STATE UNIVERSITY OF NEW YORK
COLLEGE OF TECHNOLOGY
CANTON, NEW YORK

MASTER SYLLABUS

COURSE NUMBER – COURSE NAME
CMGT 322 – Commercial Estimating 1

Created by: J. Reilly

Updated by:

Canino School of Engineering Technology

Department: Civil and Construction Technology

Semester/Year: Fall 2020
A. **TITLE:** Commercial Estimating 1

B. **COURSE NUMBER:** CMGT 322

C. **CREDIT HOURS:** (Hours of Lecture, Laboratory, Recitation, Tutorial, Activity)

    # Credit Hours: 3
    # Lecture Hours: 1 per week
    # Lab Hours: 4 per week
    Other: per week

    Course Length: 15 Weeks

D. **WRITING INTENSIVE COURSE:** Yes ☐ No ☒

E. **GER CATEGORY:** None: ☒ Yes: GER

    If course satisfies more than one: GER

F. **SEMESTER(S) OFFERED:** Fall ☐ Spring ☒ Fall & Spring ☐

G. **COURSE DESCRIPTION:**

    In this course students will be introduced to estimating the costs of construction with a focus primarily on quantity take-off from construction plans. Student are also introduced to unit pricing of labor and material, assemblies and square foot estimates, and computer-assisted estimating.

H. **PRE-REQUISITES:** None ☐ Yes ☒ If yes, list below:

    Have earned 45 credits, or permission of instructor

    **CO-REQUITITES:** None ☒ Yes ☐ If yes, list below:
I. **STUDENT LEARNING OUTCOMES**: *(see key below)*

By the end of this course, the student will be able to:

<table>
<thead>
<tr>
<th>Course Student Learning Outcome [SLO]</th>
<th>Program Student Learning Outcome [PSLO]</th>
<th>GER [If Applicable]</th>
<th>ISLO &amp; SUBSETS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Accurately “take-off” material quantities from a construction plan.</td>
<td>SO 8</td>
<td>5-Ind, Prof, Disc, Know Skills ISLO ISLO</td>
<td>Subsets Subsets Subsets</td>
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<td>2. Estimate labor hours required for construction work based on productivity and take off quantities.</td>
<td>SO 8</td>
<td>5-Ind, Prof, Disc, Know Skills ISLO ISLO</td>
<td>Subsets Subsets Subsets</td>
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<td>3. Acquire unit prices from vendors or published data catalogues or electronic data bases</td>
<td>SO 8</td>
<td>5-Ind, Prof, Disc, Know Skills ISLO ISLO</td>
<td>Subsets Subsets Subsets</td>
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<td>4. Perform an estimate “extension”.</td>
<td>SO 8</td>
<td>5-Ind, Prof, Disc, Know Skills ISLO ISLO</td>
<td>Subsets Subsets Subsets</td>
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<tr>
<td>5. Perform a square and/or assemblies estimate</td>
<td>SO 6 and 8</td>
<td>5-Ind, Prof, Disc, Know Skills ISLO ISLO</td>
<td>Subsets Subsets Subsets</td>
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<tr>
<td>KEY</td>
<td>Institutional Student Learning Outcomes [ISLO 1 – 5]</td>
<td>ISLO &amp; Subsets</td>
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<tr>
<td>ISLO #</td>
<td>Communication Skills Oral [O], Written [W]</td>
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<tr>
<td>1</td>
<td>Communication Skills Oral [O], Written [W]</td>
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<td>2</td>
<td>Critical Thinking Critical Analysis [CA], Inquiry &amp; Analysis [IA], Problem Solving [PS]</td>
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<td>3</td>
<td>Foundational Skills Information Management [IM], Quantitative Lit./Reasoning [QTR]</td>
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<td>4</td>
<td>Social Responsibility Ethical Reasoning [ER], Global Learning [GL], Intercultural Knowledge [IK], Teamwork [T]</td>
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<tr>
<td>5</td>
<td>Industry, Professional, Discipline Specific Knowledge and Skills</td>
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</tbody>
</table>

*Include program objectives if applicable. Please consult with Program Coordinator*
J. **APPLIED LEARNING COMPONENT:** Yes ☒ No ☐

If YES, select one or more of the following categories:

- ☒ Classroom/Lab
- ☐ Internship
- ☐ Clinical Placement
- ☐ Practicum
- ☐ Service Learning
- ☐ Community Service
- ☐ Civic Engagement
- ☐ Creative Works/Senior Project
- ☐ Research
- ☐ Entrepreneurship
  (program, class, project)
K. **TEXTS: (SUGGESTED)**

ISBN-10: 0826905455


L. **REFERENCES:**


M. **EQUIPMENT:** None ☒ Needed:

N. **GRADING METHOD:** A-F

O. **SUGGESTED MEASUREMENT CRITERIA/METHODS:**

Exams
Quizzes
Projects
Homework

P. **DETAILED COURSE OUTLINE:**

I. Introduction to Estimating
   i. the Bid Process
II. CSI Format
III. Estimating Quantities (Take-off)
   i. General
   ii. Sitework
      1. Materials
      2. Equipment
      3. Labor
   iii. Concrete and Formwork
      1. Materials
      2. Equipment
      3. Labor
   iv. Masonry
      1. Materials
      2. Equipment
      3. Labor
   v. Metals and Structural Steel
      1. Materials
      2. Equipment
      3. Labor
vi. Rough and Finished Carpentry
1. Materials
2. Equipment
3. Labor
IV. Pricing the Estimate
i. Basic Principles
ii. Obtaining Unit Prices
V. Closing the Bid.
VI. Computer Estimating.

Q. LABORATORY OUTLINE: None ☐ Yes ☑

The lab outline will follow the topical outline. During the lab, students will perform estimating activities, ie; do “take-offs” from construction drawings and extensions (either manually or using computer software) to agree with the material being covered in the lecture.