COURSE OUTLINE: MTF211 - ASSEMBLY FABRICATION

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Course Code: Title	MTF211: ASSEMBL/FABRICATION OF DETAIL COMPONENTS
Program Number: Name	4051: METAL FABRICATION
Department:	IRONWKR APPR./WELDING RELATED
Semesters/Terms:	20F
Course Description:	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.
Total Credits:	5
Hours/Week:	5
Total Hours:	75
Prerequisites:	MTF131
Corequisites:	There are no co-requisites for this course.
Substitutes:	MTF230
This course is a pre-requisite for:	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 5 Understand and use a variety of destructive and non-destructive methods to test welds. 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 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.

In response to public health requirements pertaining to the COVID19 pandemic, course delivery and assessment traditionally delivered in-class, may occur remotely either in whole or in part in the 2020-2021 academic year.

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. 2. If a student misses a test, 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 sitting. If this procedure is not followed the student will receive a mark of zero on the test with no make-up option. 3. Re-writes are NOT allowed for any written assignment, quiz or test. 4. Course attendance is mandatory. Any student that is not present for the first 3 classes in each course, will be deemed to have not completed the required safety orientation for the course and will not be permitted to continue. One percent (1 %) per hour will be deducted from the final course grade for unexcused* absence. Any unexcused attendance beyond 15% of the total allocated course hours will result in the student receiving a failing grade for the course. Valid reasons would include: Doctors note Family Death or Serious Illness supported by a written note. Unexcused absence* will be determined in a case by case basis by the instructor of each course.

Course Outcomes and Learning Objectives:

Course Outcome 1	Learning Objectives for Course Outcome 1
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.	Upon successful completion of this course, the student will demonstrate the ability to: 1. Prepare a job for welding. Fabrication sequence Essential tools and equipment demands Joint preparation 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

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Project 1	50%
Project 2	25%
Project 3	25%

Date: September 2, 2020

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

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