

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ON



COURSE OUTLINE

COURSE TITLE: ESTIMATING - COMPUTER BASED

CODE NO : ARC 305 SEMESTER: IV

PROGRAM: ARCHITECTURAL TECHNOLOGIST

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DATE: AUG 1995 PREVIOUS OUTLINE DATED: _____

APPROVED: *L. P. Cragg* 95-09-01
DEAN DATE

JP 31-Aug-95

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TOTAL CREDITS: 4

PREREQUISITE(S): ARC 101

I. PHILOSOPHY/GOALS:

This course will continue to introduce the student to the fundamental principles of estimating, as this course is a continuation of ARC 101. The student will be introduced to using the computer as a tool in the generation of cost estimates, through the utilization of Timberline software. The importance of preliminary work will be emphasized, through to the advanced techniques used to systematically solve the task of preparing an estimate.

II. STUDENT PERFORMANCE OBJECTIVES (OUTCOMES):

Upon successful completion of this course the student will:

- 1) Identify the basis of estimates.
- 2) Determine estimating procedures.
- 3) Identify information from construction drawings and specifications.
- 4) Explain the concepts and use of Timberline.
- 5) Apply computerized estimating procedures to a given construction type.
- 6) Calculate individual items and assemblies.
- 7) Edit or modify database to suit local requirements, and use the database to produce reports.

III. TOPICS TO BE COVERED:

- 1) General review of mensuration and estimating.
- 2) Estimating Tools
- 3) Starting the Software
- 4) Estimate Set-up

- 5) Performing the Estimate
- 6) Printing Reports

IV. LEARNING ACTIVITIES/REQUIRED RESOURCES

1. General Review: Principles of Mensuration & Estimating

Learning Activities: In class instruction and practical exercises on:

- Plane Geometry
- Geometric Solids
- Area Calculations
- Volume Calculations
- Construction Documents: Terms and definitions
- C.S.I. Organizational Format

Resources: Handouts and overheads
Examples of As-Built Drawings and Specifications
Chapter 6 : Architecture- Design, Engineering, Drawing

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2. Estimating Tools

Learning Activities: In class instruction and practical exercises on:

- Basic Principles
- Sources of Information

Resources: Handouts and overheads

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3. Starting the Software

Learning Activities: In class instruction, practical exercises and assignments on:

- Industry Standards
- System Requirements
- Overview of the Database
- Potential of Timberline

Resources: Handouts and Overheads

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4. **Estimate Set-up**

Learning Activities: In class instruction, practical exercises and assignments on:

- Organization
- Identification, take-off, reporting, pricing
- Set-up of work
- Building Estimate Detail
- New Estimates from existing ones
- Unit Pricing

Resources: Handouts and Overheads

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5. **Performing the Estimate**

Learning Activities: In class instruction, practical exercises and assignments on:

- Estimating Construction Works - C.S.I. Format
(16 Divisions inclusive)
- Managing Database Files
- Interpreting Data
- Modifying Data to fit local conditions

Resources: Handouts and Overheads

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6. **Printing Reports**

Learning Activities: In class instruction, practical exercises and assignments on:

- Different Types of Reports
- Generating Reports

Resources: Handouts and Overheads

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V. **EVALUATION METHODS: (INCLUDES ASSIGNMENTS, ATTENDANCE REQUIREMENTS, ETC.)**

Students will be assigned a final grade based on attendance, tests, assignments and projects administered during the semester.

Your final grade will be derived as follows:

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Attendance	10%
Assignments	30%
Tests	40%
Project	20%
Total	100%

The grading system used will be as follows:

A+	90% - 100%	(Consistently outstanding achievement)
A	80% - 89%	(Outstanding achievement)
B	70% - 79%	(Consistently above average achievement)
C	55% - 69%	(Satisfactory or acceptable)
X or R	0% - 54%	(Incomplete or Repeat)

- 1) Assignments will be collected on dates specified and will be penalized if handed in late - one letter grade. All assignments must be handed in prior to course completion, and assignments handed in after the assignments have been returned to students will result in a maximum grade of C
- 2) A missed class (unless a reason deemed satisfactory by the instructor is given prior to the class) will result in the loss of 1/2 of a percentage point.
- 3) If at the end of the semester the overall mark is below 55%, whether you receive an X (incomplete) or an R (repeat) grade is entirely at the instructor's discretion. The decision will be based upon your final average. For example, a 32% WOULD result in an R grade, while 45% MIGHT result in an X grade - your attendance during the semester, your attitude while in the classroom, your perceived level of effort during the semester all will have a direct bearing on your situation.

If you find yourself with an X grade at the end of the semester, in order to up-grade your mark to a passing grade, you will be required to write a make-up examination covering the entire course content. A 55% on this examination is required to upgrade your X grade to a C grade. It is your responsibility to finalize all requirements with your instructor!

VIII. SPECIAL NOTES

Students with special needs (eg. physical limitations, visual impairments, hearing impairments, learning disabilities) are encouraged to discuss required accommodations confidentially with the instructor.

Your instructor reserves the right to modify the course as he/she deems necessary to meet the needs of students.

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VII. STUDENT RESOURCES

The student will be provided with access in the computer lab to the Timberline software. It is recommended that the student obtain 3 1/2" high diskettes on which work will be stored. The student will also be provided with course notes as they pertain to the study sections.

It is recommended that the student obtain a pad of grid paper.

As there is no recommended course text, it is suggested that the student familiarize himself with the numerous books available in the library related to construction estimating.