



WACO, TEXAS

**COURSE SYLLABUS
AND
INSTRUCTOR PLAN**

**INTRODUCTION TO ENGINEERING
ENGR 1201 – SECTIONS H3 & H4**

**PROFESSOR LAURA WRIGHT
PROFESSOR PAULINA Z. SIDWELL**

Introduction to Engineering
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Course 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)

Prerequisites and/or Corequisites:

Math 1314 – College Algebra or equivalent preparation.

Instructor Information:

Instructor Name: Professor Laura Wright
MCC E-mail: lwright@mclennan.edu
Office Phone Number: (254) 299-8419
Office Location: HP 230
Office Hours: MW 11:30am-1pm, M-Th 2:30-3:30pm
Or email me to set up an appointment

Instructor Name: Paulina Z. Sidwell
MCC E-mail: psidwell@mclennan.edu
Office Phone Number: (424) 250 6102
Office Location: Online only, through ZOOM (Meeting ID 424-250-6102)
Office Hours: Tu/Th 1:30 pm to 4:00 pm
Also by appointment: <http://psidwell.appointy.com>

The linked sections meet TR (Section H3) 8:00 to 9:30 am and TR (Section H4) 9:35 to 11:00 am in S 214.

NOTE: THIS IS A LINKED COURSE. IF YOU DROP THIS CLASS YOU WILL BE DROPPED FROM EDUC 1100. IF YOU DROP EDUC 1100 YOU WILL BE DROPPED FROM ENGR 1201!

In the event that I am not able to be physically present in class, I will often provide videos for students to watch or assign reading or other activities so we do not get behind in the schedule. In such cases, students are expected to complete these activities just as they would be expected to complete activities and participate in lecture were the material being covered face-to-face. Other graded material (tests, quizzes, labs, etc.) will continue to be due as indicated in the syllabus, unless I let the class know otherwise.

Required Text & Materials:

- *An Introduction to Engineering* by April Andreas & Bernard Smith
- A scientific calculator that does exponents, logs, and trig functions). TI-89s are great!

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MCC Bookstore Website: <http://www.mclennan.edu/bookstore/>

Student Support/Resources:

MCC provides a variety of services to support student success in the classroom and in your academic pursuits to include counseling, tutors, technology help desk, advising, financial aid, etc. A listing of these and the many other services available to our students is available at <http://www.mclennan.edu/campus-resource-guide/>

College personnel recognize that food, housing, and transportation are essential for student success. If you are having trouble securing these resources, we encourage you to contact a success coach by calling (254) 299-8226. Students can visit the Completion Center Monday-Friday from 8:00 a.m.-5:00 p.m. to meet with a success coach and receive additional resources and support to help reach academic and personal goals. Paulanne's Pantry (MCC's food pantry) is open 12:00 p.m.-1:00 p.m., Monday-Friday, without an appointment. The Completion Center and pantry are located on the Second Floor of the Student Services Center (SSC).

Minimum Technical Skills:

Students should have basic computer skills, knowledge of word processing software, and a basic understanding of how to use search engines and common web browsers.

Backup Plan for Technology:

In the event MCC's technology systems are down, you will be contacted/notified through your MCC student email address. Please note that all assignments and activities will be due on the date specified in the Instructor Plan, unless otherwise noted by the instructor.

* [Click Here for the Minimum System Requirements to Utilize MCC's D2L|Brightspace](http://www.mclennan.edu/center-for-teaching-and-learning/teaching-commons/requirements)
(www.mclennan.edu/center-for-teaching-and-learning/teaching-commons/requirements)
Click on the link above for information on the minimum system requirements needed to reliably access your courses in MCC's D2L|Brightspace learning management system. Students must have access to a computer as well as a reliable Internet connection. Students will complete assignments under the Assignments tab under the Assessments topic in BrightSpace.

Course Notes, Instructor and additional Requirements:

***MCC Engineering uses Slack for communication.** All major course announcements will be posted in Slack – failure to check Slack will result in you missing important information. Also, anything we hear about jobs, scholarships, speakers, etc., will also be posted to Slack in the #general channel.*

Slack is free and used in the professional community as a workflow management system, so it is good to gain experience with the tool. All “general questions” like “I’m stuck on problem 5” will be directed to Slack, which will allow you and your classmates to support each other, especially in “time-crunch” situations. Always be respectful and professional in your participation.

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Please bear in mind that Slack is an open communication tool. Please do not ask for or reveal personal information through the tool. Note that anything you post in Slack in channels will be viewable by other channel participants. Do not post anything about personal grades, due dates, or personal issues. Do not post your own correct solutions to assignments, but you can post incorrect work and ask if anyone can see where you went wrong.

Slack can be used on both a desktop computer and as an app. For more information about Slack in general, visit <https://slack.com/>. You will be invited to our class channel via your MCC student account. Detailed guidelines for Slack are on Brightspace and on Slack itself.

According to the campus carry policy that went into effect on August 1st, 2017, “A license holder may carry a handgun in a manner such that it must be close enough to the license holder that he or she can grasp it without materially changing position.” Keep this in mind on exam days, during group work, or at other times when moving about the classroom. During the admission of exams and other activities, you will have to put all backpacks, purses, etc., away from you and against the wall of the classroom for the duration of the exam or activity.

If you wish to drop this class, you must email me from your MCC student account before 5 pm on the last day for student-initiated drops, with the request “Please drop me from COURSE ID and SECTION NUMBER.” An email that says something like, “I would like to drop...” or, “I was thinking about dropping...” or, “I was wondering if I should drop...” will ***not*** be considered a drop request. (*This is analogous to saying, “I would like to get married,” and does not mean anyone is going to automatically marry you today.*) If the email does not come from your student account, or if the request is verbal, I cannot drop you. Alternatively, there is a form you can fill out and have me sign before 5 pm on the last day for student-initiated drops.

Methods of Teaching and Learning:

Students will learn through lecture and reading both the textbooks, as well as through independent research, and work on homework, quizzes, exams, lab exercises, a mock interview, group projects which include a written paper and formal presentation, and the development of an engineering portfolio. Additional methods may be used as opportunities present themselves.

Course Objectives and/or Competencies:

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. Understand what is expected of engineering students in academia (*all work*)
2. Understand what is expected of engineering students in industry, including professional practice and licensure (*all work*)
3. Use the computer to find and present information related to engineering (*all work*)

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4. Understand the dynamics of group problem solving (*quizzes, group design project, electricity generation lab*)
5. Practice essential engineering skills related to the fields of mechanical and/or electrical engineering (*Physics skills section*)
6. Take and analyze measurements in a lab (*Excel work*)
7. Present technical information in writing and orally (*all work*)
8. Explain and practice the engineering analysis and design process (*Engineering Portfolio, group design project*)
9. Think critically about ethics as it relates to engineering (*Ethics chapter*)
10. Articulate the impact engineering has had on the modern world (*Engineering Portfolio*)

Course Outline or Schedule:

You are responsible for everything listed in the detailed calendar below. In the event that I am not able to be physically present in class, I may provide a video or assign other activities. Other graded material (tests, quizzes, labs, etc.) will continue to be due as indicated in the syllabus, unless I let the class know otherwise. Any changes in this schedule will be announced in class, on Brightspace, or through your MCC student email.

TTh Dates	Topics	Reading Before Class	Special Activity	What's Due Before Class? (Details for each assignment are on Brightspace)
Tue, Aug 27	Introduction			
Thu, Aug 29	Electricity Generation Lab			1201-1: Electricity Generation Lab (done in class)
Tues, Sep 3	Success in Academia / SMART Goals	MIS Chapter 1	<i>Names Quiz - First & Last</i>	1100-1: Smarter Measure and Appointment
Thurs, Sep 5	Introduction of Study Skills Portfolio, Time Management and Study Environment	MIS Chapter 2		1100-2: Submit SMART Goals and Reflection on Academic Purpose
Tues, Sep 10	Essential Math Skills	Engr pg 63-78		1201-2: Create Portfolio Shell
Thu, Sep 12	Bloom's Taxonomy and Memory/Schema Theory	MIS Chapter 3		1201-3: Essential Math Skills HW 1100-3: ESAP Pretest (Subject to change)
Tues, Sep 17	Unit Conversions, Geometry & Right Triangles	Engr pg 79-87		1100-4: Create Your Own Quiz on Essential Math Skills
Thu, Sep 19	Retrieval Practice/ Mindmapping	MIS Chapter 4		1201-4: Unit Conv, Geometry, and Triangles
Tues, Sep 24	Polar Coordinates, Trigonometry, and Note-taking	Engr pg 88-104	<i>Speed-dating Quiz (bring five possible test questions and answers to class in hard copy) Complete Foundations for Success meeting (required Portfolio element) with Dr. Powell by Friday</i>	1100-5: Create a Mind Map for Unit Conversions
Thu, Sept 26	Matrices, Systems of Equations, and Illusions of Knowledge	MIS Chapter 5 Engr pg 105-117		1201-5: Polar Coords and Trigonometry
Tues, Oct 1	Behavioral Interviewing & Resumes	Engr pg 10-26		1201-6: Matrices and Systems of Equations
Thurs, Oct 3	Test over Unit 1			No HW Due
Tues, Oct 8	Vectors Day 1 & Test 1 Reflection	Engr pg 124-136		1201-7: Create a Resume 1201-8: Teamwork Survey

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TTh Dates	Topics	Reading Before Class	Special Activity	What's Due Before Class? (Details for each assignment are on Brightspace)
Thurs, Oct 10	Vectors Day 2 & Prep for Test 2		<i>Names Quiz - First & Last</i>	1201-9: Introduction to Vectors 1100-6: Optimum Study Environment Essay
Tues, Oct 15	Current, Voltage, and Resistance	Engr pg 137-152	<i>Interviews Start</i>	1201-10: Doing More with Vectors
Thurs, Oct 17	Circuits & Mesh Analysis			1201-11: Current, Voltage, and Resistance
Tues, Oct 22	Stress Management & Maintaining Wellness	MIS Chapter 8		1201-12: Circuits & Mesh Analysis
Thurs, Oct 24	Test Over Unit 2			No HW Due
Tues, Oct 29	Group Projects			1100-7: Modified Cornell System Example
Thurs, Oct 31	Work Day 1: Word!		<i>First turn-in for portfolios</i>	1201-13: Create your Team Identity
Tues, Nov 5	Careers in Engineering	Engr pg 3-9		1201-14: Basics of Word
Thu, Nov 7	Work Day 2: Learning & Teaching Styles, Excel	MIS Chapter 7	<i>Professional Interview (2nd Required Portfolio Element) with Prof Sidwell completed by Friday</i>	1201-15: Exploring Your Options
Tues, Nov 12	Engineering Ethics and Plagiarism	MIS Chapter 6	<i>Draft (Sec 2 - 5) + Team Eval</i>	1201-16: Excel - GPA & Grade Calculator
Thur, Nov 14	Work Day 3: Professional Writing, Excel		<i>Final portfolios due</i>	1100-8: Citation Assignment
Tues, Nov 19	Emotional Intelligence		<i>Final Paper + Team Eval</i>	1201-17: Excel - Plotting in Excel
Thur, Nov 21	Work Day 4: Professional Speaking, Excel			1100-9: Campus Orientation
Tues, Nov 26	Work Day 5: Professional Engineering, Excel	Engr pg 32-34	<i>Prototype + Team Eval</i>	1201-18: Excel - Normalizing Data
Tues, Dec 3	Instructor Choice			1100-10: Reflection on Emotional Intelligence and Stress Management
Thu, Dec 5	Group Presentations		<i>Presentation + Team Eval</i>	
Tues, Dec 10	Final Exam (meet in S 131) T Th 9:35 class 9:35-11:35 am			
Thur, Dec 12	Final Exam (meet in S 131) T Th 8:00 class 8:00-10:00			

Course Grading Information:

Grade distribution	
Quizzes	5%
Homework	20%
Portfolio	20%
Group Project	20%
Tests	35%
Total	100%

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

Quizzes. There will be “names quizzes” every so often (see schedule), which are closed-notes, closed-book, and internet capable devices will not be allowed. You will be expected to know first and last names (and do your best on spelling). There will be at least five "pop" quizzes in addition to the names quizzes. Pop quizzes will be open-notes, closed book, and internet capable devices will not be allowed. If you are not in class for a quiz (including arriving late or leaving early) for any reason, you will get a zero for that quiz.

Homework. All homework assignments are available on Brightspace. In general, most assignments are due the next class period after they are assigned. The schedule shows the due dates for each assignment.

Engineering Success Portfolio. The purpose of this project is to help you get experience in a variety of ways that should be useful to you as you work toward becoming an engineer. You have a great deal of flexibility in what you choose to do – make this an assignment that matters. All relevant information can be found on Brightspace.

Group Design Project. You will need to complete a design project with a team. There will be a series of work days to work on your project with your group in class. You are expected to be present for the entire class period on these days. More details will be provided in class.

Tests. There will be three in-class formal exams covering material related to math and physics. The tests will be closed-notes, closed-book, and portions of the test may need to be completed without a calculator. Internet capable devices (phones, tablets, etc) will not be allowed. Two tests will be given during the regular semester and one will be given during the final exam time. The lowest test grade will be dropped.

Math Lab. Any student enrolled in this class has free access to the Math Lab, located in MATH 225. 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.

Smarthinking. This is your 24/7 online tutor, provided free by MCC. You can access to Smarthinking through Brightspace. They will help you with math, science, and writing, among

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other subjects. (Writing analysis will take 24 hours, so be sure to contact them with plenty of time!)

Learning Lab. The Learning Lab in the Science Building, room 135, has many reference books available, and you may find some success studying there. There are also five computers you can use to work on your homework. We do ask that if another engineering student needs to use a computer to work on Matlab that you relinquish your computer in a reasonable amount of time. Matlab is only available on a small number of campus computers, whereas your online homework can be done from any campus computer.

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.

Late Work, Attendance, and Make Up Work Policies:

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 miss something we do in class for a grade (test, homework, quiz, etc.), you will get a zero for that activity.

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.

Attendance is mandatory. ***Per MCC policy, you may be automatically dropped after missing 25% of class meetings, or 8 lectures.*** For this purpose, if you are not in class when roll is called, you are considered absent. You should still come to class even if you are going to be late, though, so as not to miss important information. If you are dropped before the official drop date, you will receive a grade of W.

If you wish to drop this class, you must email me from your MCC student account before 5 pm on the last day for student-initiated drops, with the request "Please drop me from COURSE ID and SECTION NUMBER." An email that says something like, "I would like to drop..." or, "I was thinking about dropping..." or, "I was wondering if I should drop..." will ***not*** be considered a drop request. (*Just like saying, "I would like to get married," does not mean anyone is going to automatically marry you.*) If the email does not come from your student account, or if the request is verbal, I cannot drop you. Alternatively, there is a form you can fill out and have me sign before 5 pm on the last day for student-initiated drops. (Make an appointment to ensure I am on campus to provide the signature). After submitting your request, you must verify the drop was processed, notifying me in writing within 48 hours of your original request if it was not. Otherwise, you will stay on the roster for the rest of the semester and be awarded the grade earned. Drops past the drop date are only done in documented, extreme, life-crisis circumstances, which usually involve withdrawing from school entirely.

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MCC allows for “excused” absences caused by (1) authorized participation in official College functions, (2) personal illness, (3) an illness or a death in the immediate family, or (4) the observance of a religious holy day. It is your responsibility to let me know the reason for an absence the day you return to campus and provide sufficient documentation (doctor’s note, email from coach, etc.).

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.)

Student Behavioral Expectations or Conduct Policy:

Students are expected to maintain classroom decorum that includes respect for other students and the instructor, prompt and regular attendance, and an attitude that seeks to take full advantage of the education opportunity.” MCC Student Handbook

- Cell phone usage, either voice or text, not directly pertaining to coursework will not be tolerated during class. The student will be asked to leave the classroom. This will result in a recorded absence for the class meeting.
- Computer usage, for academic or personal reasons, not directly pertaining to coursework will not be tolerated during class. The student will be asked to leave the classroom. This will result in a recorded absence for the class meeting.
- Listening to audio input (i.e. music/podcasts) not related to course material during lecture/presentations is unacceptable. The student will be asked to leave the classroom. This will result in a recorded absence for the class meeting.
- Food is not allowed in the classroom.
- Please do not bring young children with you to the classroom. While they are cute, they are also a distraction.
- The student must send all email messages to the instructor using their MCC provided student email account (firstinitiallastname@students.mclennan.edu). The instructor will send all emails to the students’ MCC email accounts. Students are expected to check their MCC student email accounts on a regular basis while enrolled in this course.
- Students who are having trouble with technology should contact the Tech Support at (254) 299- 8077 M-F 8:00 am to 5:00 pm or (254) 299-6202 after hours.

* **[Click Here for the MCC Academic Integrity Statement](http://www.mclennan.edu/academic-integrity)**
(www.mclennan.edu/academic-integrity)

The link above will provide you with information about academic integrity, dishonesty, and cheating. Any student that is found guilty of academic dishonesty such as cheating, plagiarism, or collusion, will receive a grade of zero for 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.

* **[Click Here for the MCC Attendance/Absences Policy](http://www.mclennan.edu/highlander-guide/policies)**
(www.mclennan.edu/highlander-guide/policies)

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Click on the link above for the college policies on attendance and absences. Your instructor may have guidelines specific to this course.

Accommodations/ADA Statement

Any student who is a qualified individual with a disability may request reasonable accommodations to assist with providing equal access to educational opportunities. Students should contact the Accommodations Coordinator as soon as possible to provide documentation and make necessary arrangements. Once that process is completed, appropriate verification will be provided to the student and instructor. Please note that instructors are not required to provide classroom accommodations to students until appropriate verification has been provided by the Accommodations Coordinator. Instructors should not provide accommodations unless approved by the Accommodations Coordinator. For additional information, please visit mclennan.edu/disability.

Students with questions or who require assistance with disabilities involving physical, classroom, or testing accommodations should contact:

disabilities@mclennan.edu

254-299-8122

Room 319, Student Services Center

* [Click Here for more information about Title IX](http://www.mclennan.edu/titleix)
(www.mclennan.edu/titleix)

We care about your safety, and value an environment where students and instructors can successfully teach and learn together. If you or someone you know experiences unwelcomed behavior, we are here to help. Individuals who would like to report an incident of sexual misconduct are encouraged to immediately contact the Title IX Coordinator at titleix@mclennan.edu or by calling Dr. Drew Canham (Vice President for Student Success) at 299-8645. Individuals also may contact the MCC Police Department at 299-8911 or the MCC Student Counseling Center at MCC by calling 299-8210. The MCC Student Counseling Center is a confidential resource for students.

McLennan's Title IX webpage (<http://www.mclennan.edu/titleix/>) contains more information about definitions, reporting, confidentiality, resources, and what to do if you or someone you know is a victim of sexual misconduct, gender-based violence or the crimes of rape, acquaintance rape, sexual assault, sexual harassment, stalking, dating violence or domestic violence.

* *You will need to access each link separately through your Web browser (for example: Internet Explorer, Mozilla, Chrome, or Safari) to print each link's information.*