

DRFT-210-TECHNICAL DRAFTING III 4 CREDITS

SYLLABUS

CATALOG DESCRIPTION

Design and working drawings, detail, subassembly and assembly drawings, and bill of materials are studied. Manufacturing methods and related drawing formats and topics in the mechanical and civil environment will be examined.

Prerequisites: DRFT-115 and MATH-160

Semester Offered: Fall

Common Student Learning Outcomes

Upon successful completion of San Juan College programs and degrees, the student will demonstrate competency in...

BROAD AND SPECIALIZED LEARNING

Students will actively and independently acquire, apply, and adapt skills and knowledge with an awareness of global contexts.

CRITICAL THINKING

Students will think analytically and creatively to explore ideas, make connections, draw conclusions and solve problems.

CULTURAL AND CIVIC ENGAGEMENT

Students will act purposefully, reflectively, and ethically in diverse and complex environments.

EFFECTIVE COMMUNICATION

Students will exchange ideas and information with clarity in multiple contexts.

INFORMATION LITERACY

Students will be able to recognize when information is needed and have the ability to locate, evaluate, and use it effectively.

INTEGRATING TECHNOLOGIES

Students will demonstrate fluency in the application and use of technologies in multiple contexts.

Student work from this class may be randomly selected and used anonymously for assessment of course, program, and/or institutional learning outcomes. For more information, please refer to the Dean of the appropriate School.

Course Learning Outcomes

Upon successful completion of the course, the student will be able to...

1. Understand welding processes, symbols and weldment drawing format.
2. Analyze tolerance studies on complex parts.
3. Study the design process for solving problems.

4. Understand belts, chains and gears as power transmission devices.
5. Gain knowledge in bearings, seals and lubricants.
6. Learn techniques used for structural steel detail drawings.

Specific Learning Outcomes

Upon successful completion of the course, the student will be able to...

1. Use micrometers and calipers to measure parts. (B,C,E,I,CC)
2. Discuss the theory of welding as it applies to different welding processes. (B,C,E,I,CC)
3. Produce a set of weldment drawings and apply welding symbols as needed. (B,C,E,I,CC)
4. Solve tolerance studies for interfacing parts to assure functionality. (B,C,E,I,CC)
5. Solve belt design problems. (B,C,E,I,CC)
6. Solve chain design problems. (B,C,E,I,CC)
7. Demonstrate knowledge of types of gears, bearings seals and lubrication systems. (B,C,E,I,CC)
8. Interpret structural steel key plans and produce detail drawing of beams and columns. (B,E,I,CC)
9. Apply the design process to solving problems and produce set of manufacturing drawings. (B,C,E,I,CC)
10. Function as a team member of a design group. (B,I,CC)