

**TO: Chief Executive Officers, Tertiary Education Organisations
NZQA Liaison Officers**

**ATTENTION: NZDipBus Programme Managers
Heads of Business and related departments
Lecturers of NZDipBus papers**

2007 Review of NZDipBus Computing Prescriptions

Feedback is requested on the attached draft prescriptions

- *650 (250) Applied Computing*
- *652 (252) Systems Development Project*
- *655 (255) Information Systems Management*

by 19 June 2007.

Purpose

This tertiary circular is intended to:

- inform Tertiary Education Organisations of the review of prescriptions *650 (250) Applied Computing, 652 (252) Systems Development Project and 655 (255) Information Systems Management*
- provide a copy of the review drafts
- request feedback on the three drafts by 19 June 2007.

Background

The New Zealand Diploma in Business (NZDipBus) is a nationally recognised qualification that allows students to gain a broad range of general business skills and knowledge. It leads to careers in a range of areas including accountancy, banking, management, marketing and tourism.

The New Zealand Qualifications Authority (NZQA) has placed the NZDipBus qualification on the *New Zealand Register of Quality Assured Qualifications* (the Register) (see circular T2007/002).

As part of the registration process, a number of prescriptions were reviewed during 2005 and 2006. This process is continuing this year.

Review

On 11 and 12 April 2007, three provider representatives met with NZQA staff to review the above prescription. The representatives were:

Name	TEO
Craig Eves	The Open Polytechnic of New Zealand
Alison Talbot	Auckland University of Technology
Robyn Pascoe	Eastern Institute of Technology

At the end of this two-day period, draft prescriptions and their rationales were finalised.

The rationale documents are included as Appendix I and the draft prescriptions as Appendix II.

Feedback

Please provide feedback on the draft prescriptions by **19 June 2007** using the forms provided in Appendix III. As the review team is meeting again on 3 and 4 July 2007 to consider this feedback, late feedback cannot be considered.

Assessment

The key elements within a prescription are used to define what the student evidence must include to show that the learning outcome has been achieved. Most often the learning outcome will contain the action required by the student, for example:

Learning outcome two
Students will use methods of correlation and regression to analyse a given data set, and interpret the results.

Key Elements

- a) Scatter plot.
- b) Correlation coefficient:
 - value:
 - interpretation.

In some instances, how the evidence is to be presented is flexible and left to the assessment designer. Key elements must be addressed in relation to the learning outcome.

The prescription level (based on the Register criteria) defines the complexity of learning and is categorised as the capability, learning demand and amount of responsibility that could be expected from the student. Level descriptors are available at <http://www.kiwiquals.govt.nz/about/levels/leveldescriptors.html>

Contact details

Please send all feedback on the forms provided in Appendix III and any enquiries to:

D Suzi Grindell
Snr Operations Officer
Tertiary Assessment and Moderation
Qualifications Development and Tertiary Moderation
NZQA
PO Box 160
WELLINGTON

Phone: 04 463 3049
Fax: 04 463 3114
Email: suzi.grindell@nzqa.govt.nz

Circulars are available from the NZQA website at
<http://www.nzqa.govt.nz/publications/circulars/tertiary.do>

Linda Glogau
Manager
Qualifications Development and Tertiary Moderation

Appendix I – Rationales

Draft 650 (250) *Applied Computing* prescription

The review team has suggested two significant changes to this prescription. ‘Database management system’ has been added to the required software applications and the weightings have been reconsidered and adjusted.

Other changes are minor and are mostly either a result of translation of the previous prescription into the new format, the result of rewording for improved clarity, or addition of details to reflect the required depth for student work.

Aim

This aim is essentially the same as that of the previous version, with unnecessary wording removed and the term ‘software applications’ replacing ‘software tools’ for consistency with terminology used in other parts of the prescription.

Weightings

The weightings in the previous prescription’s assessment grid were inconsistent with those outlined in the teaching notes, so these have been reconsidered afresh by the panel.

The assessment weightings have been distributed in the reviewed prescription to reflect:

- emphasis on advanced practical skills with business software applications
- time required to complete related learning and assessment
- industry/workplace expectations that employees should add value by applying specific business and problem solving skills.

Weightings for learning outcomes one and two are consistent with those for the same outcomes in the previous prescription version. The weighting for new learning outcome three has been reduced because the methodology criterion (2.1 from the previous version) has been removed. Methodologies are assessed in depth in 252 (652) *Systems Development Project*. The weighting for new learning outcome four has been reduced to more realistically reflect the learning and assessment time required.

Assessment notes

Assessment notes have been included to:

- emphasise the requirement for in-depth knowledge of software applications
- reinforce the requirement for electronic evidence
- emphasise the importance of some familiarity with information technology in relation to e-business
- remind assessors of the need for evidence in student work of higher-order generic skills.

Learning outcome one – 30%

The phrase ‘generic software tools’ from the previous 1.1 learning outcome has been amended to ‘current business software applications’ for greater clarity and for consistency with terminology used later in the prescription.

'Database management system' has been added to the prescribed software applications because the review team agreed that this adds appropriate depth in comparison with the practical skill requirements of *550 Business Computing*, which is a recommended prerequisite, and provides appropriate lead-in to learning outcome four (previously learning outcome three).

A requirement for evidence of using advanced features has been added to the prescribed spreadsheets and databases and elective applications to ensure an appropriate level of work for level 6 and in comparison with *550 Business Computing*.

Learning outcome two – 20%

This reflects the intent of previous learning outcome 1.2 but 'to achieve optimal efficiency by end users in a multi user environment' has been amended to 'to improve productivity and efficiency for multiple users' for greater clarity.

The key element 'integration of multiple applications' replaces 'effectively integrate applications to improve productivity and effectiveness' (1.2.2 in the previous prescription) because the former is clearer and ensures an appropriate level of work for the prescription level.

Assessment criteria 1.2.3 and 1.2.4 from the previous prescription are reflected in this new learning outcome.

Learning outcome three – 35%

This is essentially the same as previous learning outcome two with only minor wording changes. As noted above in the 'Weightings' section, process methodology has been removed from required assessment evidence.

'Documentation' was added to the last key element as this is always a workplace requirement.

Learning outcome four – 15%

The following changes were made.

- 'Disseminate' from previous learning outcome three was removed as this was deemed irrelevant in the context of this outcome.
- 'Identify' was added to ensure students demonstrate the ability to discriminate between relevant and irrelevant data for the particular purpose.
- 'Organise' was replaced by 'process and format' for greater clarity.
- 'Management' was removed from 'produce management reports' (assessment criterion 3.1) to increase flexibility for assessors/students.
- Two different types of report are specified to ensure an appropriate range of skills.
- Assessment criterion 3.3 of the previous version was not included in the key elements of the new version because it was not deemed to be a key requirement in this context and would be difficult to evidence.

Draft 652 (252) Systems Development Project prescription

The review panel considered a number of issues in relation to the current (252) prescription. These included whether:

- the prescription accurately reflected performance at level 6, compared with unit standard 18742 at level 4
- learning outcomes should separate or combine theory and practice
- the number of learning outcomes (currently four) encouraged assessment of an integrated process
- the current wording sufficiently emphasised the importance of understanding a systems development project life cycle.

The panel agreed that the content of the current prescription should be largely retained, but should be reorganised in the light of the above issues. The four learning outcomes have been reduced to two, theory and practice are combined in the first learning outcome and the importance of process is highlighted in learning outcome two and some of the assessment notes. The importance of theory for students working at level 6 is underlined by the 50% weighting allocated to new learning outcome one. The panel thinks these changes, along with the combined assessment notes and added details in key elements, reflect the required depth for student work at level 6.

Aim

The two sentence aim of the previous prescription version has been streamlined to one concise statement. The plural ‘applications’ has been replaced by ‘application’, as the focus of the prescription is development of a single application. The added phrase ‘using a systems development methodology’ highlights the intended focus.

Weightings

Learning outcome one combines the first three learning outcomes from the previous prescription and the design component of the fourth learning outcome. The 50% allocation for each new learning outcome is therefore consistent with the recommended weighting in the previous prescription version. This weighting ensures that underpinning theory and its application has an appropriate emphasis for level 6.

Assessment notes

Assessment notes have been included to:

- provide a definition
- emphasise the dynamic nature of planning
- emphasise the importance of documentation, and for students to have some familiarity with information technology in relation to e-business
- remind assessors of the need for evidence in student work of use of current methodologies, process documentation, and higher-order generic skills.

Learning outcome one – 50%

As noted above, this learning outcome combines the first three learning outcomes from the previous prescription and the design component of the fourth learning outcome. The word ‘precepts’ used in the previous prescription version was changed to ‘principles’ for greater clarity.

Assessment criteria from the previous prescription's Topics 1-3 have largely been transferred to key elements, with some rewording. Assessment criteria 4.2, 4.3, 4.5 and 4.7 from the previous prescription have been included as they relate to planning and design. Normalisation has been added to the theory requirement for greater depth.

Learning outcome two – 50%

This learning outcome consists of the development and implementation aspects of previous learning outcome four. Assessment criteria 4.4, 4.6, 4.8-4.11 from the previous prescription are accommodated in the key elements or assessment notes of new learning outcome two. The additional detail of application maintenance has been added to the last key element.

Draft 655 (255) *Information Systems Management* prescription

The review team considered the 255 prescription was not clearly focused. Some topics related more generally to management or information technology, some to information systems, whilst others fell more into the area of systems analysis. There is a large number of learning outcomes in the current prescription and the panel identified some inconsistencies between these, the prescription title, and the apparent intentions of the prescription as reflected in teaching notes and assessment guidelines. Consequently, the title was amended and learning outcomes were rationalised to:

- achieve greater coherence and consistency of focus
- remove learning outcomes and assessment criteria that were deemed irrelevant to this focus or inessential for assessment purposes
- improve clarity and conciseness
- ensure process, learning demand and responsibility (as reflected in the Register level descriptors) were appropriate for level 6.

Translation of the current version into the new prescription format involved significant changes to organisation and wording.

Title

This was amended to *Information Systems Management*. This more accurately reflects the content of both the previous and reviewed prescriptions.

Aim

The aim of the current prescription was reworded and reformatted to ensure a focus on overall outcomes and appropriate links between information systems management and organisational performance.

Weightings

The assessment weightings have been distributed to reflect:

- time required to complete related learning and assessment
- emphasis on practical information technology skills.

Weightings are broadly consistent with those in the previous prescription version. Learning outcomes three and four in the reviewed prescription are at the lower end of the previous prescription ranges. Learning outcomes one and two are the same as the higher end of the previous ranges.

Assessment notes

Assessment notes were included to:

- emphasise the need for currency in issues and practices analysed
- emphasise the importance for students to have some familiarity with information technology in relation to e-business
- remind assessors of the need for evidence in student work of higher-order generic skills.

Learning outcome one – 25%

The learning outcome and its key elements incorporate learning outcomes 1.1, 1.2, 1.3 and 1.5 and key related assessment criteria from the previous prescription version.

Learning outcome 1.4 from the previous prescription has been omitted from this version because it was too specific to one type of information system – types in general are covered under new key element c). However, aspects of 1.4 are picked up by new learning outcome one (‘business performance’) and three (‘decision making’).

Some assessment criteria from the previous prescription version, or parts of them, (eg 1.1.1, 1.1.2, 1.2.1) were removed because they were not deemed important for assessment purposes.

The ‘converging technologies’ of the previous 1.5 was clarified and broadened as ‘emerging technologies’.

Learning outcome two – 20%

The previous version’s three topic two learning outcomes were condensed and simplified to learning outcome two in the new version. The intent of the previous version is retained, and essential assessment criteria are now key elements.

Learning outcome three – 30%

This learning outcome retains the intent of the previous version. Minor wording changes were made and a link to decision making and business productivity included. Assessment criterion 3.1 details have become key elements in the reviewed prescription.

Learning outcome four – 25%

The outcome has been reworded for greater clarity and to ensure alignment of student work with organisational goals. Recommendation(s) must now include justification. The outcome continues to enable a case study/research approach.

Appendix II –Draft prescriptions

PRESCRIPTION: 650 APPLIED COMPUTING

This prescription replaces prescription *250 Applied Computing*.

LEVEL	6
CREDIT	20
VERSION	1
INTRODUCED	2007
AIM	Students will use software applications in developing computer based solutions for business problems.
PREREQUISITES	Recommended <i>550 Business Computing</i> or equivalent knowledge and skills.

ASSESSMENT WEIGHTINGS

Learning outcomes	Assessment weighting %
1. Students will demonstrate proficiency in using a range of current business software applications.	30
2. Students will customise and integrate business software applications to improve productivity and efficiency for multiple users.	20
3. Students will solve business problems by identifying business requirements and designing and developing (a) functional solution(s) using the appropriate software applications.	35
4. Students will identify, extract, process and format information to produce reports to aid in the decision making processes of an organisation.	15
TOTAL	100

All learning outcomes must be evidenced; a 10% aggregate variance is allowed.

ASSESSMENT NOTES

1. Students will be expected to provide evidence of an in-depth knowledge of the functionality and attributes of the selected business software applications, and be proficient in their use.
2. Students must submit electronic evidence.
3. Students will be expected to demonstrate a high level of problem-solving skills, and also provide evidence of appropriate communication in developing solutions.
4. For learning outcome three, if relevant, students will be expected to demonstrate familiarity with the use of information technologies to facilitate e-business processes.

LEARNING OUTCOME ONE

Students will demonstrate proficiency in using a range of current business software applications.

Key elements

- a) Prescribed software applications:
 - spreadsheets, including use of at least four advanced features (eg pivot tables, creating and editing macros, forms, linking multiple worksheets)
 - database management system, including use of at least four advanced features (eg multi-table queries, use of parameters, main menu interface, data security, creating and editing macros, data validation).
- b) Elective software application(s): at least one of the following, including use of at least four advanced features:
 - word processing
 - time and project management/scheduling software
 - internet/intranet technologies, which may include:
 - website design and development
 - electronic commerce applications
 - groupware
 - e-mail and calendar
 - other current business applications to enhance productivity.

LEARNING OUTCOME TWO

Students will customise and integrate business software applications to improve productivity and efficiency for multiple users.

Key elements

- a) Customisation of user interface.
- b) Integration of multiple applications.

LEARNING OUTCOME THREE

Students will solve business problems by identifying business requirements and designing and developing (a) functional solution(s) using appropriate software applications.

Key elements

- a) Requirement identification.
- b) Software selection.
- c) Design and development.
- d) Test and implement.
- e) Evaluation and user documentation.

LEARNING OUTCOME FOUR

Students will identify, extract, process and format information to produce reports to aid in the decision making processes of an organisation.

Key elements

- a) At least two types of reports, which:
 - include required data
 - meet decision making needs
 - are formatted for ease of interpretation
 - are flexible (ie easily modified and/or parameter driven).

PRESCRIPTION: 652 SYSTEMS DEVELOPMENT PROJECT

This prescription replaces prescription 225 *Systems Development Project*.

LEVEL	6
CREDIT	20
VERSION	1
INTRODUCED	2007
AIM	Students will analyse and develop a simple work group application to improve productivity in a multi-user environment, using a systems development methodology.
PREREQUISITES	Recommended <i>550 Business Computing</i> or equivalent knowledge and skills. <i>650 Applied Computing</i> also covers useful underpinning skills.

ASSESSMENT WEIGHTINGS

Learning outcomes	Assessment weighting %
1. Students will explain principles of data management, data modelling, process modelling and systems development project management, and apply them in designing a simple workgroup-based business application to meet user requirements in a multi-user environment.	50
2. Students will demonstrate an understanding of a systems development project life cycle by developing and implementing the workgroup-based business application in line with the design.	50
TOTAL	100

All learning outcomes must be evidenced; a 10% aggregate variance is allowed.

ASSESSMENT NOTES

1. The term 'workgroup' is defined as a single LAN-based business unit.
2. Any methodologies used should be current.
3. The project plan is dynamic and students are expected to provide evidence that the plan is being followed and continuously reviewed.

4. Each stage of the project should be evidenced by documentation consistent with industry requirements.
5. Throughout all phases of the project, students will be expected to demonstrate a high level of problem-solving skills and provide evidence of appropriate communication with stakeholders.
6. For learning outcome two, if relevant, students will be expected to demonstrate familiarity with the use of information technologies to facilitate e-business processes.

LEARNING OUTCOME ONE

Students will explain principles of data management, data modelling, process modelling and systems development project management, and apply them in designing a simple workgroup-based business application to meet user requirements in a multi-user environment.

Key elements

- a) Database concepts.
- b) Conceptual data modelling.
- c) Data structure and data management issues.
- d) Process modelling.
- e) Normalisation.
- f) Problem definition and project scope.
- g) User requirements, including functional requirements in business language.
- h) Project plan:
 - tasks
 - deliverables
 - resource requirements
 - risk identification and planning.
- i) Interface design:
 - basic screen flows
 - overall user interface design.

LEARNING OUTCOME TWO

Students will demonstrate an understanding of a systems development project life cycle by developing and implementing the workgroup-based business application in line with its design.

Key elements

- a) Project team establishment.
- b) System integration testing.

- c) Development and testing of application components.
- d) Application implementation:
 - testing
 - quality assurance
 - user training.
- e) Application review.
- f) Application maintenance and enhancement.

PRESCRIPTION: 655 INFORMATION SYSTEMS MANAGEMENT

This prescription replaces prescription *255 Information Management*.

LEVEL	6
CREDIT	20
VERSION	1
INTRODUCED	2007
AIM	Students will demonstrate understanding of information systems and their effective management, and use information technologies to enhance business processes and contribute to achievement of organisational goals.
PREREQUISITES	Recommended <i>550 Business Computing</i> or equivalent knowledge and skills.

ASSESSMENT WEIGHTINGS

Learning outcomes	Assessment weighting %
1. Students will explain the nature of information systems and analyse their role in supporting business operations and performance.	25
2. Students will describe, and evaluate the effectiveness of, strategies relating to managing information systems in an organisation.	20
3. Students will use information technologies to enhance information flows, decision making and productivity in a business context.	30
4. Students will investigate an information management issue and recommend a workable systems solution consistent with organisational goals and available resources.	25
TOTAL	100%

All learning outcomes must be evidenced; a 10% aggregate variance is allowed.

ASSESSMENT NOTES

1. Students' evidence must reflect investigation and analysis of current issues and practice, and awareness of new developments.
2. Students will be expected to demonstrate a high level of problem-solving skills and, for learning outcome four, provide evidence of appropriate communication in developing a solution.
3. Students will demonstrate familiarity with the use of information technologies to facilitate e-business processes.

LEARNING OUTCOME ONE

Students will explain the nature of information systems and analyse their role in supporting business operations and performance.

Key elements

- a) Effect of information technology on communication.
- b) Role of organisational structures in communication and information flow.
- c) Interrelationships between different information systems in an organisation:
 - types of information systems
 - advantages and disadvantages of systems integration.
- d) Role of emerging technologies:
 - catalyst and facilitator for change
 - competitive advantage.

LEARNING OUTCOME TWO

Students will describe, and evaluate the effectiveness of, strategies relating to managing information systems in an organisation.

Key elements

- a) Change management strategies.
- b) People management strategies.
- c) Risk management strategies:
 - disaster recovery
 - maintaining data integrity
 - security issues.
- d) Effectiveness criteria includes user involvement.

LEARNING OUTCOME THREE

Students will use information technologies to enhance information flows, decision making and productivity in a business context.

Key elements

- a) At least **two** applications such as:
 - scheduling software
 - presentation software
 - groupware
 - internet/intranet software tools
 - multimedia packages.

LEARNING OUTCOME FOUR

Students will investigate an information management issue and recommend a workable systems solution consistent with organisational goals and available resources.

Key elements

- a) Issue analysis.
- b) Evaluation of options.
- c) Recommendation(s), including justification.
- d) Presentation of findings.

6. After considering learning outcome four and the supplied rationale, is there anything further we should consider including or removing?

If yes, please list.

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Please return form to:

D Suzi Grindell
Snr Operations Officer
Tertiary Assessment and Moderation
Qualifications Development and Tertiary Moderation
NZQA
PO Box 160
WELLINGTON

Phone: 04 463 3049
Fax: 04 463 3114
Email: suzi.grindell@nzqa.govt.nz

This feedback is due by **19 June 2007**.

6. After considering learning outcome four and the supplied rationale, is there anything further we should consider including or removing?

If yes, please list.

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