DEPARTMENT OF BUSINESS AND OFFICE ADMINISTRATION
COURSE OUTLINE – WINTER EC
BA 1050 - BUSINESS MATHEMATICS AND STATISTICS – 3 (3-0-1) 60 HOURS

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Office Hours: Tuesday, Thursday, Friday 8:30 – 9:30

I can be contacted during my office hours through Discussion Forum, email or telephone. If you need to contact me outside of my office hours, email is preferred. I will respond to your email within one business day outside of office hours

CALENDAR DESCRIPTION: This course emphasizes a range of mathematical calculations used in business. Students will be introduced to simple interest, compound interest, annuities, amortization, sinking funds, statistical methods and probability theory. Practical applications will be emphasized in the course.

PREREQUISITE(S)/COREQUISITE: Math 20-1 or 20-2 with 60% or Math 30-1 or Math 30-2

REQUIRED TEXT/RESOURCE MATERIALS: Mathematics of Business and Finance: Second Edition. (2012). Larry Daisley, Thambyrajah Kugathasan, and Diane Huysmans. Vretta.

All students must have online access to the online lessons and online labs. You must have an access code in order to gain access to the online resources. It is the student's choice if they purchase a textbook with access code, or e-textbook with access code. If you have purchased a used book, you will have to purchase an access code separately at www.intromath.ca

Sharp EL - 738 Calculator

DELIVERY MODE(S): Self-Study

COURSE OBJECTIVES: The primary objective of this course is to increase the student's knowledge and skill in the solution of practical financial and mathematical problems encountered in the business community.

LEARNING OUTCOMES:

Simple Interest
- The student will be able to explain the concept of simple interest.
- The student will be able to calculate the amount of interest, principal, time, interest rate, and maturity value of investments and loans.
- The student will be able to calculate equivalent payments that replace another payment or a series of payments.
- The student will be able to explain the use of simple interest in business applications such as demand loans, promissory notes, treasury bills, commercial papers, and discounting.

Compound Interest
- The student will be able to explain the concept of compound interest and how it differs from simple interest.
- The student will be able to calculate the future value and present value of investments and loans in compound interest applications using both algebraic and financial calculator methods.
- The student will be able to calculate equivalent payments that replace another payment or a set of payments.
- The student will be able to calculate the effective and equivalent interest rates for nominal interest rates.

Annuities
- The student will be able to identify annuities based on a payment date and compounding period.
- The student will be able to calculate the future value and present value of ordinary simple annuities.
- The student will be able to calculate the future value and present value of ordinary general annuities.
- The student will be able to calculate the future value and present value of simple annuities due and general annuities due.
- The student will be able to calculate the amount of the periodic payments (PMT), the number of payments (n), term (t), periodic interest rate (i), and nominal interest rate (j) of an annuity.
- The student will be able to calculate the present value, number of payments, term, and periodic payment of a deferred annuity.
- The student will be able to explain the concept of amortization of loans.
- The student will be able to calculate the interest portion, principal portion, and principal balance after any payment.
- The student will be able to explain and will understand bond terminology.
- The student will be able to calculate the purchase price of a bond on an interest payment date.
- The student will be able to calculate the purchase price of a bond between interest payment dates.

TRANSFERABILITY:
- Athabasca University: MATH 244 (3)
- Canadian University College: Option 1xx (3)
- DeVry Institute of Technology - Calgary: MATH 1TR (3)
- King's University College, The: BUSI 2xx (3)

EVALUATIONS:

Online Lessons	5%
Online Labs (10 @ 2% each)	20%
Simple Interest Exam	10%
Compound Interest Exam	15%
Annuities Exam	15%
Final Exam (cumulative)	35%
	100%

Online Lessons

- Each section covered in the text (for example, section 8.1), will have an associated online lesson that the students must complete.
- These lessons are interactive and completion of all lessons within the stipulated pre-set due dates will have a total weighting of 5% of the students final grade. Completion marks on lessons are recorded on the dashboard and visible at all times for students. **In order to obtain the completion marks for the online lessons, the student must complete the lesson before the expiration of the pre-set due date.**
- Interactive scenes in the Lessons (within the pre-set due date) are locked for students to attempt correctly. They will need to work through them and answer questions correctly to unlock them. Once a lesson is unlocked, they can freely go back and forth for practice.

Online Labs

- There will 10 labs dispersed throughout the semester (see schedule for dates). The student will be allowed 3 attempts at each lab consisting of 6-10 questions, depending on the content being covered. Each lab will be worth 2% of the students final grade, regardless of the length of the lab, for a total of 20% (10 x 2%) of the students final grade.
- The labs will be marked immediately and the student will receive their grade immediately. Corrections for the attempted lab will be made available to the student immediately after they have submitted their answers.
- The highest grade on any lab attempt is recorded on the dashboard.
- **All labs must be completed before the expiration of the pre-set due date or the student will receive a mark of zero for any missed labs.**
- After the expiration of the pre-set due date, students will continue to have access to the lessons and labs for unlimited practice. However, they will not be graded.

Exams

- Three section exams will be given throughout the semester (See schedule for dates). They include:

Simple Interest Exam	10%
Compound Interest Exam	15%
Annuities Exam	15%

- These exams will be administered online (very similar to the labs).
- The exams will be marked immediately and the student will receive their grade immediately. Corrections for the attempted lab will be made available to the student immediately after they have submitted their answers.
- Once the exam has been started, you must complete the entire exam within 75 minute time limit. Logging off or losing the internet connection during the exam will result in a grade based only on the proportion of the exam that has been completed.
- There will only be one attempt at each of the exams. The grade will be recorded on the dashboard.

Final Exam

- The final exam will be written online (see schedule for date) and will be marked immediately once the student has submitted their exam. The final exam will be cumulative (i.e. all material covered over the semester will be included in the final exam)
- 2.5 hours will be given for the final exam to be written.
- Once the exam has been started, you must complete the entire exam within 2.5 hour time limit. Logging off or losing the internet connection during the exam will result in a grade based only on the proportion of the exam that has been completed.

GRADING CRITERIA:

Please note that Universities will not accept your course for transfer credit **IF** your grade is **less than C-**. This means **DO NOT GET LESS THAN "C-" IF YOU ARE PLANNING TO TRANSFER TO UNIVERSITY.**

Grading Conversion Chart			
Alpha Grade	**4 Point Equivalent**	**Percentage Guidelines**	**Designation**
A+	4.0	90 – 100	**Excellent**
A	4.0	85 – 89.99	
A-	3.7	80 – 84.99	**First Class Standing**
B+	3.3	77 – 79.99	
B	3.0	73 – 76.99	**Good**
B-	2.7	70 – 72.99	
C+	2.3	67 – 69.99	**Satisfactory**
C	2.0	63 – 66.99	
C-	1.7	60 – 62.99	
D+	1.3	55 – 59.99	**Minimal Pass**
D-	1	50 – 54.99	
F	0	0 – 49.99	Fail
WF	0	0	**Fail, withdrawal after the deadline.**

COURSE SCHEDULE / TENTATIVE TIMELINE:

Dates (BA 1050 EC)	Content	Lessons	Assigned Practice Questions	Lab	Exams
Jan. 4th – 10th	**Module 1** Chapter 8	8.1 and 8.2	Exercise 8.2 #9-12, 15-20		
Jan. 11th – 17th	Chapter 8	8.2 and 8.3	Exercise 8.2 #1-8, 13, 14, 21-26 Exercise 8.3 #1-34	**Lab #1** (8.1, 8.2, 8.3)	
Jan. 18th – 24th	Chapter 8	8.4 and 8.5	Exercise 8.4 #1-20 Exercise 8.5 #1-24		
Jan. 25th – 31st	Chapter 8		Chapter 8 Review Exercises.	**Lab #2** (8.4, 8.5)	**Simple Interest Exam (10%)** Chapter 8
Feb. 1st – 7th	**Module 2** Chapter 9	9.1, 9.2 and 9.3	Exercise 9.1 #1-14 Exercise 9.2 #1-30 Exercise 9.3 #1-26	**Lab #3** (9.1, 9.2, 9.3)	
Feb. 8th – 14th	Chapter 9	9.4 and 9.5	Exercise 9.4 #1-26 Exercise 9.5 #1-14	**Lab #4** (9.4, 9.5)	
Feb. 15th – 21st	Chapter 9	9.6, 9.7 and 9.8	Exercise 9.6 #1-16 Exercise 9.7 #1-22 Exercise 9.8 #1-18		
Feb. 22nd – 28th	Chapter 9		Chapter 9 Review Exercises	**Lab #5** (9.6, 9.7, 9.8)	**Compound Interest Exam (15%)** Chapter 9
Feb. 29th – Mar. 6th	**Module 3** Chapter 10	10.1, 10.2 and 10.3	Exercise 10.1 #1-10 Exercise 10.2 #1-28 Exercise 10.3 #1-34	**Lab #6** (10.1, 10.2, 10.3)	

Mar. 7th – 13th	Chapter 10	10.4 and 10.5	Exercise 10.4 #1-28 Exercise 10.5 #1-30	Lab #7 (10.4, 10.5)	
Mar. 14th – 20th	Chapter 10	10.6, 10.7 and 10.8	Exercise 10.6 #1-34 Exercise 10.7 #1-22 Exercise 10.8 #1-24	Lab #8 (10.6, 10.7, 10.8)	
Mar. 21st – 27th	Chapter 11	11.1	Chapter 10 Review Exercises Exercise 11.1 #1-24		Annuities Exam (15%) Chapter 10 & 11
Mar. 28th – April 3rd	Module 4 Chapter 12	12.1 and 12.2	Exercise 12.1 #1-30 Exercise 12.2 # 1-16 Chapter 12 Review Exercises	Lab #9 (12.1, 12.2)	
April 4th - 10th	Chapter 13 Review	13.1 Practice Final	Exercise 13.2 #1-20	Lab #10 (13.1)	
Dec. 11th – 17th					Final Exam (35%) All Sections Covered

*Please note that answers to the odd number questions are in the back of the textbook and full solutions to odd numbered questions are available in your online resources. Answers to the even numbered questions will not be provided. It is the option of the student whether they would like to complete the even numbered questions. There are also self-test questions at the back of each chapter that the student can use to study.

STUDENT RESPONSIBILITIES:

Student Conduct

As a student, it is your responsibility to read, understand and comply with the college's academic policies, which are reviewed regularly, updated and posted on our college website. If you have any questions regarding these policies, please contact Student Services.

Attendance

Regular attendance is crucial for student success. As noted in the Rights and Responsibilities, faculty members may prescribe attendance requirements for specific courses and in addition, programs may have mandatory attendance requirements.

Students receiving training allowances or other forms of financial assistance are expected to be aware of and comply with the conditions of their sponsorship, which generally require regular attendance. The College is obliged to provide attendance requirements directly to the sponsoring agency to ensure continued financial assistance.

Attendance is mandatory for apprentices. Unauthorized absences may result in termination of training and training allowances.

Dress

Students are expected to conform to dress and safety standards consistent with those of the career field of their program for health, safety, and sanitary reasons. GPRC reserves the right to establish codes of safety and health dress standards in addition to government and professional standards.

Academic Grievance

If you feel the actions of an academic staff member are affecting your academic standing, you are encouraged to seek advice and follow the procedures detailed in the Student Academic Grievance Policy. All discussions regarding your concerns are bound by a code of professional ethics that demands confidentiality unless you specifically give permission in writing for the information
to be shared.

Normally, you will be encouraged to approach the instructor to share your concern. If satisfaction is not achieved as a result of the discussion with the instructor, you are encouraged to carry the concern to the Chair of the Department. The Chair will normally meet with you and the instructor to facilitate a timely resolution to the issue. You may request the presence of an advocate at this stage or at any other stage in the grievance process.

If your concerns are not resolved by these informal processes, the Chair of the Department will ask you to prepare a written statement of the grievance which clearly indicates the outcome you expect and the appropriate Academic Dean shall try to negotiate the resolution. This step normally moves your concern into the formal grievance processes. At this stage you will want to ensure that you have a complete copy of the Student Academic Grievance Policy.

Students have the right to fair and equitable procedures for resolving matters affecting academic standing. The Student Academic Grievance Policy is available on the College website at www.gprc.ab.ca.

Copyright

Students must obey the Canadian Copyright Act. If you require specific information about copyright, please consult the Library Digital Production Technician or the Library Reference person on duty. GPRC's policy and guidelines for academic use of copyright-protected works may be found on the Library website.

Academic Dishonesty
The College expects intellectual honesty from its students. Intellectual honesty demands that the contribution of others be acknowledged. To do less is to cheat. Intellectual dishonesty undermines the quality of academic activity and accordingly, the College has adopted appropriate penalties for student misconduct with respect to plagiarism and cheating. Penalties are levied according to the degree of the infraction. If you are unsure whether a particular course of action might constitute plagiarism, you are advised to consult with the instructor.

STATEMENT ON PLAGIARISM AND CHEATING:

Cheating and plagiarism will not be tolerated and there will be penalties. For a more precise definition of plagiarism and its consequences, refer to the Student Conduct section of the College Admission Guide at http://www.gprc.ab.ca/programs/calendar/ or the College Policy on Student Misconduct: Plagiarism and Cheating at www.gprc.ab.ca/about/administration/policies/**

**Note: all Academic and Administrative policies are available on the same page.