ENTC 1303.101/1303.201  Dr. Ruby Mehrubeoglu  
W 12:00-1:50 (lec), F 12:00-14:50 (lab)  
Office: ST 222B  
Location: ST 214 (lec + lab)  
Office Hours: by appointment and  
Fall 2011  
M 10:00-11:00, W 9:00-11:00, F 14:50-16:50  
Office Telephone: 1-361-825-3378  
E-mail: Ruby.MehrubeogluATtamucc.edu  

ENTC 1303  Introduction to Engineering Technology  

COURSE INFORMATION  
Prerequisite: none  
Credit Hours: 3 (2-3)  
Meeting Times: W 12:00-1:50 p.m. (Lecture), F 12:00-2:30 p.m. (Laboratory)  
Meeting Places: ST 214 and TBA (Tours)  

PROFESSOR INFORMATION  
Dr. Ruby Mehrubeoglu (Dr. M.)  
Office Address: ST 222B,  
Office Phone: (361) 825-3378  
FAX Number: (361) 825-5848  
Office Hours: M 10:00 – 11:00 a.m., W 9:00 – 11:00 a.m., F 2:50-4:50 p.m., and by appointment  
E-mail Address: ruby.mehrubeogluATtamucc.edu  

TEXTBOOKS  

SUGGESTED READING  
1. Elizabeth E. Stephan, Thinking Like an Engineer, Prentice Hall, 2010  

COURSE DESCRIPTION  
Engineering technology careers; professional and ethical responsibilities; technical laboratories and skills; solving engineering problems; use of software packages; health and safety issues; environmental issues; overviews of industrial equipment; plant tours. Prerequisite: None. Fall, Spring.  

STUDENT LEARNING OUTCOMES  
At successful completion of this course the student will be able to:  
- Describe the roles and responsibilities of engineering technologists, and what are expected of them  
- Understand and use experimental and data collection procedures used in the technical laboratory  
- Analyze experiments and experimental data  
- Identify and apply the basic principles of and scientific method of problem solving and engineering problem solving  
- Describe the operations and applications of industrial equipment  
- Identify, analyze and describe environmental, health and safety issues  
- Define professional and ethical responsibilities in the engineering profession  
- Analyze ethical issues in case studies  
- Use hardware and software tools to solve basic engineering problems  
- Give effective oral presentations and prepare technical reports  
- Apply unit conversions and statistical metrics to solve problems and analyze data
INSTRUCTIONAL METHODS
Methods and activities for instruction include the following: lectures, invited speakers, group discussions, homework assignments, tours of local industries, laboratory exercises and reports, exams, research, ‘1-minute engineer/technologist’ oral presentation, and final oral presentation.

ASSESSMENT
Assessment is based on two exams, tour reports, homework, pop quizzes, lab reports, oral presentations, and a final exam. The final exam is comprehensive. You may examine the final exam within four weeks after the final grades are assigned. The final grade is computed as follows.

<table>
<thead>
<tr>
<th>Points</th>
<th>Total grade</th>
<th>Tentative Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam 1</td>
<td>15</td>
<td>90 ≤ total</td>
</tr>
<tr>
<td>Exam 2</td>
<td>15</td>
<td>80 ≤ total &lt; 90</td>
</tr>
<tr>
<td>Tour reports</td>
<td>8</td>
<td>70 ≤ total &lt; 80</td>
</tr>
<tr>
<td>Homework + Pop Quizzes</td>
<td>10</td>
<td>60 ≤ total &lt; 70</td>
</tr>
<tr>
<td>Lab Reports</td>
<td>10</td>
<td>total &lt; 60</td>
</tr>
<tr>
<td>‘One-Minute Engineer/Technologist’ Presentations</td>
<td>2</td>
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<tr>
<td>Design Project/Presentation</td>
<td>10</td>
<td></td>
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<tr>
<td>Final Research Project/Presentation</td>
<td>5</td>
<td></td>
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<tr>
<td>Final Exam</td>
<td>25</td>
<td></td>
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<tr>
<td>Total</td>
<td>100</td>
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MAKEUP EXAMINATIONS
No makeup examinations will be given except in the case of a documented extreme emergency, or university-accepted excuse. Makeup exams will be different from the regular exams and more challenging.

SUPPORT SERVICES FOR STUDENTS WITH DISABILITY
Refer to the University Catalog.

ATTENDANCE POLICY
You are advised to attend all lectures and participate in all field trips. If you miss a class period, you are responsible for learning the subject matter or announcements covered during your absence. If you miss a field trip, you will be asked to do a detailed research paper.

ACADEMIC HONESTY
Plagiarism and other academic dishonesty are not tolerated. Your attention is called to the University policy in the Student Handbook.

ASSIGNMENTS
Late assignments will only be accepted with penalty. There will be a 20 point deduction per late day from the total score of maximum 100. The instructor reserves the right not to grade, or grade only partially, any of the submitted assignment numbers.

FIELD TRIPS
Course requirements include participation in tours to local and/or regional industries. A major objective of the tours is to become familiar with the responsibilities of technicians, technologists, and engineers working in various technical positions. Another goal is to become familiar with the operations,
equipment, and facilities of industrial plants. Tours will be normally scheduled during the laboratory time. There will be 3 to 5 field trips during the semester.

**TENTATIVE WEEKLY SCHEDULE**

<table>
<thead>
<tr>
<th>WEEK</th>
<th>Week of</th>
<th>Textbook and other Reading</th>
<th>Lecture Topics*</th>
<th>Laboratory Topics and Exercises*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8/22</td>
<td>Ch. 1 (Pond) pp. 261-263 (H&amp;S)</td>
<td>Review of Syllabus; Review of Safety and security Procedures; Introduction to ET</td>
<td>Seminar; Using MS Word, MS Excel, and MS PowerPoint</td>
</tr>
<tr>
<td>2</td>
<td>8/29</td>
<td>Ch. 2 (Pond)</td>
<td>ET Career Choices</td>
<td>ET Labs Tour; Intro to Design Projects</td>
</tr>
<tr>
<td>3</td>
<td>9/05</td>
<td>Ch. 3 (Pond) pp. 168-176 (H&amp;S)</td>
<td>Preparing for ETs</td>
<td>(Design Project prelab reports and concept maps due)</td>
</tr>
<tr>
<td>4</td>
<td>9/12</td>
<td>Ch. 1, 2, 3, 4 (Hawks &amp; Strong)</td>
<td>Library Tour* – Engineering Village; Engineer vs. Technologist, expectations, goals; ethics and professionalism</td>
<td>Design Projects – design, implementation, programming; Career Center Tour* and Report</td>
</tr>
<tr>
<td>5</td>
<td>9/26</td>
<td>Ch. 5, 6, 7 (H&amp;S), pp. 184-190</td>
<td>Guest Speaker* Solving Problems using the Scientific Method; Engineering Problem Solving;</td>
<td>Design Project Presentations (Final Lego Robot Project Reports Due) Paper-plane Design prelabs and concept maps due</td>
</tr>
<tr>
<td>6</td>
<td>10/03</td>
<td>Ch. 8, 9, 10 (Hawks &amp; Strong)</td>
<td>Data presentation: Graphs, Charts, Diagrams</td>
<td>Paper-plane Design Problem using the Scientific Method/Engineering Problem Solving; Data representation and analysis with MS Excel;</td>
</tr>
<tr>
<td>7</td>
<td>10/10</td>
<td>Ch. 4, 5 (Pond)</td>
<td>The Calculator, and Measurement Systems</td>
<td>Exam 1*, ‘One-Minute Technology’ Presentations; Calculator Exercises 7-Segment Display Lab</td>
</tr>
<tr>
<td>8</td>
<td>10/17</td>
<td>Ch 6, 7 (Pond) pp. 205-213 (H&amp;S)</td>
<td>Geometry and Trigonometry for Engineering Technologists; Technical Laboratory; Technical Writing</td>
<td>Campus Plant/Facilities Tours; ‘One-Minute Technology’ Presentations;</td>
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<tr>
<td>9</td>
<td>10/24</td>
<td>Ch. 11, 12, 13 (Hawks &amp; St.) Handouts</td>
<td>Elementary Statistics, ET and Environmental Issues; Engineering Tools (Intro to LabVIEW)</td>
<td>Plant Tour 1* ‘One-Minute Technology’ Presentations; Tools for Solving Engineering Problems; Introduction to LabVIEW;</td>
</tr>
<tr>
<td>10</td>
<td>10/31</td>
<td>Ch. 8 (Pond), Handouts</td>
<td>Personal Computer, Computer Networks, Internet;</td>
<td>Tools for Solving Engineering Problems; Exercises with LabVIEW;</td>
</tr>
<tr>
<td>11</td>
<td>11/7</td>
<td>Ch. 9 (Pond) Handouts</td>
<td>Industrial Automation, PLCs Engineering Tools (Introduction to MATLAB)</td>
<td>Math Exercises for Solving Engineering Problems; Introduction to MATLAB</td>
</tr>
<tr>
<td>12</td>
<td>11/14</td>
<td>Handouts</td>
<td>Engineering Tools (MATLAB)</td>
<td>Plant Tour 2*</td>
</tr>
<tr>
<td>13</td>
<td>11/21</td>
<td>Ch. 10 (Pond)</td>
<td>Future in Technology; Project Management;</td>
<td>EXAM 2*</td>
</tr>
<tr>
<td>15</td>
<td>12/5</td>
<td>Ch. 17, 18 (Hawks &amp; Strong) pp. 256-260 (H&amp;S)</td>
<td>Ethics case studies; Lifelong Learning</td>
<td>Final Project Presentations (PowerPoint); Video Project Presentation; CDs due</td>
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<td>16</td>
<td>04/28, 04/30</td>
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Final Exam Date*: Monday, Dec 12, 2011, 11:00 a.m. - 1:30 p.m.

* Tentative Schedule; Subject to change
FOOD AND DRINK: Eating or drinking is NOT permitted in the labs. Students with food or drink will be asked to discard them, or leave the room.

ENGINEERING LIBRARY RESOURCES
The Mary and Jeff Bell Library houses substantial engineering reference materials available for research and coursework support. Designated coursework will require access and use of these resources as a portion of the grade for assigned work.

All students are required to utilize the resources in the Bell Library, and become particularly familiarized with the Engineering Village resources. Demonstration of the use of the library will be expected in the class assignments.

SAFETY: The safety of students, faculty, staff and visitors to the ET laboratories is of paramount importance to the ET program. You must follow all safety procedures and use personal protective equipment as required in each laboratory. Any student who attempts to use equipment without authorization or violates any safety policy or regulation will be immediately removed from the laboratory.

NOTICE TO STUDENTS WITH DISABILITIES: Texas A&M University-Corpus Christi complies with the Americans with Disabilities Act in making reasonable accommodations for qualified students with disabilities. If you suspect that you may have a disability (physical impairment, learning disability, psychiatric disability, etc.), please contact the Services for Students with Disabilities Office, located in Driftwood 101, at 825-5816. If you need disability accommodations in this class, please see me as soon as possible.

If you are a returning veteran and are experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disability Services Office for assistance at (361) 825-5816.

ADVISING
The College of Science and Technology requires that students meet with an Academic Advisor as soon as they are ready to declare a major. The Academic Advisor will set up a degree plan, which must be signed by the student, a faculty mentor, and the department chair. The College's Academic Advising Center is located in Faculty Center 178, and can be reached at 825-6094.

Students are expected to meet with their Faculty Advisors every semester.

GRADE APPEALS
As stated in University Rule 13.02.99.C2, Student Grade Appeals, a student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, see University Rule 13.02.99.C2, Student Grade Appeals, and University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules Web site at http://www.tamucc.edu/provost/university_rules/index.html. For assistance and/or guidance in the grade appeal process, students may contact the Office of Student Affairs.