Data Structures Using C++

CSE 2122

Description / Conditions

Transcript Abbreviation:
Data Struct C++

Course Description:
Introduction to programming in C++ and object-oriented programming; encapsulation using classes, inheritance, etc.

Course Levels:
Undergraduate (1000-5000 level)

Designation:
Elective

General Education Course:
(N/A)

Cross-Listings:
(N/A)

Course Detail

Credit Hours (Minimum if “Range”selected):
3.00

Max Credit Hours:
(N/A)

Select if Repeatable:
Off
Maximum Repeatable Credits:
(N/A)

Total Completions Allowed:
(N/A)

Allow Multiple Enrollments in Term:
No

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

Off Campus:
Never

Campus Location:
Columbus
Marion

Instruction Modes:
In Person (75-100% campus; 0-24% online)

Prerequisites and Co-requisites:
Prereq: 1222 (202).

Electronically Enforced:
No

Exclusions:
Not open to students with credit for 230.

Course Goals and Learning Objectives

Course Goals / Objectives:
Be competent with concepts of object-oriented programming and abstraction mechanisms
Be competent with the concepts of classes, member functions and variables, constructors, destructors, inheritance, and access mechanisms
Be competent with the concepts of prototype functions, functions, parameters, return values, overloading, and operators
Be familiar with control structures, dynamic memory allocation, arrays, and pointers

Check if concurrence sought:
No
## Contact Hours

### Contact Hours:

<table>
<thead>
<tr>
<th>Topic</th>
<th>LEC</th>
<th>REC out-of-class</th>
<th>REC in-class</th>
<th>Weekly LAB out-of-class</th>
<th>Weekly LAB in-class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to course computing environment</td>
<td>4.0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>Basic features, getting started, basic data types</td>
<td>4.0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
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<tr>
<td>Advanced data types, functions without returned values</td>
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<td>0.0</td>
<td>0</td>
<td>0.0</td>
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<tr>
<td>Classes, members, constructors</td>
<td>6.0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
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<tr>
<td>Friends, destructors, returned values in functions</td>
<td>6.0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
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<tr>
<td>Operators</td>
<td>3.0</td>
<td>0.0</td>
<td>0</td>
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<tr>
<td>Inheritance</td>
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<td>0.0</td>
<td>0</td>
<td>0.0</td>
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<tr>
<td>Flow of control, dynamic memory allocation, arrays and pointers</td>
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<td><strong>Total</strong></td>
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## Grading and Texts

### Grading Plan:
Letter Grade

### Course Components:
Lecture

### Grade Roster Component:
Lecture
Credit by Exam (EM):
No

Grades Breakdown:

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Percent</th>
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<tbody>
<tr>
<td>Programming labs</td>
<td>30%</td>
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<tr>
<td>Midterms</td>
<td>30%</td>
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<tr>
<td>Final exam</td>
<td>40%</td>
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Representative Textbooks and Other Course Materials:

<table>
<thead>
<tr>
<th>Title</th>
<th>Author</th>
<th>Year</th>
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<tbody>
<tr>
<td>Problem Solving with C++</td>
<td>Walter Savitch</td>
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ABET Student Learning Outcomes

ABET-CAC Criterion 3 Outcomes:
No outcome selected

ABET-ETAC Criterion 3 Outcomes:
(N/A)
ABET-EAC Criterion 3 Outcomes:

| Some contribution (1-2 hours) | 1 | an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics |
| Significant contribution (7+ hours) | 2 | 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 |
| Some contribution (1-2 hours) | 4 | 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 |
| Some contribution (1-2 hours) | 6 | an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions |
| Some contribution (1-2 hours) | 7 | an ability to acquire and apply new knowledge as needed, using appropriate learning strategies |

Embedded Literacies (UG courses only)

Embedded Literacies Info:

Attachments / Additional Notes or Comments

Attachments:
(N/A)

Additional Notes or Comments:
(N/A)