



**Angelina College
Technology and Workforce Division
ENGR 1304 Engineering Graphics
Instructional Syllabus**

I. BASIC COURSE INFORMATION:

A. Course Description:

Three hours credit. 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. Two lecture and four lab hours each week. Prerequisite: MATH 1314 College Algebra (acceptable) or MATH 1414 College Algebra (preferred). Lab fee.

B. Intended Audience:

Freshmen

C. Instructor: David Turbeville

Office Location: TW-111

Office Hours: TBA

Phone: 936 633-5246 (front office)

E-mail Address: dturbeville@angelina.edu (email is the best way to contact me)

II. INTENDED STUDENT OUTCOMES:

A. Core Objectives Required for this Course

- 1. Critical Thinking:** to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.
- 2. Communication:** to include effective development, interpretation and expression of ideas through written, oral and visual communication.
- 3. Teamwork:** to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal.

B. Course Learning Outcomes for all Sections

1. Discuss the basic steps in the design process.
2. Demonstrate proficiency in freehand sketching.
3. Demonstrated proficiency in geometric modeling and computer aided drafting and design (CADD).
4. Communicate design solutions through sketching and computer graphics software using standard graphical representation methods.
5. Solve problems using graphical geometry, projection theory, visualization methods, pictorial sketching, and geometric solid modeling techniques.
6. Demonstrate proper documentation and data reporting practices.
7. Complete a project involving creation of 3D rapid prototype models.
8. Function as part of a design team as a team leader and as a team member.

III. ASSESSMENT MEASURES

A. Assessments for the Core Objectives:

- 1. Critical Thinking:** Students will develop various products from concept through component design and assembly in software. A standard rubric is used to assess this objective.



- 2. Communication:** Students will develop a presentation for each design to include plan sheets in the standard format and solid model images. A standard rubric is used to assess this objective.
- 3. Teamwork:** Students will work together in small groups to develop subsystems of a larger final design project. A standard rubric is used to assess this objective.

B. Assessments for Course Learning Outcomes

1. Students will identify the basic steps in the design process through a brief presentation showing how they have implemented the process to design a single part. Assessment is performed for completeness and documentation through a checklist.
2. Students will demonstrate proficiency in freehand sketching through the design of several individual parts. Assessment is performed for completeness and documentation through a checklist.
3. Students will demonstrate proficiency in geometric modeling and computer aided drafting and design (CADD) through the design of several individual parts. Assessment is performed for completeness and documentation through a checklist.
4. Students will communicate design solutions through sketching and computer graphics software using standard graphical representation methods during one of several in-class presentations. Assessment is performed for completeness and documentation through a checklist.
5. Students will solve problems using graphical geometry, projection theory, visualization methods, pictorial sketching, and geometric (solid) modeling techniques during one of several in-class presentations. Assessment is performed for completeness and documentation through a checklist.
6. Students will demonstrate proper documentation and data reporting practices during one of several in-class presentations. Assessment is performed for completeness and documentation through a checklist.
7. Students will complete a project involving creation of 3D rapid prototype models through the final design project. Assessment is for accuracy and complete documentation using a checklist.
8. Students will function as part of a design team as a team leader and as a team member during one of several in-class presentations. Assessment is performed for completeness and documentation through a checklist.

IV. INSTRUCTIONAL PROCEDURES:

This course is being delivered in a standard lecture - lab format. Some materials will be delivered outside of the classroom through angelina.blackboard.com. Content delivered outside of the classroom may include, video, audio, images and links to external websites. Students are encouraged to consult with their instructor if additional instruction is needed.

Lab activities are required in this course. The lab portion of the class appears on your schedule along with a room number. Attendance during the on-campus part of the course is mandatory. Completion of in-class work is also mandatory.

V. COURSE REQUIREMENTS AND POLICIES:

A. Required Textbooks and Recommended Readings, Materials and Equipment

Textbook: No text required for this class. The software offers tutorials and examples. Instruction is provided in class, along with screencasts to assist in the learning process.

Equipment: Must Bring a Flash Drive. Put your name on it.

B. Course Policies – This course conforms to the policies of Angelina College as stated in the Angelina College Handbook.



1. Academic Assistance – If you have a disability (as cited in Section 504 of the Rehabilitation Act of 1973 or Title II of the Americans with Disabilities Act of 1990) that may affect your participation in this class, you should see Steve Hudman (936 633-5293) shudman@angelina.edu in the Student Center. At a post-secondary institution, you must self-identify as a person with a disability; Mr. Hudman will assist you with the necessary information to do so.
2. **Attendance** – Attendance is required as per Angelina College Policy and will be recorded every day. Any student with three (3) consecutive absences or four (4) cumulative absences may be dropped from the class. Records will be turned in to the academic dean at the end of the semester. Do not assume that non-attendance in class will always result in an instructor drop. **You must officially drop a class or risk receiving an F.** This is official Angelina College Policy.
3. **Additional Policies Established by the Instructor**
 - Food is not allowed in class or lab. Drinks with a lid are allowable in the classroom but not in the lab areas. Liquids create a slip and shock hazard. Spills must be cleaned up by the person who spills the drink.
 - I want you to succeed in this and all classes. Cell phones can be distracting, and should be set to vibrate. Texting and social media have become part of our daily lives, and are now a habit for many people. Like any habit, it will easily distract you from class. Please limit yourself to essential use of the phone. It is a powerful tool for looking up information. Step out of class if you have to take a call.
 - I use a sign-out sheet to document attendance. It is available at approximately 20 minutes prior to the end of class.
 - There will be a daily quiz or demonstration of skills. It will take place at the end of class. Our goal is your success in class, but also upon graduation. We want you to be able to demonstrate confidence and ability upon leaving the class.
 - All communication concerning assignments are sent to your Angelina College student email address.
 - Assignments are graded for completeness and accuracy.
 - Students should be ready to make a short (3 minute) presentation on a class topic at any time. I may randomly select one or more students from the sign-in sheet each class period.
 - If a team project is assigned, each student must demonstrate their contribution to the project, and submit documentation individually through Blackboard.

VI. COURSE OUTLINE: Description of the Course Activities including due dates, schedules, and deadlines.
Assignments are delivered through Blackboard during the course of the semester.

VII. EVALUATION AND GRADING:

All exams and assignments are delivered through Blackboard. Each exam and assignment is assigned a point value. Your score for the class is based on the percentage of points achieved. Extra points are not available. Attendance is not counted as a score.

Above 89.5%	A
between 79.5 and 89.5%	B
between 69.5 and 79.5%	C
between 59.5 to 69.5%	D
Below 59.5%	F

- A. The instructor may modify the provisions of the syllabus to meet individual class needs by informing the class in advance as to the changes being made.
- B. As a student enrolled in a Technology & Workforce program, you will encounter certain risks while you are in a classroom, laboratory experience, or in a clinical or practicum setting. In the event that you sustain an injury and/or require any medical testing or care, all resulting medical expenses (hospital, ambulance, or physician



fees), are your financial responsibility and not the responsibility of Angelina College or the clinical/practicum site.

- C. Effective August 27, 2012 Angelina College prohibits the use of tobacco products on campus, except in your personal vehicle. This measure was approved by the College Board of Trustees, and includes smoking and smokeless tobacco products.