

THE SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ON



COURSE OUTLINE

COURSE TITLE: BUSINESS MATHEMATICS

CODE NO.: MTH117-2

SEMESTER: ONE

PROGRAM: OFFICE ADMINISTRATION

AUTHOR: THE MATHEMATICS DEPARTMENT

DATE: JUN 2013

PREVIOUS OUTLINE DATED: JUN 2012

APPROVED: "Colin Kirkwood"

DEAN

MAY 31/13

DATE

TOTAL CREDITS: 2

PREREQUISITE(S): NONE

HOURS/WEEK: 2

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I. COURSE DESCRIPTION:

The student will study fractions, decimals, percentages, ratio and proportion, and the metric system and conversion of units, applying each of these to business problems. The course concludes with an introduction to statistics, including preparing and interpreting graphs.

Administrative support staff employees are required to demonstrate basic math competencies both in their jobs and in their personal lives. Tasks ranging from spreadsheet creation and analysis through to calculation of invoices require a strong foundation in mathematical principles. Regardless of the field, employment opportunities today require strong numeracy skills such as those gained in MTH 117.

Specific applications where Office Administration students/administration support personnel would be required to demonstrate mathematical proficiency include:

1. Calculating costs based on rate structures: postal, fax, telephone, etc.
2. Calculating totals (invoices, credit notes, quotations, proposals, reports, budgets, etc.) percentage discounts, interest, sales tax and GST
3. Managing a petty cash fund
4. Performing a bank reconciliation
5. Preparing spreadsheets for budgeting/tracking purposes, including creating formulas needed to perform required calculations
6. Utilizing the mathematical feature available in most word processing software packages
7. Interpreting and preparing bar graphs, line graphs and pie charts (report, presentation overheads, etc.)
8. Utilizing the mathematical features in word-processing and database programs
9. Utilizing a calculator to add, subtract, divide, and multiply
10. Handling payroll duties including calculation of CPP, EI, income tax, etc.
11. Managing manual or computerized accounting applications

II. 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.
- 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.

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

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

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.

5. Present and interpret quantitative information using descriptive statistics techniques.

Potential elements of the performance:

- Construct and analyze a frequency distribution.
- Construct and analyze bar, line, and circle graphs.
- Find the mean, median and mode of a list of numbers.
- Calculate a weighted mean.

III. TOPICS TO BE COVERED:**Approximate Time Frame**

1. Whole Numbers, Fractions, and Decimals	6 hours
2. Percentages	6 hours
3. Interest Calculations	6 hours
4. Metric Conversion	5 hours
5. Statistics, Tables and Graphs	5 hours

IV. REQUIRED RESOURCES / TEXTS / MATERIALS:

1. My Math Test Online – Access code may be purchased at the Bookstore
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:

A weighted average based on the following will be used to calculate the final mark.

MyMathTest Online Evaluations	25%
Test and Quizzes	50%
Assignments	25%

The following semester grades will be assigned to students:

Grade	Definition	Grade Point Equivalent
A+	90 – 100%	4.00
A	80 – 89%	3.00
B	70 - 79%	2.00
C	60 - 69%	1.00
D	50 – 59%	0.00
F (Fail)	49% and below	
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.

VI. SPECIAL NOTES:

Attendance:

Sault College is committed to student success. There is a direct correlation between academic performance and class attendance; therefore, for the benefit of all its constituents, all students are encouraged to attend all of their scheduled learning and evaluation sessions. This implies arriving on time and remaining for the duration of the scheduled session.

VII. COURSE OUTLINE ADDENDUM:

1. Course Outline Amendments:

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.

2. 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.

3. Prior Learning Assessment:

Students who wish to apply for advance credit transfer (advanced standing) should obtain an Application for Advance Credit from the program coordinator (or the course coordinator regarding a general education transfer request) or academic assistant. Students will be required to provide an unofficial transcript and course outline related to the course in question. Please refer to the Student Academic Calendar of Events for the deadline date by which application must be made for advance standing.

Credit for prior learning will also be given upon successful completion of a challenge exam or portfolio.

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

4. Accessibility Services:

If you are a student with a disability (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with your professor and/or the Accessibility Services office. Visit Room E1101 or call Extension 2703 so that support services can be arranged for you.

5. Communication:

The College considers ***Desire2Learn (D2L)*** as the primary channel of communication for each course. Regularly checking this software platform is critical as it will keep you directly connected with faculty and current course information. Success in this course may be directly related to your willingness to take advantage of this Learning Management System (LMS) communication tool.

The professor reserves the right to use other tools and/or techniques that may be more applicable. These other tools/techniques for effective communication will be discussed, identified and presented throughout the delivery of course content.

6. Plagiarism:

Students should refer to the definition of “academic dishonesty” in *Student Code of Conduct*. 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.

7. Tuition Default:

Students who have defaulted on the payment of tuition (tuition has not been paid in full, payments were not deferred or payment plan not honoured) as of the first week of November will be removed from placement and clinical activities due to liability issues. This may result in loss of mandatory hours or incomplete course work. Sault College will not be responsible for incomplete hours or outcomes that are not achieved or any other academic requirement not met as of the result of tuition default. Students are encouraged to communicate with Financial Services with regard to the status of their tuition prior to this deadline to ensure that their financial status does not interfere with academic progress.

8. Student Portal:

The Sault College portal allows you to view all your student information in one place. **mysaultcollege** gives you personalized access to online resources seven days a week from your home or school computer. Single log-in access allows you to see your personal and financial information, timetable, grades, records of achievement, unofficial transcript, and outstanding obligations, in addition to announcements, news, academic calendar of events, class cancellations, your learning management system (LMS), and much more. Go to <https://my.saultcollege.ca>.

9. Electronic Devices in the Classroom:

Students who wish to use electronic devices in the classroom will seek permission of the faculty member before proceeding to record instruction. With the exception of issues related to accommodations of disability, the decision to approve or refuse the request is the responsibility of the faculty member. Recorded classroom instruction will be used only for personal use and will not be used for any other purpose. Recorded classroom instruction will be destroyed at the end of the course. To ensure this, the student is required to return all copies of recorded material to the faculty member by the last day of class in the semester. Where the use of an electronic device has been approved, the student agrees that materials recorded are for his/her use only, are not for distribution, and are the sole property of the College.