



COURSE OUTLINE: MTF201 - FABRICATION 2

Prepared: Dave Holley

Approved: Corey Meunier, Chair, Technology and Skilled Trades

Course Code: Title	MTF201: FABRICATION 2
Program Number: Name	4051: METAL FABRICATION
Department:	IRONWKR APPR./WELDING RELATED
Semesters/Terms:	19F
Course Description:	Prepare fabrication and detail materials by utilizing machinery and equipment in accordance with government regulations, manufacturer's recommendations and specifications, and approved industry standards.
Total Credits:	5
Hours/Week:	5
Total Hours:	75
Prerequisites:	MTF131
Corequisites:	There are no co-requisites for this course.
This course is a pre-requisite for:	MTF231, MTF236
Vocational Learning Outcomes (VLO's) addressed in this course: Please refer to program web page for a complete listing of program outcomes where applicable.	4051 - METAL FABRICATION VLO 1 Interpret blueprints and produce basic drawings and bills of materials. VLO 2 Apply knowledge of various welding and metal cutting techniques and theories to produce components and sub-assemblies. VLO 3 Prepare materials by utilizing fabrication machinery and equipment. VLO 4 Create and use patterns and templates using common layout and measuring tools. VLO 6 Develop project plans relating to component and sub-assembly production. VLO 7 Complete all work in compliance with health and safety legislation and prescribed organizational practices and procedures to ensure safety of self and others. VLO 8 Work responsibly and effectively in accordance with government safety regulations, manufacturer's recommendations and approved industry standards.
Essential Employability Skills (EES) addressed in this course:	EES 3 Execute mathematical operations accurately. EES 4 Apply a systematic approach to solve problems. EES 5 Use a variety of thinking skills to anticipate and solve problems. 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
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



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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.

Course Outcomes and Learning Objectives:

Course Outcome 1	Learning Objectives for Course Outcome 1
Demonstrate the ability to utilize shop machinery and equipment to safely prepare fabrication and detail materials.	1. Demonstrate safe operation of fabrication machinery. Ironworkers Shears Benders Drilling machines Fitting tools 2. Operate thermal cutting processes to generate shapes. Freehand shape cutting Oxy/Fuel torches 3. Assemble components and sub assemblies. Sequence of assembly Alignment Jigs and fixtures Tack welds Fasteners Bracing 4. Develop jigs and fixtures. Critical dimensions Datum locations Material selection Fabrication Clamping Forming and shaping Part removal Accessibility 5. Demonstrate complex assembly techniques. Prepared joint data Proper seam alignment on vessels Tack location and process Temporary restraint Pipe diameter alignment Oblique pipe intersections Structural intersections / HSS intersections Tightening sequence / bolting Alignment of multi-segment cones

	Standard tolerance of structural shapes Pre-welding requirements Accessibility of weld joints Ongoing third party checks Accommodation of part variation while maintaining overall dimensions Alignment and dimensions using heat or mechanical means Trial assembly of completed sub-components										
Evaluation Process and Grading System:	<table> <tr> <th>Evaluation Type</th><th>Evaluation Weight</th></tr> <tr> <td>Project 1</td><td>25%</td></tr> <tr> <td>Project 2</td><td>25%</td></tr> <tr> <td>Project 4</td><td>25%</td></tr> <tr> <td>Projects 3</td><td>25%</td></tr> </table>	Evaluation Type	Evaluation Weight	Project 1	25%	Project 2	25%	Project 4	25%	Projects 3	25%
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Date:	July 25, 2019										
Addendum:	Please refer to the course outline addendum on the Learning Management System for further information.										