Introduction to Computer-Assisted Problem Solving for Construction Systems Management

CSE 1112

Credit Hours:
3.00

Course Coordinator:

Course Length:
14 weeks (autumn or spring)
12 weeks (summer only)

Representative Textbooks and Other Course Materials:

<table>
<thead>
<tr>
<th>Title</th>
<th>Author</th>
<th>Year</th>
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</thead>
<tbody>
<tr>
<td>Series for Microsoft Office Bundle Including SAM Software</td>
<td>Shelly Cashman</td>
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Course Description:
Using productivity software, especially spreadsheets and databases, to solve problems for construction management; relative/absolute cell referencing, logic, functions; relational databases, querying, project integration.

Designation:
Elective

Course Goals / Objectives:
Be familiar with computer basics: hardware, software, OS, and communications, including how the internet works
Be familiar with designing and testing spreadsheets to aid in estimating all aspects of construction costs by using spreadsheet features including relative/absolute cell referencing, boolean logic, reference functions, and financial functions
Be familiar with basic concepts of a relational database, with setting up a basic relational database including input and output forms, with writing queries to obtain needed information, and with developing reports
Be familiar with linking of spreadsheets, databases, word processing, and presentation software to automate the development of reports and presentations
### ABET-CAC Criterion 3 Outcomes:

<table>
<thead>
<tr>
<th>Contribution Level</th>
<th>Hours</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Significant</td>
<td>7+</td>
<td>Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.</td>
</tr>
<tr>
<td>Substantial</td>
<td>3-6</td>
<td>Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program’s discipline.</td>
</tr>
<tr>
<td>Some</td>
<td>1-2</td>
<td>Communicate effectively in a variety of professional contexts.</td>
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<tr>
<td></td>
<td></td>
<td>Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles</td>
</tr>
<tr>
<td>Substantial</td>
<td>3-6</td>
<td>Apply computer science theory and software development fundamentals to produce computing-based solutions.</td>
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### ABET-EAC Criterion 3 Outcomes:

- No outcome selected

### Course Topics:

- **Computer basics**
- **Excel** - writing formulas using simple functions and relative/absolute cell addressing; boolean functions; LOOKUP function; financial functions; charts
- **Access**; database features of Excel
- **Powerpoint**; object linking; **Word**, including mail merge
- How the internet works and how to create a simple webpage