

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ON

COURSE OUTLINE

COURSE TITLE: Mathematics

CODE NO: MTH 111-5

SEMESTER: One

PROGRAM: Business Management/Accounting

AUTHOR: J. McGauley

DATE: June 1997

PREVIOUS OUTLINE DATED: May 1996

APPROVED:

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TOTAL CREDITS:

PREREQUISITES: None

SUBSTITUTE(S): MTH 120, MTH 142

LENGTH OF COURSE:

TOTAL CREDIT HOURS: 48

I. COURSE DESCRIPTION:

The objectives of this course are to develop speed and accuracy in basic arithmetic, master the skills of basic algebra and be able to solve many of the math problems encountered in the business world. This course also provides the basic knowledge of algebra necessary to successfully complete the Math of Finance and Statistics courses given in later semesters.

II. STUDENT PERFORMANCE OBJECTIVES:

After studying each of the indicated topics, the student should be able to perform the objectives that follow:

Topic 1: Review of Arithmetic

1. Add, subtract, multiply and divide whole numbers, integers, fractions and decimals.
2. Convert fractions to decimals.
3. Convert decimals to fractions.
4. Perform a series of arithmetic operations with regard to order of operations.
5. Solve basic word problems.

Topic 2: Review of Algebra

1. Add, subtract, multiply and divide algebraic terms and expressions.
2. Simplify algebraic expressions.
3. Substitute a given number into a formula and calculate the result.
4. Evaluate powers.
5. Perform operations with powers.
6. Write exponential equations in logarithmic form and determine the value of natural logarithms.

Topic 3: Linear Equations and Word Problems

1. Graph linear equations by finding x and y intercepts and by setting up a table of values.
2. Solve a linear equation algebraically.
3. Solve word problems related to business applications.

Topic 4: Ratio, Proportion and Percent

1. Convert a percentage to decimal and fractional form.
2. Convert fractions and decimals to percent form.
3. Calculate a given percentage of a specified amount.
4. Solve word problems related to ratios and proportions.
5. Solve word problems involving percent.

II. STUDENT PERFORMANCE OBJECTIVES (Continued):

Topic 5: Linear Systems

1. Solve systems of two linear equations algebraically and graphically.
2. Solve word problems involving linear systems.

Topic 6: Commercial Discount

1. Calculate single trade discounts.
2. Calculate multiple trade discounts.
3. Calculate amount due for Ordinary dating, End of Month dating, and Receipt of Goods dating.
4. Find the selling price of a product using concepts of markup and markdown.

TOPICS TO BE COVERED:

Approximate Time Frame

1. Review of Arithmetic	6 hours
2. Review of Algebra	11 hours
3. Linear Equations and Word Problems	10 hours
4. Ratio, Proportion and Percent	7 hours
5. Linear Systems	6 hours
6. Commercial Discount	8 hours

IV. LEARNING ACTIVITIES:

UNIT NUMBER	NO. OF HOURS	TOPIC DESCRIPTION	REFERENCE CHAPTER ASSIGNMENTS
1	6	Chapter 1: Review of Arithmetic Addition and subtraction, multiplication and division Operations with fractions, mixed fractions, decimal fractions, basic problems	Pages 1-14 Exercises: 1.1-1.2
2	11	Chapter 2: Review of Basic Algebra Fundamental operations and laws with signed numbers Simplification of algebraic expressions Exponents Logarithms	Pages 28-50 Exercises: 2.1-2.4
3	10	Chapter 2: Linear Equations in One Variable and Word Problems	Pages 50-69 Exercises: 2.5-2.7
4	7	Chapter 3: Ratios, Proportion and Percentage Percents to fractions and decimals Basic percent problems Rate percent, increase and decrease Applications	Pages 72-80 Pages 84-116 Exercises: 3.1-3.6
5	6	Chapter 4: Linear Systems Linear equations and their graphs Solution by addition and subtraction Problem solving	Pages 117-127 Pages 133-135 Pages 138-144 Pages 149-156 Exercises: 4.1, 4.3A, 4.4, 4.6
6	8	Chapter 6: Commercial Discount Mark-up and mark-down Cash discount	Pages 193-224 Exercises: 6.1-6.3, and 6.4A

V. REQUIRED RESOURCES / TEXTS / MATERIALS:

1. Textbook: Contemporary Business Math; S.A. Hummelbrunner, Fourth Edition (Prentice-Hall)
2. Calculator: (Recommended) SHARP Scientific Calculator EL-531G. The use of some kinds of calculators may be restricted during tests.

VI. EVALUATION PROCESS/GRADING SYSTEM:**MAJOR ASSIGNMENTS AND TESTS**

While regular tests will normally be scheduled and announced beforehand, there may be an unannounced test on current work at any time. Such tests, at the discretion of the instructor, may be used for up to 30% of the overall mark.

At the discretion of the instructor, there may be a mid-term exam and there may be a final exam, each of which can contribute up to 30% of the overall mark.

The instructor will provide you with a list of test dates. Tests may be scheduled out of regular class time.

ATTENDANCE

It is your responsibility to attend all classes during the semester. Research indicates there is a high correlation between attendance and student success.

If you are absent from class, it is your responsibility to find out from your instructor what work was covered and assigned and to complete this work before the next class. Your absence indicates your acceptance of this responsibility.

Unexcused absence from a test may result in a mark of zero ("0"). Absence may be excused on compassionate grounds such as verified illness or bereavement. On return from an excused absence, you should ask your instructor to schedule the writing of a make-up test. Failure to do so will be considered as an unexcused absence.

VI. EVALUATION PROCESS/GRADING SYSTEM (Continued):**METHOD OF ASSESSMENT (GRADING METHOD)**

A+	Consistently outstanding	(90%-100%)
A	Outstanding Achievement	(80% - 89%)
B	Consistently above average achievement	(70% - 79%)
C	Satisfactory or acceptable achievement in all areas subject to assessment	(55% - 69%)
X or R	A temporary grade, limited to situations with extenuating circumstances, giving a student additional time to complete course requirements (See below)	(45% - 54%)
R	Repeat - The student has not achieved the objectives of the course, and the course must be repeated	(0% - 44%)
CR	Credit exemption	

The method of calculating your weighted average will be defined by your instructor. Since grades are based upon averages, it follows that good marks in some tests can compensate for a failing mark in another test.

Make-Up Test (if applicable)

An "X" grade may be assigned at the end of the regular semester if you have met **ALL** of the following criteria:

- an overall average between 45% and 54% was achieved
- at least 50% of the tests were passed
- at least 80% of the scheduled classes were attended
- all of the topic tests were written

If you are assigned an "X" grade, you may convert it to a "C" grade by writing a make-up test on topics agreed to by the instructor. This test will be available at the time agreed to by your instructor.

At the end of the regular term, it is your responsibility to obtain your results from your instructor and, in the event of an "X" grade, to inquire when the make-up test will be available.

The score you receive on this make-up test will replace your original test score and be used to re-calculate your weighted average. If the re-calculated average is 55% or greater, a "C" grade will be assigned. If the re-calculated average is 54% or less, an "R" grade will be assigned.

VI. EVALUATION PROCESS/GRADING SYSTEM (Continued):**"R" and "X" Grades at the end of the Semester**

If an "X" grade is not cleared by the specified date, it will become an "R" grade. Except for extenuating circumstances, an "X" grade in Math will not be carried into the next semester.

"R" Grades during the Semester

A student with a failing grade and poor attendance (less than 80% attendance) may be given an "R" at any time during the semester.

VII. SPECIAL NOTES:**Special Needs**

If you are a student with special needs (e.g. physical limitations, visual impairments, hearing impairments, learning disabilities), you are encouraged to discuss required accommodations with the instructor and/or contact the Special Needs Office, Room E1204, Ext. 493, 717, 491 so that support services can be arranged for you.

Advanced Standing

Students who have completed an equivalent post-secondary course must bring relevant documents to the Coordinator, Mathematics Department.

Retention of Course Outlines

It is the responsibility of the student to retain all course outlines for possible future use in gaining advanced standing at other post-secondary institutions.

Substitute course information is available at the Registrar's office.

The instructor reserves the right to alter the course as he/she deems necessary to meet the needs of the students.

VIII. PRIOR LEARNING ASSESSMENT:

There is a MTH 111 Challenge exam in place.

Students who wish to apply for advanced credit in the course should consult the instructor or the Prior Learning Assessment Office (E2203).