



## **MATH FOR BUSINESS AND FINANCE**

Revised 08/11/2011

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**COURSE NUMBER:** MAT 160

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

**CO-REQUISITE(S):** None

**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

or

MyMathLab Student Access Code Card  
for Business Mathematics, 12/E  
ISBN: 0132541076 or 9780132541077

**REFERENCE(S):** N/A

**OTHER REQUIRED MATERIALS, TOOLS, AND EQUIPMENT:**

For most current requirements, go to :  
<http://pearsonmylabandmastering.com/system-requirements/>

Computer with Internet access, Internet Explorer 7.0 or higher or other current browser, Java, word processing software (must be able to save Word format), and anti-virus software.

Calculator; preferably, a scientific calculator. (Calculators with algebraic symbolic operations are not allowed without instructor's approval.)

**METHOD OF INSTRUCTION:**

This course will be taught via the internet. The concepts will be instructor-led by reading, watching, and/or exploring using an internet-based math tutorial and a textbook.

**GRADING SYSTEM:**

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

**GRADE CALCULATION METHOD:**

See instructor's handout.

**CONFIDENTIALITY:**

All students' e-mail addresses may be available to other students in the class. Although some assignments in an online course may encourage or require peer communication, the instructor will make every effort to protect the confidentiality of any personal communication (for example, grades). However, you should recognize that e-mail and other electronic media are not secure; there is no guarantee of the privacy of your e-mail or other personal information.

**APPROPRIATE ONLINE BEHAVIOR:**

The use of Spartanburg Community College's website, e-mail service or course management software for creation and/or distribution of material not pertaining to course participation is prohibited and is grounds for dismissal according to College policy under "disruptive behavior." Such actions, include, but are not limited to:

- Inappropriate use of email and discussion boards for:
  - ✓ Harassment
  - ✓ Unlawful solicitation
  - ✓ "Spamming"
  - ✓ "Flaming"
- Use of online editing tools within the course management software to:
  - ✓ Create offensive material
  - ✓ Link to inappropriate materials

**ATTENDANCE  
POLICY:**

**Requirement: All students must send an email to the instructor and register in MyMathLab during the first week of scheduled classes.** At the end of the first week, the instructor will drop any student from the course who has not met these requirements.

Instructors maintain attendance records. However, it is the student's responsibility to withdraw from a course. A student who stops attending the online class and fails to initiate a withdrawal will remain on the class roster. *With this in mind, for every assignment, test or exam not completed while still enrolled in the course the student will receive a grade of zero and the final course grade will be calculated accordingly.*

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.

**ACADEMIC  
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.

**TESTING:**

**Tests will be taken online in approved Testing Centers with proctors. The instructor may allow, at most, one test to be taken online unproctored.** For SCC Central Campus students, tests will be taken online and will be administered in the **Testing Center located in E-3 of the East Building on the SCC campus.** If the SCC Central Campus is not convenient, the student may contact the instructor for an alternate testing site. For Tech Online students, the test will be administered in the testing center at your host college. Refer to the class outline for test

availability. If any test is not taken during the specified time frame, a zero will be awarded for the test grade. Everyone must take a comprehensive final exam.

**East Building Room 3 Testing Center: PHOTO ID REQUIRED!**

Go to <http://www.sccsc.edu/resources/testing> for hours of operation.

**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  
ISBN-10: 0132605546 or ISBN-13: 9780132605540

<b>Section</b>	<b>Page</b>	<b>Quantity</b>	<b>Recommended Problems (Correspond to MML Problems)</b>
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