



# COURSE OUTLINE

## MTF211

Prepared: Dave Holley    Approved: Corey Meunier

<b>Course Code: Title</b>	MTF211: ASSEMBL/FABRICATION OF DETAIL COMPONENTS
<b>Program Number: Name</b>	4051: METAL FABRICATION
<b>Department:</b>	IRONWKR APPR./WELDING RELATED
<b>Semester/Term:</b>	17F
<b>Course Description:</b>	In this course, students will build small, intricate projects that use various methods of connections as well as detailed lay-out and fitting to better understand the complexity of structures. A variety of tacking techniques as well as methods of forming and bending various structural materials working off of complex blueprints is also covered.
<b>Total Credits:</b>	5
<b>Hours/Week:</b>	5
<b>Total Hours:</b>	75
<b>Prerequisites:</b>	MTF131
<b>Substitutes:</b>	MTF230
<b>This course is a pre-requisite for:</b>	MTF236
<b>Vocational Learning Outcomes (VLO's):</b>  Please refer to program web page for a complete listing of program outcomes where applicable.	<ul style="list-style-type: none"> <li>#1. Interpret blueprints and produce basic drawings and bills of materials.</li> <li>#2. Apply knowledge of various welding and metal cutting techniques and theories to produce components and sub-assemblies.</li> <li>#3. Prepare materials by utilizing fabrication machinery and equipment.</li> <li>#4. Create and use patterns and templates using common layout and measuring tools.</li> <li>#5. Understand and use a variety of destructive and non-destructive methods to test welds.</li> <li>#6. Develop project plans relating to component and sub-assembly production.</li> <li>#7. Complete all work in compliance with health and safety legislation and prescribed organizational practices and procedures to ensure safety of self and others.</li> <li>#8. Work responsibly and effectively in accordance with government safety regulations, manufacturer's recommendations and approved industry standards.</li> </ul>
<b>Essential Employability Skills (EES):</b>	<ul style="list-style-type: none"> <li>#4. Apply a systematic approach to solve problems.</li> <li>#5. Use a variety of thinking skills to anticipate and solve problems.</li> <li>#10. Manage the use of time and other resources to complete projects.</li> </ul>



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	#11. Take responsibility for ones own actions, decisions, and consequences.								
<b>Course Evaluation:</b>	Passing Grade: 50%, D								
<b>Other Course Evaluation &amp; Assessment Requirements:</b>	<ol style="list-style-type: none"> <li>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.</li> <li>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 <b>MUST</b> be notified <b>PRIOR</b> 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.</li> <li>3. Re-writes are <b>NOT</b> allowed for any written assignment, quiz or test.</li> <li>4. Repeats are <b>NOT</b> allowed for any shop test.</li> <li>5. Course attendance is mandatory. One percent (1 %) per hour will be deducted from the final course grade for unexcused* absence.</li> </ol> <p>Valid reasons would include:                      Doctors note                      Family Death or Serious Illness supported by a written note</p>								
<b>Evaluation Process and Grading System:</b>	<table border="1"> <thead> <tr> <th>Evaluation Type</th> <th>Evaluation Weight</th> </tr> </thead> <tbody> <tr> <td>Project 1</td> <td>50%</td> </tr> <tr> <td>Project 2</td> <td>25%</td> </tr> <tr> <td>Project 3</td> <td>25%</td> </tr> </tbody> </table>	Evaluation Type	Evaluation Weight	Project 1	50%	Project 2	25%	Project 3	25%
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<b>Course Outcomes and Learning Objectives:</b>	<p><b>Course Outcome 1.</b></p> <p>Curriculum based on demonstrating the knowledge and skills required to complete a fitting and assembly project from the stages of planning and preparation through to final assembly and welding while following applicable industry standards and codes.</p> <p><b>Learning Objectives 1.</b></p> <p>Upon successful completion of this course, the student will demonstrate the ability to:</p> <ol style="list-style-type: none"> <li>1. Prepare a job for welding.                             <ul style="list-style-type: none"> <li>• Fabrication sequence</li> <li>• Essential tools and equipment demands</li> <li>• Joint preparation</li> </ul> </li> </ol>								



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- Understanding of related codes
- Basic job requirements
- 2. Determine the requirements for jigs, fixtures and bracing.
  - Jig requirements
  - Basic jig construction
  - Welding fixtures
  - Use and need for bracing
- 3. Assemble fabrications and detail components.
  - Understand basic fabrication assembly techniques
  - Assemble parts and fittings in correct sequence
  - Understand the importance of accuracy in the assembly of detailed components
- 4. Tack weld, fit and position fabricated and detailed parts.
  - Understand the importance of tack weld size and placement
  - Demonstrate the ability to follow proper fitting requirements as outlined in a detailed procedure
  - Demonstrate the understanding of proper fit-up tolerances
- 5. Assemble components.
  - Demonstrate the ability to perform a final assembly on a fabrication project to acceptable industry standards and codes

**Date:**

Friday, September 1, 2017

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