F27SB Software Development 2

COURSE DETAILS
Course Code: F27SB
Full Course Title: Software Development 2
SCQF Level: 7
SCAF Credits: 15
Available as Elective: No

DELIVERY LEVEL
Undergraduate: Yes
Postgraduate Taught: No
Postgraduate Research: No

Additional Information:

COURSE AIMS
To impart further techniques of object orientation
To introduce simple data structures and algorithms

LEARNING OUTCOMES – SUBJECT MASTERY

- Understanding and application/ mastery of the object-oriented paradigm
- Understanding of inheritance and generics.
- Understand how to produce well designed, i.e. extendable and maintainable, code.
- Ability to critically evaluate and improve the quality of code.
- Ability to develop simple state diagrams
- Ability to design and implement simple graphic user interfaces

LEARNING OUTCOMES – PERSONAL ABILITIES

- Possession of fundamental skills in computer science, applicable throughout the remainder of the degree
- Understand challenges in developing, designing and maintaining code.
- Understanding of the importance of regular working habits (pdp)
- Understanding of the use of chatboards and other devices to learn from and instruct others in the class (pdp)
- Ability to compare and evaluate the applicability of simple data structures and code design choices to relevant problems (pdp)

SYLLABUS

- Inheritance and Generics: hierarchies, subclasses, polymorphism, static and dynamic type, overriding, dynamic method lookup.
- Designing classes: coupling, cohesion, abstraction, modularisation, types
- Abstract classes, abstract methods, interfaces
F27SB Software Development 2

- State machines & state diagrams GUIs: components, layout, event handling
- Error-handling: defensive programming, exceptions, assertions, JUnit tests (?)
- Collection classes

COURSE RELATIONSHIPS

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Level</th>
<th>Title</th>
<th>School</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>F27SA</td>
<td>7</td>
<td>Software Development 1</td>
<td>School of Math and Comp Sci.</td>
<td>Linked</td>
</tr>
</tbody>
</table>

LOCATION AND ASSESSMENT METHODS

<table>
<thead>
<tr>
<th>Edi</th>
<th>SBC</th>
<th>Ork</th>
<th>Dub</th>
<th>Malay</th>
<th>IDL</th>
<th>COLL</th>
<th>ALP</th>
<th>OTH</th>
<th>Method</th>
<th>Weight</th>
<th>Exam Mins</th>
<th>Type</th>
<th>Diet</th>
<th>Synoptic Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Practical</td>
<td>50</td>
<td></td>
<td>Assessment</td>
<td></td>
<td>Semester 2</td>
</tr>
<tr>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Examination</td>
<td>50</td>
<td>120</td>
<td>Assessment</td>
<td></td>
<td>Semester 2</td>
</tr>
<tr>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Examination</td>
<td>100</td>
<td>120</td>
<td>Reassessment</td>
<td></td>
<td>Semester 3</td>
</tr>
</tbody>
</table>