COURSE SYLLABUS

LAST REVIEW	Fall 2022
COURSE TITLE	Welding Blueprints
COURSE NUMBER	WELD 0105
DIVISION	Career and Technical Education
DEPARTMENT	WELD
CIP CODE	48.0508
CREDIT HOURS	3
CONTACT HOURS/WEEK	Class: 3 Lab:
PREREQUISITES	None

COURSE DESCRIPTION
Through a variety of classroom and/or shop/lab learning and assessment activities, the students in this course will: identify basic lines, views and abbreviations used in blueprints; interpret basic 3D sketches using orthographic projection and blueprints; solve applicable mathematical equations; use basic measuring tools; interpret scale ratios on a blueprint; identify basic welding joints and structural shapes; interpret a bill of materials; and identify standard AWS weld symbols.

PROGRAM ALIGNMENT
This course is part of a program aligned through the Kansas Board of Regents and Technical Education Authority. For more information, please visit:
https://kansasregents.org/workforce_development/program-alignment

PROGRAM LEARNING OUTCOMES

1. Students will be able to explain job/site and precautions for job site hazards and will be able to determine the use of Personal Protective equipment (PPE) as well as be able to Identify the safety equipment and procedures related to safe work practices and environment

2. Student will be able to demonstrate the use of good communication skills including listening, following directions, speaking, and using correct grammar in conducting a job search.

3. Student will be able to create fillet and groove welds in flat and horizontal positions and identify common visual discontinuities and defects on welds and determine causes of discontinuities and defects of welds.

TEXTBOOKS
http://kckccbookstore.com/

METHOD OF INSTRUCTION

A variety of instructional methods may be used depending on content area. These include but are not limited to lecture, multimedia, cooperative/collaborative learning, labs and demonstrations, projects and presentations, speeches, debates, panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs.

COURSE OUTLINE

I. Introduction to prints
   A. What is a print?
   B. Measurement
   C. Fractions and decimals
II. Basics
   A. Lines on a print
   B. Types of prints
   C. Print formats
   D. Dimensioning prints
   E. Basic and Geometric tolerances on prints
   F. First and Third angle views
   G. Circles, triangles and angles on prints
   H. Finding area and volume for parts
III. Materials and joining them
   A. Threaded fasteners
   B. Non-threaded fasteners
   C. Structural materials
   D. Weld joints and weld types
IV. Welding symbols for prints
   A. Overview of welding symbols
   B. Groove welds
   C. Fillet welds
   D. Plug and slot welds
   E. Resistance welds
   F. Flange welds
   G. Weld examination symbols

COURSE LEARNING OUTCOMES AND COMPETENCIES

Upon successful completion of this course, the student will:

A. Identify basic lines, views, and abbreviations used in blueprints
   1. Identify types of lines associated with industrial blueprints
   2. Identify the views associated with an orthographic projection
   3. Identify the placement of the views of an orthographic projection on a 2D surface
   4. Utilize abbreviations where appropriate

B. Interpret basic 3D sketches using orthographic projection and blueprints
   5. Describe each view of an orthographic projection
   6. Explain the part based on the view

7. Accurately lay out the part based on the sketches tolerances

C. Solve applicable mathematical equations
   8. Demonstrate use of fractions and decimals
   9. Compute areas
   10. Compute volumes
   11. Use basic geometric equations

D. Use basic measuring tools
   12. Use a variety of measuring tools and layout devices appropriate to the task
   13. Read a tape measure to a minimum of 1/16th of an inch or 1mm

E. Interpret scale ratios on a blueprint
   14. Apply appropriate mathematical principles to assigned tasks

F. Identify basic welding joints and structural shapes
   15. Identify welding joints
   16. Identify structural shapes

G. Interpret a bill of materials
   17. Identify the material description
   18. Identify the quantities of materials
   19. Identify parts and item numbers

H. Identify standard AWS weld symbols
   20. Identify a joint design
   21. Identify a weld process
   22. Identify other symbols' components

I. Interpret basic and geometric tolerance notes
   23. Identify tolerances on a print
   24. Identify and define geometric tolerance symbols

ASSESSMENT OF COURSE LEARNING OUTCOMES AND COMPETENCIES
Student progress is evaluated through both formative and summative assessment methods. Specific details may be found in the instructor's course information document.

COLLEGE POLICIES AND PROCEDURES
Student Handbook
https://www.kckcc.edu/files/docs/student-resources/student-handbook-and-code-of-conduct.pdf

College Catalog
https://www.kckcc.edu/academics/catalog/index.html

College Policies and Statements

https://www.kckcc.edu/about/policies-statements/index.html

Accessibility and Accommodations
https://www.kckcc.edu/academics/resources/student-accessibility-support-services/index.html.