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

PRESCRIPTION: SC600 SYSTEM CONTROLS

AIM OF MODULE:	To enable students to be able to design appropriate controls in a simple computer system.
CREDITS:	7
STUDENT LEARNING HOURS:	70
CONTENT REVISED:	2004
PRESCRIPTION EXPIRY DATE:	Nov 2011 (not currently offered by an ITP)

Level and Assessment Schedule

TOPICS	Highest Skill Level R	C	A	P	Suggested Assessment Percentage
1. System and Programming Controls		*			20
2. Threats, Exposures, and Safeguards		*			30
3. Designing Controls			*		35
4. Audit Trails and Journals		*			15
					100

LEARNING OUTCOMES

The student will:

C	1	Explain the reasons and requirements for ensuring appropriate controls are in place for computer systems.
C	2	Describe areas of possible threat and exposure to an organisation and identify safeguards that can be enacted.
A	3	Design controls using a simple case study system design exercise
C	4	Describe the entities involved in an audit trail and the purposes of journals

CONTENT

1 System and Programming Controls

- Explaining the reasons and requirements for ensuring appropriate controls will include:
  - review and approval procedures for new systems
  - program testing procedures
  - program change procedures
  - documentation
  - data conversion operations
  - data entry

2 Threats, Exposures, and Safeguards

- Describing areas of possible threat and exposure to an organisation and identifying safeguards that can be enacted will include:
  - Threats:
  - errors and omissions, disasters and disruptions, loss of integrity
  - disclosure, defalcation, theft of resources

  - Safeguards:
  - physical security, audit trails, backup, recovery procedures
  - error detection/correction, authentication, encryption
  - operational procedures, preventative maintenance
  - format checking, insurance, legal contracts, fault isolation, diagnostics
  - training/education, documentation, testing and reporting, statistics

3 Designing Controls

- Designing controls using a simple case study system design exercise will include:
  - identifying areas where controls are required
  - applying this knowledge in a simple case study system design exercise.
  - placing specific emphasis on application controls and how they are complemented by administrative and general (environmental) controls, taking account of both internal and external control requirements.
  - familiarising students with any statutory regulations which may apply in this area.

4 Audit trails and journals

- This should involve a discussion of the importance of fully documenting changes to systems.