

Updated 07/18/2023



WACO, TEXAS

**COURSE SYLLABUS
AND
INSTRUCTOR PLAN**

Introduction to Engineering

ENGR – 1201 – B050

Professor Laura E. Wright

NOTE: This is a 16-week course.
NOTE: This is a Blended/Hybrid course.

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@mcclennan.edu (preferred method of contact/fastest response)

Office Phone Number: 254-299-8419

Office Location: S 246 or Zoom Meeting ID: 837-729-4618

Office/Teacher Conference Hours:

- Mondays: 10:30-11am, 3:15-5pm
- Tuesdays: 11am–1pm
- Wednesdays: 10:30-11am
- Other times available by appointment only

Note: Please email me first if you need to meet over Zoom rather than in person so that I can make sure I'm logged in

I generally try to answer emails, calls, and Slack messages as quickly as possible. However, please give me at least 24 hours to respond. Emails/calls/messages sent on weekends or holidays may not receive a response until the following business day.

This course meets every Tuesday from 6pm – 7:45pm in Science Rm 214

Required Text & Materials:

- *An Introduction to Engineering* by April Andreas & Bernard Smith
- A scientific or graphing calculator that does exponents, logs, and trig functions.
- A computer with:
 - Reliable internet access
 - Camera and microphone for Zoom

- Microsoft Office (free for MCC students, can download here: <https://www.mclennan.edu/tech-support/services.html> and scroll down to Microsoft Office 365, follow directions for download)

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

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.

Methods of Teaching and Learning:

Students will learn through lectures and reading the textbook, as well as through independent research, and work on homework, quizzes, exams, lab exercises, a mock interview, and group projects which include a written paper and formal presentation. 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. Describe 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 designed to expose students to the different engineering disciplines.
5. Describe 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.

Course Attendance/Participation Guidelines:

If a student is not in attendance in accordance with the policies/guidelines of the class as outlined in the course syllabus as of the course census date, faculty are required to drop students from their class roster prior to certifying the respective class roster. A student's financial aid will be re-evaluated accordingly and the student will only receive funding for those courses attended as of the course census date.

Before the 60% point of the semester, a student who is absent for 25% or more of a face-to-face or blended course or who misses 25% or more of assigned work for an online course will be withdrawn from the course with a grade of W. A student may also request to be withdrawn with a grade of W before the 60% point of the semester. After the 60% point of the semester, the student may request to be withdrawn if the student is passing, or be assigned the final grade earned at the end of the semester after grades have been updated to reflect missing work.

Introduction to Engineering

ENGR 1201 B050

Attendance will be taken during every class meeting. If you are not in class when attendance is taken, you will be marked absent, regardless if you show up later in the class period. In addition, if you leave class before you are officially dismissed, you may be marked absent. For this class, which meets weekly, 25% of the class is four class meetings. If you reach four absences, the above withdrawal rules apply.

Course Outline or Schedule:

You are responsible for everything listed in the detailed calendar below. 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.

Starting	Week #	Topics	Due Sunday by 11:59 pm
8-Jan	Week 1	Introduction to the Course What is engineering?	Basic Skills A: Refresher Concept Inventory Test HW 1: Getting to Know You survey HW 2: Exploring Engineering
15-Jan	Week 2	Succeeding as an engineering student (PYP) Why Professional Skills Matter	Basic Skills B: Number Basics Remediation HW 3: PYP Check HW 4: Create your LinkedIn Profile
22-Jan	Week 3	Application Process Training (APT)	Basic Skills C: Algebra Basics Remediation HW 5: Vocabulary Review HW 6: APT Basics
29-Jan	Week 4	Significant Figures, Scientific Notation, & Rounding Resumes and Interviewing Quiz 1: Names Quiz	Basic Skills D: Geometry Basics Remediation HW 7: Sig Figs, Scientific Notation, & Rounding HW 8: Resumes Dos and Don'ts
5-Feb	Week 5	Unit Conversions Word - Design Document Practice Quiz 2: Vocabulary Review	HW 9: Unit Conversions HW 10: Basics of Word
12-Feb	Week 6	Pythagorean Triples, Special Triangles, Degrees & Radians Word - Resume Formatting	HW 11: Pythagorean Triples, Special Triangles, Degrees & Radians HW 12: Word - Resume Formatting *Pick Your Path Grade Goes Into Effect

Introduction to Engineering

ENGR 1201 B050

19-Feb	Week 7	Trig Definitions & the Unit Circle Excel - GPA Calculator Quiz 3: Names Quiz	APT part A: First Draft of Resume HW 13: Trig Definitions & the Unit Circle HW 14: Excel - GPA Calculator
26-Feb	Week 8	Solving Problems with Trig Excel - Grade Estimator	APT part B: Schedule Mock Interview HW 15: Solving Problems with Trig HW 16: Excel - Grade Estimator
<i>No Class – Spring Break March 4-8</i>			
11-Mar	Week 9	Polar Coordinates Excel - Spring Constant (Plotting)	APT part C: Second Draft of Resume HW 17: Polar Coordinates HW 18: Excel - Spring Constant
18-Mar	Week 10	Graphing Vectors Excel - Normalizing Data Quiz 4: Unit Circle	APT part D: Practice Interview with Partner HW 19: Vector Graphing & Basics HW 20: Excel - Normalizing Data
25-Mar	Week 11	Vector Math Excel - Case Study	HW 21: Vector Math HW 22: A Case Study in Excel
1-Apr	Week 12	Intro to the Project Academic Skills Test	HW 23: Group Identity HW 24: Group Project Basics
8-Apr	Week 13	Prof Engr Licensure (online) Group Project Work Day 1	Group Project Report Draft: Section 2 through 5 HW 25: Professional Engineering
15-Apr	Week 14	Ethics Group Project Word Day 2 Quiz 5: Names Quiz	HW 26: Ethics PYP: All items must be submitted by 4/21
22-Apr	Week 15	Presentation Skills & PowerPoint Bingo Group Project Work Day 3	APT part E: Mock Interview due by 4/26 Group Project Final Report (all sections)
29-Apr	Finals Week	Project & Prototype Presentation	

The final exam is Tuesday, April 30 @ 6pm – 8pm in Science 214

Course Grading Information:

Grade distribution	
Basic Refresher / Remediation	5%
Quizzes	5%
Homework	20%
Pick Your Path	20%
Group Design Project	20%

Academic Skills Test	15%
Application Process Training	15%
Total	100%

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

Basics Refresher: An assessment of basic geometry and algebra skills will be given the first week. There are three primary categories.

- Solid geometry and triangles
- Averages, significant figures, scientific notation, unit prefixes
- Factoring and solving linear, quadratic, and rational equations

If you earn an 85% or higher in a category, you will automatically get 100% on the remediation portion for that category. Otherwise, you will need to do remediation, which requires meeting with the Supplemental Instructor to go over the material. You must complete the remediation activities before 11:59 pm on the dates posted in the syllabus. See Brightspace for more details.

Quizzes: There will be five quizzes spread throughout the semester. The quizzes may occur at any point during the class period. Students that are not present at the start of the quiz will receive a zero. See course calendar for quiz dates.

Homework: All homework assignments are available on Brightspace. All homework assignments are due the Sunday at 11:59 pm (at the end of each Week). You will typically have more than one assignment due each Sunday. Check the schedule to see what is due.

Pick Your Path (PYP): This assignment aims 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.

Application Process Training (APT): The purpose of this portion of the course will be to prepare you for engineering job applications. It includes the creation of an engineering resume and a mock interview with the professor. All relevant details will be discussed in class and be found on Brightspace.

Academic Skills Test: There will be one test over all the academic skills topics covered in Weeks 5 through 11. The test 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.

Ways to get academic support for this class:

Supplemental Instruction: This course has been assigned a Supplemental Instructor, who will be holding SI meetings a few times each week. The purpose of these meetings is to complement the course and provide help with course topics and assignments. SI Meetings can be attended in person or via Zoom. More information will be provided in class.

Homework Nights: The Engineering & Physics Club will be holding bi-weekly Homework Nights on campus throughout the semester. This is a great opportunity to meet with other students and meet with an engineering tutor (or SI) to get help with class assignments.

Math Lab: Any student enrolled in this class has free access to the Math Lab, located in the Learning Commons (LTC Building). You can find their contact information and hours of operations here: <https://www.mclennan.edu/math-lab/>

Academic Dishonesty: Any student that is found guilty of academic dishonesty, such as cheating, plagiarism, or collusion, will receive a 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 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 4 lectures.** For this purpose, missing more than 15 minutes of any class will be considered an absence. If you are dropped before the official drop date, you will receive a grade of W. If you reach 4 absences after the official drop date, you will not be dropped, rather, you will automatically receive a grade of F, unless there are highly unusual circumstances.

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.).

Drop Policy (student-requested): The last date for student-initiated withdrawals from this course is **Thursday, March 21 before 5pm**. If you wish to withdraw from this course to receive a grade of “W,” you must send me an email from your MCC student account stating, very clearly, “Please withdraw me from ENGR-1201-B050.” If your language is vague, or if the request comes from any form of communication other than your MCC student email account, I cannot drop you. Once you are dropped, it is very difficult to reinstate you, so please make sure you are certain you wish to drop before making the request. Any drop requests received after 5pm on March 21 will only be done in extreme, life-changing circumstances that usually involve withdrawing from MCC entirely.

Drop Policy (due to absences): According to MCC policy, you are not eligible to receive credit for the course if you miss 25% of class time, which for this course, is 4 class sessions worth of absences (consecutive or non-consecutive).

- *If the 4th absence occurs on or before the drop date of March 21, you will be automatically withdrawn from the course and receive a grade of “W.”*
- *If the 4th absence occurs after March 21, you will not be withdrawn. However, you will receive an automatic grade of “F” for the course, and no assignments submitted after the date of the 4th absence will be graded.*

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 Attendance/Absences Policy](https://www.mclennan.edu/highlander-guide/policies.html)

(<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 additional guidelines specific to this course.

10/09/2023



ACADEMIC RESOURCES/POLICIES

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. For additional information, please visit www.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

Title IX:

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. Claudette Jackson, (Accommodations/Title IX) at (254) 299-8465. MCC employees are mandatory reporters and must report incidents immediately to the Title IX Coordinator. Individuals may also contact the MCC Police Department at (254) 299-8911 or the MCC Student Counseling Center at (254) 299-8210. The MCC Student Counseling Center is a confidential resource for students. Any student may report sexual harassment anonymously by visiting <http://www.lighthouse-services.com/mclennan/>

Additionally, Title IX provides rights and protections for pregnant and newly parenting students. Go to McLennan's Title IX webpage at www.mclennan.edu/titleix/. It 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.

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/>

Academic Support and Tutoring is here to help students with all their course-related needs. Specializing in one-on-one tutoring, developing study skills, and effectively writing essays. Academic Support and Tutoring can be found in the Library and main floor of the Learning Commons. This service is available to students in person or through Zoom. You can contact the Academic Support and Tutoring team via Zoom or email (ast@mclennan.edu) by going to our website (<https://www.mclennan.edu/academic-support-and-tutoring/>)

College personnel recognize that food, housing, and transportation are essential for student success. If you are having trouble securing these resources or want to explore strategies for balancing life and school, we encourage you to contact either MCC CREW – Campus Resources Education Web by calling (254) 299-8561 or by emailing crew@mclennan.edu or a Success Coach by calling (254) 299-8226 or emailing success@mclennan.edu.

Paulanne's Pantry (MCC's food pantry) provides free food by appointment to students, faculty and staff. To schedule an appointment, go to <https://calendly.com/paulannespantry-mcc/15min>.

The CREW, Success Coaches, and Paulanne's Pantry are all located on the second floor of the Student Services building in Success Coaching Services.

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 at https://www.mclennan.edu/foundation/docs/Emergency_Grant_Application.pdf

MCC Academic Integrity Statement:

Please view our [Academic integrity statement](#) for more information about academic integrity, dishonesty, and cheating. The unauthorized use of artificial intelligence (AI) for classwork can be a violation of the College's General Conduct Policy. Whether AI is authorized in a course and the parameters in which AI can be used in a course will be outlined by each instructor.

Minimum System Requirements to Utilize MCC's D2L|Brightspace:

Go to <https://www.mclennan.edu/center-for-teaching-and-learning/Faculty-and-Staff-Commons/requirements.html> for information on the minimum system requirements needed to reliably access your courses in MCC's D2L|Brightspace learning management system.

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 notified via 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.

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. For more information about your student email account, go to www.mclennan.edu/studentemail.

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 their 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. If you need assistance with set-up, you may email Helpdesk@mclennan.edu for help.

You can find help on the McLennan website about connecting your McLennan email account to your mobile device:

- [Email Setup for iPhones and iPads](#)
- [Email Setup for Androids](#)

Forwarding Emails:

You may forward 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 be lost or placed in junk or spam filters.

For more helpful information about technology at MCC, go to [MCC's Tech Support](#) or email helpdesk@mclennan.edu.

Disclaimer:

The resources and policies listed above are merely for informational purposes and are subject to change without notice or obligation. The College reserves the right to change policies and other requirements in compliance with State and Federal laws. The provisions of this document do not constitute a contract.