

**Business Administration**

Winter, 2015

## **BUS 110E Business Mathematics**

*3 Credits, 3 hours per week*

Students will cover a review of basic algebra, ratio and proportion, and linear systems; the mathematics of Business Management including the calculation of depreciation, discounts, simple interest and mark-ups; and the mathematics of finance which includes compound interest, future value, present value, annuities, amortization, bond valuation, sinking funds, and discounted cash flows. An emphasis on the use of word problems and small case studies will be stressed to bring the real world usefulness of the material to light.

*Prerequisites and/or co-requisites*

High School Diploma, or equivalent, with:

A minimum of 60% (C-) in Math 30/30 Pure or 65% (C-) in Math 33/30 Applied and a minimum of 60% (C-) in English 30/30-1 or 65% (C-) in English 33/30-2

### **Instructor**

Lloyd Goethals

Office location: e-mail

Phone number: 780-714-1435

[lloyd.goethals@keyano.ca](mailto:lloyd.goethals@keyano.ca)

### **Class Location and Time**

Thursday 6:30 PM to 9:30 PM

Room S107

### **Office hours**

Instructor will be in the classroom ½ hour before class each Wednesday and is available by appointment through e-mail or telephone.

### **Required Resources**

**Business Mathematics in Canada**, F. Ernest Jerome, Eighth edition, ISBN 978-0-07-000989-9

Access to McGraw-Hill Connect for this section is required for assignments and Tests. TI BA II plus or TI BA II plus Professional Calculator is recommended.

### **Course Outcomes**

The student will be able to:

1. Apply ratios, proportions and percents to solve a variety of business problems
2. Determine trade discounts, cash discounts, mark-up and mark-down
3. Solve problems involving simple interest and partial payments
4. Analyze and solve problems involving the time value of money and compound interest using formulae and financial calculator
5. Analyze and solve annuities and their applications to loans, bonds, investments and mortgages using formulae and financial calculator

**Evaluation**

Students must complete the assignments, quizzes and examinations to pass or complete the course.

Assignments	30%
Quizzes	40%
Final Exam	<u>30%</u>
Total	<u>100%</u>

*A grade of C- is required for progression. The minimum standard for passing this course is a grade of D (50%).*

**Proposed Schedule**

<b>Date</b>	<b>TOPIC</b>	<b>CHAPTERS / SECTIONS</b>	<b>Connect Assignment</b>
Jan 8	Introduction to Course	1.1	
Jan 15	Introduction, Basic Algebra, GST, PST, Property Tax, Payroll Algebraic Expressions, Rules of Exponents Linear Equations	1.2 – 1.6 2.1 – 2.3	Sept 19 Assignment 1
Jan 22	Solving Word Problems Percent Change, Ratios and Proportions Exchange Rates	2.4 – 2.5 3.1 – 3.4	Sept 26 Assignment 2
Jan 29	Trade Discounts and Cash Discounts Partial Payments, Markup and Markdown Linear Systems	4.1 – 4.4 5.1	Oct 3 Assignment 3 Quiz 1
Feb 5	Breakeven Analysis Simple interest: Present and Future value	5.2 6.1 – 6.3	Oct 10 Assignment 4
Feb 12	Equivalent Payments Applications of Simple Interest	6.4 – 6.5 7.2 – 7.4	Oct 17 Assignment 5
Feb 19	Review first half of course		Quiz 2
Feb 23-27	Reading Week		
Mar 5	Compound Interest: Present value, Future value	8.1 – 8.5	Nov 7 Assignment 6
Mar 12	Compound Interest: Solving for $i$ & $n$ Compound Interest: Effective Rates	9.1 – 9.4	Nov 14 Assignment 7
Mar 19	Annuity: Future Value Annuity: Ordinary General Annuities Annuity: Payment Size & No. of Payments	10.1 – 10.5	Nov 21 Assignment 8
Mar 26	Ordinary Annuities: Periodic Payments and Interest Rates Perpetuities	11.1 – 11.3 12.1	Nov 28 Assignment 9 Quiz 3
Apr 2	Perpetuities Annuities Due Loan Amortization	12.1 13.1 13.3 14.1 – 14.3	Dec 5 Assignment 10
Apr 9	Review		Quiz 4
Apr 16	Final Examination (30%)		

**Please Note:**

Date and time allotted to each topic is subject to change. It is your responsibility as a student to contact the Office of the Registrar to complete the forms for Withdrawal or Change of Registration, and any other forms. Please refer to the list of important dates as noted in the Academic Schedule in the Keyano College Credit Calendar.

**Performance Requirements****Student Attendance**

Class attendance is useful for two reasons. First, class attendance maximizes students' learning experience. Second, attending class is a good way to keep informed of matters relating to the administration of the course (e.g., the timing of assignments and exams). Ultimately, you are responsible for your own learning and performance in this course.

It is the responsibility of each student to be prepared for all classes. Students who miss classes are responsible for the material covered in those classes and for ensuring that they are prepared for the next class, including the completion of any assignments and / or notes that may be due.

**Academic Misconduct**

Students are considered to be responsible adults and should adhere to principles of intellectual integrity. Intellectual dishonesty may take many forms, such as:

- Plagiarism or the submission of another person's work as one's own
- The use of unauthorized aids in assignments or examinations (cheating)
- Collusion or the unauthorized collaboration with others in preparing work
- The deliberate misrepresentation of qualifications
- The willful distortion of results or data
- Substitution in an examination by another person
- Handing in the same unchanged work as submitted for another assignment

Penalties for academic offences range from a verbal reprimand to dismissal from the College, and in certain circumstances may involve legal action.

**Specialized Supports****Counselling and Disability Services**

Counselling Services provides a wide range of specialized counselling services to prospective and registered students, including personal, career and academic counselling.

**SKILL Centre**

The SKILL Centre is a learning space in the Clearwater Campus at Keyano College where students can gather to share ideas, collaborate on projects and get new perspectives on learning from our tutorial staff.

The SKILL Centre, through a variety of delivery methods, provides assistance in skill development to Keyano students. Assistance is provided by instructors, staff and student tutors. Individuals wishing to improve their mathematics, writing, grammar, study, or other skills, can take advantage of this unique service.

**Authorization**

This course outline has been reviewed and approved by the Program Chairperson.

*Lloyd Goethals*

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Lloyd Goethals, Instructor

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Gina Langager, Chair

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Date Authorized

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Guy Harmer, Dean

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Date Authorized

**Signed copies to be delivered to:**

Instructor

Registrar's Office