SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

COURSE TITLE:	Fabrication II		
CODE NO. :	MTF 201	**SEMESTER:**	THREE
PROGRAM:	Metal Fabrication Technician		
AUTHOR:	Steve Witty		
DATE:	September 2011	**PREVIOUS OUTLINE DATED: N/A**	September 2010
APPROVED:	*"Corey Meunier"*		
	CHAIR		**DATE**
TOTAL CREDITS:	FIVE		
PREREQUISITE(S):	MTF 131 – Fabrication 1		
HOURS/WEEK:	FIVE		

For additional information, please contact Corey Meunier, Chair
School of Technology & Skilled Trades
(705) 759-2554, Ext. 2610

I. COURSE DESCRIPTION: Demonstrate the ability to utilize shop machinery and equipment to safely prepare fabrication and detail materials.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

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

1. Demonstrate safe operation of fabrication machinery.

- Rolls
- Ironworkers
- Shears
- Benders
- Break press
- Drilling machines
- Fitting tools

2. Operate thermal cutting processes to generate shapes.

- Freehand shape cutting
- Oxy/Fuel torches

3. Assemble components and sub assemblies.

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

4. Develop jigs and fixtures.

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

5. Demonstrate complex assembly techniques.

- Prepared joint data
- Proper seam alignment on vessels
- Tack location and process
- Temporary restraint
- Pipe diameter alignment
- Backing rings
- Oblique pipe intersections
- Structural intersections / HSS intersections
- Tightening sequence / bolting
- Alignment of multi-segment cones
- Dimensional control of framed structural platform
- Standard tolerance of structural shapes
- Economic and safe sequencing
- 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

III. TOPICS:

1. Safe demonstration of shop machinery.
2. Operation of thermal cutting equipment.
3. Component assembly.
4. Jig and fixture development and use.
5. Complex assembly techniques.

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

1. Metal Trades Handbook

V. EVALUATION PROCESS/GRADING SYSTEM:

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 musts have a valid reason (i.e. medical or family emergency – documentation may 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.

Valid reasons would include:

- Doctor's note
- Apprenticeship Ministry note
- Family Death or Serious Illness supported by a written note.

FINAL COURSE GRADES:

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

Factor	***Value***
Shop Assignments and Practical Tests	100%
Attendance	-1% per Unexcused Hour
Shop Clean-up	-1% per Incident

The following semester grades will be assigned to students:

Grade	**Definition**	*Grade Point Equivalent*
A+	90 – 100%	4.00
A	80 – 89%	
B	70 - 79%	3.00
C	60 - 69%	2.00
D	50 – 59%	1.00

F (Fail)	49% and below	0.00

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.

It is the departmental policy that once the classroom door has been closed, the learning process has begun. Late arrivers will not be granted admission to the room.

VII. COURSE OUTLINE ADDENDUM:

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