

WESTERN SYDNEY
UNIVERSITY



The College

INTRODUCTORY BUSINESS MATHEMATICS

900114

2020



UNIT OUTLINE

Last amended:	January 2020
---------------	--------------

© Western Sydney University Enterprises Pty Limited 2020

Except as provided by the Copyright Act 1968, no part of this publication may be produced, stored in a retrieval system or transmitted in any form or by any means without the prior written permission of Western Sydney University Enterprises Pty Limited.

This unit outline is to be used for educational purposes only.

Students should not make this publication available commercially, or redistribute it by any technological means.

Students must not record lectures or tutorials via any technology unless they obtain the express consent of the lecturer prior to the lecture being given.

Western Sydney University The College
Nirimba Education Precinct
Eastern Road
Quakers Hill NSW 2763

Postal address:
PO BOX 224
Quakers Hill NSW 2763

Phone: (02) 9852 4488
Fax: (02) 9852 4480

Disclaimer

If you buy or use this publication you should understand clearly that it has been produced solely for learning purposes. While the author and Western Sydney University Enterprises Pty Limited have made every effort to ensure that the material in this publication is accurate and of high quality, you are expressly advised that you should not rely on the contents of this publication in order to make decisions having legal, accounting, property, financial, investment or similar consequences or for any purpose other than learning. For any purposes other than learning you should first obtain the advice of an appropriately qualified professional. The author and Western Sydney University Enterprises Pty Limited disclaim any liability to any person, whether a student or otherwise, in respect of anything, and the consequences of anything, done or omitted to be done by any such person in reliance, whether wholly or partially, on the whole, or any part of, or omission from, the contents of this publication.

Western Sydney University ABN 53 014 069 881 is a registered provider under the Commonwealth Register of Institutions and Courses for Overseas Students (CRICOS). Provider Number 00917K.

Western Sydney University Enterprises Pty Limited ABN 44 003 474 468 trading as Western Sydney University The College (CRICOS Provider Number 02851G) is a wholly owned entity of Western Sydney University. Academic Pathway Programs are delivered by Western Sydney University The College under arrangement with Western Sydney University.

Unit name	Introductory Business Mathematics
Unit number	900114
Coordinator	Michael Casey
Session	2020.1
Handbook summary	<p>This unit consists of two modules. The first module has been designed to provide a revision of basic mathematical concepts and methods that apply to business situations. They include basic mathematical operations, percentages, equations, index numbers, logarithms, direct and inverse variation, and graphs.</p> <p>The second module has been designed to provide students with the necessary skills for making practical financial decisions. The concepts taught include simple interest, compound interest, annuities and their applications.</p>
Credit point value	10
Prerequisite/s	N/A
Corequisite/s	N/A
Unit incompatible with and not to be counted for credit with	N/A
Assumed knowledge	Mathematics Year 10 or equivalent
Unit level	Level Z — Non-award unit
Attendance requirements	Students are expected to attend at least 80% of classes. Educational research consistently demonstrates that this attendance level is associated with a high likelihood of achieving a passing grade.
Enrolment restrictions	Students must be enrolled in a Foundation Studies course at The College.
Learning outcomes	<p>On successful completion of this unit, students should be able to:</p> <ol style="list-style-type: none"> 1. solve problems involving basic mathematical operations, equations and formulas 2. model mathematical problems using appropriate graphs 3. apply simple and compound interest concepts and annuities to real-life business problems 4. understand how the concept of the time value of money can be applied to investments 5. understand and apply a variety of fundamental mathematical concepts to solve familiar and unfamiliar problems, and 6. interpret and communicate mathematical ideas in a clear and effective manner, using appropriate notation.

Unit content	<p>In this unit students will learn about:</p> <p>Module 1: Basic mathematics</p> <ul style="list-style-type: none"> • Basic mathematical operations on whole numbers, decimals and fractions • Percentages, ratios and rates • Linear equations • Simultaneous linear equations (elimination and the substitution method) • Substitution into formulas, rearranging formulas. • Quadratic equations • Index numbers • Logarithms • Functions and their graphs (linear, quadratic, exponential, logarithmic) • Direct and inverse variation <p>Module 2: Financial mathematics</p> <ul style="list-style-type: none"> • Simple interest (interest amount, length of time, interest rate, principal and maturity value, applications, time lines and equations of value) • Compound interest (maturity value, principal, interest amount, interest rate, length of time, effective and nominal rates, time lines and equations of value, multiple interest rates) • Annuities (ordinary annuities and annuities due, accumulated value, present value, size of annuity, rate per interest period, deferred annuities, perpetuities, general annuities) • Applications (loans – affordability, repayment schedules, loan outstanding; investment decisions using NPV and IRR)
Mode of delivery	<p>This unit is taught on a face-to-face basis and includes six hours of classes per week. In addition, students will be required to access vUWS regularly, in order to download additional learning material, and to check for any announcements about the unit that may be posted there.</p>
Online learning requirements	
Essential requirements	<p>Essential text</p> <p>Ibbett, N 2012, <i>Financial mathematics for decision making</i>, Cengage Learning Australia, South Melbourne.</p> <p>Further resources</p> <p>Bradley, T 2013, <i>Essential mathematics for economics and business</i>, 4th edn, Wiley, Chichester.</p> <p>Brechner, RA 2012, <i>Contemporary mathematics for business and consumers</i>, 6th edn, Cengage Learning, Mason, OH.</p> <p>Croft, A 2010, <i>Foundation maths</i>, 5th edn, Pearson Prentice Hall, New York.</p> <p>Deitz, JE 2006, <i>Contemporary business mathematics for colleges</i>, 16th edn, Cengage Learning, Mason, OH.</p> <p>Dickman, G 2000, <i>Business mathematics</i>, 2nd edn, Nelson, South Melbourne.</p> <p>Evans, S 2009, <i>Access to maths</i>, Prentice Hall, Harlow.</p> <p>Gerver, RK & Sgroi, RJ 2005, <i>Financial math review</i>, South-Western, Mason, OH.</p>

Essential equipment

- A College-approved non-programmable scientific calculator (a list of approved calculators can be found in the learning guide)
- Microsoft Excel (this is available in the Computer Labs)

ASSESSMENT ITEMS AND WEIGHTING

Assessment for this unit will be based on the following components:

Task	Weighting	Learning outcomes assessed	Mandatory task
1. Intra-session exam 1 (1 hour)	10%	1, 5, 6	Y
2. Intra-session exam 2 (1 hour)	25%	1–6	Y
3. Report (300 words plus mathematical calculations)	25%	1–6	Y
4. Final exam (2 hours)	40%	1–6	Y
Total	100%		

For details of assessment due dates, please refer to the learning guide for this unit.

All marks will be determined in accordance with The College [Assessment Policy](#).

All assessment tasks are mandatory unless otherwise specified. Should a student fail to attempt/submit the first formal assessment task in a unit, they will be deemed to be at risk and will need to follow an intervention plan in order not to receive a Fail Non-Submission (FNS) grade. However, failure to attempt/submit all other mandatory assessment tasks will result in an immediate FNS grade for the unit.

In order to pass this unit, students must:

- attempt/submit all mandatory assessment tasks, and
- achieve a minimum overall mark of 50%.