DRFT 1010

Division: Career and Technical Education
Department: Drafting Technology
Course: DRFT 1010
Title: Technical Drafting
Catalog Description:

This course is an introduction of fundamental drafting techniques, tools, equipment, and standard drawings using American National Standard Institute (ANSI) standards that are required in today's industry. Students shall explore many different job opportunities and the requirements of industry in obtaining these jobs.

General Education Requirements: N/A
Semesters Offered: TBA
Credit/Time Requirement: Credit: 5; Lecture: 3; Lab: 4
Clock/Hour Requirements: 105
Offered for Non-Credit: Yes
Prerequisites: N/A

Corequisites: N/A

Justification:

This course is approved by the program advisory committee.

Student Learning Outcomes:

Upon successful completion of this course, students will be able to:

- list at least five types of drafting media, recognize each sheet size, and list at least three advantages of each medium
- list the pencils or leads used in the drafting fields
- select an appropriate eraser for the media use and demonstrate the proper use of the erasing shield
- name and draw examples of the individual lines as found in the alphabet of lines adopted by ANSI
- demonstrate the ability to do single stroke Gothic lettering in accordance with ANSI standards
- demonstrate the ability to use a drafting machine or parallel rule
- identify and use the 3 primary scales used in drafting
- draw arcs and circles using the bow compass
- divide space, transfer distances, and lay out measurements using the dividers
- reproduce the drawings to the degree of clarity that meet acceptable industrial standards
- construct solutions to problems involving lines and points, angles, polygons, tangents, ellipses, and curves

- correlate to the dimensions on the drawing so that the part functions satisfactorily and, at the same time, select dimensions convenient for the workman to use in the manufacturing process
- become proficient in object orientation, the selection of views, and orthographic projection with relationship to multi-view drawings
- become adept in recognizing the need, selection, and application of sectional drawings
- draw a primary auxiliary view of an object using procedures in accordance with ANSI.

Content:

Course objectives will be achieved by providing students with instructional and hands-on experiences in the following areas:

- media, pencils, leads, erasers, and erasing shields
- alphabet of lines
- drafting machines and/or parallel rules
- drafting instruments, triangles, scales, and templates
- proper lettering techniques
- constructing solutions to geometric problems
- providing information and practical application in size description as it relates to shape description
- orthographic projection with object orientation
- techniques and applications of technical sketching
- instruction and demonstration of the following sections: full, half, broken-out, revolved, removed, offset, and rib rule
- instruction in auxiliary view drawings.

General Education Outcomes:

Applied Education Outcomes:

1) Students will acquire entry-level skills specific to and appropriate for employment in their chosen field of study.

Students must complete the required course objectives. The objectives are discussed in class and the students then apply procedures to accomplish the objectives.

2) Students will become aware of industry specific certification and develop skills sufficient to acquire the same.

Students are informed of what employment opportunities are available if they succeed in this course.

3) Students will demonstrate safe practices and awareness of potential hazards in their field of expertise.

Students will be required to take and pass a safety exam during their first training session.

Key Performance Indicators:

In class:

- Students will demonstrate mastery of course competencies by completing assignments/projects, tests, and quizzes. Assignments/projects are worth 75%, tests are worth 15%, and quizzes are worth 10% of the final grade. Percentages are approximate.

Following class:

- The knowledge and skills acquired in this course will be demonstrated in subsequent courses.

Representative Text and/or Supplies:

- Giesecke, Mitchell, and Spencer, *Technical Drawing*, current edition, Prentice Hall, Inc.

Optimum Class Size: 12
Maximum Class Size: 20

Signatures:

I hereby submit this course syllabus:

Craig Conder, ,

I hereby find this course consistent with the goals and resources of the Drafting Technology Department:

Craig Conder, , , Chair

I hereby find this course consistent with the goals and resources of the Career and Technical Education Division:

Michael P. Medley, MBA, Assistant Professor, Dean

I have discussed the need for library resources related to this class with the person submitting the syllabus:

Lynn Anderson, MLIS, Technical Services Librarian (Main Campus)

Michelle Olsen, MLS, Campus Librarian (Richfield Campus)