Course Number and Title: EDT 128 Machine Trades Blueprint Reading

Campus Location:
Georgetown

Effective Date:
2018-52

Prerequisite:
MAT 010, ENG 090 or ENG 091, SSC 100 or concurrent

Co-Requisites:
none

Course Credits and Hours:
3.00 credits
3.00 lecture hours/week
0.00 lab hours/week

Course Description:
This course covers the interpretation of detail working prints involving multiview, sectional, and auxiliary views as well as more complex assembly drawings. Geometric tolerancing is also studied.

Required Text(s):
Obtain current textbook information by viewing the campus bookstore - https://www.dtcc.edu/bookstores online or visit a campus bookstore. Check your course schedule for the course number and section.

Additional Materials:
Calculator, machinist rule, notebook

Schedule Type:
Classroom Course

Disclaimer:
None

Core Course Performance Objectives (CCPOs):

1. Interpret basic machine blueprints used for engineering and manufacturing. (CCC 2, 5, 6; PGC 1, 2)
2. Demonstrate the use of basic drafting and measuring tools. (CCC 2, 6; PGC 1, 2, 6)
3. Describe basic drafting principles and practices. (CCC 2, 6; PGC 2, 6)
4. Interpret blueprint notes, geometric dimensions, change orders, and specifications as they pertain to the manufacturing industry. (CCC 2, 5, 6; PGC 2, 6)
5. Read sheet metal, mechanical, electrical, and welding blueprints used in industry. (CCC 2, 5, 6; PGC 2, 6)

See Core Curriculum Competencies and Program Graduate Competencies at the end of the syllabus. CCPOs are linked to every competency they develop.

Measurable Performance Objectives (MPOs):
Upon completion of this course, the student will:

1. Interpret basic machine blueprints used for engineering and manufacturing.
    1. Identify manufacturing processes and materials on a print.
    2. Recognize the thread and fastening systems used in industry.
    3. Distinguish the section line symbols used in industry.
    4. Interpret cam, gear, and bearing terminology.
    5. Identify cam, gear, and bearing types on prints.
2. Demonstrate the use of basic drafting and measuring tools.
    1. Identify and read drawing scales.
    2. Demonstrate sketching of lines, shapes, multiview, and isometric objects.
    3. Illustrate the proper use of scales, calipers, micrometers, dial calipers, and dial indicators.
    4. Demonstrate the proper use of both the metric and inch measuring systems.
3. Describe basic drafting principles and practices.
    1. Summarize the documentation processes used in the drafting industry.
    2. Identify and interpret American National Standards Institute (ANSI) line conventions on prints.
    3. Interpret multiview, sectional, and auxiliary view drawings.
    4. Demonstrate the proper use and interpretation of dimensioning and tolerancing systems.
    5. Identify types of pictorial drawings used in industry.
4. Interpret blueprint notes, geometric dimensions, change orders, and specifications as they pertain to the manufacturing industry.
    1. Locate and interpret notes on prints.
    2. Calculate the specified geometric tolerances for a part on a print by properly interpreting standard industry call outs.
    3. Identify and interpret ANSI symbols used in geometric dimensioning.
    4. Identify cam, gear, and bearing specifications on prints.
    5. Interpret standard parts lists found on working drawings.
5. Read sheet metal, mechanical, electrical, and welding blueprints used in industry.
    1. Interpret welding symbols on prints.
    2. Interpret a set of working drawings for a single and multiple component mechanical system.
    3. Describe sheet metal prints.
    4. Identify and interpret sheet metal seams and hems used in industry.
    5. Identify the ANSI symbols for electrical drafting.
    6. Recognize basic electrical diagrams.

Evaluation Criteria/Policies:
Students must demonstrate proficiency on all CCPOs at a minimal 75 percent level to successfully complete the course. The grade will be determined using the Delaware Tech grading system:

92	**–**	**100**	**=**	**A**
83	**–**	**91**	**=**	**B**
75	**–**	**82**	**=**	**C**
0	**–**	**74**	**=**	**F**

Students should refer to the Student Handbook - https://www.dtcc.edu/handbook for information on the Academic Standing Policy, the Academic Integrity Policy, Student Rights and Responsibilities, and other policies relevant to their academic progress.

Final Course Grade:
Calculated using the following weighted average

Evaluation Measure	Percentage of final grade
Formative: Assignments	50%
Summative: Exams	25%
Summative: Research Project	20%
Summative: Measurement Lab	5%
TOTAL	100%

Core Curriculum Competencies (CCCs are the competencies every graduate will develop):

1. Apply clear and effective communication skills.
2. Use critical thinking to solve problems.
3. Collaborate to achieve a common goal.
4. Demonstrate professional and ethical conduct.
5. Use information literacy for effective vocational and/or academic research.
6. Apply quantitative reasoning and/or scientific inquiry to solve practical problems.

Program Graduate Competencies (PGCs are the competencies every graduate will develop specific to his or her major):

1. Apply the skills, techniques, and modern tools of the discipline to narrowly defined engineering technology activities.
2. Apply mathematics, science, engineering, and technology to engineering technology problems that require limited application of principles but extensive practical knowledge.
3. Identify, analyze, and solve narrowly defined engineering technology problems.
4. Demonstrate a commitment to quality, timeliness, professional development, and continuous improvement.
5. Demonstrate technical competency in engineering materials, applied mechanics, and manufacturing methods.
6. Apply in-depth technical competency in applied drafting practice emphasizing mechanical components and systems, as well as fundamentals of descriptive geometry, orthographic projection, sectioning, tolerancing and dimensioning, and computer aided drafting and design.

Disabilities Support Statement:
The College is committed to providing reasonable accommodations for students with disabilities. Students are encouraged to schedule an appointment with the campus Disabilities Support Counselor to request an accommodation needed due to a disability. A listing of campus Disabilities Support Counselors and contact information can be found at the disabilities services - https://www.dtcc.edu/disabilitysupport web page or visit the campus Advising Center.