

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

PRESCRIPTION: MB500 MATHEMATICS FOR BUSINESS & COMPUTING

AIM OF MODULE:	Students will gain an understanding of the mathematics involved in a range of business and computing applications.
CREDITS:	7
STUDENT LEARNING HOURS:	70
CONTENT REVISED:	1998
PRESCRIPTION EXPIRY DATE:	November 2013

Level and Assessment Schedule

TOPICS	Highest Skill Level				Suggested Assessment Percentage
	R	C	A	P	
1. Depreciation			*		10
2. Graphs & Statistics			*		25
3. Problem Solving			*		25
4. Logic			*		20
5. Cost Benefit Analysis			*		20
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LEARNING OUTCOMES

The emphasis in this paper is the application of mathematics to business and computing. (ie. applied mathematics rather than pure mathematics)

The student will:

- A 1 Use straight line and declining balance methods to calculate the depreciable amount of an asset, and use a spreadsheet package to build an asset register.
- A 2 Use a spreadsheet package to present raw data in an appropriate graphical format;
Give examples of the business use of graphs and statistics, and common misuse of these tools;
Use a variety of statistical functions to solve given problems and use a computer model to solve experimental probability problems.
- A 3 Solve a variety of appropriate problems which are presented in mathematical or word format by developing equations, using formula transposition, or using linear programming techniques;
Use an appropriate variety of methods to carry out calculations using matrices and describe how an array may be used in data processing.
- A 4 Use logic principles, symbols and terms to develop and represent logic statements and to check the validity of such statements.
- A 5 Use a spreadsheet package to build various cost/benefit analysis models for typical business projects.

CONTENT

1 DEPRECIATION

- Examples of the situations in which each depreciation method is used.

2 GRAPHS & STATISTICS

- Descriptions of the stages of data collection, analysis and presentation.
- Calculations of the following types: mean, median, mode, standard deviations. Create stem & leaf diagrams for a set of data and group using box and whiskers.

3 PROBLEM SOLVING

- Use appropriate equations and formulae to solve word problems.
- Matrix terms such as dimension, row vector, column vector and elements.
- Matrix multiplication, calculation of determinants and inverses of matrices.
- Solution of systems of linear equations using matrix methods.

4 LOGIC

- Valid propositions; statements involving and, or, not, implication, converse, equivalence and contrapositive truth tables.

5 COST BENEFIT ANALYSIS

- Models include; eg payback period, net present value, and internal rate of return.

LEARNING RESOURCES

- Suggested Textbooks:
- Applied Business Maths (1990), Paula Roberts, Pitman
- Business Mathematics and Statistics, Peter Waxman, Prentice Hall