COURSE OUTLINE: WLD200 - FABRICATION/WELDING

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Approved: Martha Irwin - Dean

Course Code: Title	WLD200: FABRICATION AND WELDING
Program Number: Name	4039: MECH. ENG. TN-MANUFA
Department:	IRONWKR APPR./WELDING RELATED
Academic Year:	2025-2026
Course Description:	Plan and perform practical welding and fitting projects in accordance with government safety regulations, and approved industry standards.
Total Credits:	2
Hours/Week:	2
Total Hours:	28
Prerequisites:	WLD121
Corequisites:	There are no co-requisites for this course.
Vocational Learning Outcomes (VLO's) addressed in this course: **Please refer to program web page for a complete listing of program outcomes where applicable.**	**4039 - MECH. ENG. TN-MANUFA** VLO 1 Complete all work in compliance with current legislation, standards, regulations and guidelines. VLO 3 Comply with current health and safety legislation, as well as organizational practices and procedures. VLO 10 Verify the specifications of materials, processes and operations to support the design and production of mechanical components. VLO 12 Develop strategies for ongoing personal and professional development to enhance work performance.
Essential Employability Skills (EES) addressed in this course:	EES 4 Apply a systematic approach to solve problems. EES 5 Use a variety of thinking skills to anticipate and solve problems. EES 8 Show respect for the diverse opinions, values, belief systems, and contributions of others. EES 10 Manage the use of time and other resources to complete projects. EES 11 Take responsibility for ones own actions, decisions, and consequences.
Course Evaluation:	Passing Grade: 50%, D A minimum program GPA of 2.0 or higher where program specific standards exist is required for graduation.
Other Course Evaluation & Assessment Requirements:	1. Late hand-in penalties will be -10% per day. Assignments will not be accepted past one week late unless there are extenuating and legitimate circumstances (as determined by instructor). 2. If a student misses a test/lab he/she must have a valid reason (i.e. medical or family

emergency documentation shall be required). In addition, the instructor MUST be notified PRIOR to the test or lab sitting. If this procedure is not followed the student will receive a mark of zero on the test/lab with no make-up option.
3.Re-writes are NOT allowed for any written assignment, quiz or test.
4.Repeats are NOT allowed for any shop test.
5.Course attendance is mandatory. One percent (1 %) per hour will be deducted from the final course grade for unexcused* absence.
Any absence without a written, valid reason will be deemed unexcused.
Valid reasons would include:
Doctors note
Family Death or Serious Illness supported by a written note.

Books and Required Resources:

ILM Welding Bundle *A* (OXY/OXY/SMA/MILD/WEL) by Alberta OLM
Publisher: AK Graphics

Course Outcomes and Learning Objectives:

Course Outcome 1	**Learning Objectives for Course Outcome 1**
Apply safe work practices according to Occupational Health and Safety Act (OHSA) legislation.	1.1 Identify hazards for welding and cutting operations. 1.2 Identify the use of personal protective equipment for welding and cutting operations. 1.3 Explain the hazards involved with welding fumes and gases. 1.4 Identify welding fume ventilation methods. 1.5 Explain the effects of electricity and precautions used to prevent injury. 1.6 Describe the procedure for welding or cutting in confined spaces or potentially dangerous enclosures. 1.7 Interpret sections of the occupational Health and Safety Act General Safety Regulations
Course Outcome 2	**Learning Objectives for Course Outcome 2**
Identify joints and weld tacking techniques.	2.1 Describe tacking techniques. 2.2 Describe the types of welds and their dimensions. 2.3 Identify joint and weld type variations. 2.4 Outline the considerations in the design of a joint for welding
Course Outcome 3	**Learning Objectives for Course Outcome 3**
Interpret welding symbols	3.1 Explain the purpose of welding symbols. 3.2 Define weld symbol, welding symbol and supplementary symbols. 3.3 Interpret weld symbols 3.4 Identify the dimensioning of welding symbols.
Course Outcome 4	**Learning Objectives for Course Outcome 4**
Describe and apply fabrication techniques	4.1 Layout, tack and fabricate materials to assemble components using drawings 4.2 Layout procedures and set-up 4.3 Prevention and correction of distortion 4.4 Joint preparation 4.5 Alignment procedures and use of jigs and templates 4.6 Peening, flame shrinkage and proper fabrication techniques 4.7 Selection of correct electrode for specific application

	4.8 Oxyacetylene and plasma methods 4.9 Calculate geometric formulae and layout as applied to fabrication
Course Outcome 5	**Learning Objectives for Course Outcome 5**
Describe welding processes	5.1 Describe Gas Tungsten Arc Welding (GTAW) 5.2 Describe Gas Metal Arc Welding (GMAW) 5.3 Describe Shielded Metal Arc Welding (SMAW)
Course Outcome 6	**Learning Objectives for Course Outcome 6**
Perform horizontal and vertical welds on mild steel.	6.1 Weld stringer/ weave beads in the horizontal position. 6.2 Weld stringer/ weave beads in the vertical position. 6.3 Describe the use and operation of the guided bend to test weld quality.

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Shop Assignments	68%
Theory Testing	32%

Date: August 1, 2025

Addendum: Please refer to the course outline addendum on the Learning Management System for further information.