GPRC

DEPARTMENT OF BUSINESS AND OFFICE ADMINISTRATION
COURSE OUTLINE – WINTER 2016
BA 1050 BUSINESS MATHEMATICS AND STATISTICS – 3 (3-0-1) 60 HOURS

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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: First 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

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.

CREDIT/CONTACT HOURS: BA 1050 is a 3 credit course consisting of 60 hours of instruction.

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)

GRADING CRITERIA:

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.**

EVALUATIONS:

Online Lessons		5%
Online Labs (10 @ 2% each)		20%
Three Midterms	Simple Interest	10%
	Compound Interest	15%
	Annuities	15%
Final Exam (cumulative)		35<u>%</u>
		100%

<u>Online Lessons</u>

- 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 (<u>within the pre-set due date</u>) 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.

<u>Online Labs</u>

- 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.

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.
- In order to get the most out of class regular attendance and active participation is encouraged. Repeated lateness will be viewed similar to 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. Please read pages 42 and 43 of the Academic Calendar which are applicable to the class. Final examinations will be scheduled by the registrar's office. **Do not plan any activities during examination week.**

Grande Prairie Regional College Calendar 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."

Dates (BA 1050 D3)	Content	*Lessons/Sections	Assigned Practice Questions	Labs	Exams
January 6	Introduction				
January 10	**Module 1** Chapter 8	8.1 and 8.2 Introduction	#9-12, 15-20		
January 10	Chapter 8	8.2	1-8, 13, 14, 21-26		
January 17	Chapter 8	8.3	1-30		
January 17	Chapter 8	8.4	1-20	Lab #1 (8.1,8.2,8.3)	
January 17	Chapter 8	8.5	1-24		
January 24	Chapter 8	Chapter 8 Review		Lab #2 (8.4, 8.5)	
January 25	Chapter 8				
January 31	**Module 2** Chapter 9	9.1	1-14		
January 31		Review Simple Interest Exam			
February 7	Chapter 9	9.2	1-30		
February 7	Chapter 9	9.3	1-26		
February 7	Chapter 9	9.4	1-26	Lab #3 (9.1, 9.2, 9.3)	
February 14	Chapter 9	9.5	1-14		
February 14	Chapter 9	9.6	1-16	Lab #4 (9.4, 9.5)	
February 14	Chapter 9	9.7	1-22		
February 21	Chapter 9	9.8	1-18		
February 21	Chapter 9	Chapter 9 Review		Lab #5 (9.6, 9.7, 9.8)	
February 15	No Class				
February 24					
February 26	**Module 3** Chapter 10	10.1	1-10		
February 29		ReviewCompound Interest Exam			
March 6	Chapter 10	10.2	1-28		
March 6	Chapter 10	10.3	1-30		
March 6	Chapter 10	10.4	1-28		
Dates (BA 1050 B3)	Content	*Lessons/Sections	Assigned Practice Questions	Labs	Exams
March 13	Chapter 10	10.5	1-28	Lab #6	

				(10.1,10.2,10.3)	
March 13	Chapter 10	10.6	1-34		
March 13	Chapter 10	10.7	1-34	Lab #7 (10.4, 10.5)	
March 20	Chapter 10	10.8	I-22		
March 20	Chapter 11	11.1	1-24		
March 20		Annuities Review		Lab #8 (10.6,10.7,10.8)	
March 23					
March 27	**Module 4** Chapter 12	12.1	1-30		
March 28		Annuities Exam Review			
April 3	Chapter 12	12.2	1-16		
April 3	Chapter 13	13.1		Lab #9 (12.1, 12.2)	
April 10	Chapter 13	13.2	1-20		
April 10		Review		Lab #10 (13.1, 13.2)	
April 13-27	All Sections Covered	Scheduled by the Registrar's Office			(Final Exam)

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 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.