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| Title: | Programming in Electrical Eng. APPROVED |
| Long Title: | Programming in Electrical Engineering |
| Module Code: | ELEC7015 |
| Credits: | 5 |
| NFQ Level: | Intermediate |
| Field of Study: | Electrical Engineering |
| Valid From: | Semester 1 - 2009/10 (September 2009) |
| Module Delivered in | 2 programme(s) |
| Module Coordinator: | JOSEPH CONNELL |
| Module Author: | NOEL MULCAHY |
| Module Description: | Develop an understanding of the Visual Basic Programming Language and use the programming language to model and solve electrical problems. |
| Learning Outcomes | |
| <i>On successful completion of this module the learner will be able to:</i> | |
| LO1 | Model real world problems and use the model developed to solve problems via Visual Basic |
| LO2 | Use Visual Basic for data acquisition via the use of forms. |
| LO3 | Use input and output functions to solve electrical problems |
| LO4 | Use Visual Basic to interface with the Allen Bradley PLC. |
| Pre-requisite learning | |
| Module Recommendations | |
| <i>This is prior learning (or a practical skill) that is strongly recommended before enrolment in this module. You may enrol in this module if you have not acquired the recommended learning but you will have considerable difficulty in passing (i.e. achieving the learning outcomes of) the module. While the prior learning is expressed as named CIT module(s) it also allows for learning (in another module or modules) which is equivalent to the learning specified in the named module(s).</i> | |
| No recommendations listed | |
| Incompatible Modules | |
| <i>These are modules which have learning outcomes that are too similar to the learning outcomes of this module. You may not earn additional credit for the same learning and therefore you may not enrol in this module if you have successfully completed any modules in the incompatible list.</i> | |
| No incompatible modules listed | |
| Co-requisite Modules | |
| No Co-requisite modules listed | |
| Requirements | |
| <i>This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed. You may not enrol on this module if you have not acquired the learning specified in this section.</i> | |
| No requirements listed | |
| Co-requisites | |
| No Co Requisites listed | |

Module Content & Assessment

Indicative Content

Introduction to Visual Basic

An Introduction to Visual Basic, how the compiler works and the basic program structure

Data Types

Data Types such as integers, characters and floating point numbers and how these are handled and used within Visual Basic.

Aritmetic Operands

How arithmetic operation are performed within Visual Basic and how these expressions are used within Visual Basic.

Input/Output

Using Visual Basic to input data via the keyboard Input and output via the Screen.

File I/O

File Input and Output so that the compiler will write to files so that data can be accessed and stored over a period of time.

Assessment Breakdown

%

Course Work

100.00%

Course Work

| <i>Assessment Type</i> | <i>Assessment Description</i> | <i>Outcome addressed</i> | <i>% of total</i> | <i>Assessment Date</i> |
|-----------------------------|---------------------------------------|--------------------------|-------------------|------------------------|
| Practical/Skills Evaluation | Assignments to be completed | 1,3 | 25.0 | Week 7 |
| Short Answer Questions | Small Examination of various problems | 1,2,3 | 25.0 | Sem End |
| Practical/Skills Evaluation | Major Assignment | 1,2,3 | 50.0 | Sem End |

No End of Module Formal Examination

The institute reserves the right to alter the nature and timings of assessment

Module Workload

| Workload: Full Time | | | | |
|---|---------------------------------------|--------------|------------------|--|
| <i>Workload Type</i> | <i>Workload Description</i> | <i>Hours</i> | <i>Frequency</i> | <i>Average Weekly Learner Workload</i> |
| Lab | Combined Lab/Lecture in Computer Room | 3.0 | Every Week | 3.00 |
| Independent & Directed Learning (Non-contact) | Implementation of theory | 4.0 | Every Week | 4.00 |
| Total Hours | | | | 7.00 |
| Total Weekly Learner Workload | | | | 7.00 |
| Total Weekly Contact Hours | | | | 3.00 |

This module has no Part Time workload.

| Module Resources |
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| <i>Recommended Book Resources</i> |
| <ul style="list-style-type: none"> • Derek Christopher 2000, <i>Computing Projects in Visual Basics</i>, Payne-Gallway [ISBN: 1903112338] • Greg Perry with Sanjaya Hettihewa 1998, <i>Teach Yourself Visual Basic 6</i>, Sams Publishing [ISBN: 0672315335] |
| <i>This module does not have any article/paper resources</i> |
| <i>This module does not have any other resources</i> |

| Module Delivered in | | | |
|---------------------|--|----------|----------|
| Programme Code | Programme | Semester | Delivery |
| CR_EEPSY_8 | <u>Bachelor of Engineering (Honours) in Electrical Engineering</u> | 5 | Elective |
| CR_EELEC_7 | <u>Bachelor of Engineering in Electrical Engineering</u> | 5 | Elective |