



WACO, TEXAS

**COURSE SYLLABUS
AND
INSTRUCTOR PLAN**

ENGINEERING GRAPHICS I

ENGR – 1304 – O080

PAULINA Z. SIDWELL

NOTE: This is a 16-week course.

NOTE: This is an Online course.

Course Description:

Introduction to computer-aided drafting using CAD software and sketching to generate two- and three-dimensional drawings based on the conventions of engineering graphical communication; topics include spatial relationships, multi-view projections and sectioning, dimensioning, graphical presentation of data, and fundamentals of computer graphics.

This is an ONLINE course. This means that there will be no synchronous class meetings. All course materials will be delivered online. This course will cover the same material in quantity and rigor as the equivalent face-to-face version of the class.

Prerequisites and/or Corequisites:

Math 1314 – College Algebra or equivalent preparation.

Instructor Information:

Instructor Name: Paulina Z. Sidwell

MCC E-mail: psidwell@mclennan.edu

Office Phone Number: (254) 299 8544

Office Location: SB144

Office/Teacher Conference Hours: Mon/Wed 11:00 to 1 pm (on campus); Tues/Thurs 11:00 am to 1:00 pm (online only via Zoom, Meeting ID 4242506102); Fridays by appointment only.

Make appointments here: <https://calendly.com/psidwell>

Required Text & Materials:

Required:

- SolidWorks 2023 Tutorial, by Planchard, SDC Publications. ISBN: 978-1-63057-556-4
- Digital Calipers

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

Additional Requirements:

Students must have a reliable computer and internet connection. Students will be given a free copy of SolidWorks to be downloaded on their personal computers. Students should check the minimum requirements for Solidworks by visiting the website:

<https://www.solidworks.com/sw/support/SystemRequirements.html>

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. 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:

This course combines online videos and asynchronous online activities. Students will learn through lecture and reading the textbook, as well as through independent research, and work on homework, lab exercises, and group projects, which include formal recorded presentations. 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. Discuss the basic steps in the design process. (*group work*)
2. Demonstrate proficiency in freehand sketching. (*all sketching assignments*)
3. Demonstrated proficiency in geometric modeling and computer aided drafting and design (CADD). (*all work*)

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4. Communicate design solutions through sketching and computer graphics software using standard graphical representation methods. (*group work*)
5. Solve problems using graphical geometry, projection theory, visualization methods, pictorial sketching, and geometric (solid) modeling techniques. (*all work*)
6. Demonstrate proper documentation and data reporting practices. (*group work*)
7. Complete a project involving creation of 3D rapid prototype models. (*group work*)
8. Function as part of a design team as a team leader and as a team member. (*group work*)

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 (***for Spring 2024, it is March 21***), 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.

Course Outline or Schedule:

You are responsible for everything listed in the detailed calendar below. Refer to the Course Objectives above to see how they relate to assessments and assignments. Any changes in this schedule will be announced in class, on Brightspace, or through email.

Date	Topics	Due Monday at 11:59 pm
Week 1 Jan 8 – Jan 15	Introduction to the Course What is Engineering Graphics Basics of Sketching and Lettering Orthographic Projections Spatial Visualization	Watch the Course Orientation Video Watch Importance of Engineering Graphics Watch Sketching and Lettering Watch Orthographic Projections Watch Intro to Spatial Visualization Complete the Orientation Quiz Complete the Getting to Know You Survey Complete the Spatial Visualization Assessment Submit Sketching Exercise 1 Complete the Introduction Discussion Board

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Week 2 Jan 16 – Jan 22	Pictorials Oblique and Isometric Projections Dimensions and Tolerances How to Download Solidworks 2023	Watch Oblique and Isometric Projections Watch From Orthographic to Isometric Watch Dimensioning Watch Tolerances Download Solidworks 2023 Submit Sketching Exercise 2 Submit Sketching Exercise 3 Design Project Teams Survey
Week 3 Jan 23 – Jan 29	Sectional and Auxiliary Views Intro to the Design Projects Design Project 1 Intro to CAD	Watch Sectional and Auxiliary Views Watch Design Projects Overview Watch Tracking Your Project's Progress Watch Design Project 1 Watch Overview of Solidworks Submit Sketching Exercise 4 Submit the DP1 Start files
Week 4 Jan 30 – Feb 5	Basic Solidworks Skills Linear Patterns Sketch Tools and Loft Features Reference Geometry Sketch Relations Basics of 3D Printing	Watch Six-Sided Die Watch 4 by 2 Lego Watch D4 Loft Method Watch D4 Reference Geometry Watch 3D Printing Tutorial Submit the Basic Solidworks Skills files Submit the Lofts and Ref Geo files Complete the 3D Printing Assessment
Week 5 Feb 6 – Feb 12	Rotating Solids Basics of Solidworks Drawing Basics of Solidworks Assemblies	Watch Lightbulb Watch Lego Drawings in SW Watch Lego Assembly in SW Watch Pack & Go Lego Submit the Lightbulb and Bowling Pin files Submit the Lego DWG and Lego ASSM files Submit the DP1 Progress Report
Week 6 Feb 13 – Feb 19	Design Project 1 Due	Watch Design Project Presentations Watch How to Record Your Team Presentation on Zoom Submit DP1 files, including link to presentation
Week 7 Feb 20 – Feb 26	The Design Process Design Project 2 Chapter 2: Basic Features (Review)	Watch Design Project 2 Watch How to Use Your Textbook Watch Chapter 2 Submit Chapter 2 Exercise files Submit Design Project 2 Start files Submit DP1 Post-Project Debrief Submit Self and Peer Evaluation (due Thursday) Submit Feedback for Other Teams (due Thursday)

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Week 8 Feb 27 – Mar 11	Chapter 3: More Solidworks Skills	Watch Chapter 3 Submit Chapter 3 Exercise files
Week 9 Mar 12 – Mar 18	Chapter 4: Fundamentals of Solidworks Drawings	Watch Chapter 4 Submit Chapter 4 Exercise files Submit DP2 Progress Report
Week 10 Mar 19 – Mar 25	Design Project 2 Due	Submit DP2 files, including link to presentation
Week 11 Mar 26 – Apr 1	Design Project 3 Chapter 5: Advanced Features	Watch Design Project 3 Watch Chapter 5 Submit Self and Peer Evaluation (due Thursday) Submit Feedback for Other Teams (due Thursday) Submit Design Project 3 Ideas by Thursday Submit Design Project 3 Start files Submit DP2 Post-Project Debrief Submit Chapter 5 Exercise files
Week 12 Apr 2 – Apr 8	The CSWA Chapter 7: Drafting Competencies Chapter 8: CSWA Basic/Intermediate Part Creation and Modification	Watch The CSWA Watch Drafting Competencies Watch Chapter 8 Submit Chapter 8 Exercise files
Week 13 Apr 9 – Apr 15	Chapter 9: CSWA Advanced Part Creation and Modification Chapter 10: CSWA Assembly Creation and Modification	Watch Chapter 9 Watch Chapter 10 Submit Chapter 9 Exercise files Submit Chapter 10 Exercise files Submit DP3 Progress Report Submit the DP3 Poster Draft
Week 14 Apr 16 – Apr 22	Design Project 3 Due	Submit DP3 files, including link to presentation
Week 15* Apr 23 – Apr 28 <small>*Note: All assignments in this module are due Sunday</small>	Practice CSWA Final Spatial Visualization Assessment	Watch Practice CSWA Instructions Submit Extra Credit Assignment (optional) Submit Self and Peer Evaluation (due Thursday) Submit Feedback for Other Teams (due Thursday) Submit DP3 Post-Project Debrief Complete the Practice CSWA – <i>this is a prerequisite to take the CSWA</i> Complete the Final Spatial Visualization Assessment
Finals Week	Final Exam: CSWA	Take the CSWA by Wed, May 1 st at 11:59 pm Submit all CSWA files

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Course Grading Information:

Grade Component	Percentage
Homework	40%
Design Projects (3 @ 13.33% each)	40%
Design Project Leader	10%
CSWA Exam	10%
Total	100%

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

Homework. All homework assignments will be due at the end of each Module (“Week”) on Monday, at 11:59 pm. All assignments must be turned in via Brightspace. In the case of pencil-and-paper worksheets, these must be scanned and uploaded using a real scanner or a scanner app such as CamScanner or Scannable. It is your responsibility to keep up with due dates, which are found on this instructor plan and on Brightspace.

Design Projects. One critical requirement for this course is for you to function as both a leader and team member during group design. You will be assigned groups of three people. Each team will select a leader for each design project. ***Every person must serve as a leader at least once, and the score your team earns when you are the leader will count for an additional 10% of your final grade.*** Each project will have a mandatory recorded presentation, for which you must meet with your teammates via Zoom. More details on this and other matters will be given in each Design Project description. Grading criteria for each Design Project will vary by project.

CSWA Exam: Your “final exam” in this class will be to take the Certified SolidWorks Associate Exam. Passing the test will earn you your first SolidWorks certification. We will do a practice test and spend several modules reviewing for the test. If you are interested in taking further certification exams, please let me know. The CSWA is three hours long and will be taken online. Details about how this will occur will be discussed as the date nears.

Technology Help Desk. The Information Systems and Services (ISS) team offers a wide range of support mechanisms for the user community at McLennan Community College. If you are having trouble or have a question regarding technology for this class, you can call 254.299.8077 or email helpdesk@mclellan.edu. You can also visit room 100 in the LTC. They are open 8:00 am to 5:00 pm.

Supplemental Instruction (SI). A Supplemental Instructor will be available for this course. SI sessions will occur on a weekly basis. There are times in which attending an SI session or meeting with SI leader will be mandatory. Their objective is to provide students with additional opportunities to reinforce topics covered during class time. More information will be provided in class.

Academic Dishonesty. Submitting work that is not your own is cheating. In this class, you will be submitting many assignments involving SolidWorks files. Sharing files is considered cheating, as is copying files from those provided online by the publisher or from another source. There are simple ways to find if a file that is submitted at some point belonged to another student or someone else. If a file not belonging to the student that submitted the assignment is found, ALL involved students will receive a zero for the entire assignment. If this happens a second time, students will receive a failing grade for the course. Additionally, submitted work completed by you for this or another class in the past is also considered academic dishonesty. In general, any student found guilty of academic dishonesty, such as cheating, plagiarism, or collusion, will receive a zero 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.

Academic Resources. The Engineering & Physics Club has regularly scheduled Homework Nights to assist students who need help with their engineering coursework. Free tutoring will be provided. Zoom and in-person options will be available. Please check Slack for time, location and/or Zoom link.

Late Work, Attendance, and Make Up Work Policies:

Attendance is mandatory and will be based on the completion of course activities. There are one or more assignments due each week. You will receive an absence for every week in which no assignments are turned in. No late work will be accepted unless it is under circumstances previously discussed with the instructor and those involving Supplemental Instruction. MCC allows for “excused” absences under these circumstances: authorized participation in official College functions; personal illness, or the illness of a dependent (such as a child) that requires the student to serve as a caretaker; an illness or a death in the immediate family; the observance of a religious holy day. Additionally, accommodations can be made for special circumstances related to military service, changes in immigration status, pregnancy and parenting protection under Title IX. It is your responsibility to let me know the reason for an absence the day you are

able to resume working on the class and provide sufficient documentation (doctor's note, email from coach, etc.).

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.” 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). Drops past the drop date are only done in documented, extreme, life-crisis circumstances, which usually involve withdrawing from school entirely.

Student Behavioral Expectations or Conduct Policy:

Students are expected to maintain online classroom decorum that includes respect for other students and the instructor, prompt and regular participation, 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.