



**DEPARTMENT OF BUSINESS AND OFFICE ADMINISTRATION**  
**COURSE OUTLINE – WINTER 2017**  
**BA 1050 BUSINESS MATHEMATICS AND STATISTICS – 3 (3-0-1) 60 HOURS**

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**Office Hours:** Tuesday & Thursday 8:30 – 9:30

**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.  
<https://secure.vretta.com/>

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](http://www.intromath.ca)

**Sharp EL - 738 Calculator**

**DELIVERY MODE(S):** BA 1050 consists of three hours of lecture and one hour of lab work per week.

**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)

**\*Warning:** Although we strive to make the transferability information in this document up-to-date and accurate, **the student has the final responsibility for ensuring the transferability of this course to Alberta Colleges and Universities.** Please consult the Alberta Transfer Guide for more information. You may check to ensure the transferability of this course at Alberta Transfer Guide main page <http://www.transferalberta.ca> or, if you do not want to navigate through few links, at <http://alis.alberta.ca/ps/tsp/ta/tbi/onlinerearch.html?SearchMode=S&step=2>

**\*\* Grade of D or D+ may not be acceptable for transfer to other post-secondary institutions. Students are cautioned that it is their responsibility to contact the receiving institutions to ensure transferability**

## EVALUATIONS:

Online Lessons	5%
Online Labs (10 @ 2% each)	20%
Simple Interest Exam	10%
Compound Interest Exam	15%
Annuities Exam	15%
Final Exam (cumulative)	<u>35%</u>
	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 be 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 student's final grade, regardless of the length of the lab, for a total of 20% (10 x 2%) of the student's 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%

### Final Exam

- The final exam will be cumulative and will account for 35% of the final grade.
- The final exam will be scheduled by the Registrar's Office during exam week(s).

### Lesson, Lab and Exam Policies:

- Lessons, labs and exams will be written as scheduled. No rewrites will be given. If there is an excusable absence, the weighting of the missed exam will be added to the final exam weighting. If the absence is not excusable, a grade of 0% will be given.
- Any exam or assignment mark that a student may wish to contest must be done so within 5 business days after the exam/assignment has been marked. Any exams/assignments contested after this time frame will not be given consideration.
- In order to get the most out of class regular attendance and active participation is encouraged. **Repeated lateness &/or not remaining for the duration of classroom activities will be recorded as an absence in class.** Disruptive behavior will also be viewed as "not professional" and the student will be asked to leave the classroom, resulting in a marked absence....i.e. excessive/disruptive talking, texting, taking phone calls, ect.

See page 39 for reference

Academic Regulations

**Debarred From Exams**

“You may be **refused permission to write a final examination** in a course on the advice of the instructor concerned. This usually happens when absences are excessive (**more than 6**) or if significant parts of required assignments or lab work are not completed.”

Student Conduct

- **Your responsibility** as a student is to arrive on time and remain for the duration of scheduled classes and related activities.
  - **Your responsibility** as a student is to respect faculty member’s right to enforce the attendance requirements for the course.
- Final examinations will be scheduled by the registrar’s office. **Do not plan any activities during examination week.**

**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.**

<b>Alpha Grade</b>	<b>4-point Equivalent</b>	<b>Percentage Guidelines</b>		<b>Alpha Grade</b>	<b>4-point Equivalent</b>	<b>Percentage Guidelines</b>
A+	4.0	90-100		C+	2.3	67-69
A	4.0	85-89		C	2.0	63-66
A-	3.7	80-84		C-	1.7	60-62
B+	3.3	77-79		D+	1.3	55-59
B	3.0	73-76		D	1.0	50-54
B-	2.7	70-72		F	0.0	00-49

**COURSE SCHEDULE / TENTATIVE TIMELINE:**

<b>Dates BA 1050 Winter</b>	<b>Content</b>	<b>*Lessons/Sections</b>	<b>Assigned Practice Questions</b>	<b>Labs</b>	<b>Exams</b>
January 5	Introduction				
January 10	<b>Module 1</b> Chapter 8	8.1 and 8.2 Introduction	9-12, 15-20		
January 11	Chapter 8	8.2 8.3	1-8, 13, 14, 21-26		
January 12	Chapter 8	8.3	1-34	Lab #1 (8.1, 8.2, 8.3)	
January 17	Chapter 8	8.4	1-20		
January 18	Chapter 8	8.5	1-24		
January 19	Chapter 8	Chapter 8 Review		Lab #2 (8.4, 8.5)	
January 24	Chapter 8				<b>Simple Interest Exam (10%)</b>
January 25	<b>Module 2</b> Chapter 9	9.1	1-14		
January 26	Chapter 9	9.2	1-30		
January 31	Chapter 9	9.3	1-26	Lab #3 (9.1, 9.2, 9.3 )	
February 1	Chapter 9	9.4	1-26		
February 2	Chapter 9	9.5	1-14	Lab #4 (9.4, 9.5)	
February 7	Chapter 9	9.6	1-16		
February 8	Chapter 9	9.7	1-22		
February 9	Chapter 9	9.8	1-18	Lab #5 (9.6, 9.7, 9.8)	
February 14	Chapter 9	Chapter 9 Review			
February 15	Chapter 9	Chapter 9 Review			
February 16					<b>Compound Interest Exam (15%)</b>

Feb. 20 – 24	Reading	Week	No	Classes	
February 28	<b>Module 3</b> Chapter 10	10.1 10.2	1-10		
March 1	Chapter 10	10.2	1-28		
March 2	Chapter 10	10.3	1-34	Lab #6 (10.1,10.2, 10.3)	
March 7	Chapter 10	10.4	1-28		
March 8	Chapter 10	10.5	1-30	Lab #7 (10.4, 10.5)	
March 9	Chapter 10	10.6	1-34		
March 14	Chapter 10	10.7	1-22		
March 15	Chapter 10	10.8	1-24	Lab #8 (10.6,10.7,10.8)	
March 16	Chapter 11	11.1	1-24		
March 21	Chapter 11	11.1			
March 22	Chapter 10 & 11	Annuities Review			
March 23					Annuities Exam (15%)
March 28	<b>Module 4</b> Chapter 12	12.1	1-30		
March 29	Chapter 12	12.1	1-30		
March 30	Chapter 12	12.2	1-16	Lab #9 (12.1, 12.2)	
April 4	Chapter 13	13.2	1-20		
April 5	Chapter 13	13.2	1-20		
April 6	Chapter 13			Lab #10 (13.1, 13.2)	

April 11		Review			
April 12		Review			
April 17-27	All Sections Covered	Scheduled by the Registrar's Office			Final Exam (35%)

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](http://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/\\*\\*](http://www.gprc.ab.ca/about/administration/policies/**)

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