GAVILAN COLLEGE
5055 Santa Teresa Blvd
Gilroy, CA 95023

Course Outline

COURSE: WELD 702 DIVISION: 90 ALSO LISTED AS:

TERM EFFECTIVE: Fall 2019 CURRICULUM APPROVAL DATE: 11/13/2018

SHORT TITLE: INTER WELDING

LONG TITLE:

Units	Number of Weeks		Contact Hours/Week		Total Contact Hours
0	18	Lecture:	1	Lecture:	18
		Lab:	3	Lab:	54
		Other:	0	Other:	0
		Total:	4	Total:	72

COURSE DESCRIPTION:

This course continues training in arc, gas, and oxy acetylene welding and oxy fuel and plasma arc cutting; as well as introduces Gas Tungsten Arc Welding (GTAW). Content includes an introduction to welding symbols, fabrication, and a continued emphasis on safe practices and equipment use. ADVISORY: WELD 701.

PREREQUISITES:

COREQUISITES:

CREDIT STATUS: N - Non Credit

GRADING MODES
N - Non Credit

REPEATABILITY: N - Course may not be repeated

SCHEDULE TYPES:
02 - Lecture and/or discussion
03 - Lecture/Laboratory
04A - Laboratory - LEH 0.65

STUDENT LEARNING OUTCOMES:

Demonstrate proper safety practices when working in a welding environment.

Measure of assessment: demonstration, exam, discussion

Year assessed, or planned year of assessment: 2019

Semester: Fall

Institution Outcome Map

1. Communication:

1.1 Students will communicate effectively in many different situations, involving diverse people and viewpoints.

1.2 Speaking: Students will speak in an understandable and organized fashion to explain their ideas, express their feelings, or support a conclusion.

1.3 Listening: Students will listen actively and respectfully to analyze the substance of others' comments.

1.4 Reading: Students will read effectively and analytically and will comprehend at the college level.

1.5 Writing: Students will write in an understandable and organized fashion to explain their ideas, express their feelings, or support a conclusion.

2. Cognition:

2.1 Students will think logically and critically in solving problems; explaining their conclusions; and evaluating, supporting, or critiquing the thinking of others.

2.2 Analysis and Synthesis: Students will understand and build upon complex issues and discover the connections and correlations among ideas to advance toward a valid independent conclusion.

2.3 Problem Solving: Students will identify and analyze real or potential problems and develop, evaluate, and test possible solutions, using the scientific method where appropriate.

2.4 Creative Thinking: Students will formulate ideas and concepts in addition to using those of others.

2.5 Quantitative Reasoning: Students will use college-level mathematical concepts and methods to understand, analyze, and explain issues in quantitative terms.

2.6 Transfer of Knowledge and Skills to a New Context: Students will apply their knowledge and skills to new and varied situations.

7. Content Specific:

Demonstrate improved welding skills in the various types of welding formats.

Measure of assessment: exam, skill demonstration

Year assessed, or planned year of assessment: 2019

Semester: Fall

Institution Outcome Map

2. Cognition:

2.1 Students will think logically and critically in solving problems; explaining their conclusions; and evaluating, supporting, or critiquing the thinking of others.

2.2 Analysis and Synthesis: Students will understand and build upon complex issues and discover the connections and correlations among ideas to advance toward a valid independent conclusion.

2.3 Problem Solving: Students will identify and analyze real or potential problems and develop, evaluate, and test possible solutions, using the scientific method where appropriate.

2.4 Creative Thinking: Students will formulate ideas and concepts in addition to using those of others.

2.5 Quantitative Reasoning: Students will use college-level mathematical concepts and methods to understand, analyze, and explain issues in quantitative terms.

2.6 Transfer of Knowledge and Skills to a New Context: Students will apply their knowledge and skills to new and varied situations.

7. Content Specific:

CONTENT, STUDENT PERFORMANCE OBJECTIVES, OUT-OF-CLASS ASSIGNMENTS

Curriculum Approval Date: 11/13/2018

Lecture 18 Hours, Lab 54 Hours

2 Hours

Content: Introduction, Safety (Including Solvent Safety)

Student Performance Objectives: Explain the importance of safety in a welding environment. Discuss the various pieces of safety equipment that should be used. Describe why it is important to read and understand the manufacturer's safety and operating instructions on any piece of equipment. Discuss the importance of safe handling of chemicals and identify the location of the MSDS (Material Safety Data Sheet).

3 Hours

Content: Drawing and Welding Symbol Interpretation

Student Performance Objectives: Sketch basic weld joints and welding symbols. Describe the various welding symbols.

3 Hours

Content: Review and Equipment Use – Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), Flux Cored Arc Welding (FCAW)

Student Performance Objectives: Explain the safety and set up requirements for the various types of welding processes. Explain how one can improve their manipulative welding skills.

2 Hours

Content: Review and Equipment Use - Oxy Fuel Cutting (OFC), Plasma Arc Cutting (PAC), Oxy Acetylene Welding (OAW) and Brazing

Student Performance Objectives: Explain the safety and set up requirements for the various types of cutting and welding techniques. Describe how to air arc (scarfing).

3 Hours

Content: Fabrication

Student Performance Objectives: Explain how to lay out parts for fabrication in various ways (such as nesting) in order to minimize waste.

3 Hours

Content: Gas Tungsten Arc Welding (GTAW) - Equipment, Setup, and Operation Student Performance Objectives: Describe the GTAW process and utilize the terms and nomenclature involved in the process.

2 Hours

METHODS OF INSTRUCTION:

Lecture, discussion, guided practice

OUTSIDE OF CLASS ASSIGNEMENTS:

Required Outside Hours: 18

Assignment Description: Read textbook and study for exams.

Required Outside Hours: 18

Assignment Description: Complete workbook exercises.

METHODS OF EVALUATION:

Writing assignments
Percent of total grade: 10.00 %
Lab Manuals
Problem-solving assignments
Percent of total grade: 40.00 %
Lab Projects
Skill demonstrations
Percent of total grade: 40.00 %
Lab Projects
Objective examinations
Percent of total grade: 10.00 %

REPRESENTATIVE TEXTBOOKS:

Larry Jeffus, Lawrence Bower. Welding Skills, Processes and Practices for Entry-Level Welders. New York: Delmar, Cengage Learning,2016.
Reading Level of Text, Grade: 12th Verified by: MS Word

ARTICULATION and CERTIFICATE INFORMATION

Associate Degree:
CSU GE:
IGETC:
CSU TRANSFER:
Not Transferable
UC TRANSFER:
Not Transferable

SUPPLEMENTAL DATA:
Basic Skills: N
Classification: J
Noncredit Category: J
Cooperative Education:
Program Status: 1 Program Applicable
Special Class Status: N
CAN:
CAN Sequence:
CSU Crosswalk Course Department:
CSU Crosswalk Course Number:
Prior to College Level: Y
Non Credit Enhanced Funding: Y
Funding Agency Code: A
In-Service: N
Occupational Course: C
Maximum Hours:
Minimum Hours:
Course Control Number:
Sports/Physical Education Course: N
Taxonomy of Program: 095650