



Course Specification

Engineering Chemistry

Course Specifications

Program(s) in which the course is given: Industrial Engineering
Major or minor element of programs: N/A
Department offering the program: Industrial Engineering
Department offering the course: Engineering Chemistry
Academic year / Level: 2009/2010/ Level 0

Date of specification approval:

A- Basic Information

Title: Engineering Chemistry Code: EMP 005
Credit Hours:
Lecture: 13
Exercises 13
Total: 26

B- Professional Information

1- Overall aims of the course

To know and understand physical chemistry and industrial chemistry

2- Intended learning outcomes of the course (ILOs)

a. Knowledge and understanding

Upon the completion of the engineering chemistry course the student should be able to demonstrate knowledge and understanding of engineering chemistry

b. Intellectual skills

Analysis Creative thinking Problem solving

c. Professional and practical skills

Managing Engineering design
 Computer program Ability to diagnose
 Ability to identify the problem
 Ability to estimate cost Other

d. General and transferable skills

Computing Communication
 Management Working in group
 Use of technological tools

3- Contents

Topic	No. of hours	Lecture	Tutorial/ Practical
Raw materials, fuel and power for			
Chemical industrial	4	2	2
Phase rule, solution and colligative properties	6	3	3
Material and heat balance in fuel combustion	4	2	2
Electro chemistry	4	2	2
Portland cement	2	1	1
Environmental pollution	4	2	2
Total	24	12	2

4- Teaching and learning methods

- | | |
|--|--|
| <input checked="" type="checkbox"/> Information collection | <input checked="" type="checkbox"/> Discussions |
| <input checked="" type="checkbox"/> Research assignment | <input type="checkbox"/> Field visit |
| <input checked="" type="checkbox"/> Lecture | <input checked="" type="checkbox"/> Practical training / lab |
| <input type="checkbox"/> Class activities | <input checked="" type="checkbox"/> Case study |

5- Student assessment methods

Class attendance and participation
Homework assignments
First midterm exam
Final exam

Assessment schedule

Homework assignments weeks 3, 5, 7, 9, 11
First midterm exam week 8
Final exam

Weighting of assessments

Final 40 %
7th week Exam 30 %
12th week Exam 20 %
Class attendance and participation 5 %
Homework assignments 5 %

6- List of references

6.1 Course notes

6.2 Essential books

- Chemistry for engineering students Dr. Aboul Ella (1998)
- Chemistry for engineering students Dr. M. A. El komy (1998)
- A text book of physical chemistry 7th edition

6.3 Recommended books

- K. K. Sharma 1977 India
- Text book of chemistry for polytechnic students

7- Facilities required for teaching and learning

Computer Lab - Data Show - Overhead Projector

Course Coordinator: Prof. Dr. M. Aboul Ella Radwan

Program Coordinator: Prof. Dr. Attia Gomaa

General Supervisor & Vice Dean: Prof. Dr. Abdallh Saad

Date: 01 / 06 / 2010