

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO



Sault College

COURSE OUTLINE

COURSE TITLE: Engineering Graphics

CODE NO. : ARC 111

SEMESTER: 3

PROGRAM: Civil/Construction Technician

AUTHOR: B. Sparrow

DATE: May 07

PREVIOUS OUTLINE DATED: Aug 06

APPROVED:

DEAN

DATE

TOTAL CREDITS: 3

PREREQUISITE(S): None

HOURS/WEEK: 3

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For additional information, please contact C. Kirkwood, Dean
School of Technology, Skilled Trades & Natural Resources
(705) 759-2554, Ext. 2688

I. COURSE DESCRIPTION:

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

6. 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. 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

Drafting Scales: Architect, Engineer and Metric

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%
Two tests of equal weight	<u>50%</u>
TOTAL	100%

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

The following semester grades will be assigned to students:

Grade	<u>Definition</u>	<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:

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.

Communication:

The College considers **WebCT/LMS** as the primary channel of communication for each course. Regularly checking this software platform is critical as it will keep you directly connected with faculty and current course information. Success in this course may be directly related to your willingness to take advantage of the **Learning Management System** communication tool.

Plagiarism:

Students should refer to the definition of “academic dishonesty” in *Student Code of Conduct*. 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.

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)

Students are expected to familiarize themselves with the Sault College *Student Code of Conduct*, available through the Sault College web pages. This applies to matters of behaviour, use of electronic devices, attendance and academic responsibility. Students are expected to conduct themselves in a respectful and professional manner at all times.

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.