MA140

Agribusiness Mathematics

3 Credits

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Agribusiness 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 Agribusiness 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.

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., & Coombs, K. S. (2017). *Contemporary Business Mathematics with Canadian applications* (11th ed.). Scarborough, ON: Pearson Canada.

Required Materials:

Texas Instruments BA II PLUS required

Reference Text:

None

Conduct of Course

The hours of instruction consists of lecture, problem-solving demonstration, workshop/labs 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	40%
Exams	60%
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

Classroom and laboratory attendance is considered vital to the learning process and as significant to the students' evaluation as examinations and reports.

a. Students having a combination of excused and/or unexcused absence of 20 percent or higher for the scheduled course hours will be required to withdraw and will automatically receive a "RW" (required withdrawal) for the course, regardless of any other evaluation results. (RW is a failing grade.)
b. An excused absence is one that is verified with your Instructor. Verification should be prior to the absence or the next class day following the absence. Verification of the absence may take the form of a note from your doctor/College nurse regarding illness, or a note from another Instructor regarding a field trip or other activity, or authorization by your Instructor. An unexcused absence is anything NOT verified by the instructor prior to the absence or the next class day following the absence.

NOTE: Any exceptions to the above attendance policy (e.g. timetable conflicts, work-related issues) must be approved in writing by the Department Chair prior to the beginning of the course.

It is the students' responsibility to know their own absentee record.

Normal hours are 8:30 a.m. to 6:30 p.m., with potential for evening courses, exams or extended field trips. Students are expected to be available for classes during these times.

Course Units/Topics

Topic
Review of Arithmetic
Review of Basic Algebra
Ratio, Proportion, and Percent
Trade Discount, Cash Discount, Markup, and Markdown
Simple Interest
Simple Interest Applications
Compound Interest
Compound Interest - Further Topics
Ordinary Simple Annuities
Ordinary General Annuities
Annuities Due, Deferred Annuities, and Perpetuities
Amortization of Loans, including Residential Mortgages
Investment Decision Applications

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