ENGR 1211 Foundations of Engineering I
Department of Engineering
Fall 2016

A. COURSE INFORMATION
Course number/section: ENGR 1211.002
Class meeting time: R 11:00-11:50 p.m. (lecture), T 11:00-12:50 p.m. (lab)
Class location: EN316 (lecture), EN316 (lab)
Course Website: https://bb9.tamucc.edu/

B. INSTRUCTOR INFORMATION
Instructor: Rafael Fox
Office location: EN 216
Office hours: MW 10:00-12pm, TR 4:15-4:45pm
Telephone: (361) 825-2593
e-mail: rafael.fox@tamucc.edu
Appointments: Send an e-mail request for appointment, with proposed time as needed.

C. COURSE DESCRIPTION
Catalog Course Description
Introduction to the engineering profession, ethics and disciplines; development of the skills in teamwork, problem solving and design; other topics include computer applications and programming, visualization, orthographic drawings and CAD tools; introduction to electrical circuits, semiconductor devices, digital logic, signal processing, modern control, communications and their application in systems, Newton’s laws, unit conversion, statistics, Excel, and basic graphic skills.

D. PREREQUISITES AND COREQUISITES
Prerequisites
None.
Corequisites
None.

E. REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES
Required Textbook(s)
Optional Textbook(s) or Other References

Supplies None.

F. STUDENT LEARNING OUTCOMES AND ASSESSMENT

Assessment is a process used by instructors to help improve learning. Assessment is essential for effective learning because it provides feedback to both students and instructors. A critical step in this process is making clear the course’s student learning outcomes that describe what students are expected to learn to be successful in the course. The student learning outcomes for this course are listed below. By collecting data and sharing it with students on how well they are accomplishing these learning outcomes students can more efficiently and effectively focus their learning efforts. This information can also help instructors identify challenging areas for students and adjust their teaching approach to facilitate learning.

(a) an ability to apply knowledge of mathematics, science, and engineering

(e) an ability to identify, formulate, and solve engineering problems

(i) a recognition of the need for, and an ability to engage in life-long learning

By the end of this course, students should be able to:

1. Describe the roles and responsibilities of engineers and technologists, and what are expected of them.
2. Understand and use experimental and data collection procedures used in the technical laboratory.
3. Analyze and explain experiments and experimental data.
4. Identify and apply the basic principles of and scientific method of problem solving and engineering problem solving.
5. Define professional and ethical responsibilities in the engineering profession
6. Demonstrate an ability to communicate effectively.

G. INSTRUCTIONAL METHODS AND ACTIVITIES

Lab-based lecture will be used in this course. Instructor will engage the lecture materials with practical engineering project closely. Through participating in several interesting engineering projects, students could learn the course knowledge much better.
H. MAJOR COURSE REQUIREMENTS AND GRADING

Your course grade will be determined by your performance in the homework assignments, lab experiments/exercises, quizzes, two exams, and a final exam. The distribution of points is as follows

<table>
<thead>
<tr>
<th>Points</th>
<th>Total Score</th>
<th>Tentative Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework</td>
<td>15</td>
<td>90 ≤ total</td>
</tr>
<tr>
<td>Quizzes</td>
<td>12</td>
<td>80 ≤ total &lt; 90</td>
</tr>
<tr>
<td>Lab reports/Exercise/Project</td>
<td>15</td>
<td>70 ≤ total &lt; 80</td>
</tr>
<tr>
<td>Midterm Exam I</td>
<td>15</td>
<td>60 ≤ total &lt; 70</td>
</tr>
<tr>
<td>Midterm Exam II</td>
<td>15</td>
<td>total &lt; 60</td>
</tr>
<tr>
<td>Final Exam</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Attendance*</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Course Folder**</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

**Course Folder**

This consists of a simple letter size two pocket folder where all graded and returned assignments will be placed. On the left side place Exams (1 & 2) followed by Quizzes (1 to ?), then HW (1 to ?). On the right side place your labs (1 to ?). It must be complete and organized for full credit.
### I. COURSE CONTENT/SCHEDULE

**TENTATIVE WEEKLY SCHEDULE (subject to change)**

<table>
<thead>
<tr>
<th>WK</th>
<th>Week of</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8/22</td>
<td>Ch. 1 Review of Syllabus; General information Engineering/Technology Career Choices</td>
</tr>
<tr>
<td>2</td>
<td>8/29</td>
<td>Ch 2 Ethics and Professionalism; Engineer expectations, goals</td>
</tr>
<tr>
<td>3</td>
<td>9/5</td>
<td>Ch 3 Solving Engineering Problems (Engineering Problem Solving, Scientific Method); Design and Teamwork</td>
</tr>
<tr>
<td>4</td>
<td>9/12</td>
<td>Ch 4 Engineering Communication;</td>
</tr>
<tr>
<td>5</td>
<td>9/19</td>
<td>Ch 5 Estimation; Engineering Notation - Prefix</td>
</tr>
<tr>
<td>6</td>
<td>9/26</td>
<td>Ch 7 Measurement Systems; Unit Conversion</td>
</tr>
<tr>
<td>7</td>
<td>10/3</td>
<td>Ch 8 Universal Units – Force (Statics Problem), Weight, Density, Temperature</td>
</tr>
<tr>
<td>8</td>
<td>10/10</td>
<td>Ch 8 Universal Units – Energy, Power Electrical Concepts</td>
</tr>
<tr>
<td>9</td>
<td>10/17</td>
<td>Ch 10 Tools for Engineering Computations: Excel</td>
</tr>
<tr>
<td>10</td>
<td>10/24</td>
<td>Ch 11 Plots and Interpreting Plots</td>
</tr>
<tr>
<td>11</td>
<td>10/31</td>
<td>Ch 12 Mathematical Models and Systems</td>
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<tr>
<td>12</td>
<td>11/7</td>
<td>Ch 12 Mathematical Models and Systems</td>
</tr>
<tr>
<td>13</td>
<td>11/14</td>
<td>Ch 14 Elementary Statistics</td>
</tr>
<tr>
<td>14</td>
<td>11/21</td>
<td>------ No Class scheduled</td>
</tr>
<tr>
<td>15</td>
<td>11/28</td>
<td>Ch 15,16 Engineering Tools and Programming (Introduction to MATLAB)</td>
</tr>
<tr>
<td>16</td>
<td>12/5</td>
<td>Open / Review</td>
</tr>
</tbody>
</table>

**Final Exam:** Thursday Dec 8 @ 11:00am – 1:30pm

* Changes in this course schedule may be necessary and will be announced to the class by the Instructor.

* Exam 1, & 2 Dates are tentatively given within that week, not necessarily on Monday.

Exact day of Exam is given one week in advance. No exam makeup is given unless for legitimate cause (a scheduled vacation, wedding, or airline flight is not a legitimate cause).

**J. NOTE1:** Labor Day Holiday 9/5 - No classes

**K. NOTE2:** Last day to drop a class 11/11

**L. NOTE3:** Reading Days 11/22-11/23 - No classes

**M. NOTE4:** Campus is closed for Thanksgiving, 11/26-11/27

**N. NOTE5:** The assignments and exams shown are directly related to the Student Learning Outcomes described in Section F.
O. COURSE POLICIES

Attendance/Tardiness
You must attend all lectures and laboratories. Grading for Attendance will be deducted after the first absence without a legitimate excuse/cause. Starting with the second absence a 1/2 % deduction from attendance will apply.

You are responsible for any materials covered or handed out or announcements made in your absence, therefore make arrangements with classmates when this happens. Records of your attendance will be maintained. Tardiness without the prior consent of the instructor is not accepted and will be penalized. Being tardy consistently without consent can be basis to be removed from class or not be permitted to enter class. This is a disruption to other classmates, impolite and not of an ethical person.

Late Work and Make-up Exams
Late work, scheduled exam absences or No-show on lab/project will not be accepted unless there exists legitimate excuses (illness, death in the immediate family, etc.) and adequate documentation is furnished.

Cell Phone Use
Cell phone use is prohibited once class begins. They are to be silenced and put away where they are not seen. If a call is expected take it out of the class. Anyone that interrupts class due to cell phone will be asked to leave.

Laptop Use
Turn off the personal laptop. During the lecture time, the laptop is not needed. For the lab time, the personal laptop is allowed only when the instructor gives the permission.

Food in Class
Eating or drinking is NOT permitted in the classes. Students with food or drink will be asked to discard them, or leave the room.

Missed Exam
Missed exam will be scored as zero. No makeup exams are allowed without prior permission of the instructor (Very difficult to obtain).

P. COLLEGE AND UNIVERSITY POLICIES

- Academic Integrity (University)
University students are expected to conduct themselves in accordance with the highest standards of academic honesty. Academic misconduct for which a student is subject to penalty includes all forms of cheating, such as illicit possession of examinations or examination materials, falsification, forgery, complicity or plagiarism. (Plagiarism is the presentation of the work of another as one’s own work.) In this class, academic misconduct or complicity in an act of academic misconduct on an assignment or test will result in a failing grade.
During an assignment you are allowed to have only what is permitted by instructor, anything
else (cell, notebook, book, etc) encounter in your possession will be considered cheating and a proceeding to penalized and document such an act will take place which could include removal from University.

- **Classroom/Professional Behavior**
  Texas A&M University-Corpus Christi, as an academic community, requires that each individual respect the needs of others to study and learn in a peaceful atmosphere. Under Article III of the Student Code of Conduct, classroom behavior that interferes with either (a) the instructor’s ability to conduct the class or (b) the ability of other students to profit from the instructional program may be considered a breach of the peace and is subject to disciplinary sanction outlined in article VII of the Student Code of Conduct. Students engaging in unacceptable behavior may be instructed to leave the classroom. This prohibition applies to all instructional forums, including classrooms, electronic classrooms, labs, discussion groups, field trips, etc.

- **Statement of Civility**
  Texas A&M University-Corpus Christi has a diverse student population that represents the population of the state. Our goal is to provide you with a high quality educational experience that is free from repression. You are responsible for following the rules of the University, city, state and federal government. We expect that you will behave in a manner that is dignified, respectful and courteous to all people, regardless of sex, ethnic/racial origin, religious background, sexual orientation or disability. Behaviors that infringe on the rights of another individual will not be tolerated.

- **Deadline for Dropping a Course with a Grade of W (University)**
  The grade of W will be assigned to any student officially dropping a course. Please consult with the instructor before you decide to drop to be sure it is the best thing to do. Just stopping attendance and participation WILL NOT automatically result in your being dropped from the class. Should dropping the course be the best course of action, visit the Office of the University Registrar for the Course Drop Form that must be submitted. No student is eligible to receive a W without completing the official drop process by this deadline. Please consult the Academic Calendar (http://www.tamucc.edu/academics/calendar/) for the last day to drop a course.

- **Grade Appeals (College of Science and Engineering)**
  As stated in University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures, 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 Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible
through the University Rules website at
http://www.tamucc.edu/provost/university_rules/index.html,
and the College of Science and Engineering Grade Appeals webpage at
http://sci.tamucc.edu/students/GradeAppeal.html. For assistance
and/or guidance in the grade appeal process, students may contact the chair or director of
the appropriate department or school, the Office of the College of Science and
Engineering Dean, or the Office of the Provost.

- Disability Services

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that
provides comprehensive civil rights protection for persons with disabilities. Among other
things, this legislation requires that all students with disabilities be guaranteed a learning
environment that provides for reasonable accommodation of their disabilities. If you
believe you have a disability requiring an accommodation, please call (361) 825-5816 or
visit Disability Services in Corpus Christi Hall 116.

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.
http://disabilityservices.tamucc.edu/

- Statement of Academic Continuity

In the event of an unforeseen adverse event, such as a major hurricane and classes could not
be held on the campus of Texas A&M University–Corpus Christi; this course would
continue through the use of Blackboard and/or email. In addition, the syllabus and class
activities may be modified to allow continuation of the course. Ideally, University facilities
(i.e., emails, web sites, and Blackboard) will be operational within two days of the closing
of the physical campus. However, students need to make certain that the course instructor has a
primary and a secondary means of contacting each student.

Q. OTHER INFORMATION

- Academic Advising

The College of Science & Engineering 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. Meetings are by appointment only; advisors do not take walk-ins.
Please call or stop by the Advising Center to check availability and schedule an
appointment. The College’s Academic Advising Center is located in Center for
Instruction 350 or can be reached at (361) 825-3928.

GENERAL DISCLAIMER

I reserve the right to modify the information, schedule, assignments, deadlines, and course
policies in this syllabus if and when necessary. I will announce such changes in a timely
manner during regularly scheduled lecture periods.