

Course Specifications (2011 - 2012)

A. Basic Information

Course Title	Fluid Mechanics			Course Code:	CVE 214		
Lecture:	3	Tutorial:	2	Practical	1	Total	6
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:	Second	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:

Calculate the hydrostatic forces, and investigate the flow characteristics in pipe lines

2. Intended Learning outcomes of Course (ILOs)

a. Knowledge and Understanding:

- a.2) Recognize basics of information and communication technology (ICT).**
- a.6) define quality assurance systems, codes of practice and standards, health and safety requirements and**
- a.8) State current engineering technologies as related to disciplines.**
- a.9) Define topics related to humanitarian interests and moral issues.**
-
-
-
-
-

b. Intellectual Skills

- 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.9) Judge engineering decisions considering balanced costs, benefits, safety, quality, reliability, and environmental
b.10) Incorporate economic, social, environmental dimensions and risk management in design.

c. Professional and Practical Skills

c.1) Apply knowledge of mathematics, science, information technology, design, business context and engineering
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.
c.9) Demonstrate basic organizational and project management skills.

d. General and Transferable Skills

d.2) Work in stressful environment and within constraints.
d.4) Demonstrate efficient IT capabilities.
d.7) Search for information and engage in life-long self learning discipline.
d.8) Acquire entrepreneurial skills.

3. Contents

Week #	Topics	No. of Hours	ILOS	Teaching / learning methods and	Assessment method
1	Fluid Properties	6	a6	Lectures	Assignments
			b3	Tutorial	Assignments
			c1	Lectures	Assignments

			d2	Class activity	Assignments
2	Fluid Pressures	6	a2	Lectures	Quiz
			b9	Class activity	Assignments
			c2	Class activity	Oral exam
			d4	Lectures	Quiz
3	Forces on plan surfaces	6	a8	Practical training / Laboratory	Oral exam
			b7	Lectures	Quiz
			c1	Lectures	Assignments
			d7	Class activity	Oral exam
4	Forces on Curved gates	6	a9	Tutorial	Oral exam
			b3	Tutorial	Assignments
			c5	Tutorial	Oral exam
			d7	Class activity	Oral exam
5	Bouancy	6	a6	Lectures	Assignments
			b9	Class activity	Assignments
			c2	Class activity	Oral exam
			d2	Class activity	Assignments
6	Stability of floating bodies	6	a9	Tutorial	Oral exam
			b7	Lectures	Quiz
			c7	Lectures	Informal assessment
			d4	Lectures	Quiz
7	Relative Equilibrium	6	a6	Lectures	Assignments
			b3	Tutorial	Assignments
			c2	Class activity	Oral exam
			d8	Practical training / Laboratory	Informal assessment
8	Midterm Exam	1			Mid-term exam
					Mid-term exam
					Mid-term exam
					Mid-term exam
9	Fluid Statics	6	a8	Practical training / Laboratory	Oral exam
			b10	Practical training / Laboratory	Informal assessment
			c1	Lectures	Assignments
			d2	Class activity	Assignments

10	Fluid Dynamics	6	a9	Tutorial	Oral exam
			b9	Class activity	Assignments
			c5	Tutorial	Oral exam
			d7	Class activity	Oral exam
11	Bernoulli Equation	6	a9	Tutorial	Oral exam
			b7	Lectures	Quiz
			c9	Tutorial	Quiz
			d4	Lectures	Quiz
12	Flow in pipe lines	6	a6	Lectures	Assignments
			b3	Tutorial	Assignments
			c7	Lectures	Assignments
			d8	Practical training / laboratory	Assignments
13	Pipes in series and in parallel	6	a2	Lectures	Quiz
			b10	Practical training / laboratory	Assignments
			c2	Class activity	Oral exam
			d2	Class activity	Assignments
14	Dimensional Analysis	6	a8	Practical training / laboratory	Oral exam
			b9	Class activity	Assignments
			c5	Tutorial	Oral exam
			d4	Lectures	Quiz
15	Final Exam	3			Final exam
					Final exam
					Final exam
					Final exam
Total		82			

4- Teaching and Learning Methods:

Check using the symbol \checkmark

\checkmark	Lectures
\checkmark	Practical training / laboratory
	Seminar / workshop
\checkmark	Class activity
	Case study
	Project work

√	Tutorial
	Computer based work
	Other :

5- Student Assessment Methods:

Check using the symbol √

√	Assignments	to assess
√	Quiz	to assess
√	Mid-term exam	
√	Oral exam	to assess
√	Final exam	
	Design Project	
	Report	
	Experimental write up	
√	Informally assessment	to assess
	Other	

a6	b9	c1	d2
a2	b7	c9	d4
a9		c5	d7
	b10	c7	d8

6. Assessment schedule

- Assessment 1 Assignments on weeks
- Assessment 2 Quizzes on weeks
- Assessment 3 Mid-term exam on week
- Assessment 4 Oral Exam on week
- Assessment 5 Final exam on week
- Assessment 6 Design Project on weeks
- Assessment 7 Report on weeks
- Assessment 8 Experimental write up on weeks
- Assessment 9 Informally assessment

1,2,3,4,5,6,7,9,10,12,13,14
2,3,6,11,13,14
8
2,3,4,5,6,7,9,10,11,13,14
15
6,7,9,12,13

7. Weighting of Assessments

Assignments	5%
Quiz	5%
Mid-term exam	10%
Oral exam	5%
Final exam	70%
Design Project	
Report	
Experimental write up	
Informally assessment	5%

Other

Total

100%

8. List of References

8.1 Course Notes

--

8.2 Essential Books (Text Books)

Vennard, J. K., Elementary Fluid Mechanics, John Wiley and Sons Inc., 1965
Olson, R. M., Engineering Fluid Mechanics, , 1967.

8.3 Recommended Books

8.4 Periodicals Web sites, etc

9. Facilities Required for Teaching and learning

Lecture room equipped with overhead projector
Presentation board, computer and data show
Laboratory

Course Coordinator:

Prof. Gamal Helmy Mohamed ALSaeed

Course instructor:

Dr.Mohammad Mahmoud Mohammad Ibrahim

Head of department:

Prof. Ahmed AdbulFattah Mahmoud Ahmed

Signature:

Date:

D	M	Y
26	12	2011