



MATH FOR BUSINESS AND FINANCE

Date 08/11/2011

C - L - CR
3 - 0 - 3.0

COURSE NUMBER: MAT 160

PREREQUISITE(S): MAT 032 or placement, RDG 032 or placement

CO-REQUISITE(S): N/A

COURSE DESCRIPTIONS This course includes the following topics: commissions, mark-on, depreciation, interest on unpaid balances, compound interest, payroll, taxes, and graphs.

TEXTBOOK(S): Miller, Charles D.; Salzman, Stanley A.; Clendenen, Gary.
Business Mathematics Plus MyMathLab Student Access Code. 12/E. Boston: Addison-Wesley, 2012
ISBN: 0132605546 or 9780132605540

REFERENCE(S): N/A

OTHER REQUIRED MATERIALS, TOOLS, AND EQUIPMENT: Calculator; preferably, a scientific calculator. Calculators with algebraic symbolic operations are not allowed without instructor's approval.

METHOD OF INSTRUCTION: Concepts will be taught by lecture/demonstration and by group problem-solving. Student participation will be required. Audio-visual aids will be used when appropriate.

GRADING SYSTEM:

90	-	100	=	A
80	-	89	=	B
70	-	79	=	C
60	-	69	=	D
Below	-	60	=	F

GRADE CALCULATION METHOD: See instructor's handout.

ATTENDANCE POLICY: The student is responsible for punctual and regular attendance in all classes, laboratories, clinical, practica,

internships, field trips, and other required class activities. The College does not grant excused absences; therefore, students are urged to reserve their absences for emergencies. When illness or other emergencies occur, the student is responsible for notifying instructors and completing missed work if approved for late submission by instructors.

**Mathematics Department Procedure
Attendance and Participation Grade for Lecture Classes:**

- Attendance and participation in class is essential to the learning of mathematics.
- Students are expected to be in class, to be on time, and to stay for the entire class.
- Students are responsible for any missed work.
- Do not expect tutors, lab assistants and/or instructors to re-teach course content you miss. You need to have attempted the assigned materials before asking for help.

Instructors maintain attendance records. However, it is the student's responsibility to withdraw from a course. A student enrolling in and attending at least one course session remains enrolled until the student initiates a withdrawal.

Withdrawal Policy: During the first 75% of the course, a student may initiate withdrawal and receive a grade of W. A student cannot initiate a withdrawal during the last 25% of the course. Extenuating circumstances require documentation and approval by the appropriate department head and academic dean.

Absences for Religious Holidays: Students who are absent from class in order to observe religious holidays are responsible for the content of any activities missed and for the completion of assignments occurring during the period of absence. Students who anticipate their observance of religious holidays will cause them to be absent from class and do not wish such absences to penalize their status in class should adhere to the following guidelines:

1. Observance of religious holidays resulting in three or fewer consecutive absences: Discuss the situation with the instructor and provide written notice at least one week prior to the absence(s). Develop (in writing) an instructor-approved plan which outlines the make

up of activities and assignments.

2. Observances of religious holidays resulting in four or more consecutive absences: Discuss the situation with the instructor and provide the instructor with written notice within the first 10 days of the academic term. Develop an instructor-approved plan which outlines the make up of activities and assignments.

**CLASSROOM
CONDUCT:**

ACADEMIC DISHONESTY: Students are expected to uphold the integrity of the College's standard of conduct, specifically in regards to academic honesty. All forms of academic dishonesty including, but not limited to, cheating on assignments/tests, plagiarism, collusion, and falsification of information will call for disciplinary action. Disciplinary action imposed may include one or more of the following: written reprimand, loss of credit for assignment/test, termination from course, and probation, suspension, or expulsion from the College. For further explanation of this and other conduct codes, please refer to the Student Handbook.

CELLULAR PHONES AND PAGERS/BEEPERS: Cellular phones, pagers and beepers are not permitted to be turned on or used within the classroom. Use of these devices during classroom time will be considered a violation of the student code as it relates to “disruptive behavior.”

SCC MATHEMATICS DEPARTMENT POLICY

NO ELECTRONIC DEVICES WILL BE USED IN THE CLASSROOM WITHOUT PRIOR APPROVAL OF INSTRUCTOR.

Mathematics Departmental Procedure For Violation of Usage of electronic Devices:

First time violation – Student will cut off electronic device (cell phone without answering it) and place the device on the instructor’s desk until the end of class. The instructor will remind the student of policy and procedure.

Subsequent violation – Student will cut off electronic device (cell phone without answering it) and place the electronic device on the instructor’s desk until the end of class. Student will be referred to the Chief Student Services Officer for disciplinary action and not allowed to return to class

without written notification from the Chief Student Services Officer whose office is located in the Student Services Building.

**DAY EMERGENCY NUMBER
RECORDS (864) 592-4681**

**EVENING EMERGENCY NUMBER
EVENING SERVICES (AFTER 4:30 PM)
(864)592-4830**

**CLASS/LAB
PROCEDURES:**

N/A

ACCOMMODATIONS:

Students who need special accommodations in this class because of a documented disability should notify Student Disability Services. You may contact Student Disability Services by calling, (864) 592-4811, toll-free 1-800-922-3679; via email through the Spartanburg Community College web site at <http://www.sccsc.edu/resources/disabilities> ;or by visiting the office located in the Dan Lee Terhune Student Services Building, room 112 of the Spartanburg Community College campus. By contacting Student Disability Services early in the semester, students with disabilities give the College an opportunity to provide necessary support services and appropriate accommodations.

**COURSE OUTCOMES
& OBJECTIVES:**

Upon satisfactory completion of this course, the students should be able to demonstrate competency in the General Education Outcome listed as “their ability to express themselves effectively in quantitative and qualitative terms” in the following competencies and objectives:

- I. Solve business-related percent problems.
 - A. Write decimals and fractions as percents.
 - B. Solve percent problems for “Part”.
 - C. Solve percent problems for “Base”.
 - D. Solve percent problems for “Rate”.
 - E. Solve increase and decrease problems.

- II. Solve problems relating to bank records.
 - A. Calculate monthly checking account service charges, and complete check stubs and check registers.
 - B. Identify bank services available to customers, calculate deposits with credit-card transactions, and calculate the discount fee and credit given on a credit-card deposit.
 - C. Reconcile a bank statement with a checkbook, and find the current balance.

- III. Solve problems concerning payroll.
 - A. Calculate employee gross earnings for salaries and wages.
 - B. Calculate employee gross earnings for piecework and commissions.
 - C. Calculate Social Security, Medicare, and other taxes for an employee.
 - D. Calculate the income tax withholding and the net pay for an employee.

- IV. Solve discount problems.
 - A. Complete an invoice, calculate single trade discounts, and calculate series discounts.
 - B. Express a series discount as an equivalent single discount, and calculate the list price given the series discount and the net cost.
 - C. Calculate a cash discount using the ordinary dating method, and then calculate the net cost.
 - D. Calculate a cash discount using the end-of-month dating method, calculate a cash discount using the

receipt-of-goods dating method, and calculate the credit given for partial payment of an invoice.

- V. Solve markup and markdown problems.
 - A. Solve problems using markup based on cost.
 - B. Solve problems using markup based on selling price.
 - C. Calculate markdown, reduced price, and percent of markdown.

- VI. Solve problems related to simple interest.
 - A. Calculate simple interest.
 - B. Solve for principle, rate, and time in the simple interest formula.
 - C. Solve simple discount note problems.
 - D. Solve problems involving the discount of an interest-bearing note before maturity.

- VII. Solve problems related to compound interest.
 - A. Calculate compound interest.
 - B. Solve application problems related to interest bearing bank accounts.
 - C. Calculate present value and future value.

- VIII. Solve problems related to business and consumer loans.
 - A. Solve application problems related to open-end credit and charge cards.
 - B. Solve application problems related to installment loans.
 - C. Solve application problems related to early payoffs of loans.
 - D. Solve application problems related to personal property loans.
 - E. Solve application problems related to real estate loans.

- IX. Compare depreciation methods.
 - A. Identify characteristics of the straight-line method.
 - B. Identify characteristics of the declining-balance method.

- X. Interpret graphs.
 - A. Analyze a line or bar graph and a circle graph, and construct and analyze a frequency distribution.

**SYLLABUS
ADDENDUM
MAT 160**

	Hours
I. Chapter 3 Solve business-related percent problems.	6.0
A. Section 3.1 Write decimals and fractions as percents.	
B. Section 3.2 Solve percent problems for “Part”.	
C. Section 3.3 Solve percent problems for “Base”.	
D. Section 3.4 Solve percent problems for “Rate”.	
E. Section 3.5 Solve increase and decrease problems.	
II. Chapter 5 Solve problems relating to bank records.	3.0
A. Section 5.1 Calculate monthly checking account service charges, and complete check stubs and check registers.	
B. Section 5.2 Identify bank services available to customers, calculate deposits with credit-card transactions, and calculate the discount fee and credit given on a credit-card deposit.	
C. Section 5.3 Reconcile a bank statement with a checkbook, and find the current balance.	
III. Chapter 6 Solve problems concerning payroll.	3.0
A. Section 6.1 Calculate employee gross earnings for salaries and wages	
B. Section 6.2 Calculate employee gross earnings for piecework and commissions.	
C. Section 6.3 Calculate Social Security, Medicare, and other taxes for an employee.	
D. Section 6.4 Calculate the income tax withholding and the net pay for an employee.	
IV. Chapter 7 Solve discount problems.	4.5
A. Section 7.1 Complete an invoice, calculate single trade discounts, and calculate series discounts.	
B. Section 7.2 Express a series discount as an equivalent single discount, and calculate the list price given the series discount and the net cost.	
C. Section 7.3 Calculate a cash discount using the ordinary dating method, and then calculate the net cost.	
D. Section 7.4 Calculate a cash discount using the end-of-month dating method, calculate a cash discount using the receipt-of-goods dating method, and calculate the credit given for partial payment of an invoice.	
V. Chapter 8 Solve markup and markdown problems.	4.5
A. Section 8.1 Solve problems using markup based on cost.	
B. Section 8.2 Solve problems using markup based on selling price.	
C. Section 8.3 Calculate markdown, reduced price, and percent of markdown.	

- VI. Chapter 9 Solve problems related to simple interest. 6.0
 - A. Section 9.1 Calculate simple interest.
 - B. Section 9.2 Solve for principle, rate, and time in the simple interest formula.
 - C. Section 9.3 Solve simple discount note problems.
 - D. Section 9.4 Solve problems involving the discount of an interest-bearing note before maturity.

- VII. Chapter 10 Solve problems related to compound interest. 3.0
 - A. Section 10.1 Calculate compound interest.
 - B. Section 10.2 Solve application problems related to interest bearing bank accounts.
 - C. Section 10.3 Calculate present value and future value.

- VIII. Chapter 12 Solve problems related to business and consumer loans. 6.0
 - A. Section 12.1 Solve application problems related to open-end credit and charge cards.
 - B. Section 12.2 Solve application problems related to installment loans.
 - C. Section 12.3 Solve application problems related to early payoffs of loans.
 - D. Section 12.4 Solve application problems related to personal property loans.
 - E. Section 12.5 Solve application problems related to real estate loans.

- IX. Chapter 14 Compare depreciation methods. 0.5
 - A. Section 14.1 Identify characteristics of the straight-line method.
 - B. Section 14.2 Identify characteristics of the declining-balance method.

- X. Chapter 16 Interpret graphs. 0.5
 - A. Section 16.1 Analyze a line or bar graph and a circle graph, and construct and analyze a frequency distribution.

Homework for MAT 160 – Math for Business and Finance

Miller, Charles D.; Salzman, Stanley A.; Clendenen, Gary. Business Mathematics 12/e Plus
MyMathLab Student Access Code. Boston: Addison-Wesley, 2012
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Section	Page	Quantity	Recommended Problems (Correspond to MML Problems)
3.1	91	12	1, 5, 13, 15, 19, 23, 29, 31, 37, 39, 41, 49
3.2	97	12	1, 3, 7, 13, 17, 21, 23, 27, 29, 33, 35, 37
3.3	103	9	1, 3, 5, 13, 15, 21, 25, 27, 35
3.4	109	10	1, 3, 5, 7, 11, 13, 15, 21, 23, 27
3.5	119	11	1, 3, 5, 7, 11, 13, 17, 25, 27, 29, 33
5.1	189	9	1, 3, 5, 7, 9, 11, 17, 19, 21
5.2	197	9	1, 3, 5, 7, 9, 11, 13, 15, 19
5.3	203	5	1, 3, 5, 11, 13
6.1	223	9	5, 7, 13, 17, 21, 31, 35, 43, 45
6.2	233	12	1, 3, 5, 7, 11, 13, 15, 17, 19, 23, 27, 29
6.3	239	12	1, 3, 5, 7, 9, 15, 17, 19, 21, 23, 25, 27
6.4	251	14	1, 3, 5, 7, 11, 15, 17, 21, 23, 27, 35, 37, 41, 43
7.1	271	12	1, 5, 7, 13, 33, 35, 43, 47, 51, 63, 69, 73
7.2	277	10	1, 3, 5, 7, 11, 13, 15, 19, 21, 23
7.3	283	10	1, 3, 5, 7, 9, 11, 15, 17, 19, 21
7.4	289	11	1, 3, 5, 7, 9, 11, 13, 17, 19, 23, 25
8.1	305	8	1, 5, 9, 11, 13, 17, 19, 21
8.2	313	9	3, 5, 7, 9, 11, 13, 15, 19, 23
8.3	321	9	1, 3, 5, 7, 9, 11, 15, 17, 19
9.1	353	12	1, 3, 7, 9, 11, 13, 21, 25, 27, 29, 31, 33
9.2	361	12	3, 5, 7, 11, 13, 15, 17, 21, 23, 27, 31, 33
9.3	371	12	1, 5, 7, 9, 11, 13, 15, 17, 19, 21, 25, 29
9.4	381	11	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21
10.1	407	10	1, 3, 5, 7, 9, 11, 13, 15, 19, 21
10.2	417	10	1, 3, 5, 7, 9, 13, 15, 17, 19, 23
10.3	425	7	1, 3, 5, 7, 9, 11, 13
12.1	499	9	1, 3, 5, 9, 11, 13, 15, 17, 19
12.2	507	12	1, 3, 5, 7, 9, 11, 13, 15, 17, 25, 27, 29
12.3	515	11	1, 3, 5, 7, 9, 11, 15, 17, 19, 21, 23
12.4	523	10	1, 3, 5, 7, 9, 11, 13, 17, 19, 21
12.5	533	8	1, 3, 5, 9, 11, 13, 15, 17
14.1	615	9	1, 5, 9, 13, 15, 19, 23, 29, 33
14.2	623	12	1, 5, 7, 9, 13, 17, 21, 23, 27, 33, 35, 37
16.1	701	10	1, 5, 7, 15, 29, 31, 41, 45, 47, 51