

**Engr 1201: Introduction to Engineering**  
(Sec. 01 7896: TTh 1:00 pm – 1:55 pm, Science Building, Room 214)  
**Syllabus – Spring 2010**

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Department Website: <http://www.mclennan.edu/departments/engr/>  
Course Website: <http://www.cleverfred.com/mcc/>

In case the school has to close due to inclement weather, please visit the school website for up to date official information at <http://www.mclennan.edu/>.

**Catalog Description:** This course introduces the field of engineering as a career. It aims help students to answer the question, “Do I want to be an engineer?” and to help prepare students to be successful academically and professionally in the engineering field. Semester hours 2 (2 lec)

**Course Details:**

An introduction to the engineering profession with emphasis on technical communication and team-based engineering design. Upon successful completion of this course, students will be able to:

1. Articulate the engineering profession and engineering ethics, including professional practice and licensure
2. Use technical communication skills to explain the analysis and results of introductory laboratory exercises in engineering and computer science.
3. Explain the engineering analysis and design process.
4. Analyze data collected during laboratory exercises.
5. Articulate the impact engineering has had on the modern world.
6. As part of a team, design a simple engineering device, write a design report, and present the design.
7. Demonstrate computer literacy.

**Prerequisites:** High school math and physical science.

**Required Textbook:** *Engineering Your Future: A Brief Introduction to Engineering*, Oakes, Leone, Gunn, 3<sup>rd</sup> edition, 2008

**Special Meetings.**

**No class:**

- *Thursday, March 25*

**Meeting in LTC 318:**

- *Tuesday, January 19*

**Meeting in SB 131 (Computer Lab):**

- *Thursday, January 21*
- *Tuesday, February 9*
- *Thursday, February 11*
- *Tuesday, April 6*

**Office Hours.** Unless announced otherwise, my office hours will be MW 9:30 am – 10:30 am and TTh 11:30 am – 1:00 pm. You can also make an appointment to meet with me at another particular time, and are also welcome to drop by my office without an appointment.

**Math Lab.** Any student enrolled in this class has free access to the Math Lab, located in HPE 218. Hours of operation are usually Monday – Thursday 8:00 am – 7:30 pm and Friday 8:00 am – 2:00 pm. Call (254) 299-8878 to confirm for particular days.

**Writing Center.** Any student enrolled in this class also has free access to the Writing Center, located in the Old Science Building, Room 111. Assessment 1 requires that you visit the writing center for assistance writing your resume. The Writing Center offers the following:

- Help with class essays, research papers, academic writing, letter writing, and resumes
- Word processing help

Call (254) 299-8356 to confirm when the center is open. Additional information is also available at <http://www.mclennan.edu/wc/>.

**Computer Lab.** The Computer Lab, located in AS 114, provides students with access to computers (PC and Mac), printers, scanners, and software to meet their educational requirements. Printing is available at a cost of 8 cents per page, payable with the HighlanderOne card. Spring Hours: Monday – Thursday: 8:00 am to 9:00 pm, Friday: 8:00 am to 5:00 pm, Saturday: 9:00 am to 1:00 pm.

<http://www.mclennan.edu/departments/cis/>

**Attendance.** Attendance is mandatory. No absences are “excused,” with the exception of religious holy days as defined by the MCC attendance policy. ***Per MCC policy, you will be automatically dropped after missing 25% of class meetings, or 8 classes.*** If the student is dropped before the official drop date, the student will receive a grade of W. If the student is dropped after the official drop date, the student will receive a grade of F, unless there are *highly unusual circumstances*.

**ADA Statement.** “In accordance with the requirements of the Americans with Disabilities Act (ADA), and the regulations published by the United States Department of Justice 28 C.F.R. 35.107(a), MCC’s designated ADA co-coordinators, Mr. Gene Gooch - Vice President, Finance and Administration and Dr. Santos Martinez – Vice President, Student Services shall be responsible for coordinating the College’s efforts to comply with and carry out its responsibilities under ADA. Students with disabilities requiring physical, classroom, or testing accommodations should contact Mr. Marcus Sweatt, Disabilities Specialist, at 299-8122 or [msweatt@mclennan.edu](mailto:msweatt@mclennan.edu).”

**Six Drop Rule.** Students who enroll at MCC as entering freshman or first-time college students during the fall 2007 semester or any subsequent semester may not drop more than six courses. The six-course limit does not apply to students who were enrolled in college courses prior to the fall 2007 semester. Students who have completed a baccalaureate degree at any accredited public or private institution are not subject to the six-course limit. The six course limit includes courses taken at MCC or any other Texas public institution of higher education. If a seventh drop is attempted, the student and instructor will be informed that the student must remain in the course and the student will receive a grade of A, B, C, D, F or 1. He/she will not be able to receive a W or withdrawal grade and will not be due a refund of tuition and fees. All courses dropped after the semester census date are included in the six-course limit unless (1) the student withdraws from all courses or (2) the drop is an approved drop exemption.

**Academic Dishonesty.** Any student that is found guilty of academic dishonesty such as cheating, plagiarism, or collusion, will receive the zero grade on every test or assignment involved. For repeated violations, a guilty student can be assigned a failing grade in this course and can be recommended for suspension from the McLennan Community College District.

**Privacy.** Because of Privacy Laws, I can only discuss your grade with you, in person and in private. I can only discuss grades by e-mail if you e-mail me with your university address.

**Miscellaneous.** Normally, please do not bring your children, friends, or guests to the class. (Please discuss this with me because I do not want you missing class if you cannot make child care arrangements.)

## Grading Policy

Grade Distribution	
Homework	20%
Assessment 1	20%
Assessment 2	20%
Assessment 3	20%
Assessment 4	20%
<b>Total</b>	<b>100%</b>

**A: 90%+**      **B: 80% – 89%**      **C: 70% – 79%**      **D: 60% – 69%**      **F: 0% – 59%**

**Assessments.** There will be four assessments.

Assessment 1	Completed entirely outside of class Due <b>Thursday, February 18</b>
Assessment 2*	Completed in class on <b>Tuesday, March 16</b>
Assessment 3*	Completed in class on <b>Tuesday, April 20</b>
Assessment 4	Completed partially in and out of class In-Class Due date on Final Exam Day, <b>Tuesday, May 4</b>

\*Assessment 2 and 3 will each have take-home Excel components. You are expected to work on these independently, and they are due the day of the in-class assessment.

**Homework.** All homework assignments are available on the Blackboard system and are organized by unit. In general, most assignments are due the next class period after they are assigned. The table on the next page indicates the due dates for each assignment.

In the spirit of preparing you for collegiate and professional success, we will try to incorporate technology as much as possible into this class. As such, most homework should be turned in online through Blackboard. There are some assignments, however, that require drawing or equations which may be either scanned and provided as an attachment in Blackboard, or may be brought to class. Finally, some assignments will be completed entirely in class.

In the case that Blackboard breaks down, all homework assignments and assessments can be accessed on the course website listed at the top of the first page of the syllabus. Work that would normally be turned in via Blackboard should be typed out in a Word Processor, printed, and turned into class the day it is due. Click the Current Classes link, choose Intro to Engineering, and then click the Daily Assignments or Assessments links to access those materials. **Even if Blackboard isn't working, you are still responsible to turn in all assignments and assessments on time!**

**Formatting Requirements.** All assignments (homework or assessments) must be typed, with the exception of worksheets that explicitly state that the work may be completed on that worksheet. I may choose not to grade anything written by hand, except for equations, which may be written in ink.

**Makeup Policy and Late Assignments.** Late assignments will not be accepted. If you have to miss class on the day that a homework assignment is due, you must turn in the assignment early.

If you are legitimately ill during an in-class assessment, you must email me the morning of the exam (before you miss it), and provide a doctor's note *the first day* you are back in class in order to receive consideration for a makeup exam.

### Homework Due Dates

Homework	Turn In ...	Due Date
1	On Blackboard	Jan 14
2	On Blackboard or in class	Jan 19
3	On Blackboard	Jan 21
4	On Blackboard	Jan 26
5	On Blackboard	Jan 28
6	On Blackboard	Feb 2
7	On Blackboard	Feb 4
8	On Blackboard or in class	Feb 9
9	On Blackboard	Feb 11
10	On Blackboard	Feb 16
11	On Blackboard or in class	Feb 18
12	On Blackboard or in class	Feb 23
13 <sup>#</sup>	In Class	Feb 25
14 <sup>#</sup>	On Blackboard and in class	Mar 2
15 <sup>#</sup>	In Class	Mar 4
16 <sup>#</sup>	In Class	Mar 18
17	On Blackboard	Mar 23
18	On Blackboard	Mar 30
19	On Blackboard	Apr 1
20	On Blackboard	Apr 6
21	On Blackboard	Apr 8
22	On Blackboard	Apr 13
23	On Blackboard	Apr 15
24	On Blackboard	Apr 22
25 <sup>#</sup>	In Class	Apr 27
26	On Blackboard	Apr 29

<sup>#</sup>*You must be in class this day to complete this assignment*

## Course Progression

Not everything we'll be covering in class is in your book; therefore, it is very important that you come to class every day. The schedule is below, with the relevant chapter listed if available.

<b>Unit 1: Getting Started in Engineering</b>	
Tue, Jan 12	Introduction (Chapter 1) / Profiles of Engineers
Thu, Jan 14	Types of Engineering / Profile of the Profession (Chapter 2)
Tue, Jan 19	Library Instruction
Thu, Jan 21	Computer Tools for Engineers (Word, Excel, and PowerPoint) (Chapter 7)
Tue, Jan 26	Success in Academia, Time Management, Extracurricular Activity (Chapter 5)
Thu, Jan 28	Getting a Job in Engineering (Some is in Chapter 10)
Tue, Feb 2	PE Licensing, Life Beyond Graduation
<b>Unit 2: Essential Math &amp; Lab Skills</b>	
Thu, Feb 4	Significant Digits, Unit Conversions, Taking Measurements and Error Analysis
Tue, Feb 9	Excel for Engineers: Functions, Drag & Fill
Thu, Feb 11	Doing more with Excel, Plotting Data Points, Basic Linear Regression
Tue, Feb 16	Solid Geometry, Right Triangles and Radians & Degrees
Thu, Feb 18	Trigonometry and Vectors
Tue, Feb 23	Working in the Lab, Day 1
Thu, Feb 25	Working in the Lab, Day 2
<b>Unit 3: Essential Engineering Skills</b>	
Tue, Mar 2	Creative Problem Solving (Chapter 6)
Thu, Mar 4	Analytic Problem Solving (Chapter 6)
<b>Tue, Mar 16</b>	<b>Assessment on Unit 2, Excel Take-Home Due</b>
Thu, Mar 18	Engineering Fundamentals, Day 1: Mechanics
Tue, Mar 23	Engineering Fundamentals, Day 2: Circuits
Thu, Mar 25	<i>&lt;no class – start working on your final project&gt;</i>
Tue, Mar 30	Engineering Fundamentals, Day 3: Logic
Thu, Apr 1	Intro to Programming
Tue, Apr 6	Creating Macros in Excel
Thu, Apr 8	Engineering Drawing
<b>Unit 4: Solving Problems and Presenting Results</b>	
Tue, Apr 13	Engineering Design (Chapter 9)
Thu, Apr 15	Written Communication Skills
<b>Tue, Apr 20</b>	<b>Assessment on Unit 3, Excel Take-Home Due</b>
Thu, Apr 22	Oral Communication Skills (Chapter 10)
Tue, Apr 27	Engineering Ethics (Chapter 11)
Thu, Apr 29	Engineering Ethics, Day 2 (Chapter 11)
Tue, May 4	Final Exam: 1 pm – 3 pm <b>In-Class Assessment on Unit 4</b>

**I reserve the right to change any term on this syllabus at any time during the semester.**