WELD 273: STAINLESS STEEL WELD/REPAIR

Proposer:

Name:	Email:
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Effective Term:
Fall 2026

Does this course use a CA Common Course Number
No

Credit Status:
Credit - Degree Applicable

Subject:
WELD - Welding
Course Number:
273

Discipline:

And/Or	(	Discipline	)
		Welding	

Catalog Title
Stainless Steel Weld / Repair

COS Course Description
This course is designed to give welding students training in the practice, theory, and skill of welding stainless steel. Both repair and fabrication, as well as concepts to sanitary tube welding and fabrication, will be covered.

Prerequisites
WELD 172 or equivalent college course with a minimum grade of C

Validation

Validation Type
Sequential - Same Discipline

Course
WELD 172

Complete the Prerequisite/Corequisite Objectives and provide sound quantitative research to document the need for the requisite.

Method of Instruction:
Distance Education
Laboratory
Lecture and/or Discussion

Course Units/Hours:

Course Units Minimum:
4

Lecture Hours Minimum (week)
3

Lab Hours Minimum (week)
3

Total Contact Hours Minimum (semester)
105

Total Outside Hours Minimum (semester)
105

Total Student Learning Minimum Hours (semester)
210

Repeatability:
No

Open Entry/Exit:
No

Field Trips:
Not Required

Grade Mode:
Standard Letter

TOP Code:
095650 - * Welding Technology

SAM Code:
C - Clearly Occupational

Course Content

COS Methods of Evaluation:
Essay quizzes or exams
Skill demonstrations

COS Course Topics:

	COS Course Topics
1	Applications
2	Theory and Application of Welding Stainless Steel
3	Concepts of Filler Metal Selection
4	Principles of Chemical Composition of Base Metal
5	Principles of Cutting

COS Course Objectives:

	COS Course Objectives
1	Explain and develop safe work habits for themselves and co-workers.
2	Develop and demonstrate skills and applications to sanitary tubing welding and fabrication, structural frame fabrication and sheet metal welding.
3	Explain the theory of different welding processes, procedures and techniques. Processes covered: Tungsten Inert Gas, Shielded Metal Arc Welding, and Gas Metal Arc Welding.
4	Explain and demonstrate skills in matching different filler metals with proper base metal.
5	Develop and demonstrate recognition and use of base metals, their characteristics and numbering systems.

Course Outcomes:

	Course Outcomes
1	Upon completion of this course students will be able to define and demonstrate industry level safe work habits.
2	Upon completion of this course students will be able to identify and evaluate application of industries most common stainless steels.
3	Upon completion of this course students will be able to interpret and apply industry principles for welding stainless steel by industry processes. GTAW, SMAW, and GMAW.
4	Upon completion of this course students will be able to produce quality sanitary tube welds and quality structural stainless steel welds.
5	Upon completion of this course students will be able to demonstrate the use of proper filler material based on composition of base metal.

Assignments:

Assignment Type:	Details
Reading	In a possible reading assignment, students will read technical articles from the Stainless Steel industry. These articles may come from the Nickel Development Institute or other recognized industrial professional organizations.
Writing	In a possible writing assignment, students will compose a written review of a industrial based technical article.
Homework	In a possible homework assignment, students will research professional industry related groups that effect the stainless steel industry. This research may include welding procedures, welding equipment and related practices and processes.
Lab	In a possible laboratory exercise, students will perform acceptable welds on the five basic welding joints. These welds will be done using the GMAW and GTAW processes in various positions.

Representative Texts, Manuals, and/or OER that is equivalent, Other Support Materials:

Texts used by individual institutions and even individual sections will vary. The list of representative texts must include at least one text with a publication date within five (5) years of the course outline approval date.

COS Textbooks or other support materials

Resource Type:	Details
Books	Welding Principles and Applications by Larry Jeffus. 9th Edition, ISBN 978-0-3573-7765-9 Published by Cengage 2020

Other Degree Attributes

Degree Applicable
Not Transferable
Not a Basic Skills Course

Materials Fee:

50

Distance Learning Addendum

Weld DLA Upd 2025.pdf

Additional Attachment

095650_Welding Technology_June 2025.pdf
2025_advisory minutes_members.pdf
2025_advisory minutes.pdf

Banner Title:

Stainless Steel Weld/Repair

Curriculum Committee Approval Date:

10/21/2020

Academic Senate Approval Date:
10/28/2020

District Governing Board Approval Date:
11/09/2020

Course Control Number:
CCC000523637

Equity Review

Select elements of the COR that were reviewed for equity. Must select at least one:

Title