

**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: | November 2013 (not currently offered by an ITP) |

Level and Assessment Schedule

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

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.