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

PRESCRIPTION: EP600 EVALUATION AND PROCUREMENT

AIM OF MODULE:	To provide students with the knowledge and skills to be able to plan a simple project, in outline form, for the acquisition of a new unit of hardware and/or software, including producing an evaluation proposal based on appropriate Cost/Benefit Analysis techniques.
RESTRICTIONS:	As this module has content that overlaps with the content of IS600 students completing this module cannot be awarded a credit for EP600
CREDITS:	7
STUDENT LEARNING HOURS:	70
CONTENT REVISED:	Pre 1996
PRESCRIPTION EXPIRY DATE:	November 2013

Level and Assessment Schedule

	Highest Skill Level				Suggested Assessment Percentage
TOPICS	R	C	A	P	
1. Introduction		*			5
2. System Specification		*			10
3. Planning			*		5
4. Request for Proposals			*		10
5. Tendering Procedures			*		5
6. Ethical Considerations		*			5
7. Evaluation			*		10
8. Case Study			*		50
					100

The student will:

1 INTRODUCTION

C   1.1   Target Units

➢   Explain why procurement under the following headings may require alternative acquisition procedures:

-      turnkey packages
-      hardware (single items)
-      hardware (compound systems, typically including operating system software and tool software such as utilities, DBMS, compilers etc.)
-      software (single items)
-      software (compound systems, typically including one or more application suites and often host software providing development or other special management facilities eg. for DBMS or telecommunications).

C   1.2   Types of Acquisition

➢   Distinguish the features of different types of acquisition including those listed below, and explain when each one might be more appropriate than the others:

-      direct purchase
-      lease/hire purchase/rental
-      tender
-      bureau
-      use of consultants
-      facilities management
-      government

[Purchase by Government Bodies is typically controlled by more stringent accountability than is necessarily applied in private commerce. Particularly relevant are the regulations of the Audit Office and the application of the Official Information Act, which has as its guiding principle that information about Government actions should be available to the public unless there are compelling reasons otherwise.]

2   SYSTEM SPECIFICATION

C   State the minimum requirements of a System Specification which may be taken as the starting point of the acquisition process.

➢   In particular, the following should be considered:

- description of the institutional environment
- description of the immediate context of the "system"
- specification of the existing facility which is to be extended or replaced
- statistics enabling adequate sizing of the proposed new facility and showing current levels and best estimates for growth over an appropriate time scale for both capacity and performance
- data volumes - file and transaction
- disk storage
- data communication links
- work station numbers
- printed output characteristics
- other outputs (e.g. magnetic tapes, cartridges, microfilm/fiche etc.)
- processor power
- other special processing resources needed (e.g. graphics, security, resilience, development capabilities (eg. for software), etc.)

3   PLANNING

A   3.1   Acquisition Project Plan

➢   Prepare an outline plan for a simple project of equipment acquisition based on the following:

- Introduction (an outline of the scope and purpose of the project)
- Timing (anticipated start time and projected duration with milestone points defined)
- Methods to be used
- Resources required
- Summary of expected results

A   3.2   Management Presentation

➢   Make a brief presentation as though to a Management Group explaining a proposed plan and seeking authority to proceed.

4 REQUEST FOR PROPOSALS (RFP)

A   Prepare a simple RFP from a supplied System Specification based upon a structure such as:

- Introduction (Context, Timetable, General requirements of the response)
- Explanation of terms
- Specification of goods and/or services sought
- Detail of responses required such as;
    - pricing details (provision of bulk discounts, alternative configuration strategies etc.)
    - site references (names, addresses, phone numbers for sites which are recommended contact as existing customers of the candidate supplier)
    - compliance with standards (e.g. national electrical safety standards)
    - delivery terms (place(s), due dates, methods, insurance)
    - installation
    - training
    - support (software/hardware maintenance, upgrades etc.)
    - documentation (manuals, circuit diagrams etc.)
    - warranties
    - negotiation of variation
    - terms of payment
    - acceptance tests
    - penalty clauses
    - publicity releases by successful tenderer(s)
    - arbitration

5 TENDERING PROCEDURE

A   Prepare for a given situation reports as to an immediate superior on the following aspects of a formal open tender (it may be useful at this stage to presume an antagonistic candidate supplier whose complaints have to be addressed by senior management):

- advertising for registration of interested potential suppliers
- initial exclusion of unsuitable registrants (including advice of the fact and why)
- despatch of RFP
- receipt of proposals in relation to deadlines
- initial assessment of proposals to establish a short list
- advice to unsuccessful candidates of exclusion from short list
- advice to short listed candidates of further assessment and negotiation
- comprehensive evaluation
- selection of nominated supplier(s)

- justification of choice (this may include a ranking of alternatives in case first choice proves unacceptable to the final decision makers)
- letter of intent
- negotiation of final contract
- acceptance testing
- monitoring of contract fulfilment

6 ETHICAL CONSIDERATIONS

C Describe the ethical considerations involved in dealing with purchasing on the basis of the notes below. It is acknowledged that ethics are always a matter of professional judgement but there are guidelines and codes such as those developed by the New Zealand Computer Society which should be consulted in cases of doubt.

➢ Fair dealing (factors such as protection for the intending purchaser and for the just treatment of competing candidate suppliers).

➢ Reasonable requests for quality and extent of responsibilities.

➢ Generally equal treatment of candidate suppliers (where one is given preference because of, say, prior service record this should be acknowledged to all).

➢ Reasonable time for advice of results.

➢ Reasonable time for expecting process to remain firm in the absence of any index or relative currency value clause.

➢ Objectivity (as far as possible procedures should be based on measurable factors with subjective or personality elements reduced to a minimum).

➢ Disclosure (general policy should be that all candidate suppliers are provided with a reasonable level of detail about the results. This may include reasons why a particular candidate is not accepted. The risks of drawn out wrangles with unsuccessful candidates will be minimised if other ethical considerations are observed).

➢ Confidentiality (all candidate suppliers are entitled to have protection from unfair disclosures about aspects of their business to competitors eg. specific pricing details. The chosen candidate may be required to permit publication of certain aspects of pricing but this does not extend to all details of a negotiated contract).

7 EVALUATION

A   Prepare a realistic plan for the evaluation of a given simple proposal for the supply of a single item of hardware or software. This will include selection of the appropriate tools and demonstration of skill and knowledge required to use such tools and other procedures as follows.

➢   Evaluation Matrix

The basic tool of evaluation (nowadays typically handled with a spreadsheet model) is the matrix. A column is allocated to each "item" being assessed and rows are allocated to each relevant characteristics. Weighting is allocated to each factor and the resulting score totals are used to differentiate between the alternatives.

➢   Reliability Testing

The student must be aware of important measures used in reliability testing including those noted. These tests are considered more reputable if supplied by an independent authority rather than the manufacturer.

-   percentage availability
-   mean time to repair
-   mean time between failures

➢   Benchmarking

The student must be able to plan and execute a very simple benchmark and be aware of the resources required for large scale exercises.

➢   Demonstrate awareness of negative aspects, e.g. the basic artificiality of the process, the difficulties in establishing realistic and reliable benchmarks, the resources necessary to provide worthwhile results.

➢   Specific performance monitoring packages, designed for measuring performance of hardware and/or software in particular environments.

-   special expertise needed to interpret results
-   high specificity may limit value
-   need to verify vital parameters (eg. amount of real memory installed, presence of co-processors etc.)
-   simulation (awareness that such packages may be the only means of providing usable measurements for complex environments; also that they are expensive and difficult to construct and interpret correctly).
-   user-written software (in the particular circumstances where some software written for the existing system can be economically transferred to a targeted new system then carefully constructed benchmarks can be very informative)

- published third-party reports (applicability, interpretation, independence of third party, technical competence of third party, cost)

8   CASE STUDY

A   It is recommended that an exercise be based on the preparation of a simple Evaluation report designed for Senior Management. The material would be drawn from a supplied set of documents including an RFP and say three proposals relating to that RFP.