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 being delivered at the specified campus(es) and also at a by collaborative partner; Ocean University of China on BEng Robotics programme

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
F27SB Software Development 2

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

COURSE RELATIONSHIPS

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<th>Course Code</th>
<th>Level</th>
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<th>School</th>
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LOCATION AND ASSESSMENT METHODS

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Page 1 of 2