



COURSE OUTLINE

ARC101

Prepared: Barry Sparrow Approved: Corey Meunier

Course Code: Title	ARC101: BUILDING & CONSTRUCTION ESTIMATING
Program Number: Name	4080: CIVIL ENG TECHNICIAN
Department:	CIVIL/CONSTRUCTION
Semester/Term:	18W
Course Description:	This course introduces the student to the fundamental principles of construction estimating. The topics covered will deal with the measurement of construction work, reading construction documents (prints and specifications) as well as records management. Emphasis is placed on estimating site work, concrete, masonry, steel and wood, using detailed and systematic methods. Computer-based spreadsheets will be used to prepare estimates and assignments. Students will learn to assemble and sort estimate information for a complex project in a logical and manageable manner and develop organizational and time management skills. Students will also become familiar with issues relating to construction waste management and reduction as well as environmental controls as it relates to construction estimating.
Total Credits:	5
Hours/Week:	4
Total Hours:	60
Substitutes:	OEL1014
This course is a pre-requisite for:	CON206
Vocational Learning Outcomes (VLO's):	4080 - CIVIL ENG TECHNICIAN #4. carry out sustainable practices in accordance with contract documents, industry standards and environmental legislative requirements. #5. collaborate with the project team and communicate effectively with project stakeholders to support civil engineering projects. #7. use industry-specific electronic and digital technologies to support civil engineering projects. #9. assist in the scheduling, cost estimation and monitoring of the progression of civil engineering projects by applying principles of construction project management.
Essential Employability Skills (EES):	#1. Communicate clearly, concisely and correctly in the written, spoken, and visual form that fulfills the purpose and meets the needs of the audience. #3. Execute mathematical operations accurately.

#4. Apply a systematic approach to solve problems.
 #5. Use a variety of thinking skills to anticipate and solve problems.

Course Evaluation:

Passing Grade: 50%, D

Other Course Evaluation & Assessment Requirements:

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.

Attendance

Students are only allowed to miss three classes without a documented explanation. One mark will be deducted from your overall grade for each undocumented explanation. The maximum deduction in overall grade is not to exceed 15%. Valid documented explanation include:

- Medical reason
- Family emergency
- Child care issue
- Transportation problems
- And any other reasonable explanation

The documented explanation has to be sent to me by e-mail no later than three days from a missed class. A Doctor note, etc., is to be attached as a PDF file to your e-mail.

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Assignments and Activities	50%
Final Test	25%
Mid-term Test	25%

Books and Required Resources:

Estimating in Building Construction by Frank R. Dagostino/Leslie Feigenbaum/Clint Kissoon
 Publisher: Pearson Prentice Hall T
 ISBN: 978-0-13-223137-4

Course Outcomes and Learning Objectives:

Course Outcome 1.

Upon successful completion, the student will be able to:

1. Carry out sustainable practices in accordance with contract documents, industry standards and environmental legislative requirements.

Learning Objectives 1.

1. Identify legislative requirements for compliance with environmental protection regulations
2. Identify various types of contamination and environmental risks (groundwater contamination, soil erosion, pollutants, noise etc., and associated remediation techniques.
3. Identify sustainable practices across building and infrastructure lifecycle processes and rehabilitation/renewal practices.
4. Minimize waste and use appropriate waste management techniques.

Course Outcome 2.

Upon successful completion, the student will be able to:

2. Collaborate with the project team and communicate effectively with project stakeholders to support civil engineering projects.

Learning Objectives 2.

1. Identify the relationships among the various disciplines involved in civil engineering and construction projects.

Course Outcome 3.

Upon successful completion, the student will be able to:

3. Use industry-specific electronic and digital technologies to support civil engineering projects.

Learning Objectives 3.

1. Identify the impact and application of technology throughout the lifecycle of civil engineering and construction projects , i.e., field data collection, design and engineering, estimating and construction.
2. Select and use industry specific electronic and digital technologies to design projects, produce plans and solve project related problems (e.g., CAD, spreadsheet software)

Course Outcome 4.

Upon successful completion, the student will be able to:


4. Assist in the scheduling, cost estimation and monitoring of the progression of civil engineering projects by applying principles of construction project management.

Learning Objectives 4.

1. Identify the phases of the project and their component activities.
2. Follow project schedules and cost estimates needed to complete each phase of work.
3. Assist in the identification of problems related to materials, scheduling, resources and budgets.
4. Perform quantity surveys and assist in cost estimates.
5. Use organizational and time management strategies effectively in own work.
6. Assist in preparing and presenting formal technical reports, budget forecasts and project estimates.
7. Provide technical information for the development of a project schedule.

Date:

Monday, January 8, 2018



Please refer to the course outline addendum on the Learning Management System for further information.