Faculty of Engineering at Shoubra

Model No.12
Course Specifications : Civil and Mechanical Engineering

Faculty : Faculty of Engineering at Shoubra

Department : Electrical Engineering Department

1- Course Data

Course Code MPE/CVE181 Course Title : Civil and Mechanical Engineering Study Year : First Year

Specialization :
Teaching Hours:
Lecture : 3 Tutorial : Practical : 2

2- Course Aim

For students undertaking this course, the aims are to:

2.1- Understand the basic principles of heat transfer, thermodynamics, and fluid mechanics.
2.2- Understand the basics of architecture buildings.

3- Intended Learning Outcomes of Course (ILOS)

a- Knowledge and Understanding

On completing this course, students will be able to:

a.1) Define concepts and theories of mathematics, appropriate to the heat transfer.(a1)
a.2) Define concepts and theories of sciences, appropriate to the thermodynamics.(a2)
a.3) Demonstrate characteristics of engineering materials related to architecture buildings.(a.4)
a.4) Demonstratecivil and mechanical engineeringhumanitarian.(a10)
a.5) Demonstrate moral issues of fire alarm and testing.(a11)
a.6) Illustrate professional ethics and effects of engineering solutions on society and environment.(a13)

b- Intellectual Skills

At the end of this course, the students will be able to:

b.1) Choose mathematical methods for mechanical engineering modeling.(b1)
b.2) Select suitable computer-based methods for analyzing radiation.(b2)
b.3) Select suitable solutions for fluid mechanicsdepending on analytical thinking.(b3)
b.4) collect and exchange types of building from a range of sources.(b5)
b.5) Solve D.P.C codes and testing on the basis of limited and possibly contradicting information.(b8)
b.6) Establish systematic and methodic approaches when dealing with thermodynamics.(b13)

c- Professional Skills

On completing this course, the students are expected to be able to:

c1.Apply knowledge of mathematics, science, information technology, design, business content and practice to solve thermodynamics problems (c1)
c2.Professionally collect knowledge and understanding to enhance architecture drawing design (c2)
c3.Create mechanical system, and carry out specialized engineering designs.(c3)
C4. Apply quality assurance procedures and follow D.P.C codes .(c.10)

d- General Skills

At the end of this course, the students will be able to:

d.1.Collaborate effectively within multidisciplinary team.
d.2.Communicate effectively.(d.3)
d.3.Effectively manage tasks, time, and resources.(d.6)
d.4.Search for information and engage in life-long self-learning discipline(d.7)
d.5.Refer to relevant literatures.(d.9)
d.6. Write technical reports and presentation.(d.10)

4- Course Contents

No.	Topics	No of

		hours
1	Introduction to Conduction,convection and Radiation.	6
2	Introduction to thermodynamics.	6
3	First and Second law of thermodynamics.	9
4	Introduction to fluid mechanics	6
5	Fluid statics	9

5- Teaching and Learning Methods

5.1- Modified Lectures
5.2- Course Activity.

6- Teaching and Learning Methods of Disables

Not available

7- Student Assessment

a- Student Assessment Methods

1	Class Assignment and quizzes to assess knowledge and intellectual skills.
2	Reports to assess knowledge, intellectual and professional skills.
3	Mid-term exam to assess knowledge, intellectual.
4	Final Exam to assess knowledge, intellectual and general skills.

b- Assessment Schedule

No.	Assessment	Week
1	activity on	2, 5,6,7, 9,11
2	Report on	12,13
3	Mid-term exam on	8
4	Final Exam on	15

c- Weighting of Assessments

Assessment	Weight
Midterm Examination	15 %
Final Term Examination	64 %
Oral Examination	0 %
Practical Examination	0 %
Semester work	8 %
Other types of assessment	13 %
Total	100 %

8- List of References

a- Books

1. Ozisk (Heat transfer)
2. Yonus(Thermodynamics)

b- Web Sites

1- ISBN-10: 0072923547

Course Instructor: Prof. Dr. Mohamed FayekAbdrabbo
- Course Coordinator : Dr. Khaled Abdel WahabIbrahem

- Head of Department : Prof. Dr. SayedAbu-Elsood Ward

Faculty of Engineering at Shoubra

Model No.11A
Course Specifications : Civil and Mechanical Engineering

University : Benha university

Faculty : Faculty of Engineering at Shoubra

Department : Electrical Engineering Department

Matrix of Knowledge and Skills of the course

No.	Topics	week	Basic Knowledge	Intellectual Skills	Professional Skills	General Skills
1	Conduction	1	a1,a2	b1,b2,b6	c1	d2,d4
2	Convection	2	a1,a3	b1,b2,b5,b6	c1,c4	d3,d5
3	Radiation	3	a1,a2,a4	b1,b2,b3,b6	c1,c4	d2,d4
4	Introduction to thermodynamics	4	a1,a3,a5	b1,b2,b4,b5,b6	c1	d3,d6
5	First and second Law of Thermodynamics	5	a1,a3	b1,b2,b3,b6	c1	d2,d4
6	Introduction to fluid mechanics	6	a1,a2,a3	b1,b2,b4,b6	c1	d3,d6
7	Fluid static	7	a1,a3,a4,a6	b1,b2,b3,b6	c1,c3	d2,d4
8	Midterm exam	8	a1	b1,b2,b5,b6		d1
9	Introduction to Building	9	a1,a2	b1,b2,b6	c1,c2	d6
10	Building Types	10	a1,a2	b1,b2,b6	c1	d2,3d,d4
11	Building materials	11	a1,a2	b1,b2,b6	c1	d6
12	Architecture Drawing	12	a1,a3,a4,a5,a6	b1,b2,b6	c1	d2,3d,d4
13	Fire Alarm,fiting	13	a1,a4,a5,a6	b1,b2,b6	c1	
14	D.P.C codes and Testing	14	a1,a4,a5,a6	b1,b2,b6	c1	
15	Final Exam	15	a1	b1,b2,b6		d1

- Course Coordinator : . Khaled Abdel WahabIbrahem

- Course Instructor : Prof. Dr. Mohamed FayekAbdrabbo

- Head of Department : Prof. Dr. SayedAbu-Elsood Ward

Matrix of course content and ILO's

Course Title:Civil and Mechanical Engineering **Code**: MPE/CVE181
Lecture: 3 **Tutorial:** **Practical**: 2 **Total:** 5
Program on which the course is given:B.Sc. Electrical Engineering (Communications)
Major or minor element of program: Major
Department offering the program: Electrical Engineering Department
Department offering the course: Electrical Engineering Department
Academic year / level: First year / First semester
Date of specifications approval:20/6/2010

Course content	a1	a2	a3	a4	a5	a6	b1	b2	b3	b4	b5	b6	c1	c2	c3	c4	d1	d2	d3	d4	d5	d6
Conduction	✓	✓					✓	✓				✓	✓					✓		✓		
Convection	✓		✓				✓	✓			✓	✓	✓			✓			✓		✓	
Radiation	✓	✓		✓			✓	✓	✓			✓	✓	✓		✓		✓		✓		
Introduction to thermodynamics	✓		✓		✓		✓	✓		✓	✓	✓	✓						✓			✓
First and second Law of Thermodynamics	✓		✓				✓	✓	✓			✓	✓					✓		✓		
Introduction to fluid mechanics	✓	✓	✓				✓	✓		✓		✓	✓						✓			✓
Fluid static	✓		✓	✓		✓	✓	✓	✓			✓	✓		✓			✓		✓		
Introduction to Building	✓	✓					✓	✓			✓	✓	✓		✓							✓
Building Types	✓	✓					✓	✓	✓			✓	✓	✓				✓	✓	✓		
Building materials	✓	✓						✓				✓	✓									✓
Architecture Drawing	✓		✓	✓	✓	✓		✓				✓	✓					✓	✓	✓		
Fire Alarm,fiting	✓			✓	✓	✓		✓				✓	✓									
D.P.C codes and Testing	✓			✓	✓	✓		✓				✓	✓									

Matrix of course aims and ILO's

Course Title:Civil and Mechanical Engineering **Code**: MPE/CVE181
Lecture: 3 **Tutorial**:- **Practical**: 2 **Total:**5
Program on which the course is given: B.Sc. Electrical Engineering (Communications)
Major or minor element of program: Major
Department offering the program: Electrical Engineering Department
Department offering the course: Electrical Engineering Department
Academic year / level: **First** Year / **First** Semester
Date of specifications approval: 20/6/2010

Course aims	a1	a2	a3	a4	a5	a6	b1	b2	b3	b4	b5	b6	c1	c2	c3	c4	d1	d2	d3	d4
Understand the basic principles of heat transfer, thermodynamics, and fluid mechanics.	✓	✓	✓				✓	✓	✓						✓			✓		
2.2-Understand the basics of architecture buildings.	✓	✓		✓	✓	✓	✓	✓	✓			✓					✓			

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