## Programming 2

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| *SMS Code* | IN511001/IX511001 | *Directed Learning hours* | 60 |
| *Level* | 5 | *Workplace or Practical Learning hours* |  |
| *Credits* | 15 | *Self-Directed Learning hours* | 90 |
| Prerequisites | IN510001 | *Total Learning Hours* | 150 |
| *This course partially replaces IT115001*  *Name of other Programme: Bachelor of Information Technology (version 2)* | | | |

***Aims***

To build simple object-oriented (OO) applications and learn to identify situations that are most appropriate for OO implementation.

***Learning Outcomes***

At the successful completion of this course, students will be able to:

1. Develop interactive, event-driven applications.
2. Declare and implement user-defined classes as part of an object-oriented implementation.
3. Implement applications which incorporate the basic principles of object-oriented analysis, design, and programming, including encapsulation, inheritance, and polymorphism.
4. Demonstrate robust programming practices independent of language or paradigm.

***Indicative Content***

IN511001 is a second programming course with a focus on object-oriented programming, and as such uses an object oriented programming language and development environment.

* Problem analysis and program design
* Programming event-driven applications using primitive controls
* Logic of basic algorithms
* Use of core complex data structures
* Object-oriented programming including encapsulation, inheritance, code reuse and polymorphism
* Principles of good class design
* Graphical User Interfaces (GUI)

***Assessment***

| **Assessment Activity** | **Weighting** | **Learning Outcomes** |
| --- | --- | --- |
| Programming projects | 60% | 1,2,3,4,5 |
| Theory examination | 30% | 1,2,3,4,5 |
| Classroom Tasks | 10% | 1,2,3,4,5 |

***Resources:***

Recommended Textbook

Stellman, A., & Greene, J. (2010). *Head first C#.* (2nd ed.). Sebastopol, CA: O’Reilly.