CONESTOGA

COURSE OUTLINE

Course Mathematics for Information Technology I (2013-2014)

Code / Version MATH1910 (100)

Total Hours 45

Credits 3

PreRequisite(s)

CoRequisite(s)

Course Description

The purpose of the course is to provide the student with a mathematical basis for personal and business financial decisions and mathematics of computer applications. The course stresses business applications using arithmetic, algebra, ratio-proportion and graphing. Applications include payroll, cost-volume-profit analysis and merchandising mathematics. Information technology topics include logic and Boolean algebra. This course stresses logical reasoning and problem solving skills. A Texas Instrument BAII "Plus" calculator is required for the course.

PLAR Eligible: Yes

Course Outcomes

Successful completion of this course will enable the student to:

1. Apply arithmetic and algebraic skills to every day business problems.
2. Use ratio, proportion and percent in the solution of business problems.
3. Combine relational expressions using logical operators: AND, OR, and NOT, to create logical statements.
4. Solve business problems involving commercial discount, markup and markdown.
5. Solve systems of linear equations graphically and algebraically, and apply to cost volume-profit analysis.
6. Use computer software to solve mathematical and logical business problems.

Unit Outcomes

Successful completion of the following units will enable the student to:

1.0 Applications of Basic Mathematics

- 1.1 Perform arithmetic operations in their proper order.
- 1.2 Convert fractions to their percent and decimal equivalents.
- 1.3 Solve for any one of percent, portion or base, given the other two quantities.
- 1.4 Calculate the gross earnings of employees paid a salary, an hourly wage or commissions.
- 1.5 Calculate the simple average or weighted average given a set of values.
- 1.6 Perform basic calculations of the GST, HST and PST.

2.0 Applications of Basic Algebra

- 2.1 Simplify algebraic expressions.
- 2.2 Solve linear equations in one variable.
- 2.3 Rearrange formulas to solve for any of its contained variables.
- 2.4 Solve problems involving a single percent change.
- 2.5 Calculate returns from investments expressing answers in dollars and percents.
- 2.6 Solve problems involving a series of compounding percent changes.
- 2.7 Calculate a single percent change equivalent to a series of percent changes.

3.0 Applications of Ratio and Proportion

- 3.1 Set up and manipulate ratios.
- 3.2 Set up and solve proportions.
- 3.3 Express percent differences using proportions.
- 3.4 Allocate an amount on a proration basis using proportions.
- 3.5 Convert currencies using exchange rate tables and relate movement to appreciation or depreciation.
- 3.6 Interpret and use index numbers.

4.0 Programming Logic

- 4.1 List the relational operators.
- 4.2 Use relational operators to create relational expressions.
- 4.3 List the logical operators.
- 4.4 Use logical operators to combine logical expressions.
- 4.5 Identify the Precedence of logical Operators.
- 4.6 Use truth tables to illustrate the evaluation of logical expressions.
- 4.7 Create IF statements using relational and logical operators.
- 4.8 Use flowcharts and pseudocode to represent logical decisions.

5.0 Mathematics of Merchandising

- 5.1 Calculate the net price of an item after single or multiple trade discounts.
- 5.2 Calculate an equivalent single discount rate given a series of discounts.
- 5.3 Solve problems using ordinary dating for terms of payment of an invoice.
- 5.4 Calculate the amount of the cash discount for which either a full or partial payment qualifies.
- 5.5 Solve merchandising pricing problems involving markup and markdown.

6.0 Break-Even Analysis

- 6.1 Graph a linear equation in two variables.
- 6.2 Perform linear cost-volume profit and break-even analysis using:
  - 6.2.1 A break-even chart
  - 6.2.2 The algebraic approach of solving the cost and revenue functions using both sales volume in units or sales volume in dollars
  - 6.2.3 The contribution margin approach

Required Student Resources

Jerome, F. Ernest. Business Mathematics in Canada with Connect (7th). McGraw-Hill Ryerson.

Including 1 term Lyryx Interactive Pin Code for students in ITSS
Including 2 term Lyryx Interactive Pin Code for students in CP CP/A and ITID

Calculator – Texas Instruments BAII+ is recommended. (Pre-programmed financial calculator)

Optional Student Resources

Handouts supplied by the professor

Evaluation

The minimum passing grade for this course is 55 (D).

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In order to successfully complete this course, the student is required to meet the following evaluation criteria:

Tests (4@22.5%)	90.00
Assignments	10.00
	100.00 %

Other

Conestoga College is committed to providing academic accommodations for students with documented disabilities. Please contact the Accessibility Services Office.

A course requirements sheet will be distributed at the beginning of the course and will be referred to in conjunction with this course outline.

Prepared By Liz Stacey

School Information Technology

Date 2013-07-03