SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

Sault College

COURSE OUTLINE

COURSE TITLE:	Engineering Graphics (Drafting and Design)		
CODE NO. :	ARC 111	**SEMESTER:**	I
PROGRAM:	Civil, Construction & Architectural		
AUTHOR:	B. Sparrow		
DATE:	Aug. 06	**PREVIOUS OUTLINE DATED:**	Aug. 04
APPROVED:			

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DEAN **DATE**

TOTAL CREDITS:	4		
PREREQUISITE(S):	None		
LENGTH OF COURSE:	16 weeks	**TOTAL CREDIT HOURS:**	64

I. COURSE DESCRIPTION:

This course will introduce the student to the fundamental principles of engineering graphics, drafting, sketching, graphic communication and drawing interpretation, model construction and work documentation.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

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

1. Demonstrate correct use of drafting equipment.

   Potential Elements of the Performance:
   - Identify and manipulate commonly used drafting equipment
   - Recognized different scale types and applications
   - Use scales to measure and prepare drawings
   - Convert from imperial to SI scales

2. Develop freehand techniques and prepare freehand sketches.

   Potential Elements of the Performance:
   - Develop sketching techniques for lines and curves
   - Prepare freehand sketches of objects and object views
   - Develop hand lettering techniques

3. Understand and use appropriate line weight and line type in drawing.

   Potential Elements of the Performance:
   - Understand the vocabulary of line types and weights
   - Prepare sketches using appropriate line style and weight

4. Recognize and draw standard orthographic, pictorial and auxiliary views

   Potential Elements of the Performance:
   - Identify and draw standard orthographic views
   - Identify and sketch isometric and oblique views of objects
   - Construct auxiliary views

5. Build a cardboard scale model.

   Potential Elements of the Performance:
   - Build a cardboard scale model of an object or contour map
   - Interpret a given drawing for purposes of model construction
   - List material and equipment required to build a cardboard model
   - Plan, schedule and document work for completion in a journal
   - Participate in a critique of model submissions

6. Apply standard dimensioning techniques.

   Potential Elements of the Performance:
   - Recognize and apply different dimension styles for imperial and SI units
   - Identify components of dimensions
   - Apply standards of accuracy and tolerance
   - Translate between drawings of different scales

7. Examine and interpret working drawings from different disciplines.

   Potential Elements of the Performance:
   - Identify drawings used and prepared by different disciplines
   - Discuss the organization of information in working drawings
   - Locate information in a set of working drawings
   - Recognize standards and conventions for representation of symbols, materials and objects in working drawings
   - Interpret details found in working drawings

III. TOPICS:

1. Drafting equipment and use of drafting equipment

2. Sketching and hand lettering

3. Object views and representation

4. Dimensioning and construction tolerances

5. Model construction and work documentation

6. Drawing standards and interpretation

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Print Reading for Construction
Residential and Commercial
Walter C. Brown
Goodheart-Willcox
ISBN 1566373557 or latest edition

V. EVALUATION PROCESS/GRADING SYSTEM:

You will be assigned a final grade on successful completion of laboratories assignments, and tests, weighted as follows:

Laboratories/Assignments	50%
Three tests of equal weight	50%
TOTAL	100%

Late submittals receive only a maximum grade of 60%. However, laboratories or assignments handed in later than one week will receive a grade of 0.

An average of 60% on laboratories/assignments and 60% on tests is required for successful completion of this course.

The following semester grades will be assigned to students in postsecondary courses:

Grade	Definition	Grade Point Equivalent
A+	90 - 100%	4.00
A	80 - 89%	4.00
B	70 - 79%	3.00
C	60 - 69%	2.00
D	50-59%	1.00
F (Fail)	49% or below	0.00
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field placement or non-graded subject areas.	
U	Unsatisfactory achievement in field placement or non-graded subject areas.	

X	A temporary grade. This is used in limited situations with extenuating circumstances giving a student additional time to complete the requirements for a course (see *Policies & Procedures Manual – Deferred Grades and Make-up*).
NR	Grade not reported to Registrar's office. This is used to facilitate transcript preparation when, for extenuating circumstances, it has been impossible for the faculty member to report grades.
W	Student has withdrawn from 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 instructor and/or the Special Needs office. Visit Room E1101 or call Extension 7033 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, as may be decided by the professor. 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.

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.

Testing Absence

If a student is unable to write a test on the date assigned, the following procedure is required:

- The student shall provide the Professor with advance notice preferably in writing of his/her need to miss the test.
- The student may be required to document the absence at the discretion of the Professor.
- All decisions regarding whether tests shall be re-scheduled will be at the discretion of the Professor.
- The student is responsible to make arrangements, immediately upon return to the College with his/her course Professor related to make-up of the missed test prior to the next scheduled class for the course in question.
- In the event of an emergency on the day of the test, the student may require documentation to support the absence and must telephone the College to identify the absence. The college has a 24 hour electronic voice mail system (759-2554)

VII. PRIOR LEARNING ASSESSMENT:

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