

| Instructor Information |  |
|------------------------|--|
| Name                   | Dr. Zayed Al-Hamamre   |
| Room NO.               | Che-313  |
| Phone Number           | 5355000 Ext. 22895   |
| E-mail                 | z.hamamre@ju.edu.jo  |
| Office Hours           | Sun, Tue. and Thur: 11:00-12:00, 1:30-3:00<br>Mon. and Wed.: 9:30-11:00, 2:00-3:00 |

| Course Information |  |
|--------------------|--|
| Course Name        | Chemical Engineering Principles,           |
| Course Number      | 0905212                                    |
| Prerequisites      | Chemical Engineering Principle 1           |
| Credit Hours       | 2  |
| Semester           | 2 <sup>nd</sup> semester 2009/2010         |
| Class Meeting      | CHEM 103:<br>Sun, Tue. and Thur. 8:00-9:00 |

| Course Description |   |
|--------------------|---|
| Course Objectives  | This course is a continuation for 0905211. It introduces student to the 1 <sup>st</sup> law of thermodynamics (energy conservation law) and its application on different energy conservation processes. |
| Text Books         | <b>Elementary Principles of Chemical Processes</b> , Third Edition<br>Richard M. Felder and Ronald W. Rousseau John Wiley and Sons, Inc., 1999  |
| References         | David M. Himmelblau & James B. Riggs, <b>Basic Principles and Calculations in Chemical Engineering</b> , 7th Edition, Prentice Hall, 2004   |

| Course Assessment                      |             |             |
|--|-------------|-------------|
|  | Alternate 1 | Alternate 2 |
| Participation, Assignments and Quizzes | 10%         | 10%         |
| Project                                | 10 %        | -           |
| Short exam                             | -           | 10%         |
| <b>Midterm</b>                         | 30.0%       | 30.0%       |
| Final Exam                             | 50.0%       | 50.0%       |

| Course Contents  |
|--|
| <ul style="list-style-type: none"> <li>✓ Introduction</li> <li>✓ Multiphase systems</li> <li>✓ Energy and Energy Balances</li> <li>✓ Balances on Nonreactive Processes</li> <li>✓ Balances on Reactive Processes</li> <li>✓ Balances on Transient Processes (depending on the available time)</li> </ul> |

| Prerequisite  |
|---|
| <p>Student who attend this course <b>MUST</b> be familiar with</p> <ul style="list-style-type: none"> <li>✓ Basic mathematics: Integration and differentiation.</li> <li>✓ Basic physical definitions and concepts.</li> <li>✓ <b>Chemical Engineering Principle 1</b></li> </ul> |

### Responsibilities

To succeed in this class, you should read the relevant material before coming to class, make a reasonable effort to do the assigned homework, hand in what you accomplish, and ask questions on points that you do not understand. I will lecture on points in the book and on supplemental topics, attempt to answer all serious questions, make myself available to anyone needing extra help, administer fair but demanding exams, and grade and return assignments in a reasonable time.

### Expected Course Outcomes

After completing this course, student should,

1. Understand the principles and calculations techniques used in chemical Engineering.
2. Understand the fundamentals of the material balances and their role in chemical processes.
3. Differentiate between the different chemical equipment and their operation principle.

### Regulations

#### **I. Attendance:**

Attendance of classes is obligatory. Absence must be verified according to the university's regulation, ***please take it serious.***

#### **II. Quizzes and homework**

All students are required to finish their homework assignments, and submit them on time. Late homework ***will not be accepted*** under any circumstances. Popup quizzes will be given without any prior notice. You need to come prepared to class. A hand calculator is recommended to be available in every class. In addition to the final exam, there will be one midterm exam. These exams will be challenging and comprehensive during the class

#### **IV. Conduct in classroom:**

While in the class room, all cell phones, Laptops need to be turned off.