

**THE SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY**

**SAULT STE. MARIE, ONTARIO**



Sault College

**COURSE OUTLINE**

**COURSE TITLE:** Business Mathematics

**CODE NO. :** MTH1250-3

**SEMESTER:** Two

**PROGRAM:** Parks and Recreation

**AUTHOR:** Mathematics Department

**DATE:** January 2003

**PREVIOUS OUTLINE DATED:** January 2002

**APPROVED:**

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**DEAN**

\_\_\_\_\_  
**DATE**

**TOTAL CREDITS:** 3

**PREREQUISITE(S):** None

**HOURS/WEEK:** 3 hours/week

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*School of Student Success Services, Business and Liberal Studies*

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**I. COURSE DESCRIPTION:**

Students will study business math concepts such as statistics, graphing, percentage applications, currency exchange, simple and compound interest, annuities, income/expense statements, balance sheets, and cash flows. Students will use these concepts in applications using spreadsheet software.

**II. LEARNING OUTCOMES**

Upon successful completion of this course, students will demonstrate the ability to:

1. Convert numbers between word and numerical formats
2. Perform calculations involving fractions and decimals
3. Determine percentages using a formula
4. Apply fractions, decimals, and percents to problems involving sales tax, currency conversions, commissions, increase and decrease, cash discounts, and trade discounts
5. Calculate and interpret simple descriptive statistics including mean, median, mode, and standard deviation
6. Interpret and construct line graphs, bar graphs, and pie charts
7. Solve linear equations algebraically by finding the slope and intercept, and solve linear equations graphically
8. Solve quadratic equations graphically
9. Solve problems involving simple interest calculations, including finding interest, principal, or time, future values, and present values
10. Calculate loan repayment schedules
11. Determine future values and present values with compound interest
12. Determine future value, present value, periodic rent, and term of a simple annuity
13. Calculate an amortization schedule for a simple annuity
14. Work with basic accounting practices such as cash flow, balance sheets, and income/expense statements

**III. TOPICS:**

1. Introduction to Excel Spreadsheet Program
2. Basic Concepts
3. Percent
4. Statistics and Graphing
5. Simple Interest
6. Compound Interest
7. Annuities
8. Investment Decision Applications

**IV. LEARNING ACTIVITIES**

| <b>TOPIC NUMBER</b> | <b>TOPIC DESCRIPTION</b>  | <b>HOURS</b> |
|---------------------|---|--------------|
| <b>1.0</b>          | <b>Introduction to Excel Spreadsheet Program</b>  | <b>7</b>     |
| <b>2.0</b>          | <b>Basic Concepts</b>   | <b>2</b>     |
| 2.1                 | Working with numbers  |              |
| <b>3.0</b>          | <b>Percent</b>  | <b>6</b>     |
| 3.1                 | Operations with fractions and decimals  |              |
| 3.2                 | Percentage formula  |              |
| 3.3                 | Applications – sales tax, commission, increase and decrease, cash discount, trade discount, currency exchange |              |
| <b>4.0</b>          | <b>Statistics and Graphing</b>  | <b>7</b>     |
| 4.1                 | Descriptive statistics  |              |
| 4.2                 | Charting – line graphs, bar graphs, pie charts  |              |
| 4.3                 | Linear equations – algebraically and graphically  |              |
| 4.4                 | Quadratic equations – graphically   |              |
| <b>5.0</b>          | <b>Simple Interest</b>  | <b>5</b>     |
| 5.1                 | Introduction to dating  |              |
|                     | Simple interest formula   |              |
|                     | Future value formula  |              |
|                     | Present value formula   |              |
|                     | Loan repayment schedules  |              |
| <b>6.0</b>          | <b>Compound Interest</b>  | <b>4</b>     |
| 6.1                 | Introductory concepts   |              |
| 6.2                 | Future value formula  |              |
| 6.3                 | Present value formula   |              |
| <b>7.0</b>          | <b>Annuities</b>  | <b>6</b>     |
| 7.1                 | Introductory concepts   |              |
| 7.2                 | Future value of a simple annuity  |              |
| 7.3                 | Present value of a simple annuity   |              |
| 7.4                 | Periodic rent or payment  |              |
| 7.5                 | Finding the term  |              |
| 7.6                 | Amortization schedules for a simple annuity   |              |
| <b>8.0</b>          | <b>Investment Decision Applications</b>   | <b>8</b>     |
| 8.1                 | Discounted cash flow  |              |
| 8.2                 | Net present value method for cash flow  |              |
| 8.3                 | Balance sheets  |              |
| 8.4                 | Income/expense statements   |              |

**V. REQUIRED RESOURCES / TEXTS / MATERIALS:**

1. Microsoft Excel 2000 Marquee Series, Nita Rutkosky and Denise Sequin
2. Calculator: (Recommended) SHARP Scientific Calculator EL-531G. The use of some kinds of calculators may be restricted during tests.
3. There is **no text** for this course.

**VI. EVALUATION PROCESS/GRADING SYSTEM:**

**MAJOR ASSIGNMENTS AND TESTS**

Regular topic tests will contribute a minimum of **60%** of the overall mark.

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.

The instructor will provide you with a list of test dates and other required evaluation information for your class section. 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 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)**

| <u>Grade</u> | <u>Definition</u>   | <u>Grade Point Equivalent</u> |
|--------------|---|-------------------------------|
| A+           | Consistently outstanding  | (90% - 100%) 4.00             |
| A            | Outstanding achievement   | (80% - 89%) 3.75              |
| B            | Consistently above average achievement  | (70% - 79%) 3.00              |
| C            | Satisfactory or acceptable achievement in all areas subject to assessment   | (60% - 69%) 2.00              |
| R            | Repeat - The student has not achieved the objectives of the course, and the course must be repeated.                                      | (less than 60%) 0.00          |
| CR           | Credit exemption  |                               |
| X            | A temporary grade, limited to situations with extenuating circumstances, giving a student additional time to complete course requirements |                               |

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 for the course:

- an overall average between 50% and 59% was achieved
- at least 50% of the tests were passed
- at least 80% of the scheduled classes were attended
- at least 80% of quizzes and assignments were submitted
- 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 60% or greater, a "C" grade will be assigned. If the re-calculated average is 59% 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:**

Students with special needs (e.g. physical limitations, visual impairments, hearing impairments, learning disabilities), are encouraged to discuss required accommodations with the professor and/or contact the Special Needs Office.

**Advanced Standing**

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

- a copy of course outline
- a copy of the transcript verifying successful completion of the equivalent course

Note: A copy of the transcript must be on file in the Registrar’s Office.

**VIII. PRIOR LEARNING ASSESSMENT:**

Students who wish to apply for advanced credit in the course should consult the instructor or the Prior Learning Assessment Office (E1306).