

A: Division: **INSTRUCTIONAL** Date: **MAY 1997**  
 B: Faculty: **COMMERCE AND BUSINESS ADMINISTRATION** New Course: **X**  
 Program: **OFFICE ADMINISTRATION** Revision of Course Information form:

C: OADM 227 D: OFFICE MATHEMATICS E: 3  
 Subject & Course No. Descriptive Title Semester Credit

F: **Calendar Description:** This course will introduce students to a variety of specific business problems requiring a mathematical solution. A review of basic arithmetic operations will be followed by an exploration of data analysis, basic algebra, ratio, proportion and percent, linear systems, merchandising, interest and depreciation. Topics include: gross earnings, averages and deviations, proration of expenses, distribution of partners'/shareholders' income, percentage analysis, trade and cash discounts, duty, exchange, sales taxes, markup, compound and simple interest, annuities, and depreciation.

**Summary of Revisions:**

G: **Type of instruction: Hrs per week**

Lecture:	3	Hrs.
Laboratory:		Hrs.
Seminar:	1	Hrs.
Clinical Experience:		Hrs.
Field Experience:		Hrs.
Practicum:		Hrs.
Shop:		Hrs.
Studio:		Hrs.
Student Directed Learning:		Hrs.
Other (Specify)		
<b>Total:</b>	<b>4</b>	<b>Hrs.</b>
<b>Semester Total (4 x 15wks):</b>	<b>60</b>	<b>Hrs.</b>

H: **Course Prerequisites:**  
**C- or better in any MATH 11 course or DVST 310**

I: **Course Corequisites:**  
 nil

J: **Course for which this Course is a Prerequisite:**  
**OADM 347**

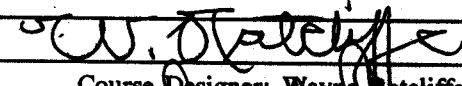
K: **Maximum Class Size:**  
 35

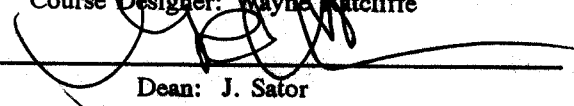
L: **College Credit Transfer**   
**College Credit Non-Transfer**   
**Non-Credit**

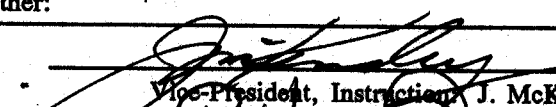
M: **Transfer Credit:** Requested:   
 Granted:

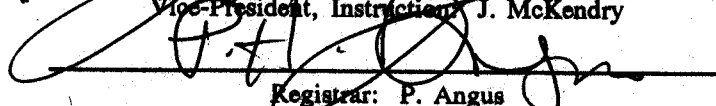
Specify Course Equivalents or Unassigned Credit as appropriate:

BCOU  
 SFU  
 UBC  
 UNBC  
 UVIC  
 Other:

  
 Course Designer: **Wayne Hatcliffe**

  
 Dean: **J. Sator**

  
 Vice-President, Instruction: **J. McKendry**

  
 Registrar: **P. Angus**

**N: TEXTBOOKS AND MATERIALS TO BE PURCHASED BY STUDENTS**

Allan Hymers. Business Mathematics: Canadian Applications. Latest Ed. ITP Nelson.

Materials: Calculator, any one of: Texas Instruments BA II+  
Texas Instruments BA35  
Hewlet Packard 10B  
Sharp EL733a

**O: LEARNING OUTCOMES**

The learner has reliably demonstrated the ability to:

1. perform arithmetic and algebraic calculations accurately.
2. solve a variety of business problems by applying mathematical skills and assessing the results.
3. work within and contribute to the effectiveness of a team.
4. use mathematics as a decision-making and problem-solving tool.
5. exhibit a high standard of behaviour with respect to attendance, punctuality, positive attitude and respect for others.
6. model ethical, moral and intellectual behaviour that reflects understanding of contemporary social and business issues.

**P: COURSE CONTENT**

**Module 1 - Review of Arithmetic**

- 1.1 Simplify arithmetic expressions involving the basic order of operations.
- 1.2 Solve basic problems, including arithmetic averages, involving the fundamental operations.
- 1.3 Determine gross earnings for employees remunerated by the payment of salaries, hourly wages or commissions.

**Module 2 - Data Analysis**

- 2.1 Determine the mean, mode and median.
- 2.2 Determine the percentile and percentile rank.
- 2.3 Determine the range, mean deviation and standard deviation.
- 2.4 Solve business problems involving measures of central tendency and dispersion.

**Module 3 - Review of Basic Algebra**

- 3.1 Simplify algebraic expressions using the fundamental operations, and evaluate algebraic expressions by substitution.
- 3.2 Simplify and evaluate powers with positive exponents, negative exponents and exponent zero.
- 3.3 Solve basic equations using addition, subtraction, multiplication and division.
- 3.4 Solve equations involving algebraic simplification.
- 3.5 Solve business problems by means of equations.

**Module 4 - Ratio, proportion and percent**

- 4.1 Use ratios to solve allocation problems.
- 4.2 Use proportions to solve problems involving the equivalence of two ratios.
- 4.3 Solve problems of increase and decrease.
- 4.4 Solve a variety of business problems involving percents.

**Module 5 - Linear Systems**

- 5.1 Graph linear equations and linear inequalities in two variables in a set of rectangular coordinates.
- 5.2 Graph linear systems consisting of two linear relations in two variables.
- 5.3 Solve linear systems consisting of two linear equations in two variables using the method of elimination by addition or subtraction.
- 5.4 Solve business problems by setting up systems of linear equations in two variables.

**Module 6 - Commercial Discounts, Markup and Markdown**

- 6.1 Solve problems involving trade discounts, including discount series and equivalent single rates of discount.
- 6.2 Solve problems involving cash discounts.
- 6.3 Solve problems involving taxes, duties and exchange.
- 6.4 Solve problems involving margin based on either cost or selling price.
- 6.5 Solve pricing problems involving markup, markdown and discounts.

**Module 7 - Simple Interest**

- 7.1 Determine the maturity value of interest-bearing notes.
- 7.2 Determine the present value of promissory notes.
- 7.3 Discount promissory notes using simple discount.
- 7.4 Compute interest and balances for demand loans.
- 7.5 Develop repayment schedules for amortized loans.

**Module 8 - Compound Interest - Amount and Present Value**

- 8.1 Determine the maturity value of loans involving compound interest.
- 8.2 Determine the present value of loans involving compound interest.
- 8.3 Compute periodic, nominal and effective rates of interest.

**Module 9 - Annuities**

- 9.1 Determine the present and future value of ordinary simple annuities.
- 9.2 Determine the payments, term and interest rate for ordinary simple annuities.
- 9.3 Determine the present and future value of simple annuities due.
- 9.4 Determine the payments, term and interest rate for simple annuities due.
- 9.5 Construct periodic payment amortization schedules.

**Module 10 - Amortization**

- 10.1 Determine the depreciation and net book value for each year in the life of an asset.
- 10.2 Construct depreciation schedules using averaging methods.
- 10.3 Construct depreciation schedules using declining balance methods.

**Q: METHOD OF INSTRUCTION**

Following a lecture format, part of the course content will be presented by way of explanation, demonstration and guided practice. Following a seminar format, some content will be presented as situational problems requiring both individual and group consideration, discussion and resolution.

**R: COURSE EVALUATION**

Term Exams (3-4)	50%
Final Exam	30%
Assignments	10%
Employability Skills (criterion-referenced)	<u>10%</u>
	<u>100%</u>