Introduction to Computer-Assisted Problem Solving

CSE 1111

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>Shelly Cashman Series for Microsoft Office Bundle Including SAM Software</td>
<td>Shelly Cashman</td>
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Course Description:
Problem solving techniques using productivity software; spreadsheets, formulas, conditional logic; relational databases, relational algebra; word processing; data presentation; graphics.

Designation:
Elective
General Education Course

Course Goals / Objectives:
Be familiar with computer basics - hardware, software, OS, and communications
Be familiar with using spreadsheets to solve problems - including relative/absolute cell referencing, Boolean logic, reference functions, and financial functions
Be familiar with basic concepts of a relational database and use querying tools to obtain needed data
Be familiar with using and integrating word processing and presentation graphics tools
Be familiar with basic concepts about how the internet works
Be familiar with applying computational skills to problems involving algebra and geometry in practical situations (i.e., direct contribution to the learning goals and objectives in the GE quantitative and logical skills category)

ABET-CAC Criterion 3 Outcomes:
No outcome selected
### ABET-EAC 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>an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics</td>
</tr>
<tr>
<td>Substantial</td>
<td>3-6</td>
<td>an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors</td>
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<tr>
<td>Some</td>
<td>1-2</td>
<td>an ability to communicate effectively with a range of audiences - pre-2019 EAC SLO (g)</td>
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<tr>
<td>Some</td>
<td>1-2</td>
<td>an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts</td>
</tr>
<tr>
<td>Substantial</td>
<td>3-6</td>
<td>an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions</td>
</tr>
<tr>
<td>Some</td>
<td>1-2</td>
<td>an ability to acquire and apply new knowledge as needed, using appropriate learning strategies</td>
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### Course Topics:

- Computer basics
- Excel - writing formulas using simple functions and relative/absolute cell addressing
- Excel - using Boolean logical functions - AND, OR, NOT, IF
- Excel - Solving problems using multiple worksheets
- Excel - using a LOOKUP function, using financial functions, charts.
- Understanding relational database concepts; Access;
- Powerpoint, object linking; Word, mail merge;
- How the Internet works; simple webpages.