Course Syllabus

Department: Science and Technology

Date: 12/12/12

I. Course Prefix and Number: TECH 260

   Course Name: Construction Estimating

   Credit Hours and Contact Hours: 3 credit hours / 3 contact hours

Catalog Description including pre- and co-requisites:

Methods for estimating the cost of an architectural project will be introduced. Topics include an overview of the estimating process, an introduction to contracts, bonds and specifications, and the preparation of a final bid for a project including quantity takeoffs, material pricing, labor cost, equipment costs, overhead, and profit. Prerequisites: MAT 145 (or placement into Math Level 3 or higher) and TECH 130 or permission of the instructor.

Relationship to Academic Programs and Curriculum including SUNY Gen Ed designation if applicable:

The course is required for A.A.S. Architectural Technology & Building Sciences. The course may be taken as a technology elective for A.A.S. Mechanical Technology. Students in other programs may take the course if they have the appropriate background.

II. Course Student Learning Outcomes:

Students will:
1. Identify and prepare the following types of estimates: feasibility, preliminary, and final.
2. Read and interpret construction plans and documents.
3. Perform quantity takeoff calculations for earthwork, concrete, masonry, structural steel, wood and plastics, thermal and moisture protection, finishes, specialties, mechanical, plumbing, and electrical.
4. Perform efficiency and productivity evaluations.
5. Calculate labor and equipment cost.
6. Prepare a bid package.

College Learning Outcomes Addressed by the Course:

☐ writing  ☐ computer literacy
☐ oral communications  ☐ ethics/values
☐ reading  ☐ citizenship
☒ mathematics  ☐ global concerns
☐ critical thinking  ☒ information resources
III. Assessment Measures:

<table>
<thead>
<tr>
<th>Identified College Learning Outcomes</th>
<th>Specific Assessment Measures</th>
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</thead>
<tbody>
<tr>
<td>Mathematics</td>
<td>An estimating project including volume and area calculations will be assigned and evaluated.</td>
</tr>
<tr>
<td>Information Resources</td>
<td>An estimating project will be assigned and evaluated.</td>
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</tbody>
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IV. Instructional Materials and Methods

Types of Course Materials:

Textbook

Methods of Instruction:

Lecture, homework assignments, projects

V. General Outline of Topics Covered:

1. Introduction to Estimating
2. Contracts, Bonds & Insurance
3. Specifications
4. Estimating Math
5. Computer Assisted Estimating
6. Overhead & Contingencies
7. Labor
8. Equipment
9. Excavation
10. Concrete
11. Masonry
12. Metals
13. Wood – Rough Carpentry
14. Wood – Ceilings & Floors
15. Wood – Finish Carpentry
16. Thermal & Moisture Protection
17. Doors & Windows
18. Finishes
19. Electrical
20. Plumbing
21. HVAC
22. Profit
23. Bid Package
24. Estimating Project