



COURSE OUTLINE

MTF236

Prepared: Dave Holley Approved: Corey Meunier

Course Code: Title	MTF236: FIELD FITTING AND LAYOUT
Program Number: Name	4051: METAL FABRICATION
Department:	IRONWKR APPR./WELDING RELATED
Semester/Term:	17F
Course Description:	This course is designed to incorporate all skills that students have obtained in Fabrication 1 & 2 demonstrate the skills to assemble various structures using bending, forming, shaping, tacking and welding procedures. Students will also take the role of a business and will be required to receive a verbal order, provide cost of job, submit the required materials, build entire assembly and produce full blueprints for all parts required.
Total Credits:	8
Hours/Week:	8
Total Hours:	120
Prerequisites:	MTF201, MTF211
Vocational Learning Outcomes (VLO's): Please refer to program web page for a complete listing of program outcomes where applicable.	<p>4051 - METAL FABRICATION</p> <p>#1. Interpret blueprints and produce basic drawings and bills of materials. #2. Apply knowledge of various welding and metal cutting techniques and theories to produce components and sub-assemblies. #3. Prepare materials by utilizing fabrication machinery and equipment. #4. Create and use patterns and templates using common layout and measuring tools. #5. Understand and use a variety of destructive and non-destructive methods to test welds. #6. Develop project plans relating to component and sub-assembly production. #7. Complete all work in compliance with health and safety legislation and prescribed organizational practices and procedures to ensure safety of self and others. #8. Work responsibly and effectively in accordance with government safety regulations, manufacturer's recommendations and approved industry standards.</p>
Essential Employability Skills (EES):	<p>#1. Communicate clearly, concisely and correctly in the written, spoken, and visual form that fulfills the purpose and meets the needs of the audience. #2. Respond to written, spoken, or visual messages in a manner that ensures effective communication. #4. Apply a systematic approach to solve problems. #5. Use a variety of thinking skills to anticipate and solve problems.</p>

#10. Manage the use of time and other resources to complete projects.
#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.
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.

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Handrail	30%
Platform	35%
Stair	35%

Course Outcomes and Learning Objectives:

Course Outcome 1.

Using skills developed in Assembly and fabrication of detailed Components, to demonstrate the skills to assemble various structures using bending, forming, shaping, tacking and welding procedures.

Learning Objectives 1.

Plan and Set-up Workspace

Potential Elements of the Performance:

Shop Preparation

- Locate and set up sufficient space for work to take place
- Plan a safe work environment
- Ensure lighting is adequate
- Describe appropriate ventilation and air flow requirements
- Ensure proper material handling
- Identify overhead hazards
- Ensure and plan for proper work process flow

Job Planning and Timetable

Potential Elements of the Performance:

Develop Job Plan

- Respond to verbal production request
- Develop working sketch for project
- Identify materials required
- Produce accurate material cut list
- Calculate cost estimate for labor and material
- Estimate job start and completion dates

Jigs and Fixtures

Potential Elements of the Performance:

Develop jigs and fixtures.

- Critical dimensions
- Datum locations
- Material selection
- Fabrication
- Clamping
- Forming and shaping
- Part removal
- Accessibility

Product Assembly

Potential Elements of the Performance:

Assemble components and sub assemblies.

- Sequence of assembly
- Alignment
- Seam alignment tools
- Jigs and fixtures
- Tack welds
- Fasteners
- Bracing

Quality Assurance

Potential Elements of the Performance:

Job completion

- Ensuring weld sizing and location
- Removing any sharp edges
- Cleaning slag and weld splatter
- Quality assurance inspection

Date:

Monday, December 18, 2017

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