SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

Sault College

COURSE OUTLINE

COURSE TITLE: DRAFTING

CODE NO. : DRF-115 **SEMESTER:** N/A

PROGRAM: Truck Coach / HED Technician

AUTHOR: D. Clement-Socchia

DATE: Jan 2007 **PREVIOUS OUTLINE DATED:** Jan 2005

APPROVED:

_____ _____

DEAN **DATE**

TOTAL CREDITS: 2

PREREQUISITE(S): None

HOURS/WEEK: 2

I. COURSE DESCRIPTION: A sketching and mechanical blueprint reading course of instruction designed to provide a basic understanding of how to represent and dimension objects by means of both the orthographic and the isometric methods of projection. Students also learn to recognize standard electrical, hydraulic and welding symbols as well as represent them on a variety of drawings.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

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

1. ***Demonstrate the ability to represent objects and / or mechanical components by means of Isometric Drawings.***

   Potential Elements of the Performance:
   - identify base line and angle of (object) rotation
   - identify the purpose and contents of an isometric drawing
   - identify the limitations of an isometric drawing
   - study and develop basic isometric sketches
   - identify the purpose and contents of a simple 'Title Block'
   - understand the need for clear printing and lettering
   - create and use 'Title Blocks'
   - read and interpret information displayed on isometric drawings
   - develop an isometric sketch c/w dimensions, title block and notes

2. ***Demonstrate the ability to represent objects and / or mechanical components by means of Orthographic Drawings.***

   Potential Elements of the Performance:
   - identify the 6 base orthographic views
   - identify the purpose and contents of an orthographic drawing in contrast to isometric drawings
   - study and develop basic orthographic sketches
   - identify the purpose and contents of a simple 'Title Block'
   - understand the need for clear printing and lettering
   - create and use 'Title Blocks'
   - read and interpret information displayed on orthographic drawings
   - develop an orthographic sketch c/w dimensions, title block and notes

3. ***Demonstrate the ability to represent objects and / or mechanical components by means of Section and Auxiliary views.***

Potential Elements of the Performance:

- describe the purpose and function of section views
- identify how the location of a section view is identified and then referenced on a drawing
- identify how a section view is developed
- develop section views
- describe the purpose and function of auxiliary views
- identify how the location of an auxiliary view is identified and then referenced on a drawing
- identify how an auxiliary view is developed
- develop auxiliary views

4. ***Demonstrate the ability to recognize and draw symbols for both Electrical and Hydraulic components.***
   - identify and draw basic electrical symbols
   - identify and draw basic hydraulic symbols
   - identify the arrow side and other side of the reference line
   - read and interpret information displayed by electrical and hydraulic symbols on orthographic and / or isometric drawings
   - develop an orthographic and / or isometric sketch c/w symbols, title block and notes

Potential Elements of the Performance:

5. ***Demonstrate the ability to read and interpret Welding Symbols beyond a basic level of comprehension.***

Potential Elements of the Performance:

- identify and draw the five basic joints
- identify and draw the three basic welds
- identify and draw the basic components of a standard welding symbol
- identify the arrow side and other side of the reference line
- identify the arrow side and other side of the joint
- identify and understand the dimensions of a fillet weld in terms of its legs size and length
- identify and understand the dimensions of a groove weld in terms of its root opening and groove angle
- develop an orthographic and / or isometric sketch c/w that incorporates welding symbols, title block and notes

III. TOPICS:

Clients may expect the following list of topics to be covered during this course of instruction.

1. Isometric Views
2. Orthographic Views
3. Section and Auxiliary Views
4. Electrical and Hydraulic Symbols
5. Welding Symbols

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

- 1 - 12 inch Clear Plastic Ruler c/w Imperial and Metric Scales
- 1 - Clear Plastic Compass
- 2 - HB Pencils
- 1 - Eraser (White)
- Modules # 120303a Introduction to Drawing Interpretation
  # 120204c Isometric and Oblique Drawings
  # 120204g Welding Symbols

V. EVALUATION PROCESS/GRADING SYSTEM:

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

Factor	***Weight***
Drawing Assignments	50 %
Theory Test(s)	50 %
Total	100 %

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:

Special Needs:
If you are a student with special needs (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with your professor and/or the Special Needs office. Visit Room E1101 or call Extension 703 so that support services can be arranged for you.

Retention of Course Outlines:
It is the responsibility of the student to retain all course outlines for possible future use in acquiring advanced standing at other postsecondary institutions.

Plagiarism:
Students should refer to the definition of “academic dishonesty” in *Student Rights and Responsibilities*. Students who engage in “academic dishonesty” will receive an automatic failure for that submission and/or such other penalty, up to and including expulsion from the course/program, as may be decided by the professor/dean. In order to protect students from inadvertent plagiarism, to protect the copyright of the material referenced, and to credit the author of the material, it is the policy of the department to employ a documentation format for referencing source material.

Course Outline Amendments:
The professor reserves the right to change the information contained in this course outline depending on the needs of the learner and the availability of resources.

Substitute course information is available in the Registrar's office.

VII. PRIOR LEARNING ASSESSMENT:

Students who wish to apply for advanced credit in the course should consult the professor. Credit for prior learning will be given upon successful completion of a challenge exam or portfolio.

VIII. DIRECT CREDIT TRANSFERS:

Students who wish to apply for direct credit transfer (advanced standing) should obtain a direct credit transfer form from the Dean’s secretary. Students will be required to provide a transcript and course outline related to the course in question.