THE SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY
SAULT STE. MARIE, ON

COURSE OUTLINE

Course Title: **Mathematics**

Code No.: **MTH104-2**   **Semester**: **One**

Program: **Resort Operations Management**

Author: **Mathematics Department**

Date: August 2004   Previous Outline Dated: August 2003

Approved: _____   _____
                        Dean   **Date**

Total Credits: 2
Prerequisite(s): None
Hours/Week: 2

I.   COURSE DESCRIPTION:

The goals of this course are that the students understand fractions, decimals, percents, and the application of these in business problems. Using metric system efficiently and constructing and interpreting graphs are also important.

II.   LEARNING OUTCOMES:

A.   Learning Outcomes:

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

1. Perform operations with whole numbers, decimals, and fractions, with and without the use of a calculator, and apply these operations in problem-solving situations.
2. Apply concepts of percentage to solve problems.
3. Apply the concepts of simple and compound interest to solve problems.
4. Use and convert units of measure.
5. Present and interpret quantitative information using descriptive statistics techniques.

B.   Learning Outcomes and Elements of the Performance:

1. Perform operations with whole numbers, decimals, and fractions, with and without the use of a calculator, and apply these operations in problem-solving situations.

Potential elements of the performance:
- Define whole numbers
- Round whole numbers
- Estimate an answer
- Add, subtract, multiply, and divide whole numbers
- Find indicator words in application problems
- Use the four steps for solving application problems
- Read and write decimals
- Round decimals
- Add and subtract decimals
- Multiply and divide decimals
- Recognize types of fractions
- Convert mixed numbers to improper fractions and improper fractions to mixed numbers
- Write a fraction in lowest terms
- Use the rules for divisibility
- Add and subtract like and unlike fractions
- Find the least common denominator

II.   LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE (Continued):

Potential elements of the performance (continued):
- Rewrite fractions with a common denominator
- Add and subtract mixed numbers
- Multiply and divide fractions and mixed numbers
- Convert decimals to fractions and fractions to decimals

2. Apply concepts of percentage to solve problems.

Potential elements of the performance:
- Write a decimal and fraction as a percent and a percent as a decimal and fraction
- Write a fractional percent as a decimal
- Know the three quantities of a percent problem
- Use the basic percent formula to solve for part, base, and rate
- Recognize the terms associated with base, rate, and part
- Find the percent of change
- Identify an increase or a decrease problem
- Solve application problems

3. Apply the concepts of simple and compound interest to solve problems.

Potential elements of the performance:
- Solve for simple interest
- Calculate maturity value
- Determine the number of days in a loan or investment period
- Define the basic terms used with notes
- Find the due date of a note
- Find the principal, rate, and time using the simple interest formula
- Decide on a period of compounding
- Use the formulas and tables to find compound amount and compound interest
- Define the terms *future value* and *present value*
- Use tables to calculate present value

4. Use and convert units of measure.

Potential elements of the performance:
- Use the International System of Units (SI)
- Evaluate and use the SI prefixes
- Convert from one SI (metric) unit to another
- Convert a quantity from a metric unit to a British unit or vice versa using a table of conversion
- Convert international currency amounts to Canadian dollars, or vice versa
- Use units of measure in applied situations

III.   TOPICS:

1. Whole Numbers, Fractions, and   8 hours
   Decimals
2. Percents - Conversion to and from   6 hours
   Fractions and Applications
3. Interest Calculations   8 hours
4. Metric and Other Conversions   6 hours
5. Statistics, Tables and Graphs   4 hours

                        Total   32 hours

TOPIC NUMBER	TOPIC DESCRIPTION	REFERENCE CHAPTER ASSIGNMENTS
1.0	Whole Numbers and Decimals	Chapter 1& 2 pp. 3-11 and handout
2.0	Percents – Conversion to and From Fractions	Chapter 4 & 5 pp. 23- 39 and handout
3.0	Interest Calculations	Chapter 6 pp. 40 – 51 handout
4.0	Metric and Other Conversions	Chapter 12 pp. 131 –146 and handout
5.0	Statistics, Tables and Graphs	Chapter 11 pp. 53 –69

IV.   REQUIRED RESOURCES / TEXTS / MATERIALS:

1. **Text:** Math for Life and Food Service. Author: Lynn Gundmundsen   ISBN 0-13-031937-6. Prentice-Hall
2. **Calculator**: (Recommended) SHARP Scientific Calculator EL-531. The use of some kinds of calculators, cell phones, and other electronic devices may be restricted during tests.

V.   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.

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.

METHOD OF ASSESSMENT (GRADING METHOD)

Grade	Definition	*Grade Point Equivalent*
A+	90 – 100%	4.00
A	80 – 89%	
B	70 - 79%	3.00
C	60 - 69%	2.00
D	50 – 59%	1.00
F (Fail)	49% and below	0.00
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field /clinical placement or non-graded subject area.	
U	Unsatisfactory achievement in field/clinical placement or non-graded subject area.	
X	A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course.	
NR	Grade not reported to Registrar's office.	
W	Student has withdrawn from the course without academic penalty.	

Course: MTH 104		
Evaluation Device	**Topics Covered** (reference topic numbers from the course outline)	**% weight of Final Average**
Test 1	1,2	40%
Test 2	3	25%
Test 3	4,5	35%

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 40% and 49% 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 "D" 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 50% or greater, a "D" grade will be assigned. If the re-calculated average is 49% or less, an "F" grade will be assigned.

"F" and "X" Grades at the end of the Semester
If an "X" grade is not cleared by the specified date, it will become an "F" grade. Except for extenuating circumstances, an "X" grade in Math will not be carried into the next semester.

VI.   SPECIAL NOTES:

Special Needs:
If you are a student with special needs (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with your instructor and/or the Special Needs office. Visit Room E1101 or call Extension 703 so that support services can be arranged for you.

Retention of course outlines:
It is the responsibility of the student to retain all course outlines for possible future use in acquiring advanced standing at other postsecondary institutions.

<u>Plagiarism</u>:
Students should refer to the definition of "academic dishonesty" in *Student Rights and Responsibilities*. Students who engage in "academic dishonesty" will receive an automatic failure for that submission and/or such other penalty, up to and including expulsion from the course/program, as may be decided by the professor/dean. In order to protect students from inadvertent plagiarism, to protect the copyright of the material referenced, and to credit the author of the material, it is the policy of the department to employ a documentation format for referencing source material.

<u>Course outline amendments</u>:
The Professor reserves the right to change the information contained in this course outline depending on the needs of the learner and the availability of resources.

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

VII.   PRIOR LEARNING ASSESSMENT:

Students who wish to apply for advanced credit in the course should consult the professor or the Coordinator, Mathematics Department. Credit for prior learning will be given upon successful completion of a challenge exam or portfolio.
There is a MTH104 Challenge exam in place.

VIII.   DIRECT CREDIT TRANSFERS:

Students who wish to apply for direct credit transfer (advanced standing) should obtain a direct credit transfer form from the Dean's secretary. Students will be required to provide a transcript and course outline related to the course in question.