Engineering Graphics I – ENGR 1304.088TR

Course Syllabus: Spring 2025

"Northeast Texas Community College exists to provide personal, dynamic learning experiences empowering students to succeed."

Instructor: Kenneth L Irizarry, PE, REM
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	Monday	Tuesday	Wednesday	Thursday	Friday	Online
Office Hours	By Appt.	By Appt.	By Appt.	By Appt.	By Appt.	As needed

This syllabus serves as the documentation for all course policies and requirements, assignments, and instructor/student responsibilities.

Information relative to the delivery of the content contained in this syllabus is subject to change. Should that happen, the student will be notified.

Course Description:
This course is an introduction in computer-aided drafting using CAD software and sketching to generate two- and three-dimensional drawings based on the convention of engineering graphical communication. Topics include spatial relationships, multiview projections and sectioning, dimensioning, graphical presentation of data, and fundamentals of computer graphics. Three credit hours.

Prerequisite(s): MATH 1314 College Algebra or equivalent with a grade of "C" or better.

Student Learning Outcomes:
Upon successful completion of this course, students will

1304.1 Discuss the basic steps in the design process.

1304.2 Demonstrate proficiency in freehand sketching.

1304.3 Use geometric modeling and computer aided drafting and design (CADD).

1304.4 Communicate design solutions through sketching and computer graphics software using standard graphical representation methods.

1304.5 Solve problems using graphical geometry, projection theory, visualization methods, pictorial sketching, and geometric (solid) modeling techniques.

1304.6 Demonstrate proper documentation and data reporting practices.

1304.7 Complete a project involving creation of 3D rapid prototype models.

Evaluation/Grading Policy:

Midterm Exam	150 pts	
Final Exam	200 pts	
Project, 3D Part & AutoCAD Drawing	50 pts	
Drawings/Parts (Approx. 35)	350 pts	
Total	750 pts	possible

Grading Scale:

A = 90-100%, B = 80-89%, C = 70-79%, D = 60-69%, F = 0-59%

Required Instructional Materials:
Tools for Design Using AutoCAD 2024 and Autodesk Inventor 2024, By Randy H. Shih

Publisher: SDC Publications

ISBN Number- 978-1-63057-591-5

Note: The NTCC Bookstore link is at www.ntcc.edu

Minimum Technology Requirements:
Access to a personal computer (MS Windows based laptop or desktop with internet access) that can run trial versions of Computer Aided Design (CAD) engineering software will be required during the course. *Unfortunately, Autodesk Inventor does not run on a Mac Computer, Mac Laptop or MacBook.*

Required Computer Literacy Skills:
1) Communicate via email;
2) Learning to work with the AutoCAD and Autodesk Inventor Software,
3) Navigate Blackboard to access posted materials and submit required assignments.

Course Structure and Overview:
This is a 16-week online course where students are required to access information and assignments via the Blackboard Learning Management System. Students are expected to watch instructional videos, read the course textbook, and complete online assignments located in Blackboard, by the specified due dates. Students are required to submit completed AutoCAD drawing (dwg) files and Autodesk Inventor part (ipt) files in Blackboard for grading. To be successful, it is very important for students to keep up with course materials and assignments.

Communications:
Emails will be responded to within 24 hours during the week and 48 hours on the weekend.

The college's official means of communication is via your campus email address. Your instructors will use your campus email and Blackboard to communicate with you outside of class. Make sure you keep your campus email cleaned out and below the limit so you can receive important messages.

Institutional/Course Policy:
No late work will be accepted without prior approval by the instructor. It is the student's responsibility to check Blackboard for important information/announcements regarding the course. Students should be working on course material via Blackboard every week. Do not wait until the last minute to complete and submit assignments in case of technology issues.

NTCC Academic Honesty/Ethics Statement:
NTCC upholds the highest standards of academic integrity. The college expects all students to engage in their academic pursuits in an honest manner that is beyond reproach using their intellect and resources designated as allowable by the course instructor. Students are responsible for addressing questions about allowable resources with the course instructor. Academic dishonesty such as cheating, plagiarism, and collusion is unacceptable and may result in disciplinary action. This course will follow the NTCC Academic Honesty and Academic Ethics policies stated in the Student Handbook. Refer to the student handbook for more information.

ADA Statement:
It is the policy of NTCC to provide reasonable accommodations for qualified individuals who are students with disabilities. This College will adhere to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations as required to afford equal educational opportunity. It is the student's responsibility to request accommodations. An appointment can be made with the Academic Advisor/Coordinator of Special Populations located in Student Services and can be reached at 903-434-8264. For more information and to obtain a copy of the Request for Accommodations, please refer to special population page on the NTCC website.

Family Educational Rights and Privacy Act (FERPA):
The Family Educational Rights and Privacy Act (FERPA) is a federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education. FERPA gives parents certain rights with respect to their children's educational records. These rights transfer to the student when he or she attends a school beyond the high school level. Students to whom the rights have transferred are considered "eligible students." In essence, a parent has no legal right to obtain information concerning the child's college records without the written consent of the student. In compliance with FERPA, information classified as "directory information" may be released to the general public without the written consent of the student unless the student makes a request in writing. Directory information is defined as: the student's name, permanent address and/or local address, telephone listing, dates of attendance, most recent previous education institution attended, other information including major, field of study, degrees, awards received, and participation in officially recognized activities/sports.

Please see next page for the Tentative Course Timeline

Tentative Course Timeline (*note* instructor reserves the right to make adjustments to this timeline at any point in the term):

Course Outline:

Chap.	Title	*Week*	*Due Dates*
Intro.	Course Introduction / Intro to AutoCAD / Sketching	*1*	*1/26*
1	Fundamentals of AutoCAD	*2*	*2/2*
2	Basic Object Construction and Dynamic Input - AutoCAD	*3*	*2/9*
3	Geometric Construction and Editing Tools - AutoCAD	*4*	*2/16*
4	Orthographic Views in Multiview Drawings - AutoCAD	*5*	*2/23*
5	Basic Dimensioning and Notes - AutoCAD	*6*	*3/2*
	Midterm Exam	***7***	***Available 3/3 Due 3/9***
6	Pictorials and Sketching / *Project Selection*	*8*	*3/16*
	Spring Break, *3/17-3/21*		
7	Parametric Modeling Fundamentals – Autodesk Inventor	*9*	*3/30*
8	Constructive Solid Geometry Concepts	*10*	*4/6*
9/10	Model History Tree / Parametric Constraints Fundamentals	*11*	*4/13*
11	Geometric Construction Tools	*12*	*4/20*
12	Parent/Child Relationships and the BORN Technique	*13*	*4/27*
13	Part Drawings and 3D Model-Based Definition	*14*	*5/4*
14	Symmetrical Features in Designs / *Project Submission*	*15*	*5/8*
	Final Exam	***16***	***Available 5/9 Due 5/13***

All required homework is to be submitted in Blackboard by 11:59pm of the listed due dates.