



Philadelphia University

Faculty of Engineering - Mechatronics Engineering Department
First Semester 2018/2019

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| Title: | Engineering Skills (0640253) |
| Prerequisite: | English II (130102) |
| Credit Hours: | Three credit hours (16 weeks per semester, approximately 45 contact hours) |
| Textbook: | Foundations of Engineering by Holtzaple and Reece. 2nd edition |
| Class Time: | 11:10-12:00 Sun, Tue, Thu |
| Website: | http://www.philadelphia.edu.jo/academics/mbaniyounis |
| Instructor: | Dr. Mohammed Baniyounis Email: mbaniyounis@philadelphia.edu.jo Office: Engineering building, room 732. ext: 2137 Office hours: Sun, Tue and Thu: 9.30- 10:00 and 13:00 – 14:00 |

Course Learning Outcomes with reference to ABET Student Outcomes:

Upon successful completion of this course, student should:

| | | |
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| 1. | Remember and understand engineering definition and history | h |
| 2. | Analyze basic engineering problems | a, e |
| 3. | Propose and evaluate design solutions | c, h |
| 4. | Communicate effectively within a team environment | g, d |
| 5. | Write technical reports | g |
| 6. | Understand professional and ethical responsibility | f |
| 7. | Understand project management basics and plan the management of simple projects | d |

| Course Academic Calendar | |
|---------------------------------|---|
| Week | Subject |
| Feb 17 | Introduction Course outline; Student Learning Outcomes; Introduction to Engineering: Definition and History, Engineering Disciplines, Successful Engineering Skills |
| Feb 24 | Problem Solving Types of Problems, Problem Solving Skills, Problem Solving Procedure |
| March 3 | Estimation, Creativity |
| March 10 | Introduction to Design Design Method Steps, Problem Definition, Solution Search |
| March 17 | Analysis, Implementation, Evaluation, Examples |
| | Exam I (March 20- 28) |
| March 24 | Communication I: Technical Reading |
| March 31 | Communication II: Technical Writing Engineering Documents; Main Sections in Technical Reports |
| April 07 | Constructing Sentences; Punctuation; Constructing Paragraphs; Action Verbs |
| April 14 | Writing workshop |
| April 21 | Communication III: Presentation Oral Presentation; Preparation; Structure; Visuals; Voice Quality; Body Language |
| | Exam II (April 24-May 05) |
| April 28 | Ethics Interaction rules; Moral theories; Guidelines; Engineering Responsibility |
| May 05 | Project Management Skills CPM, Gantt Chart, Team Building, Leadership |
| May 12 | Student Presentations I |
| May 19 | Student Presentations II |
| May 26 | Review |
| | FINAL EXAM (May 28- June 03) |

Assessment Guidance:

Evaluation of the student performance during the semester will be based on the following:

Exams: Two written exams will be given to the students. Each exam will cover material from the previous 4-5 weeks. Also, students will have a final exam at the end of the semester covering all the materials taught in the course.

Quizzes: Three 10-minute quizzes will be given to the students. The material will be based on one or two lectures.

Project Students will be required to work in a team to study an engineering system, write a technical report, and present the results in class.

Grading policy:

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|-------------------|------|
| First Exam | 20% |
| Second Exam | 20% |
| Project / Quizzes | 20% |
| Final Exam | 40% |
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| Total: | 100% |