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| **SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY**  **SAULT STE. MARIE, ONTARIO**  New Logo - College BW COURSE OUTLINE | | | | | |
| **COURSE TITLE:** | Business Mathematics I | | | | |
| **CODE NO. :** | BCO 101 | | **SEMESTER:** | One | |
| **PROGRAM:** | Business, Accounting | | | | |
| **AUTHOR:** | Mathematics Department | | | | |
| **DATE:** | June 2016 | **PREVIOUS OUTLINE DATED:** | | |  |
| **APPROVED:** |  | | | |  |
|  | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_CHAIR | | | | **\_\_\_\_\_\_\_**  **DATE** |
| **TOTAL CREDITS:** | 4 | | | | |
| **PREREQUISITE(S):** |  | | | | |
| **HOURS/WEEK:** | 4 | | | | |
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| *For additional information, please contact* *Colin Kirkwood, Dean School of Environment, Technology, and Business* | | | | | |
| *(705) 759-2554, Ext. 2688* | | | | | |

1. **COURSE DESCRIPTION:**

In this course, students will begin with a review of basic arithmetic and algebraic manipulations, continuing with the following topics: ratios and proportions, percentages and the percentage formula, discounts, mark-ups and mark-downs, payroll scenarios, break-even analysis, and simple interest.

**II. LEARNING OUTCOMES**

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

1. Apply knowledge of basic math skills as they relate to general business applications

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| 1.1 Simplify arithmetic expressions using the basic order of operations |
| * 1. Determine equivalent fractions and convert fractions to decimals |
| * 1. Perform calculations using fractions, decimals and percents |
| * 1. Through problem solving, compute simple arithmetic and weighted averages |
| * 1. Determine gross earnings for employees remunerated by the payment of   salaries, hourly wages or commissions |
| * 1. Through problem solving, compute Goods and Services Tax, Harmonized   Sales tax, sales taxes and real property taxes |

1. Apply the basic formula rearrangement concepts for the simplification and solving of algebraic equations

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| * 1. Simplify algebraic expressions by extracting common factors and applying   rules of exponents |
| 2.2 Solve a linear equation in one variable |
| 2.3 Solve two linear equations in two variables |
| 2.4 Rearrange a formula or equation to isolate a particular variable |
| 2.5 Solve “word problems” that lead to a linear equation in one unknown or two  linear equations in two unknowns |
| 2.6 Given any two of the three quantities: percent rate, portion and base, solve  for the third |
| 2.7 Solve problems involving percent change |

1. Set up and solve ratios and proportions as they relate to business applications

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| 3.1 Set up and manipulate ratios |
| * 1. Set up and solve proportions |
| * 1. Use proportions to allocate or prorate an amount on a proportionate basis |
| * 1. Use quoted exchange rate movement to currency appreciation or   depreciation |
| * 1. Interpret and use index numbers |

1. Solve integrated word problems involving discounts, markups and markdowns

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| 4.1 Calculate the net price of an item after single or multiple trade discounts |
| 4.2 Calculate a single discount rate that is equivalent to a series of discounts |
| 4.3 Understand the ordinary dating notation for the terms of payment of an invoice |
| 4.4 Calculate the amount of the cash discount for which a payment qualifies |
| 4.5 Solve merchandise pricing problems involving markup and markdown   1. Compute break-even values  |  | | --- | | * 1. Compute break-even values using cost-volume-profit relationships,   contribution margin and contribution rate | | * 1. Construct break-even graphs | | * 1. Calculate the effects of changes to cost, volume and profit | |

## Determine values for simple interest applications

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| * 1. Calculate interest, maturity value (future value) and present value in a simple   interest environment |
| * 1. Present details of the amount and timing of payments in a time diagram |
| * 1. Calculate the equivalent value on any date of a single payment or a stream of payments |

**III. TOPICS:**

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| 1. Arithmetic |
| 2. Algebra |
| 3. Ratios/Proportions |
| 4. Percent |
| 5. Break-Even |
| 6. Simple Interest |

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

1. Textbook: **Contemporary Business Mathematics with Canadian Applications;** Hummelbrunner, Halliday & Coombs, 10th Edition.
2. Calculator: *(Recommended)* SHARP **Scientific** Calculator (with fraction button “” as a primary function). *The use of some kinds of calculators, cell phones, and other electronic devices will be restricted during tests.*

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| **V.** | **EVALUATION PROCESS/GRADING SYSTEM:**  Tests 80%  Assignments 20% |
|  | The following semester grades will be assigned to students: |

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|  | | 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 |
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|  | | 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. |  |
| If a faculty member determines that a student is at risk of not being successful in their academic pursuits and has exhausted all strategies available to faculty, student contact information may be confidentially provided to Student Services in an effort to offer even more assistance with options for success. Any student wishing to restrict the sharing of such information should make their wishes known to the coordinator or faculty member. | | | | |
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| |  |  |  | | --- | --- | --- | | **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 faculty member 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 Key Dates Calendar 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. Student Services can provide information regarding the Prior Learning Assessment and Recognition policy or it can be viewed on the student portal.  Substitute course information is available in the Registrar's office. | | | |
| 4. | | 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 announcements, news, academic calendar of events, class cancellations, your learning management system (LMS), and much more is available. Go to <https://my.saultcollege.ca>. | | | |
| 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. | | | |
| 6. | | 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 the Accessibility Services office.  Call Ext. 2703 or email [studentsupport@saultcollege.ca](mailto:studentsupport@saultcollege.ca) so that support services can be arranged for you. | | | |
| 7. | | Audio and Video Recording 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. Students with disabilities who require audio or visual recording devices in the classroom as an accommodation will receive approval from their counsellor once the Audio and Video Recording Devices in the Classroom Policy has been reviewed by the student. Recorded classroom instruction will be used only for individual academic use and will not be used for any other purpose. Recordings may only be used for individual study of materials presented during class and may not be published or distributed.  Intentional misuse of audio and video recordings or intentional misrepresentation when requesting the use of a device for recording shall constitute a violation of this policy and laws protecting intellectual property. | | | |
| 8. | | Academic Dishonesty:  Students should refer to the definition of “academic dishonesty” in the Student Code of Conduct.  Students who engage in academic dishonesty will be issued a sanction under the Student Code of Conduct which could lead to and include expulsion from the course/program. In order to protect students from inadvertent plagiarism, to protect the copyright of the material referenced, and to credit the author of the material, students must use a documentation format for referencing source material. | | | |
| 9. | | Tuition Default:  Students who have defaulted on the payment of tuition) as of the first week of November (fall semester courses), first week of March (winter semester courses) or first week of June (summer semester courses) 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. | | | |