**Liverpool** John Moores University

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| Title: | INTRODUCTION TO COMPUTER PROGRAMMING |
| Status: | Definitive |
| Code: | **4001HCOM** (118818) |
| Version Start Date: | 01-08-2011 |
| Owning School/Faculty: | Computing and Mathematical Sciences |
| Teaching School/Faculty: | HELP College |

| Team | Leader |
|---|---|
| Christopher Wren | Y |
| Abir Hussain | |
| Mike Baskett | |
| Martin Randles | |
| Paul Strickland | |
| Somasundaram Ravindran | |

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| **Academic Level:** | FHEQ4 | **Credit Value:** | 24.00 | **Total Delivered Hours:** | 72.00 |
| **Total Learning Hours:** | 240 | **Private Study:** | 168 | | |

**Delivery Options**
Course typically offered: Standard Year Long

| Component | Contact Hours |
|---|---|
| Lecture | 24.000 |
| Practical | 24.000 |
| Tutorial | 24.000 |

**Grading Basis:** 40 %

**Assessment Details**

| Category | Short Description | Description | Weighting (%) | Exam Duration |
|---|---|---|---|---|
| Test | AS1 | Individual assessment of IDE, application variables, constants and data types. | 20.0 | 1.00 |
| Test | AS2 | Individual assessment of decision structures and loops. | 20.0 | 1.00 |
| Artefacts | AS3 | Individual assessment of the design documentation and implementation of a visual | 60.0 | |

| Category | Short Description | Description | Weighting (%) | Exam Duration |
|---|---|---|---|---|
| | | application. | | |

**Aims**

*To provide an understanding of the environment, features and tools available in an Integrated Development Environment (IDE) such as Microsoft Visual Studio.*
*To provide an introduction to computer programming using elementary programming constructs, data structures and IDE tools and features.*

**Learning Outcomes**

After completing the module the student should be able to:

1 Understand basic features and functionality provided by an IDE.
2 Create and use variables and constants and define their data types.
3 Implement decision structures and loops by using conditional expressions.
4 Create and use IDE predefined functions, user defined Sub and Function procedures.
5 Use simple data structures, forms and other visual components to create and enhance a visual application.
6 Create technical, design and user documentation.

**Learning Outcomes of Assessments**

The assessment item list is assessed via the learning outcomes listed:

| | | | |
|---|---|---|---|
| In-class test | 1 | 2 | |
| In-class test | 3 | | |
| Design and implementation | 4 | 5 | 6 |

**Outline Syllabus**

*IDE functions and features*
*User defined variables and constants*
*Data typing*
*Input and data validation*
*Data output formatting and control*
*Selection and iteration constructs*
*User defined Sub procedures and functions*
*Pre defined functions and procedures*
*Pre defined and user defined events*
*Simple data structures*
*Development of single and multi-form applications*
*Development of visual applications using common components and controls*
*Application testing*

*Technical, user and maintenance documentation*
*Visual application design process and documentation*

**Learning Activities**

Theory oriented lectures on the software development process.
Tutorials and lab exercises to aid in the students self-learning of programming.
Provision of reading material and exercises for students to attempt in their own time.

**References**

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| **Course Material** | Book |
| **Author** | Joe Mayo |
| **Publishing Year** | 2010 |
| **Title** | Microsoft Visual Studio 2010: A Beginner's Guide |
| **Subtitle** | |
| **Edition** | |
| **Publisher** | McGraw-Hill Osborne |
| **ISBN** | 0071668950 |

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|---|---|
| **Course Material** | Book |
| **Author** | David I. Schneider |
| **Publishing Year** | 2010 |
| **Title** | Introduction to Programming Using Visual Basic 2010 |
| **Subtitle** | |
| **Edition** | |
| **Publisher** | Prentice Hall |
| **ISBN** | 013212856X |

**Notes**

This module aims to prepare the student for the world of work, by preparing them for the practical application of software development, both visual and data driven.