Instructor: Carl G. Schaefer, Jr., adjunct professor.

Email: cgschaefer@gmail.com (I check this frequently) or cschaef3@gm.edu (I check this less frequently).

Phone: 703-331-5723.

Office Hours: By appointment only.


Class Meets: Tuesday and Thursday, 5:55 pm – 7:10 pm, Room 120, Science and Tech I

Course Web Site: All lectures, class handouts, homework, and announcements will be posted on the ENGR107 web site located at http://mason.gmu.edu/~cschaef3/.

GRADING

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
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<tbody>
<tr>
<td>20%</td>
<td>Group Project</td>
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<tr>
<td>15%</td>
<td>Individual Paper</td>
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<tr>
<td>30%</td>
<td>Mid-Term Exam</td>
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<tr>
<td>35%</td>
<td>Final Exam (Final Exam Date: May 7, 2009, 4:30pm – 7:15pm)</td>
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Exam and Honor Code Policy: Make-up exams will only be given to students with excused absences. Make-up exams must be arranged in advance of the exam date. All exams will be closed book, closed notes. Although students are encouraged to work together on projects, all work must be original to students and to the project groups. The GMU Honor Code will be strictly enforced.

Project Policy: Project details and schedule will be assigned and discussed in class. Each class period will be divided into a lecture session and project session. In general, I will lecture for the first 50 minutes of class. The remaining 25 minutes will be set aside for groups to work on the semester project.

General: The use of cellular phones, pagers, or other personal communications devices while class is in progress, or during tests, will not be tolerated. If you must have them, please turn audible ringers off and take conversations outside of class. The class is asked to respect the rights of other students and the instructor and to avoid conversations during class.
Syllabus for
ENGR 107: Engineering Fundamentals
(Spring 2009 Semester)

Week 1:  Introduction to the Engineering Profession:
  Class 1: Introduction to Engineering (Class discussion)
  Class 2: The Engineering Professions (Chapter 1, Eide, et al)

Week 2:  Engineering Ethics:
  Class 1: Professionalism and Ethics (Chapter 1, Eide, et al; Class notes):
    Project Assignment and Class Discussion
  Class 2: Ethics Case Studies (Case study class handouts)

Week 3:  Introduction to the Engineering Design Process:
  Class 1: Engineering Design – A Process (Chapter 2, Eide, et al;)
  Class 2: Engineering Design – A Process (Chapter 2, Eide, et al; Class notes)

Week 4:  The Engineering Design Process and Systems Engineering:
  Class 1: Systems Engineering Process (Chapter 3, Eide, et al; Class notes)
  Class 2: Engineering Design – An Example (Class notes)

Week 5:  Engineering Solutions:
  Class 1: Engineering Tools (Class notes)
  Class 2: Problem Analysis (Chapter 3, Eide, et al)

Week 6:  Representation of Technical Information:
  Class 1: Collecting and Recording Data (Chapter 4, Eide, et al)
  Class 2: Empirical Functions and Curve Fitting (Chapter 4, Eide, et al)

Week 7:  Engineering Estimations and Approximations
  Class 1: Engineering Estimations and Approximations (Chapter 5, Eide, et al;)
  Class 2:  MIDTERM EXAM

Week 8:  Project Preliminary Design Review
  Class 1: Group presentations and peer review
  Class 2: Individual Design Papers Due

Week 9:  Engineering Analysis:
  Class 1: Dimensions, Units, and Conversions (Chapter 6, Eide, et al)
  Class 2: Data Analysis and Statistics (Chapter 8, Eide, et al; and group fatigue experiments)

Week 10:  Introduction to Mechanics and Vectors:
  Class 1: Vector Analysis (Chapter 9, Eide, et al)
  Class 2: Vector Analysis (Class notes and examples)

Week 11:  Introduction to Electrical Theory:
  Class 1: Electrical Theory (Chapter 11, Eide, et al)
  Class 2: Electrical Theory (Chapter 11, Eide, et al; class notes and examples)

Week 12:  Contemporary Topics in Engineering:
  Class 1: TBA
  Class 2: TBA

Week 13:  Group Project Presentations
  Class 1: Project Presentations
  Class 2: Project Presentations

Week 14:  Class 1: Exam Review
             Class 2: FINAL EXAM