

McLennan C O M M U N I T Y C O L L E G E

WACO, TEXAS

COURSE SYLLABUS AND INSTRUCTOR PLAN

Introduction to Engineering

ENGR - 1201 – H4 and H52

Professor Laura Wright and Professor Paulina Sidwell

NOTE: This is a 16-week course.

NOTE: This is a 2-Way Blended/Hybrid course.

COVID 19 Notice:

McLennan Community College is committed to providing you with every resource you need to reach your academic goals. We are also concerned for your safety. We are working through COVID-19 guidelines to make sure we offer a safe environment for you and our faculty. This will include smaller class sizes to manage social distancing and proper cleaning techniques. You will have the advantage of a physical classroom experience but may also need to work part of the time online as we adjust to limited classroom capacity. This will also allow us the flexibility to move online if so directed by federal, state and/or local COVID 19 guidelines. Faculty and staff are preparing now to ensure that you have the best experience in the midst of these uncertain times.

Introduction to Engineering
ENGR – 1201 – H4 and H52

Course Description:

An introduction to the engineering profession with emphasis on technical communication and team-based engineering design. Introduces the field of engineering as a career to help students answer the question, "Do I want to be an engineer?" and to help students be successful academically and professionally in the engineering field. Semester Hours 2 (2 lec)

Prerequisites and/or Corequisites:

Prerequisite: Math 1314 with a minimum grade of C.

Instructor Information:

Instructor Name: Professor Laura Wright

MCC Email: lwright@mclennan.edu

Office Phone Number: 254-299-8419

Office Location: HP 230

Office/Teacher Conference Hours: M/W 2 pm to 4pm, T 3 pm to 4:30 pm (by appointment)

Zoom Meeting ID: 837-729-4618

Instructor Name: Paulina Z. Sidwell

MCC E-mail: psidwell@mclennan.edu

Office Phone Number: (424) 250 6102

Office Location: Online only, through ZOOM

Office/Teacher Conference Hours: T/Th/F 1 pm to 3 pm (by appointment)

Zoom Meeting ID: 424-250-6102

Section H4 meets Tuesdays, 1:15pm – 3:00pm
Section H52 meets Wednesdays, 6:00pm – 8:00pm

This is a 2-Way, Blended class. This means that we will meet online through Zoom at the times indicated above. You will not be required to attend every class meeting, however, there are some dates in which meetings will be mandatory. Please check the mandatory dates for your section below and contact Professor Wright *as soon as possible* if you have a known conflict for any of these dates.

Mandatory Meeting Dates:

Section H4 (Tuesday, 1:15-3 pm)	Section H52 (Wednesday, 6-8 pm)
Tuesday, September 22	Wednesday, September 23
Tuesday, October 20	Wednesday, October 21
Tuesday, December 8	Wednesday, December 9

Required Text & Materials:

- *An Introduction to Engineering* by April Andreas & Bernard Smith
- A scientific or graphing calculator that does exponents, logs, and trig functions).
- Two separate internet-enabled devices (ideally a computer and a smartphone or tablet) for use on test days.
 - One must have a camera and microphone, and be able to connect to Zoom (like most smart phones)
 - One must be able to run Respondus Lockdown Browser

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).

MCC Foundation Emergency Grant Fund

Unanticipated expenses, such as car repairs, medical bills, housing, or job loss can affect us all. Should an unexpected expense arise, the MCC Foundation has an emergency grant fund that may be able to assist you. Please go to <https://www.mclennan.edu/foundation/scholarships-and-resources/emergencygrant.html> to find out more about the emergency grant. The application can be found [here](https://www.mclennan.edu/foundation/docs/Emergency_Grant_Application.pdf) (https://www.mclennan.edu/foundation/docs/Emergency_Grant_Application.pdf).

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](https://www.mclennan.edu/center-for-teaching-and-learning/Faculty%20and%20Staff%20Commons/requirements.html)**
(<https://www.mclennan.edu/center-for-teaching-and-learning/Faculty%20and%20Staff%20Commons/requirements.html>)

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.

Email Policy:

McLennan Community College would like to remind you of the policy (<http://www.mclennan.edu/employees/policy-manual/docs/E-XXXI-B.pdf>) regarding college email. All students, faculty, and staff are encouraged to use their McLennan email addresses when conducting college business.

A student's McLennan email address is the preferred email address that college employees should use for official college information or business. Students are expected to read and, if needed, respond in a timely manner to college emails.

Instructional Uses of Email:

Faculty members can determine classroom use of email or electronic communications. Faculty should expect and encourage students to check the college email on a regular basis. Faculty should inform students in the course syllabus if another communication method is to be used and of any special or unusual expectations for electronic communications.

If a faculty member prefers not to communicate by email with her/his students, it should be reflected in the course syllabus and information should be provided for the preferred form of communication.

Email on Mobile Devices:

The College recommends that you set up your mobile device to receive McLennan emails.

Forwarding Emails:

You may forward the emails that come to your McLennan address to alternate email addresses; however, the College will not be held responsible for emails forwarded to an alternate address that may become lost or placed in junk or spam filters.

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.

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.

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 online video lecture and reading the textbook, 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. You should watch the associated videos and read the indicated pages in the textbook on or before the due date for each assignment, so that you have time to complete the assignment. This calendar is subject to change. In the event that I need to make changes to the schedule, I will send an email to the class via Brightspace as soon as I possibly can.

Date	Topic	What's due Sunday @ 11:59pm
Week 1 8/24-8/30	<ul style="list-style-type: none"> • Introduction • Success in Academia • Careers in Engineering 	<input type="checkbox"/> Watch Course Introduction Video <input type="checkbox"/> Quiz – Syllabus <input type="checkbox"/> Watch Success in Academia <input type="checkbox"/> Watch Careers in Engineering <input type="checkbox"/> HW 1 – Exploring Engineering
Week 2 8/31-9/6	<ul style="list-style-type: none"> • Significant Digits • Engineering Rounding • Scientific Notation • Unit Prefixes • Unit Conversions 	<input type="checkbox"/> Watch Significant Digits <input type="checkbox"/> Watch Engineering Rounding <input type="checkbox"/> Watch Scientific Notation <input type="checkbox"/> Watch Unit Prefixes <input type="checkbox"/> Watch Unit Conversions <input type="checkbox"/> HW 2a – Sig Figs, Rounding and Sci Notation <input type="checkbox"/> HW 2b – Units and Conversions
Week 3 9/7-9/13	<ul style="list-style-type: none"> • Solid Geometry • Right Triangles • Polar Coordinates 	<input type="checkbox"/> Watch Solid Geometry <input type="checkbox"/> Watch Right Triangles <input type="checkbox"/> Watch Polar Coordinates <input type="checkbox"/> Watch Trigonometry

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	<ul style="list-style-type: none"> • Trigonometry 	<input type="checkbox"/> HW 3a – Geometry and Right Triangles <input type="checkbox"/> HW 3b – Polar and Trig
Week 4 9/14-9/20	<ul style="list-style-type: none"> • Introduction to the Portfolio • Matrices • Systems of Equations 	<input type="checkbox"/> Watch Portfolio Requirements <input type="checkbox"/> Quiz – Portfolio Requirements <input type="checkbox"/> Watch Matrices <input type="checkbox"/> Watch Systems of Equations <input type="checkbox"/> HW 4 – Matrices and Systems of Equations
Week 5 9/21-9/27	<ul style="list-style-type: none"> • Resumes and Behavioral Interviewing • Math Skills Test: <ul style="list-style-type: none"> ○ Section H4 – Tuesday, 9/22 @1:15-2:15 pm ○ Section H52 – Wednesday, 9/23 @6-7pm 	<input type="checkbox"/> Watch Resumes <input type="checkbox"/> Watch Behavioral Interviewing <input type="checkbox"/> HW 5 – Create your Resume <input type="checkbox"/> Take Math Skills Test: <ul style="list-style-type: none"> ○ Section H4 – Tuesday, 1:15-2:15 pm ○ Section H52 – Wednesday 6-7pm
Week 6 9/28-10/4	<ul style="list-style-type: none"> • Introduction to Vectors • Adding Vectors 	<input type="checkbox"/> Watch Introduction to Vectors <input type="checkbox"/> Watch Resolving Vector Components <input type="checkbox"/> Watch Adding Vectors – Graphical Method <input type="checkbox"/> Watch Adding Vectors – Component Method <input type="checkbox"/> HW 6a – Vectors Part 1 <input type="checkbox"/> HW 6b – Vectors Part 2
Week 7 10/5-10/11	<ul style="list-style-type: none"> • Current and Voltage • Resistors 	<input type="checkbox"/> Watch Current and Voltage <input type="checkbox"/> Watch Kirchhoff's Current Law <input type="checkbox"/> Watch Kirchhoff's Voltage Law <input type="checkbox"/> Watch Resistors <input type="checkbox"/> HW 7a – Current and Voltage <input type="checkbox"/> HW 7b – Resistors
Week 8 10/12-10/18	<ul style="list-style-type: none"> • Series and Parallel Circuits • Mesh Analysis 	<input type="checkbox"/> Watch Series Circuits <input type="checkbox"/> Watch Parallel Circuits <input type="checkbox"/> Watch Combination Circuits <input type="checkbox"/> Watch Mesh Analysis <input type="checkbox"/> HW 8 – Solving Circuits and Mesh Analysis
Week 9 10/19-10/25	<ul style="list-style-type: none"> • Physics Skills Test – <ul style="list-style-type: none"> ○ Section H4 – Tuesday, 10/20 @1:15-2:15 pm 	<input type="checkbox"/> HW 9 – Team Survey <input type="checkbox"/> Take Physics Skills Test: <ul style="list-style-type: none"> ○ Section H4 – Tuesday, 1:15-2:15 pm ○ Section H52 – Wednesday 6-7pm

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	<ul style="list-style-type: none"> ○ Section H52 – Wednesday, 10/21 @6-7pm 	
Week 10 10/26-11/1	<ul style="list-style-type: none"> • Introduction to the Group Project • Practice with Microsoft Word 	<ul style="list-style-type: none"> <input type="checkbox"/> Watch Group Project <input type="checkbox"/> Watch Importance of Word <input type="checkbox"/> Group Project requirements quiz <input type="checkbox"/> HW 10a – Basics of Word <input type="checkbox"/> HW 10b – Create Your Team Identity
Week 11 11/2-11/8	<ul style="list-style-type: none"> • Engineering Ethics • Getting Started in Excel 	<ul style="list-style-type: none"> <input type="checkbox"/> Watch Engineering Ethics <input type="checkbox"/> Watch Excel video <input type="checkbox"/> HW 11a – Engineering Ethics <input type="checkbox"/> HW 11b – GPA Calculator <input type="checkbox"/> Portfolio First Turn-In
Week 12 11/9-11/15	<ul style="list-style-type: none"> • Excel – Grade Calculator • Plotting in Excel 	<ul style="list-style-type: none"> <input type="checkbox"/> HW 12a – Grade Calculator <input type="checkbox"/> HW 12b – Excel Plots <input type="checkbox"/> Group Project – First draft due <input type="checkbox"/> Team Evaluation #1 <input type="checkbox"/> Portfolio Interview and Advising deadline
Week 13 11/16-11/22	<ul style="list-style-type: none"> • Normalizing Data in Excel • A Case Study in Excel 	<ul style="list-style-type: none"> <input type="checkbox"/> HW 13a – Normalizing Data in Excel <input type="checkbox"/> HW 13b – A Case Study in Excel <input type="checkbox"/> Portfolio Final Turn-In
Week 14 11/23-11/29	<ul style="list-style-type: none"> • Professional Speaking 	<ul style="list-style-type: none"> <input type="checkbox"/> Watch Professional Speaking <input type="checkbox"/> Watch How to Create a Video Presentation <input type="checkbox"/> Group Project – Final Draft due <input type="checkbox"/> Team Evaluation #2
Week 15 11/30-12/6	<ul style="list-style-type: none"> • Professional Engineering • Group Presentations Due 	<ul style="list-style-type: none"> <input type="checkbox"/> Watch Professional Engineering <input type="checkbox"/> HW 14 – Professional Engineering <input type="checkbox"/> Group Project – Presentation due
Week 16 Final Exam	Final Exam <ul style="list-style-type: none"> ○ Section H4 – Tuesday, 12/8 @1:00 – 3:00 pm ○ Section H52 – Wednesday, 12/9 @6:00 – 8:00 pm 	

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 several quizzes throughout the semester. Quizzes will not be proctored. You will be allowed several attempts at each quiz. You may use your book, notes, etc. See Calendar for Quiz due dates. Additionally, you may be asked to turn in your notes from lecture for a quiz grade.

Homework. All homework assignments are available on Brightspace. Assignments are typically due on Sundays at 11:59 pm. The course calendar 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. You are expected to meet and communicate with your team online, via Zoom, Slack, etc. More details will be provided in class.

Tests. There will be three in-class formal exams covering material related to math and physics. Tests will be live-proctored over Zoom at a specific date and time, as marked on the course calendar. 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, except for proctoring purposes. 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.

- In order to take the test, there are some procedures you will need to follow:
 - You will need two internet-capable devices on the test day.
 - A phone – to log into Zoom
 - A computer/laptop – to log into Brightspace
 - On your phone: You'll join the class Zoom channel so I can proctor the exam.
 - Be ready to present your student ID (or another form of ID if you don't have one) so we can verify your identity).
 - I will need to watch you for the entire time you're taking the exam.
 - You can mute your mic, but not your video.

- Your camera on your phone needs to be arranged so I can see you and your workspace.
- I will record the Zoom meeting in case there are questions related to academic integrity, but will not post the video.
- On your computer/laptop
 - Prior to the day of the exam, you will need to complete the Technology Check to make sure you have Respondus Lockdown Browser working on your machine.
 - The test is password protected – you cannot get the password without joining the Zoom meeting.
- Other important info:
 - The test dates are listed in the syllabus.
 - Please clear your schedule now as there will be no makeup exam except in cases where you can provide documentation of an MCC-approved absence.
 - Make sure you have a technology backup plan (like how to use your phone as a wifi hotspot) in case something goes wrong.
 - Try and get a distraction-free zone for testing, but we understand that things happen. Avoid a situation where someone could make the argument that you are getting unauthorized help on the exam from someone else.

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:

As per McLennan Community College's attendance policy, regular and punctual attendance is expected of all students. Students, whether present or absent, are responsible for all material presented, assigned, or due in class and will be held accountable for such materials in the determination of course grades. Absence from more than 25 percent of scheduled lecture meetings will be taken as evidence that a student does not intend to complete the course. The student will be withdrawn with a grade of "W." If a student reaches the 25 percent absences after the official drop date, the instructor may assign a "W" or an "F" depending upon the student's academic performance at the time of the decision.

Attendance is mandatory. Since this is a 2-way blended course, we will use your completion of assignments, Tests, the Portfolio, your participation in the Group Project, and Exam as an indication that you plan to continue in the course. Any unattempted assignment, test, or exam will count as one absence. Even if you do not have time to complete an entire assignment, you

must still log into the system and complete at least one question or partial assignment in order to be counted as “Present” for attendance purposes.

Per MCC policy, you may be automatically dropped from ENGR 1200 after missing 25% of class work, or missing any combination of assignments, tests, Portfolio, or the final exam.

You are encouraged to keep track of your attendance in ENGR 1201 by checking your attendance rate in Brightspace under Assessments> Grades.

No late work will be accepted. However, in certain circumstances students will be permitted to make up classwork and assignments due to absences caused by authorized participation in official college functions, personal illness, an illness or death in the immediate family, or the observance of a religious holiday. It is the student’s responsibility to inform the instructor of the reason for the absence, to provide proper documentation for the absence, and to do so in a timely fashion, i.e. the first class activity after the absence. All “late” assignments need to be submitted with documentation for the absence by 12/07/2020.

The assignments due in this course are to be turned in via Brightspace prior to the date and time noted on the calendar.

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

- Students are expected to attempt or complete all graded assignments (assignments, tests, Portfolio Foundations for Success Meeting and Portfolio submission, and final exam) to establish attendance rates for the course.
- Students are expected to watch the assigned course videos, complete meetings, and submit assignments for grading as noted in the calendar.
- Students are expected to take Test 1, Test 2, and Final Exam (if applicable) during the regular scheduled class time via Zoom and Brightspace. If you are unable to take the assessment during the scheduled time, it is your responsibility to contact your instructors in a timely manner to reschedule, provided you have documentation for the absence.
- The student must send all email messages to the instructor using their MCC provided student email account (firstinitiallastinitialstudentIDnumber@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 timely basis (i.e. daily) 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](#)**

(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](#)**

(<https://www.mclennan.edu/highlander-guide/policies.html>)

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. Any student or employee may report sexual harassment anonymously by visiting the following website: <http://www.lighthouse-services.com/mclennan/>.

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.*