment	

7. Weighting of Assessments

Assignments	5%
Quiz	5%
Mid-term exam	10%
Oral exam	20%
Final exam	60%
Design Project	
Report	
Experimental write up	
Informally assessment	
Other	
Total	100%

8. List of References

8.1 Course Notes

Course notes prepared by instructor.

8.2 Essential Books (Text Books)

1- Course notes Prepared by the instructor Dr.Mohamed Salah Eldin /AHMED
2-"EXCEL FOR SCIENTISTS AND ENGINEES", E. Joseph Billo , 2007, ISBN: 978-
3-"Excel Scientific and Engineering Cookbook , O'Reilly, ISBN: 0-596-00879-1

8.3 Recommended Books

1-" Mathematical Modeling With Excel (International Series in Mathematics)",brain Albright,2009, ISBN: 1-800-832-0034

8.4 Periodicals Web sites, etc

Science Direct
American Society of civil engineering

9. Facilities Required for Teaching and learning

Lecture room equipped with presentation board, computer and data show

Course Coordinator:	Associate Prof. Mohamed Salah Aldin AbdulAziz	
Course instructor:	Dr. Ahmed Mohamed AbulMagd Mahmoud	
Head of department:	Prof. Ahmed AdbulFattah Mahmoud Ahmed	

Signature:

	D	M	Y
Date:	10	12	2010