Dawson College
Business Mathematics
201-914-DW-S03
Fall 2008

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> The website contains the solutions to tests and additional examples. It also has tests and solutions from previous courses.

Term Work: *(worth 60% of final grade)*:

3 Class Tests* worth a total of 45% on:

Test 1	**Wednesday September 17th**
Test 2	**Wednesday October 15th**
Test 3	**Wednesday November 12th**

Assignments worth a total of 15% :

due every Friday at the beginning of class

* Each class test is an hour and half long.

Important: There will be no make-up tests. If a valid medical note is presented the weight of the quiz or test will be transferred to the weight of the final examination.

DAWSON
C O L L E G E

Department of Mathematics
Contributing Discipline to the Business Administration Programs

BUSINESS MATHEMATICS
201-914-DW

Course Ponderation:	3-2-3
Number of Units:	2 2/3
Course Hours:	75
Pre-requisite:	Mathematics 436 (or equivalents)

Program Competency:
This course is linked to the following competencies in each of the Business Administration Programs:

• *In Program 410.B0 Accounting & Management Technology*
  01HD - to participate in the financial analysis of investment and financing projects
• *In Program 410.D0 Business Management (Marketing)*
  01U6 - to analyze accounting and financial data for management purposes

Course Description:
Students will explore quadratic, logarithmic, linear and exponential functions as they relate to various business situations. Students will also develop fundamental skills in the mathematics of finance required to solve financial calculations.

Competency Development - Integration to the Program:
This course provides essential concepts of business calculations which are necessary for various other courses in both Business Administration Programs. It also provides a foundation for financial analysis by introducing basic concepts of the mathematics of finance, and therefore serves as a pre-requisite to Introduction to Finance course (410-341-DW) offered in the third semester of both Business Administration Programs.

Course Objectives:
Upon successful completion of this course, students will be able to
1. Use linear applications to compute revenues, costs and profit, determine supply and demand equilibrium, conduct the break-even analysis

2. Apply quadratic functions to calculate the level of sales necessary to maximize profits establish supply and demand equilibrium
3. Use logarithmic and exponential functions to solve business calculations

4. Apply formulas pertaining to the mathematics of finance to determine the calculations of simple interest, compound interest, continuous compounding, future value annuities, present value annuities, loans and mortgages

5. Compute business applications such as discounts (trade, cash and multiple discounts) mark-ups and mark-downs

Methodology: Lectures and problem-solving workshops

Required Materials:
<u>Text Book:</u> **Mathematical Applications 8th Edition**
Authors: Harshbarger and Reynolds, Publisher: Houghton Mifflin Company, ISBN: 13: 978-0-618-65421-5

✧ Supplements will be distributed for components not covered in the text.

Calculator: A scientific calculator, which has no text storage or graphing capabilities, is allowed for the class tests and the final exam.

Evaluation:

3 class tests (15 marks each)	45 marks
Assignments/Quizzes	15 marks
Common Final Examination (during examination period)	<u>40 marks</u>
TOTAL	100 marks

Assessment of Performance: Appropriate mastery of the course objectives is essential to succeed both in the program and in practice. Assessment of student performance will involve the ability to understand and apply key business concepts that lead to <u>analysis</u> and <u>problem solving</u>.

> **NOTE: A minimum total of 60 marks must be achieved to successfully complete this course.**

Business Mathematics, 201-914-DW

<u>**Mathematical Application 8th Edition**</u>   Harshbarger and Reynolds

Course Content:

Sections	Problems	Weeks
Percentages	Notes	0.5
0.3 Exponents	1 – 64	3
0.5 Algebraic Expressions	5 – 67	
0.6 Factoring	1 – 18, 21 – 30, 34, 39, 43, 44, 59, 63	
0.7 Rational Functions	1 – 34, 37 – 42, 51, 52, 57– 59	
1.1 Linear Equations	1 – 20, 23 – 28, 41, 43, 45 – 48, 53–55, 57– 59	
1.2 Functions	13 – 24, 27– 30, 39 – 42	
1.3 Equations and the Graph of a Line	1 – 10, 17 – 38, 47, 55, 58, 64	
1.5 System of two linear equations	1 – 22, 37 – 40, 47, 48	
1.6 Revenue, Cost and Profit	1 – 14	1
1.6 Break-Even Analysis	15 – 26	
1.6 Supply and Demand (linear functions)	29 – 50	
Decision Analysis and linear depreciation	Handout	
2.1 Solving quadratic equations	1 – 36, 43 – 46	1.5
2.2 Quadratic Functions	1 – 16, 31 – 33, 35, 36	
2.3 Supply and Demand Equilibrium and Break-Even Analysis	1 – 26, 29 – 32	
5.1 Exponential functions and their graphs	1– 22, 29 – 32	2
5.2 Logarithmic functions, their graphs and properties	1 – 18, 21 – 36	
6.1 Simple interest	1– 22	3
6.2 Periodic and continuous compounding	1 – 44	
6.3 Future value of an ordinary annuity and sinking funds	1 – 14, 17, 18, 27 – 29, 32, 33, 35	
6.4 Present value of an ordinary annuity	1 – 12, 27, 30, 31, 32	
6.5 Loans and amortizations (Mortgages)	1 – 28	
7.1 Single trade discounts, Series discounts and equivalent single discounts	1 – 50	3
7.2 Cash discounts	1– 12, 43 – 50	
8.1 Markups and markdowns	1 – 50	
8.2 Perishable items (Optional)	1 – 14	

DEPARTMENTAL POLICIES

Literacy Policy:

Problem solving is an essential part of this course. Students are expected to read and analyze problems stated in words, to present their solutions logically and coherently, and to express the answers in a form consistent with the statement of the problem, including appropriate units of measurement. Marks may be deducted for work which is inadequate in this respect, even though the answers may be numerically correct.

Student's Responsibilities:

Students have an obligation to inform themselves about the Dawson College Policy on Cheating and Plagiarism. See the College Calendar or your timetable for details. Penalties may range from a zero grade to suspension or expulsion from the College.

Cheating Policy:

Students should inform themselves of Dawson's Policy on cheating, as stated in the College Calendar. Penalties may range from a zero grade to suspension or expulsion from the College.

Religious Holidays:

Students who wish to observe religious holidays must inform each of their teachers in writing within the first two weeks of each semester of their intent to observe the holiday so that alternative arrangements convenient to both the student and the teacher can be made at the earliest opportunity.

The written notice must be given even when the exact date of the holiday is not known until later. Students who make such arrangements will not be required to attend classes or take examinations on the designated days, nor be penalized for their absence. It must be emphasized, however, that this College policy should not be interpreted to mean that a student can receive credit for work not performed. It is the student's responsibility to fulfill the requirements of the alternative arrangement.