

**MA101**  
**Business Mathematics**  
**3 Credits**

Instructor: Erin Bandola; Rob Koebel

Phone: 780 871 5433; 780 871 5438

Original Developer: Har Kang

Current Developer: Cliff McAuley; Erin Bandola; Rob Koebel

Reviewer: Rob Koebel

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2602 - 59 Avenue, Lloydminster, Alberta, Canada T9V 3N7. Ph: 780 871 5700  
5707 College Drive, Vermilion, Alberta, Canada T9X 1K5. Ph: 780 853 8400  
Toll-free in Canada: 1 800 661 6490



## MA101 Version: 26



## Business Mathematics

### Calendar Description

Solving practical financial and mathematical problems encountered in the business world is the focus of this course. It reviews the mathematics of ratios, percentage, and basic algebra and their applications to business problems. The principle of the time value of money is covered in depth with its important applications to finance, investments and capital budgeting. Use of financial calculators is emphasized throughout.

### Rationale

This is a required course for Real Estate Appraisal and Assessment, Accounting, Marketing, Small Business and Entrepreneurship, and Business Administration Diploma students. Business and industry offer a wide variety of career choices. Whether you work in a bank, a store, a factory, a government office, or, in fact, in almost any job, you benefit from learning business mathematics and having basic computational skills at your fingertips. While computers and electronic calculators can perform complex math calculations quickly and easily, they can generate solutions only as accurately as the data and instructions you put in. A solid foundation in business math is increasingly important if you are to master these electronic servants and put them to work for you.

All business schools require their students to take some form of mathematics sequence. Many future courses in management, finance, accounting--in fact, most business subjects--are easier for and more valuable to students who retain knowledge from their math sequence. The real world values disciplined thinkers in any organization. Few subjects teach disciplined thinking better than mathematics.

The primary objective of the course is to increase your knowledge and skill in the solution of practical financial and mathematical problems encountered in the business community. It also provides a supportive base for mathematical topics in finance, accounting, and marketing.

This course is long on practical use, uses the modern tools available to business people, provides limited focus on the theory of finance or accounting, and has the Canadian college student in mind. It is a course that business students can relate to, and it shows the mathematical concepts as a regular part of business decision-making.

## **Prerequisites**

Grade XII Math or equivalent.

## **Co-Requisites**

None.

## **Course Learning Outcomes**

Upon successful completion of this course, students will be able to

1. demonstrate skill in areas of computation, algebra and financial mathematics.
2. formulate business problems into quantified mathematical form and solve them.
3. demonstrate applications involving the time value of money.

## **Resource Materials**

### ***Required Texts:***

Hummelbrunner, S. A., Halliday, K., & Hassanlou, A. (2021). *Contemporary business mathematics with Canadian applications* (12th ed.). Scarborough, ON: Pearson Canada.

### ***Required Materials:***

HP 10BII required

### ***Reference Text:***

None

## **Conduct of Course**

The 45 hours of instruction consists of lecture, problem-solving demonstration, workshop and exams.

The course consists of three main sections.

1. Review and sharpening of mathematics fundamentals
2. Commercial mathematics and applications
3. Financial mathematics and applications

Students are expected to:

- come to class and participate.
- read the text material.
- practice homework problems as assigned.
- write quizzes and exams as scheduled.

The course is based on Canadian practice and reflects current trends utilizing available technology. Problems are meant to be solved with financial calculators, which eliminate the arithmetic constraints often associated with financial problems and frees the student from reliance on financial tables.

The emphasis is on application and problem-solving strategies rather than on theory or formulas. The application problems demonstrate business decision situations to which the unit material can be applied. Working these problems to accomplish more than simply finding the correct answer better helps you understand the role of mathematics in business decision analysis.

## Evaluation Procedures

The final grade is an aggregate of the following components:

Assignments / Quizzes	10%
Midterm Exam 1 - Ch 1, 2, 3, 6	15%
Midterm Exam 2 - Chs 7, 8	15%
Midterm Exam 3 - Chs 9, 10	15%
Midterm Exam 4 - Chs 11-13	20%
Final exam - Comprehensive	<u>25%</u>
Total	100%

All marks are reported using the detailed grading system outlined below.

The final mark is reported as one of the eleven standard letter grades.

## Grade Equivalents and Course Pass Requirements

*A minimum grade of D (50%) (1.00) is required to pass this course.*

Letter	F	D	D+	C-	C	C+	B-	B	B+	A-	A	A+
Percent Range	0-49	50-52	53-56	57-59	60-64	65-69	70-74	75-79	80-84	85-89	90-94	95-100
Points	0.00	1.00	1.30	1.70	2.00	2.30	2.70	3.00	3.30	3.70	4.00	4.00

**Students must maintain a cumulative grade of C (GPA - Grade Point Average of 2.00) in order to qualify to graduate.**

## Attendance

Regular attendance is essential for success in any course. Absence for any reason does not relieve a student of the responsibility of completing course work and assignments to the

satisfaction of the instructor. Poor attendance may result in the termination of a student from a course(s).

The instructor will recommend that the Registrar withdraw any student who does not meet the established attendance requirements. A failing grade of RW (Required to Withdraw) will appear on the student's transcript. In cases of repeated absences due to illness, the student may be requested to submit a medical certificate.

*Instructors have the authority to require attendance at classes.*

## Course Units/Topics

Topic	Chapter
Review of Arithmetic	1
Review of Basic Algebra	2
Ratio, Proportion, and Percent	3
Trade Discounts, Cash Discounts, Markup, and Markdown	6
Simple Interest	7
Simple Interest Applications	8
Compound Interest – Future Value and Present Value	9
Compound Interest - Further Topics	10
Ordinary Simple Annuities	11
Ordinary General Annuities	12
Annuities Due, Deferred Annuities, and Perpetuities	13
Amortization of Loans, including Residential Mortgages	14
Investment Decision Applications	16



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