EGN1002 - Engineering Orientation
Three Credits, One hour fifteen minutes, Engineering Topic

Instructor: Dr. Frank Urban.


Specific Course Information: Introduction to aspects of the engineering profession. Computer tools and basic engineering science. Team-based engineering projects.

Specific Goals for the Course
a. Specific outcomes of instruction
Upon successful completion of this course, the student will:
After completing this course, students are expected to have learned the following:
1. The specialization areas and professional organizations for engineers
2. How an engineer plans and completes a project
3. Basic computer tools used by engineers
4. How to write a technical report
5. How to prepare and give an effective oral presentation
6. How to work effectively within a team
7. Professional Ethics
8. Importance of Lifelong learning
9. Be able to apply probability and statistics knowledge to solve [electrical/computer engineering problems (or problems related to the course)].

b. Explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course.
In this course the student will have to show:
(a) an ability to apply knowledge of mathematics, science, and engineering (N/A)
(b) an ability to design and conduct experiments (simulations), as well as to analyze, interpret data (N/A)
(c) an ability to design a system, component, or process to meet desired needs (X)
(d) an ability to function in multi-disciplinary teams (X)
(e) an ability to identify, formulate, and solve engineering problems (homework) (N/A)
(f) an understanding of professional and ethical responsibility (X)
(g) an ability to communicate effectively (through project reports) (N/A)
(h) the broad education necessary to understand the impact of engineering solutions in a global and societal context (N/A)
(i) a recognition of the need, and an ability to engage in life-long learning (X)
(j) a knowledge of contemporary issues (N/A)
(k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice (N/A)
(l) a knowledge of probability and statistics (N/A)

Brief list of the topics to be covered
1. Principles of teaming; creating a team contract; maintaining a team
2. Problem solving as a team; brainstorming methodology
3. How to create a proposal for an engineering project
4. How to make an effective oral presentation
5. How to create an effective technical report
6. Carrying out a measurement laboratory project and reporting the results
7. Introduction to the discipline areas of engineering
8. Introduction to the organizations for engineering students
9. Effective use of computer tools in Engineering
10. Visits to some research laboratories and centers within the department
11. Engineering project with formal report and oral presentation
12. Professional Ethics
13. Sinusoidal Steady-State Power Calculations

**GRADING:**

<table>
<thead>
<tr>
<th>Course Requirements</th>
<th>Weight</th>
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<tbody>
<tr>
<td>exam 1</td>
<td>20%</td>
</tr>
<tr>
<td>exam 2</td>
<td>20%</td>
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<tr>
<td>participate/attend</td>
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<tr>
<td>quizzes</td>
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<tr>
<td>project</td>
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<tr>
<td>homework</td>
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<tr>
<td>Overall Grade</td>
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**Conversion of Numerical Grade to Letter Grade**

| 95<=A<=100 | 80<=B<84 | 65<=C<69 |
| 90<=A<94    | 75<=B<79 | 60<=D<64 |
| 85<=B+<89   | 70<=C+<74| F: Below 60 |