



## COURSE OUTLINE: MTF201 - FABRICATION 2

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Approved: Corey Meunier, Chair, Technology and Skilled Trades

<b>Course Code: Title</b>	MTF201: FABRICATION 2
<b>Program Number: Name</b>	4051: METAL FABRICATION
<b>Department:</b>	IRONWKR APPR./WELDING RELATED
<b>Semesters/Terms:</b>	19F
<b>Course Description:</b>	Prepare fabrication and detail materials by utilizing machinery and equipment in accordance with government regulations, manufacturer's recommendations and specifications, and approved industry standards.
<b>Total Credits:</b>	5
<b>Hours/Week:</b>	5
<b>Total Hours:</b>	75
<b>Prerequisites:</b>	MTF131
<b>Corequisites:</b>	There are no co-requisites for this course.
<b>This course is a pre-requisite for:</b>	MTF231, MTF236
<b>Vocational Learning Outcomes (VLO's) addressed in this course:</b>	<p><b>4051 - METAL FABRICATION</b></p> <p>VLO 1 Interpret blueprints and produce basic drawings and bills of materials.</p> <p>VLO 2 Apply knowledge of various welding and metal cutting techniques and theories to produce components and sub-assemblies.</p> <p>VLO 3 Prepare materials by utilizing fabrication machinery and equipment.</p> <p>VLO 4 Create and use patterns and templates using common layout and measuring tools.</p> <p>VLO 6 Develop project plans relating to component and sub-assembly production.</p> <p>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.</p> <p>VLO 8 Work responsibly and effectively in accordance with government safety regulations, manufacturer's recommendations and approved industry standards.</p>
<b>Essential Employability Skills (EES) addressed in this course:</b>	<p>EES 3 Execute mathematical operations accurately.</p> <p>EES 4 Apply a systematic approach to solve problems.</p> <p>EES 5 Use a variety of thinking skills to anticipate and solve problems.</p> <p>EES 10 Manage the use of time and other resources to complete projects.</p> <p>EES 11 Take responsibility for ones own actions, decisions, and consequences.</p>
<b>Course Evaluation:</b>	Passing Grade: 50%, D
<b>Other Course Evaluation &amp; Assessment Requirements:</b>	<p>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).</p> <p>2. If a student misses a test/lab he/she must have a valid reason (i.e. medical or family</p>



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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
<p>Demonstrate the ability to utilize shop machinery and equipment to safely prepare fabrication and detail materials.</p>	<p>1. Demonstrate safe operation of fabrication machinery.            Ironworkers            Shears            Benders            Drilling machines            Fitting tools</p> <p>2. Operate thermal cutting processes to generate shapes.            Freehand shape cutting            Oxy/Fuel torches</p> <p>3. Assemble components and sub assemblies.            Sequence of assembly            Alignment            Jigs and fixtures            Tack welds            Fasteners            Bracing</p> <p>4. Develop jigs and fixtures.            Critical dimensions            Datum locations            Material selection            Fabrication            Clamping            Forming and shaping            Part removal            Accessibility</p> <p>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</p>



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:**

Evaluation Type	Evaluation Weight
Project 1	25%
Project 2	25%
Project 4	25%
Projects 3	25%

**Date:**

July 25, 2019

**Addendum:**

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

