McLennan
COMMUNITY
COLLEGE

WACO, TEXAS

COURSE SYLLABUS
AND
INSTRUCTOR PLAN

Introduction to Engineering

ENGR - 1201 - H1

Professor Laura E. Wright and Professor Paulina Sidwell

NOTE: This is a 16-week course.

NOTE: This is a Blended/Hybrid course.

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 2-3pm, T 2-3:30pm, Th 11am – 1pm, or by appointment

*I am not always able to check email or Slack during non-business hours. Please keep in mind that if you contact me during evenings or weekends, you may not receive a response until the next business day.

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

This class meets MW 9:35am – 10:30 am in S 214.

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!

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**
(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.

Additional requirements:
Students must have a reliable computer and internet connection. Students must be able to demonstrate basic computer literacy skills such as keyboarding, sending and receiving email, and using a web browser.

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. (Your classmates are a lot more likely to be up at 3 am doing homework than I am going to be checking email.) Always be respectful and professional in your participation.

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.

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)*
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. Any changes in this schedule will be announced in class, on Brightspace, or through email.

Date	Topic	Special Dates	HW Due
Mon, Jan 13	Introduction		
Wed, Jan 15	Electricity Generation Lab		HW 1
Mon, Jan 20	*Labor Day (no class)*		
Wed, Jan 22	Significant Digits, Rounding, and Scientific Notation	*Names Quiz*	HW 2
Mon, Jan 27	Unit Prefixes and Unit Conversions		HW 3
Wed, Jan 29	Careers in Engineering		HW 4
Mon, Feb 3	Solid Geometry and Right Triangles		HW 5
Wed, Feb 5	Polar Coordinates and Trigonometry		HW 6
Mon, Feb 10	Success in Academia, Portfolio		HW 7
Wed, Feb 12	Matrices, Matrix Algebra, and Systems of Equations		HW 8
Mon, Feb 17	Resumes and Behavioral Interviewing	*Names Quiz*	HW 9
Wed, Feb 19	---------- **Math Skills Test** ----------		
Mon, Feb 24	Intro to the Group Project		HW 10
Wed, Feb 26	Work Day 1: Practice with Microsoft Word		HW 11
Mon, Mar 2	Engineering Ethics	*Interviews Start*	HW 12
Wed, Mar 4	Work Day 2: Getting Started in Excel (GPA Calculator)		HW 13
Mar 9-13	*Spring Break (No Class)*		
Mon, Mar 16	Work Day 3: Grade Calculator	*Draft (Sec 2 - 5)*	HW 14
Wed, Mar 18	Work Day 4: Plotting in Excel		HW 15
Mon, Mar 23	Work Day 5: Normalizing Data in Excel		HW 16
Wed, Mar 25	Word Day 6: A Case Study in Excel	*Final Paper*	HW 17
Mon, Mar 30	**Group Presentations, Day 1**	*Prototype/Presentation*	HW 18
Wed, Apr 1	**Group Presentations, Day 2**	*Team Evaluations*	
Mon, Apr 6	Introduction to Vectors		
Wed, Apr 8	Doing More with Vectors	*First turn-in for portfolios*	HW 19
Mon, Apr 13	Introducing Current and Voltage	*Interviews done by Friday*	HW 20
Wed, Apr 15	Resistors		HW 21
Mon, Apr 20	Solving Circuits and Mesh Analysis		HW 22
Wed, Apr 22	Professional Engineering	*Names Quiz/Final Portfolios*	HW 23
Mon, Apr 27	---------- **Physics Skills Test** ----------		
Wed, Apr 29	Final Exam Review		
Wed, May 6	---------- **Final on Physics & Math 9:35 – 11:35** ---------		

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 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 reach 8 absences after the official drop date, you will not be dropped, rather, you will receive a grade of F, unless there are highly unusual circumstances.

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.

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 this educational opportunity.

*** Click Here for the MCC Academic Integrity Statement**

(www.mclennan.edu/academic-integrity)

The link above will provide you with information about academic integrity, dishonesty, and cheating.

*** Click Here for the MCC Attendance/Absences Policy**

(www.mclennan.edu/highlander-guide/policies)

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**

(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.

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