

**SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY**

**SAULT STE. MARIE, ONTARIO**



**SAULT  
COLLEGE**

**COURSE OUTLINE**

**COURSE TITLE:** FABRICATION 1

**CODE NO. :** MTF131

**SEMESTER:** Two

**PROGRAM:** METAL FABRICATION TECHNICIAN &  
WELDING TECHNIQUES

**AUTHOR:** Steve Witty

**INSTRUCTOR:** Dave Holley

**DATE:** January  
2016

**PREVIOUS OUTLINE DATED:** January  
2015

**APPROVED:**

*“Corey Meunier”*

CHAIR

DATE

**TOTAL CREDITS:** 3

**PREREQUISITE(S):** N/A

**HOURS/WEEK:** 3

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***For additional information, please contact Corey Meunier, Chair  
School of Technology & Skilled Trades***

**(705) 759-2554, Ext. 2610**

**I. COURSE DESCRIPTION:**

A trades curriculum that has been designed to provide students with a combination of theoretical knowledge and hands on skill in relation to the safe planning and performing practical fitting projects in accordance with government safety regulations, manufacturer's recommendations and approved industry standards.

**II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:**

Upon successful completion of this course, the student will demonstrate the ability to:

**1. *Plan and Set Up A Workspace.***

Potential Elements of the Performance:

- 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

**2. *Select Materials From Specifications.***

Potential Elements of the Performance:

- Understand the importance of heat numbers
- Identify the components of receiving documentation
- Identify structural shapes
- Identify bolts, nuts and washers

**3. *Demonstrate Structural Fitting Techniques.***

Potential Elements of the Performance:

- Understand the difference between actual and nominal dimensions
- Understand symbols for structural shapes
- Describe the importance of access holes
- Identify the importance of following proper code references
- Identify stiffener details
- Describe the purpose of end plates
- Explain the proper use of hole punch guides

#### **4. *Perform Assigned Practical Fitting Projects.***

##### Potential Elements of the Performance:

- Demonstrate the ability to perform cutting and fitting exercises all or part of which may be used in one or more structural projects
- Beam
  - Layout a 45 and 90 degree cope
  - Cut parts
  - Fit parts tack parts together
- Channel
  - Layout a 45 and 90 degree cope
  - Cut parts
  - Fit parts tack parts together
- Angle
  - Layout a 45 and 90 degree cope
  - Cut parts
  - Fit parts tack parts together
- Box construction project
  - Layout parts
  - Bend
  - Fit parts
  - Tack parts
- Elbows
  - Layout
  - Cut parts
  - Fit parts
  - Tack parts
- Pipe projects
  - Use wrap from layout and pattern development
  - Form lateral branch
  - Form tee connection
  - Layout parts
  - Cut parts
  - Fit parts
  - Tack parts

**III. TOPICS:**

1. PLAN AND SET UP WORKSPACE
2. SELECT MATERIALS FROM SPECIFICATIONS
3. DEMONSTRATE STRUCTURAL FITTING TECHNIQUES
4. PERFORM ASSIGNED PRACTICAL FITTING PROJECTS

**IV. REQUIRED RESOURCES/TEXTS/MATERIALS:**

- Impact Resistant Safety Glasses (CSA Approved)
- High Cut ( 6 inch min ) Safety Work Boot ( CSA Approved)
- Weld Gloves ( CSA Approved)
- IPT Metal Trades Handbook

**V. EVALUATION PROCESS/GRADING SYSTEM:**Part 1 NOTES:

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:

Doctor's note

Family Death or Serious Illness supported by a written note.

Part 2 Final Course Grades:

The final course grade will be determined by means of the following list of weighted factors:

<b><i>Factor</i></b>	<b><i>Value</i></b>
<b><u>Shop Assignments</u></b>	
Cutting Project	10%
Flange Cut	15%
Angle Cope	15%
Channel Cope	15%
Beam Cope	15%
Pipe Miter	15%
Plate Fit-up Project	15%
Attendance	-1% per Unexcused Hour
<i>Late</i>	<i>-1% per Late</i>
<i>Shop Clean-up</i>	<i>-1% per Incident</i>

The following semester grades will be assigned to students:

<b>Grade</b>	<b><u>Definition</u></b>	<i>Grade Point Equivalent</i>
A+	90 – 100%	4.00
A	80 – 89%	3.00
B	70 - 79%	2.00
C	60 - 69%	1.00
D	50 – 59%	0.00
F (Fail)	49% and below	
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field /clinical placement or non-graded subject area.	
U	Unsatisfactory achievement in field/clinical placement or non-graded subject area.	
X	A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course.	
NR	Grade not reported to Registrar's office.	
W	Student has withdrawn from the course without academic penalty.	

## VI. SPECIAL NOTES:

### Attendance:

Sault College is committed to student success. There is a direct correlation between academic performance and class attendance; therefore, for the benefit of all its constituents, all students are encouraged to attend all of their scheduled learning and evaluation sessions. This implies arriving on time and remaining for the duration of the scheduled session.

## VII. COURSE OUTLINE ADDENDUM:

The provisions contained in the addendum located on the portal form part of this course outline.