

**South Plains College**  
**Common Course Syllabus: ENGR 1304**  
**Revised August 2020**

**Department:** Mathematics, Engineering, and Computer Science

**Discipline:** Engineering

**Course Number:** ENGR 1304

**Course Title:** Engineering Graphics I

**Available Formats:** conventional/flex

**Campuses:** Levelland and Lubbock Center

**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.

**Prerequisite:** Successful completion with a grade of 'C' or better in MATH 1314

**Credit:** 3 **Lecture:** 2 **Lab:** 4

**Textbook:**

**Supplies:** Please see the instructor's course information sheet for specific supplies.

**This course partially satisfies a Core Curriculum Requirement:** None

**Core Curriculum Objectives addressed:**

- **Communications skills**—to include effective written, oral and visual communication
- **Critical thinking skills**—to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
- **Empirical and quantitative competency skills**—to manipulate and analyze numerical data or observable facts resulting in informed conclusions

**Student Learning Outcomes:** Upon completion of this course and receiving a passing grade, the student will be able to:

Discuss the basic steps in the design process.

Demonstrate proficiency in freehand sketching.

Demonstrated proficiency in geometric modeling and computer aided drafting and design (CADD).

Communicate design solutions through sketching and computer graphics software using standard graphical representation methods.

Solve problems using graphical geometry, projection theory, visualization methods, pictorial sketching, and geometric (solid) modeling techniques.

Demonstrate proper documentation and data reporting practices.

Complete a project involving creation of 3D rapid prototype models.

Function as part of a design team as a team leader and as a team member.

**Student Learning Outcomes Assessment:** A pre- and post-test questions will be used to determine the extent of improvement that the students have gained during the semester

**Course Evaluation:** There will be departmental final exam questions given by all instructors.

**Attendance/Student Engagement Policy:** Attendance and effort are the most important activities for success in this course. The instructor maintains records of the student's engagement throughout the semester. The student will be allowed to miss twenty percent (20%) of class assignments for the semester, **for any reason**. Should this number be exceeded, the instructor has the right to drop the student with a grade of F or an X, depending on the instructor's discretion.

Plagiarism violations include, but are not limited to, the following:

1. Turning in a paper that has been purchased, borrowed, or downloaded from another student, an online term paper site, or a mail order term paper mill;
2. Cutting and pasting together information from books, articles, other papers, or online sites without providing proper documentation;
3. Using direct quotations (three or more words) from a source without showing them to be direct quotations and citing them; or
4. Missing in-text citations.

Cheating violations include, but are not limited to, the following:

1. Obtaining an examination by stealing or collusion;
2. Discovering the content of an examination before it is given;
3. Using an unauthorized source of information (notes, textbook, text messaging, internet, apps) during an examination, quiz, or homework assignment;
4. Entering an office or building to obtain an unfair advantage;
5. Taking an examination for another;
6. Altering grade records;
7. Copying another's work during an examination or on a homework assignment;
8. Rewriting another student's work in Peer Editing so that the writing is no longer the original student's;
9. Taking pictures of a test, test answers, or someone else's paper.

**COVID Syllabus Statement:** Should be provided by the Vice-President of Student Services over email.

**Student Code of Conduct Policy:** Any successful learning experience requires mutual respect on the part of the student and the instructor. Neither instructor nor student should be subject to others' behavior that is rude, disruptive, intimidating, aggressive, or demeaning. Student conduct that disrupts the learning process or is deemed disrespectful or threatening shall not be tolerated and may lead to disciplinary action and/or removal from class.

**Diversity Statement:** In this class, the teacher will establish and support an environment that values and nurtures individual and group differences and encourages engagement and interaction. Understanding and respecting multiple experiences and perspectives will serve to challenge and stimulate all of us to learn about others, about the larger world and about ourselves. By promoting diversity and intellectual exchange, we will not only mirror society as it is, but also model society as it should and can be.

**Disability Statement:** Students with disabilities, including but not limited to physical, psychiatric, or learning disabilities, who wish to request accommodations in this class should notify the Disability Services Office early in the semester so that the appropriate arrangements may be made. In accordance with federal law, a student requesting accommodations must provide acceptable documentation of his/her disability to the Disability Services Office. For more information, call or visit the Disability Services Office at Levelland (Student Health & Wellness Office) 806-716-2577, Reese Center (Building 8) 806-716-4675, or Plainview Center (Main Office) 806-716-4302 or 806-296-9611.

**Nondiscrimination Policy:** South Plains College does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs and activities. The following person has been designated to handle inquiries regarding the non-discrimination policies: Vice President for Student Affairs, South Plains College, 1401 College Avenue, Box 5, Levelland, TX 79336. Phone number 806-716-2360.

**Title IX Pregnancy Accommodations Statement:** If you are pregnant, or have given birth within six months, Under Title IX you have a right to reasonable accommodations to help continue your education. To [activate](#) accommodations you must submit a Title IX pregnancy accommodations request, along with specific medical documentation, to the Director of Health and Wellness. Once approved, notification will be sent to the student and instructors. It is the student's responsibility to work with the instructor to arrange accommodations. Contact the Director of Health and Wellness at 806-716-2362 or [email cgilster@southplainscollege.edu](mailto:cgilster@southplainscollege.edu) for assistance.

**Campus Concealed Carry:** Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in South Plains College buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and South Plains College policy, license holders may not carry a concealed handgun in restricted locations. For a list of locations and

Frequently Asked Questions, please refer to the Campus Carry page at: <http://www.southplainscollege.edu/campuscarry.php>

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all South Plains College campuses. Report violations to the College Police Department at 806-716-2396 or 9-1-1.

**SPC Bookstore Price Match Guarantee Policy:** If you find a lower price on a textbook, the South Plains College bookstore will match that price. The difference will be given to the student on a bookstore gift certificate! The gift certificate can be spent on anything in the store.

If students have already purchased textbooks and then find a better price later, the South Plains College bookstore will price match through the first week of the semester. The student must have a copy of the receipt and the book has to be in stock at the competition at the time of the price match.

The South Plains College bookstore will happily price match BN.com & books on Amazon noted as *ships from and sold by Amazon.com*. Online marketplaces such as *Other Sellers* on Amazon, Amazon's Warehouse Deals, *fulfilled by Amazon*, BN.com Marketplace, and peer-to-peer pricing are not eligible. They will price match the exact textbook, in the same edition and format, including all accompanying materials, like workbooks and CDs.

A textbook is only eligible for price match if it is in stock on a competitor's website at time of the price match request. Additional membership discounts and offers cannot be applied to the student's refund.

Price matching is only available on in-store purchases. Digital books, access codes sold via publisher sites, rentals and special orders are not eligible. Only one price match per title per customer is allowed.

Note: The instructor reserves the right to modify the course syllabus and policies, as well as notify students of any changes, at any point during the semester.



## **Returning Grades**

The instructor will return grades via Blackboard. Each assignment will have a summary of mistakes and points deducted.

## **Classroom Policies**

### **Computer Class Policy**

**ABSOLUTELY NO FOOD ALLOWED.** Drinks must have a threaded cap to be allowed and must be put away when not in use. Music devices during lab assignment times are accepted. Each workstation must be cleaned and straightened before leaving the area.

### **Lecture Videos and Class Meeting**

Instructional videos will be uploaded by the instructor via Blackboard. It is the student's responsibility to view each lecture video before attempting Quiz Assignments.. Attending face to face class is not required but recommended as long as the classroom can accommodate the social distancing capacity. A weekly sign-up form will be emailed to attend class. These meetings will cover the material from the lecture videos, provide further examples, and help struggling students.

### **Attendance Policy**

Attendance will be recorded through Blackboard. The student will be allowed to miss twenty percent (20%) of daily assignment and quiz assignments for the semester, **for any reason**. Should this number be exceeded, the instructor has the right to drop the student with a grade of F or an X.

### **Office Hours**

Office hours will be held face to face and virtually. Proper face masks must be worn for face to face meetings. Virtual office hours will be held using Zoom. Please email if the listed office hours do not work for you.

### **South Plains College Email Policy**

The instructor will only acknowledge, respond, and send emails to the student assigned South Plains College email. This ensures the intended recipient receives all correspondence from the instructor. It is the students' responsibility to have their email set up and ready to use by the end of the first week of class.

### **Drop/Withdrawal**

Students should submit a Student Initiated Drop Form online to drop from the course. An instructor signature is not required. If the student wishes to withdraw from this or more courses, the student needs to contact the Advising Office.

### **Syllabus Statement for COVID-19**

It is the policy of South Plains College for the Fall 2020 semester that as a condition of on-campus enrollment, all students are required to engage in safe behaviors to avoid the spread of COVID-19 in the SPC community. Such behaviors specifically include the requirement that all students properly wear CDC-compliant face coverings while in SPC buildings including in classrooms, labs, hallways, and restrooms. Failure to comply with this policy may result in dismissal from the current class session. If the student refuses to leave the classroom or lab after being dismissed, the student may be referred to the Dean of Students on the Levelland campus or the Dean/Director of external centers for Student Code of Conduct Violation.

## Course Itinerary.

<b>Week 1</b>	<ul style="list-style-type: none"> <li>• Introduction into AutoCAD Software: Drawing and Modify Commands</li> <li>• Layer Properties: Creating Line Types</li> <li>• Review of Geometry and Trigonometry</li> </ul>
<b>Week 2</b>	<ul style="list-style-type: none"> <li>• Creating a Title Block</li> <li>• Drawing Objects</li> <li>• Dimensioning Objects – Dimension Style Manager</li> </ul>
<b>Week 3</b>	<ul style="list-style-type: none"> <li>• Drawing Orthographic Projections: Front, Right, and Top Side Views</li> </ul>
<b>Week 4</b>	<ul style="list-style-type: none"> <li>• Pictorial Drawings – Drawing the Isometric View</li> </ul>
<b>Week 5</b>	<ul style="list-style-type: none"> <li>• Section Views: Half and Full Sections</li> <li>• Auxiliary Views: Perpendicular Projections</li> </ul>
<b>Week 6</b>	<ul style="list-style-type: none"> <li>• Tolerances: Leader Style Manager</li> <li>• Threads and Fasteners: ASME Standards</li> </ul>
<b>Week 7</b>	<ul style="list-style-type: none"> <li>• Springs: Compression and Torsion</li> <li>• Gears: Number of Teeth, Gear Ratios</li> </ul>
<b>Week 8</b>	<ul style="list-style-type: none"> <li>• <b>Project #1</b></li> </ul>
<b>Week 9</b>	<b>Mar. 24<sup>th</sup>: Project #1 Due 12:00 PM</b>
<b>Week 10-11</b>	<ul style="list-style-type: none"> <li>• Introduction to 3D Modeling – Drawing and Modify Commands</li> <li>• Utilizing Layout Projection</li> <li>• Dimensioning 3D Objects</li> <li>• Section Views of 3D Objects</li> </ul>
<b>Week 12</b>	<ul style="list-style-type: none"> <li>• Creating Assembly Drawings</li> <li>• Creating Bill of Materials</li> </ul>
<b>Week 13-15</b>	<ul style="list-style-type: none"> <li>• <b>Project #2</b></li> </ul>
<b>Week 16</b>	<b>May. 10<sup>th</sup>: Project #2 Due 12:00 PM</b>