NEW SOUTH WALES TECHNICAL AND FURTHER EDUCATION COMMISSION
STUDENT ASSESSMENT GUIDE - MODULE

Module Name: Electrical Control (C) Programming

Module No : 6032L

National Module Code : EA910

Module Purpose:

To enable students to apply the structure and syntax of the C programming language and the use of C in real time control to designing structural programs.

Module Assessment:

The assessment for this module is recorded as a Class Mark.

All assessment events used to determine your result will be locally set and locally marked.

Your results will be reported as DISTINCTION, CREDIT, PASS or FAIL.

To receive a particular grade you must get at least the mark shown below:

Grade	Class mark
DISTINCTION	83%
CREDIT	70%
PASS	50%

All other cases FAIL.

(Grade Code 72)

Assessment Component	Assessment Event Name	Wgt %
CLASS MARK	THEORY TEST 1	40
	PRACTICAL TEST 1	20
	PROJECT 1	40

Assessment Events - Additional Information

Event Name :THEORY TEST 1
Event Name: Theory Test 1
Event type: Theory Test
Timing: After completion of Topics 1 and 2 (Sections 1, 2, 3)
Types of items: Short answer, multiple choice, calculation, diagrammatic.
Coverage: Topics 1 and 2 (Sections 1, 2, 3).
Duration: 60 minutes
Conditions: Standard classroom. Closed book.

Event Name :PRACTICAL TEST 1
Event Name: Practical Test 1
Event type: Practical Test
Timing: After completion of Topics 1 and 2 (Sections 1, 2, 3)
Coverage: Topics 1 and 2 (Sections 1, 2, 3)
Duration: 45 minutes

Conditions: Access to PC laboratory with installed 'C' IDE.
Students work alone. Access to textbook, notes, manuals.

If necessary, practical work can be modified between students to ensure authenticity, particularly in networked laboratories.

Event Name :PROJECT 1
Event Name: Project 1
Event type: Project, practical test.
Timing: After completion of Topics 1, 2 and 3 (Sections 1, 2, 3 and 4).
Coverage: Topics 1, 2, 3. Analysis, design, implementation in 'C' and documentation of control programs for the control of industrial interface cards and an attached device. Data collection, logging, processing and presentation both to and from an industrial I/O card. Control of a device attached to an I/O card. Modify a control program to changed specifications, if required for assessment purposes.
Duration: 90 minutes
Conditions: As for Practical Test 1. Additional access to hardware for satisfactory demonstration of project. If necessary, the assessor may set slightly differing tasks to ensure authenticity of work. Students may be required to modify project at assessment time to demonstrate competency at module topics and verify authorship of components of any group work in line with the requirements of the National Descriptor.

Additional Assessment Information:

In addition to the assessment outlined above, your teacher may set other tasks, for example, review questions, practical exercises and quizzes. These activities will not count towards your final assessment marks, but they are a vital part of your learning process, and will provide you with feedback on your understanding of the topics in this module.

Summary of Content:

Topic 1:
Develop a solution to a control program problem.
1.1 Control structures, sequence, repetition, selection.
1.2 Documentation. N-S charts, flowcharts, pseudocode.
1.3 Finding logical errors - trace tables.

Topic 2:
The 'C' programming language.
2.1 Introduction, history, uses, advantages and disadvantages.
2.2 'C' syntax for control structures, logical and arithmetic operators, cast operators, data types of int, float, char, arrays, files and pointers, file I/O, local and global variables, functions.
2.3 Compiler, linker, library, macros, header files.

Topic 3:
Complete development of a solution to a control problem from given specifications, including documentation. Implementation of that solution using the 'C' programming language.
3.1 Control of industrial equipment via I/O interface cards.
3.2 Data collection, conversion, logging, processing, manipulation and presentation.

Pre-requisites Information :

PREREQUISITES are subjects which you must have successfully completed before

you are allowed to enrol in this subject. Most subjects do not have prerequisites and you may enrol in them without having done any other subjects.

Prerequisites of this module are :
(only one module group required)

6032G Control Programming Style

More About Assessment:

For information about assessment in TAFE please see "Every Student's Guide to Assessment in TAFE NSW" which is available on the TAFE Internet site at: http://www.tafensw.edu.au/students/guide/assessment_guide.htm.