

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

WACO, TEXAS

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**COURSE SYLLABUS**  
**AND**  
**INSTRUCTOR PLAN**

**ENGINEERING GRAPHICS I**

**ENGR - 1304 - 01**

**PROF. PAULINA Z. SIDWELL**

**NOTE: This is a 16-week course.**

**COVID 19 Notice:**

McLennan Community College is committed to providing you with every resource you need to reach your academic goals including your safety. We will continue to monitor the evolving situation with COVID 19 and adjust our safety guidelines to make sure we offer a safe environment for you and our faculty. Please make sure to consult your faculty and the MCC website at <https://www.mclennan.edu/crisis-management/coronavirus-updates/index.html> on any changes to these guidelines.

# ENGINEERING GRAPHICS I

## ENGR 1304 SECTION 01

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### **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.

### **Prerequisites and/or Corequisites:**

Math 1314 – College Algebra or equivalent preparation.

### **Instructor Information:**

Instructor Name: Paulina Z. Sidwell

MCC E-mail: [psidwell@mcclennan.edu](mailto:psidwell@mcclennan.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>

Other Instruction Information: 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 the lecture where the material is 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.

*This course meets M W 1:15 pm to 3:45 pm, in SB 131*

### **Required Text & Materials:**

Required:

- SolidWorks 2022 Tutorial, by Planchard, SDC Publications. ISBN: 978-1-63057-472-7

**MCC Bookstore Website:** <http://www.mcclennan.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. (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:**

This course combines face-to-face activities with online lectures. Students will learn through lectures and reading the textbook, as well as through independent research, and work on homework, lab exercises, and group projects, which include formal 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*)

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3. Demonstrated proficiency in geometric modeling and computer aided drafting and design (CADD). *(all work)*
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 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   | Lecture                                                | Lab                     | Homework due                           |
|--------|--------------------------------------------------------|-------------------------|----------------------------------------|
| 9-Jan  | Introduction to Course, Spatial Visualization Skills   | PSVTR - initial         | -                                      |
| 11-Jan | Sketching, Lettering, and Orthographic Projections     | Sketching Exercise 1    | -                                      |
| 16-Jan | <i>MLK Jr. Day (no class)</i>                          |                         |                                        |
| 18-Jan | Oblique and Isometric Projections                      | Sketching Exercise 2    | Sketching Exercise 1                   |
| 23-Jan | Dimensioning and Tolerances                            | Sketching Exercise 3    | Sketching Exercise 2                   |
| 25-Jan | Sectional and Auxiliary Views/Design Project 1         | Sketching Exercise 4    | Sketching Exercise 3                   |
| 30-Jan | CAD Basics                                             | Six Sided Die and Lego  | Sketching Exercise 4 & DP1 start files |
| 1-Feb  | Using Reference Geometry/Relations                     | Start DP1 & D4s         | Six Sided Die, 4x2 Lego part files     |
| 6-Feb  | Rotating Solids in SW                                  | Lightbulb               | D4s and bipyramid part files           |
| 8-Feb  | Drawings and Assemblies                                | Lego drawing & assembly | Lightbulb & Bowling Pin part files     |
| 13-Feb | 3D Printing/Presentation Skills                        | Work on DP1             | Lego drawing and assembly files        |
| 15-Feb | Chapter 2: Basic Features                              | Ch 2 tutorials          | 3D printing quiz & DP1 Progress Report |
| 20-Feb | <i>Design Project 1 presentations</i>                  |                         | All DP1 files                          |
| 22-Feb | Chapter 2: Assemblies                                  | Ch 2 tutorials          | -                                      |
| 27-Feb | Chapter 3: Exploded View, Animations, BOM              | Ch 3 tutorials          | Ch 2                                   |
| 1-Mar  | Chapter 3: Extruded Thin, Hole Wizard, Fillet, Chamfer | Ch 3 tutorials          | -                                      |
|        | <b>Spring Break (Mar 6 - 10)</b>                       |                         |                                        |
| 13-Mar | Chapter 4: Sheet Format, Drawing Template              | Ch 4 tutorials          | Ch 3                                   |

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|--------|------------------------------------------------------------------------------------------|-----------------------------------------|-------------------------|
| 15-Mar | Chapter 4: Drawing Views                                                                 | Ch 4 tutorials                          | -                       |
| 20-Mar | Chapter 5: Advanced Features                                                             | Chapter 5 tutorials                     | Ch 4                    |
| 22-Mar | <i>Design Project 2 presentations</i>                                                    |                                         | All DP2 files           |
| 27-Mar | Chapter 5: Additional Advanced Features<br>Chapter 7: The CSWA and Drafting Competencies | Chapter 5 tutorials<br>Chapter 7 review | -                       |
| 29-Mar | Chapter 8a: Basic Part Creation and Modification                                         | Chapter 8 exercises                     | Ch 5                    |
| 3-Apr  | Chapter 8b: Intermediate Part Creation and Modification                                  | Chapter 8 exercises                     | -                       |
| 5-Apr  | Chapter 9: Advanced Part Creation and Modification                                       | Chapter 9 exercises                     | Ch 8                    |
| 10-Apr | Chapter 9: Advanced Part Creation and Modification                                       | Chapter 9 exercises                     | -                       |
| 12-Apr | Chapter 10: Assembly Creation and Modification                                           | Chapter 10 exercises                    | Ch 9                    |
| 17-Apr | Chapter 10: Assembly Creation and Modification                                           | Chapter 10 exercises                    |                         |
| 19-Apr | <i>Design Project 3 practice poster presentation</i>                                     |                                         | DP 3 files poster draft |
| 21-Apr | <i>Scholar Day (mandatory)</i>                                                           |                                         | Final poster            |
| 24-Apr | Practice CSWA Exam                                                                       | Practice CSWA Exam                      | Ch 10                   |
| 26-Apr | CSWA Review                                                                              | PSVTR - Final                           | -                       |
| 3-May  | Final: CSWA (Wednesday, May 3, 1:15 to 4:15 pm)                                          |                                         |                         |

### Course Grading Information:

| Grade Distribution                |             |
|-----------------------------------|-------------|
| Homework                          | 40%         |
| Design Projects (3 @ 13.33% each) | 40%         |
| Design Project Leader             | 10%         |
| CSWA Exam                         | 10%         |
| <b>Total</b>                      | <b>100%</b> |

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

**Homework.** All homework assignments will be due at the 1:15 pm on the day marked on the syllabus. 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.* In each project, the leader will

- Be responsible for making sure everyone in the team works on the project
- Be ultimately responsible for making sure the project gets done
- Keep meeting minutes and turn them in with other required documents

Each project will have a mandatory presentation during class time. 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 class periods reviewing for the test. The CSWA is three hours long and will be taken during Finals Week. If you are interested in taking further certification exams, please let me know. 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@mcclennan.edu](mailto:helpdesk@mcclennan.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. 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. In general, 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, Attendance, and Make Up Work Policies:**

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.

Attendance is mandatory. Arriving after attendance has been taken will count as half an absence. ***Per MCC policy, you may be automatically dropped after missing 25% of class.*** If you are dropped before the official drop date (***for Spring 2023, it is March 23***), you will receive a grade of W. If the 25% absences are reached after the official drop date, the instructor may assign a W, if the student is passing and requests to be withdrawn. However, if a student who is not passing reaches the 25% point after the official drop date, the student will receive grade they earn. In extenuating circumstances, the instructor may assign a W to a student who is not passing.

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). 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.

**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 participation, and an attitude that seeks to take full advantage of this educational opportunity.

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

(<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.

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

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Updated 11/04/2022

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## **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](http://www.mclennan.edu/disability).

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

[disabilities@mclennan.edu](mailto: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 acting Title IX Coordinator at [titleix@mclennan.edu](mailto:titleix@mclennan.edu) or by calling, Dr. Claudette Jackson, (Diversity, Equity & Inclusion/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 or employee may report sexual harassment anonymously by visiting <http://www.lighthouse-services.com/mclennan/>.

Go to McLennan's Title IX webpage at [www.mclennan.edu/titleix/](http://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 from 7:30 am - 6:00 pm Monday through Thursday and 7:30 am - 5:00 pm on Friday. You can contact the Academic Support and Tutoring team via Zoom (<https://mclennan.zoom.us/j/2542998500>) or email ([ast@mclennan.edu](mailto:ast@mclennan.edu)) during the above mentioned times.

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](mailto:crew@mclennan.edu) or a Success Coach by calling (254) 299-8226 or emailing [SuccessCoach@mclennan.edu](mailto:SuccessCoach@mclennan.edu). Both are located in the Completion Center located on the second floor of the Student Services Center (SSC) which is open Monday-Friday from 8 a.m.-5 p.m.

Paulanne's Pantry (MCC's food pantry) provides free food by appointment to students, faculty and staff. To schedule an appointment, go to [https://mclennan.co1.qualtrics.com/jfe/form/SV\\_07byXd7eB8iTqJg](https://mclennan.co1.qualtrics.com/jfe/form/SV_07byXd7eB8iTqJg). Both the Completion Center and Paulanne's 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 at [https://www.mclennan.edu/foundation/docs/Emergency\\_Grant\\_Application.pdf](https://www.mclennan.edu/foundation/docs/Emergency_Grant_Application.pdf).

**MCC Academic Integrity Statement:**

Go to [www.mclennan.edu/academic-integrity](http://www.mclennan.edu/academic-integrity) for information about academic integrity, dishonesty, and cheating.

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

Go to <https://www.mclennan.edu/center-for-teaching-and-learning/Faculty-andStaffCommons/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](http://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](mailto: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 Cheat Sheet](#) or email [helpdesk@mclennan.edu](mailto: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.