## COURSE OUTLINE: MTH117 - BUSINESS MATHEMATICS

Prepared: Mathematics Department
Approved: Bob Chapman, Chair, Health

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| **Course Code: Title** | MTH117: BUSINESS MATHEMATICS |
| **Program Number: Name** | 2086: OFFICE ADMIN-EXEC |
| **Department:** | MATHEMATICS |
| **Academic Year:** | 2022-2023 |
| **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.<br><br>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. |
| **Total Credits:** | 2 |
| **Hours/Week:** | 2 |
| **Total Hours:** | 28 |
| **Prerequisites:** | There are no pre-requisites for this course. |
| **Corequisites:** | There are no co-requisites for this course. |
| **Substitutes:** | MTH104, MTH107, MTH111, MTH114, MTH132, MTH135, OEL629 |
| **This course is a pre-requisite for:** | OAD302 |
| **Vocational Learning Outcomes (VLO's) addressed in this course:**<br><br>**Please refer to program web page for a complete listing of program outcomes where applicable.** | **2086 - OFFICE ADMIN-EXEC**<br>VLO 1   Conduct oneself professionally and adhere to relevant legislation, standards and codes of ethics.<br>VLO 2   Manage the scheduling, coordination and organization of administrative tasks and workflow within specific deadlines and according to set priorities.<br>VLO 3   Coordinate the collection, analysis, distribution and response to communications in the workplace to facilitate the flow of information.<br>VLO 6   Produce financial documents and reports by identifying and compiling relevant information and using accounting software.<br>VLO 8   Use interpersonal, leadership and client service skills to respond to diversity and to support the vision and mission of the organization.<br>VLO 9   Research, analyze and summarize information on resources and services and prepare summary reports with recommendations. |
| **Essential Employability Skills (EES) addressed in** | EES 3   Execute mathematical operations accurately. |

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| **this course:** | EES 4     Apply a systematic approach to solve problems.<br>EES 5     Use a variety of thinking skills to anticipate and solve problems.<br>EES 10    Manage the use of time and other resources to complete projects. |
| **Course Evaluation:** | Passing Grade: 50%, D<br><br>A minimum program GPA of 2.0 or higher where program specific standards exist is required for graduation. |
| **Books and Required Resources:** | This course has changed to a free online e-text.<br><br>Calculator-SharpEL-520XTB (available in the bookstore) |
| **Course Outcomes and Learning Objectives:** | |

| Course Outcome 1 | Learning Objectives for Course Outcome 1 |
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| 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. | 1.1 Define whole numbers.<br>1.2 Round whole numbers.<br>1.3 Estimate an answer.<br>1.4 Add, subtract, multiply, and divide whole numbers.<br>1.5 Find indicator words in application problems.<br>1.6 Use the four steps for solving application problems.<br>1.7 Read and write decimals.<br>1.8 Round decimals.<br>1.9 Add and subtract decimals.<br>1.10 Multiply and divide decimals.<br>1.11 Recognize types of fractions.<br>1.12 Convert mixed numbers to improper fractions and improper fractions to mixed numbers.<br>1.13 Write a fraction in lowest terms<br>1.14 Use the rules for divisibility.<br>1.15 Add and subtract like and unlike fractions.<br>1.16 Find the least common denominator.<br>1.17 Rewrite fractions with a common denominator.<br>1.18 Add and subtract mixed numbers.<br>1.19 Multiply and divide fractions and mixed numbers.<br>1.20 Convert decimals to fractions and fractions to decimals. |
| **Course Outcome 2** | **Learning Objectives for Course Outcome 2** |
| 2. Apply concepts of percentage to solve problems. | 2.1 Write a decimal and fraction as a percent and a percent as a decimal and fraction.<br>2.2 Write a fractional percent as a decimal.<br>2.3 Know the three quantities of a percent problem.<br>2.4 Use the basic percent formula to solve for part, base, and rate.<br>2.5 Recognize the terms associated with base, rate, and part.<br>2.6 Find the percent of change.<br>2.7 Identify an increase or a decrease problem.<br>2.8 Solve application problems. |
| **Course Outcome 3** | **Learning Objectives for Course Outcome 3** |
| 3. Apply the concepts of simple and compound | 3.1 Solve for simple interest.<br>3.2 Calculate maturity value. |

| | interest to solve problems. | 3.3 Determine the number of days in a loan or investment period.<br>3.4 Define the basic terms used with notes.<br>3.5 Find the due date of a note.<br>3.6 Find the principal, rate, and time using the simple interest formula.<br>3.7 Decide on a period of compounding.<br>3.8 Use the formulas and tables to find compound amount and compound interest.<br>3.9 Define the terms future value and present value.<br>3.10 Use tables to calculate present value. |
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| | **Course Outcome 4** | **Learning Objectives for Course Outcome 4** |
| | 4. Use and convert units of measure. | 4.1 Use the International System of Units (SI).<br>4.2 Evaluate and use the SI prefixes.<br>4.3 Convert from one SI (metric) unit to another.<br>4.4 Convert a quantity from a metric unit to a British unit or vice versa using a table of conversion.<br>4.5 Convert international currency amounts to Canadian dollars, or vice versa.<br>4.6 Use units of measure in applied situations. |
| | **Course Outcome 5** | **Learning Objectives for Course Outcome 5** |
| | 5. Present and interpret quantitative information using descriptive statistics techniques. | 5.1 Construct and analyze a frequency distribution.<br>5.2 Construct and analyze bar, line, and circle graphs.<br>5.3 Find the mean, median and mode of a list of numbers.<br>5.4 Calculate a weighted mean. |

**Evaluation Process and Grading System:**

| Evaluation Type | Evaluation Weight |
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| Assignments/Quizzes/Attendance | 20% |
| Tests | 80% |

**Date:** September 7, 2022

**Addendum:** Please refer to the course outline addendum on the Learning Management System for further information.