NEW ZEALAND INSTITUTES OF TECHNOLOGY AND POLYTECHNIC QUALIFICATIONS IN INFORMATION & COMMUNICATIONS TECHNOLOGY

PRESCRIPTION: PP51n PROGRAMMING PRACTICE

AIM OF MODULE:	The student will gain a thorough knowledge of a selected programming language; the ability to translate a procedure specification into the selected language, to solve compilation errors, to conduct program testing, and to fix program bugs.
CREDITS:	7
KNOWLEDGE ASSUMED FROM:	PP500
STUDENT LEARNING HOURS:	70
CONTENT REVISED:	2004
PRESCRIPTION EXPIRY DATE:	Nov 2011
NOTE:	This module may be awarded to a student for each language which is learnt to the required standard. The various modules will be identified by the last digit. The language name should be added to the end of the module title.

Level and Assessment Schedule

TOPICS	Highest Skill Level R	C	A	P	Suggested Assessment Percentage
1. Language Syntax			*		40
2. Design Principles			*		10
3. Procedure Application			*		10
4. Program Writing			*		30
5. Program Modification			*		10
					100

LEARNING OUTCOMES

The student will:

A 1 Explain how the selected language provides the basic functions of procedural or object oriented programming and will apply the syntax of the language.

A 2 Explain the principles of good program design.

A 3 Translate procedures to illustrate simple solutions to problems.

A 4 Write, test and debug programs in the selected language that use well designed procedures to solve simple problems.

A 5 Make simple amendments to existing working programs.

CONTENT

1 LANGUAGE SYNTAX

- The following features of the selected language (where applicable) should be covered:

  - reserved words
  - arithmetic
  - array handling
  - string handling
  - sequential files
  - random files
  - looping statements
  - conditional statements
  - procedures, functions, subroutines, methods, etc
  - date and time handling

- Compilation Error Resolution.

  - resolve any reported error with reference to manuals, if required

2 DESIGN PRINCIPLES

- The principles of good program design will be explained.

3 PROCEDURE APPLICATION

- Appropriate procedures will be chosen for the language used.

4 PROGRAMME WRITING AND TESTING

- Write code to solve simple problems using the correct syntax and recognised standards.
- Design a checklist of items to test based on the procedure specification.
- Resolve any errors revealed by testing bug fixing.

5 PROGRAMME MODIFICATION

- Make simple changes or additions to existing working programs.