

I. COURSE DESCRIPTION:

This course will introduce the student to the fundamental principles of estimating. The topics covered will deal with measurement of construction work, blueprint reading and fundamentals of estimating. Particular emphasis is placed on estimating site work, concrete, masonry, steel and wood. Computer based spreadsheets will be used to prepare estimates and assignments.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

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

1. Effectively apply the principles of mensuration to estimating.

Potential Elements of the Performance:

- Review mathematical formulas for plane geometry
- Review mathematical formulas for geometric solids
- Perform area calculations for various problems
- Perform volume calculations for various problems
- Complete an assignment covering topics above

2. Develop structured and organized quantity take-offs from the accurate determination of material quantities and volumes obtained from working drawings and specifications for a given project.

Potential Elements of the Performance:

- Read and interpret construction drawings
- Read and interpret specification documents
- Employ CSI organizational format for estimating
- Organize and produce a spreadsheet for recording quantity take-offs

3. State, define and discuss the general overall process for performing an estimation.

Potential Elements of the Performance:

- Identify the primary parties involved in a project
- Identify different project phases
- Identify data sources for estimating
- Differentiate between direct and indirect project costs
- Identify various types of estimates

- Define different types of construction contracts
 - Review an example of a project summary bid
4. Accurately and neatly measure construction quantities for various stages of construction in accordance with industry standards.

Potential Elements of the Performance:

- Calculate and submit estimates for earthwork and site work for a given project
 - Calculate and submit estimates for concrete and formwork for a given project
 - Calculate and submit estimates for masonry for a given project
 - Calculate and submit estimates for steel works for a given project
 - Calculate and submit estimates for wood and other components for a given project
5. Use spreadsheet software to create, organize and manage estimate sheets.

Potential Elements of the Performance:

- Use a spreadsheet to set up an estimate sheet form
- Create formulas in a spreadsheet to calculate quantities
- Create a summary estimate sheet in a workbook based on separate spreadsheets
- Use 'goal-seeking' to optimize quantities of earthwork

III. TOPICS:

1. Geometry review and principles of mensuration
2. Using spreadsheets in estimating
3. Overview of the estimating process
4. Estimating earth work
5. Estimating reinforced concrete
6. Estimating steel
7. Estimating wood
8. Miscellaneous items in estimating
9. Assembling an estimate

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Estimating in Building Construction
 Frank R. Dagostino Leslie Feigenbaum Clint Kissoon
 Pearson Prentice Hall
 ISBN 0-13-039126-3 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%
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%	
A	80 – 89%	4.00
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.

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.