

COURSE INFORMATION

COURSE PREFIX/NO: **EGT 210**

COURSE TITLE: **Engineering Graphics III**

LEC HRS/WK: 3.0

LAB HRS/WK: 3.0

CREDIT HRS/SEMESTER: 4.0

[Distance Learning Attendance/VA Statement](#)
[Textbook Information](#)

COURSE DESCRIPTION:

This advanced course in engineering graphics science covers the production of technical working drawings.

COURSE COMPETENCIES:

Upon successful completion of this course, the student should be competent to perform the following tasks:

MODULE 1:

- Calculate clearance and interference fits of mating parts
- Identify dimensioning and tolerancing symbols
- Utilize proper guidelines for dimensioning

MODULE 2:

- State the tolerance zone for each of the geometric tolerances
- Understand the differences between features and features of size
- Interpret and use material condition modifiers
- Calculate the virtual condition and bonus tolerance where applicable

MODULE 3:

- Interpret geometric tolerances applied to drawings
- Determine the correct geometric tolerance for an application
- Draft simple electronic schematic drawings

MODULE 4:

- Design and draft a complete jig and fixture using general guidelines of workholders and the principles of geometric dimensioning and tolerancing

MINIMAL STANDARDS/PERFORMANCE OBJECTIVES:

Given a feature control frame showing a geometric tolerance, student should be able to state in words the size, shape, location, and orientation of the tolerance zone created.

Given a geometric tolerance and some actual part dimensions, student should be able to determine if the part is acceptable, and if not, what could be done to fix the part.

Given a nominal size and a class of fit, student should be able to calculate the size and tolerance of the two mating parts.

Given a simple part and the design intent, student should be able to select the proper geometric tolerance to satisfy the design intent.

Given a sketch of an electronic schematic, student should be able to create the symbols in CAD and draft a drawing of the schematic showing the proper connections.

Given the general guidelines of workholders covered in the lectures, student should be able to take a drawing of a simple part with geometric tolerances and perform the design and drafting of a jig or fixture to aid in the manufacturing of the part.

Student must complete all modules and achieve a 60% average on tests, projects, reports, and any other required assignments.

COURSE REQUIREMENTS:

ATTENDANCE

Students will be bound by the policies stated in the York Technical College Student Handbook. Students must attend 80% of the hours assigned the class for a semester to receive credit for the course.

In case a student does miss a class, the student is responsible for obtaining the material that was covered during the absence.

If a student is aware that a class will be missed, then the student should notify the instructor at the earliest possible date. If a student misses a test because of illness or urgent emergency, it is the responsibility of the student to notify the instructor prior to the class period, or at the earliest possible date.

Students with absences during tests will be allowed to take a make-up test only at the discretion of the instructor.

The student has the burden to be sure that some arrangement was made with the instructor for taking a make-up test.

PARTICIPATION IN CLASS DISCUSSIONS

It is expected that students will participate in class discussions and will read the text and take notes during lectures.

ACADEMIC HONESTY:

"York Technical College adheres to the South Carolina TECH Student Code, approved by the State Board for Technical and Comprehensive Education June 10, 1998. Copies of this code are available in the Library and from Student Services. ...Any student caught cheating or involved in any other academic dishonesty will be given a grade of zero and will be subject to further disciplinary action."

EVALUATION STRATEGIES/GRADING:

All modules are weighted equally.

The grading scale is as follows:

Grade Points

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

The class grade will be determined as follows:

Tests =	50%
Assignments =	25%
Final Exam/ Project =	20%
Conduct/Participation =	<u>5%</u>
Total =	100%

ENTRY LEVEL SKILLS:

The entering student should have knowledge and understanding of basic drafting and dimensioning guidelines and practices. Students should also have an understanding of three-view orthographic projection. It is important that students be proficient in the basic commands and use of the current CAD package as covered in the prerequisite course.

PREREQUISITES: EGT 115

CO-REQUISITES: None

TOPIC/CONTENT OUTLINE:

Introduction to Dimensioning and Tolerancing
Dimensioning and Tolerancing Symbology
General Dimensioning Requirements
Dimension Application and Limits of Size
Form Tolerances
Datums
Orientation Tolerances
Position Tolerances
Runout Tolerances
Profile Tolerances
Block Diagrams
Schematic Diagrams
Logic Diagrams
Jigs
Fixtures

EFFECTIVE: SP2007