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**FOR**  
Business Mathematics  
BAD 1300  
SPRING 2004

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12/2/03
BUSINESS MATHEMATICS -- BAD 1300 - 29643
(Prerequisite: MTH 0990 or Math 0900 or Placement Test)

Office Hours: By Appointment only.
      I am usually available 9 – 3
      Mon. – Thurs.

Office:  BU 402A, La Plata Campus
          301-934-7518
          301-870-3008 X 7518
          301-884-8131 X 7518
          TOLL FREE  1-800-933-9177 ext. 7518
Fax:     301-934-7692
Home:   (540) 663-3677 emergencies only
Email:  rex.bishop@csmd.edu
Text Tutor Contact: 1-888-777-0463

Courier Address (From Waldorf, Leonardtown, Prince Frederick campuses):
Rex Bishop, CSM -LAPL
24 Hour Automated / Phonemail:
934-1860, 870-2309, 884-2124 ext. 7518

Mailing Address:
Rex Bishop, Business Chair
College of Southern Maryland
P.O. Box 910
8730 Mitchell Road
La Plata, MD 20646-0910

Home Page:
http://www.csmd.edu

Required Text:  Mathematics for Business, 7th edition, by Salzman, Miller and Clendenen

*** Optional, but highly recommended: Student’s Solution Manual
*** Optional, but recommended: By the Numbers, Telecourse Study Guide

Required Equipment:  inexpensive scientific calculator.
Note: If you are planning to take a General Education CSM math course, you might want to consider purchasing a graphing calculator.

I. Course Description: Students gain a working knowledge of concepts and calculations essential for business decision making. Topics studied include purchasing, pricing, payroll, finance, taxes, data analysis, and insurance.
II. **Course Goals:** To sharpen the computational skills of students entering the business field; to develop problem-solving skills; to introduce basic concepts such as: finance, retail pricing, taxes, compensation, and statistics.

III. **Performance Objectives:** Upon Completion of this course, the student should be able to perform the following tasks:

1. **Develop equations to solve written problems.**
   **Conditions:** Given paper, pencil, and common business problems in written form.
   **Performance:** Express each problem as a concise linear equation which can solve the problem.

2. **Use basic percent and increase/decrease equations**
   **Conditions:** Given paper, pencil, a calculator, and common business problems involving percents.
   **Performance:** Select the appropriate equation and solve for the unknown.

3. **Perform basic arithmetic operations.**
   **Conditions:** Given paper, pencil, a calculator, and a list of problems involving addition, subtraction, multiplication, and division of whole numbers, fractions, or decimals.
   **Performance:** Calculate the answers and judge their reasonableness.

4. **Solve mathematical problems.**
   **Conditions:** Given paper, pencil, a calculator, and a list of mathematical problems which are expressed as first degree equations with one variable.
   **Performance:** Solve for the variables and judge the reasonableness of the answers.

5. **Compute basic business statistics.**
   **Conditions:** Given paper, pencil, a calculator, and frequency distribution data from a population.
   **Performance:** Calculate the mean, mode, median, and standard deviation.
6. **Use the normal curve to estimate data.**  
   **Conditions:** Given paper, pencil, a calculator, and data that is distributed in a normal curve.  
   **Performance:** Determine the number of items which fall within one, two, or three standard deviations.

7. **Compute gross wages.**  
   **Conditions:** Given paper, pencil, a calculator, and weekly wage/time, sales, or production data for a person.  
   **Performance:** Calculate the person's gross wages, including overtime, using either wage, salary, commission, or piece-rate method of compensation.

8. **Calculate sales discount information.**  
   **Conditions:** Given paper, pencil, a calculator, and a listing of sales terms and list prices.  
   **Performance:** Compute trade discounts and cash discounts for either single or series discount, determining net cost, percent paid, and equivalent discount percent.

9. **Determine mark-up or mark-down on cost or sales.**  
   **Conditions:** Given paper, pencil, a calculator, and a listing of: mark-up/mark-down, percent, price, cost, spoilage/reduced price data, and overhead data (with one item unknown).  
   **Performance:** Set up and solve simple algebraic equations to determine the value of the unknown.

10. **Calculate financing information using simple or discount interest.**  
    **Conditions:** Given paper, pencil, a calculator, and a listing of: principal, interest rate, time, and maturity value (with one term unknown).  
    **Performance:** Set up and solve simple algebraic equations to determine the value of the unknown.

11. **Compute financing information using compound interest**  
    **Conditions:** Given paper, pencil, a calculator, compound interest tables, and a listing of: present/future value, interest rate, time, and compounding method (with one term unknown).
Performance: Set up and solve simple algebraic equations to determine the value of the unknown.

12. **Use ratios and proportions to solve business problems**
   
   Conditions: Given paper, pencil, a calculator, and written problems which require ratios or proportions for solution.
   
   Performance: Set up and solve simple algebraic equations to determine the value of the unknown.

13. **Reconcile a bank statement with a checkbook.**
   
   Conditions: Given paper, pencil, a calculator, and a listing of: bank balance, book balance, deposits in transit, outstanding checks, credits, charges, collections, interest, NSF checks/charges, and errors.
   
   Performance: Use the T-Account format to determine the correct bank and book balances.

14. **Solve business problems involving sales/property tax.**
   
   Conditions: Given paper, pencil, a calculator, and a listing of: amount of sale/assessed valuation, tax rate, and amount of tax (with one term unknown).
   
   Performance: Set up and solve simple algebraic equations to determine the value of the unknown.

IV. Evaluation:

   **Test I** (Chapters 1-5) (Telelessons 1-6) Feb.24 (Tuesday)
   **Test II** (Chapters 6-10) (Telelessons 7-13) March 19 (Friday)
   **Test III** (Chapters 11-14) Telelessons 14-18 April 13 (Tuesday)
   **Test IV** (Chapters 16-19) (Telelessons 19-26) May 10 (Monday)

   ********TESTS WILL BE AVAILABLE ONE WEEK PRIOR TO THE

   ABOVE DEADLINE DATES***************

   NOTE: Each Test will be worth 25%.

   Grading Scale (percent):
   100-90 = A 89-80 = B 79-70 = C 69-60 = D 59-0 = F

Note: I will provide a formula sheet for each test. You will, of course, be expected to know the terms needed to solve problems and variable names/manipulations.
V. Exams: Examinations will be primarily word problems answered in a multiple choice format. Students are responsible for applying the terminology associated with each topic.

VI. Class Format/Homework: In order for you to be successful in this course, it is important that you take an active role in the learning process. Text exercises and videos make up a major portion of the class, but they are designed to supplement, not replace your activities that form the learning process.

Students are expected to carefully read the text and work through the examples in each section. This is your indispensable first step in learning the material. The most important aspect of any math course is homework problems. This is the stage when most of the understanding of the mathematical concepts will occur. Do not become discouraged if you are having difficulty with some. Finish the list!

VII. Course Schedule:

By the Numbers
Reading Assignments and Telelessons for Mathematics for Business, 7th Edition

<table>
<thead>
<tr>
<th>Lesson Number and Title</th>
<th>Reading Assignment</th>
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<tbody>
<tr>
<td>1. Mathematics in the Business World</td>
<td>Appendix A.1</td>
</tr>
<tr>
<td>2. Fractions, Decimals, and Percents</td>
<td>Chapter 1</td>
</tr>
<tr>
<td></td>
<td>Chapter 3</td>
</tr>
<tr>
<td>3. Equations and Formulas</td>
<td>Chapter 2</td>
</tr>
<tr>
<td>4. Banking Services</td>
<td>Chapter 4, pages 133-138</td>
</tr>
<tr>
<td></td>
<td>Omit 4.1, 4.2</td>
</tr>
<tr>
<td>5. Gross Earnings</td>
<td>Chapter 5, pages 148-173</td>
</tr>
<tr>
<td>6. Social Security and</td>
<td>Omit 5.4, 5.5, 5.6</td>
</tr>
<tr>
<td>Withholding</td>
<td>VIEW ONLY</td>
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<tr>
<td>7. Sales and Property Taxes</td>
<td>Chapter 6, pages 204-219</td>
</tr>
<tr>
<td>8. Income Taxes VIEW ONLY</td>
<td>Omit 6.3</td>
</tr>
<tr>
<td>9. Business Insurance</td>
<td>Chapter 7, pages 238-250</td>
</tr>
<tr>
<td>10. Personal Insurance VIEW ONLY</td>
<td>Omit 7.2, 7.3</td>
</tr>
<tr>
<td>11. The Business Discount</td>
<td>Chapter 8</td>
</tr>
<tr>
<td>12. Pricing Products and Services</td>
<td>Chapter 9 and Chapter 10, pages 350-358</td>
</tr>
<tr>
<td>13. Inventory Control VIEW ONLY Test II (Chapters 6 – 10) (Telelessons 7 – 13)</td>
<td>Omit 10.2, 10.3</td>
</tr>
<tr>
<td>14. Simple Interest</td>
<td>Chapter 11, pages 382-401 Omit 11.4</td>
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<tr>
<td>15. Notes and Bank Discounts</td>
<td>Chapter 12, pages 420-438 Omit 12.3, 12.4</td>
</tr>
<tr>
<td>17. Credit Purchases VIEW ONLY</td>
<td>Omit 15</td>
</tr>
<tr>
<td>18. Annuities, Sinking Funds, and Amortization Test III (Chapters 11 – 14) (Telelessons 14 – 18)</td>
<td>Chapter 14, pages 494-524 Omit 15</td>
</tr>
<tr>
<td>20. Allocating Costs and Profits</td>
<td>Chapter 18, pages 685-704</td>
</tr>
<tr>
<td>21. Financial Statements</td>
<td>Chapter 17, pages 620-627</td>
</tr>
<tr>
<td>Topic</td>
<td>Page Information</td>
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<tr>
<td>22. Cash Flow and Financial Ratios VIEW ONLY</td>
<td>Chapter 17, pages 635-640</td>
</tr>
<tr>
<td></td>
<td>Omit 17.2, 17.4</td>
</tr>
<tr>
<td>23. Funding the Business with Stocks and Bonds</td>
<td>Chapter 18, pages 662-668</td>
</tr>
<tr>
<td></td>
<td>Omit 18.2, 18.3</td>
</tr>
<tr>
<td>25. Communicating with Graphs and Charts</td>
<td>Chapter 19, pages 706-717</td>
</tr>
<tr>
<td>26. The Future of Business Math Test IV (Chapters 16 – 19) (Telelessons 19 – 26)</td>
<td>No reading assignment</td>
</tr>
</tbody>
</table>
VIII. **Make-up Policy:** If a student cannot complete an exam by the deadline, the student should notify the instructor immediately. With prompt notification a make-up date might be arranged. All exams not made up within seven days may be given a grade of zero! The instructor will decide.

IX. **Academic integrity:** All students are presumed to be honest and are expected to perform their own academic work during examinations and in all written work done outside the classroom. Violation of this ethic is considered intolerable and will result in disciplinary action in accordance with the current *Student Handbook*.

X. **A Little Philosophy:** Learning is not my job. It is also not your job. It a responsibility which is shared between “US”. Each of us has decided that spending our time (and your money) together investigating business mathematics is more valuable to us than all of the alternative activities we could be involved in. That makes our shared responsibility a very important one because time is a decidedly non-renewable resource. It is my belief that the educational process should be challenging and exciting. If each of us learns a little and has some fun, then we will have met our responsibilities.

XI. **How to prepare for each telelesson (26 lessons):** Use the step-by-step approach to each lesson as described below:

- **Step 1:** View the telelesson. Treat this as a classroom lecture. Try to be comfortable, with the least amount of distractions; don’t plan on reading the paper or working on a project while you are watching the session.
- **Step 2:** Read the text assignments; working through the textbook examples.
- **Step 3:** Complete the homework assignment.
- **Step 4:** Check your answers with the answer key, if available.
- **Step 5:** Correct your work.
XII. Answers to “What If” questions:

1. What if I miss orientation?
   Arrange to go to the LRC, bottom floor and ask to see the videotape of the orientation session. If you still have questions or feel uncomfortable, contact the instructor. If you miss orientation, the handout will be mailed to you within one week.

2. What if I want to see a telecast at the college?
   Arrange to go to the Media Center and ask to view the telelesson.

3. What if the instructor doesn’t return my calls or correspondence?
   Contact me immediately. I probably did not receive our message or something was lost in the mail.

4. What if I fall behind in my work?
   Contact the instructor immediately. I cannot help you unless you communicate with me. The time schedule can be adjusted within reason. Of course, the course requirements are the same for all students.

5. What if I don’t understand something?
   Call the instructor or one of your fellow students. Re-read the lesson. View the tape again.

6. What if I want to check on my grade?
   Contact the instructor.

XIII. La Plata Campus Testing Center Hours
Monday – Thursday  9:00 a.m. –  8:30 p.m.
Friday         9:00 a.m. –  4:00 p.m.
Saturday       10:00 a.m. – 3:00 p.m.
The Testing Center phone number is (301) 934-7657.

Prince Frederick Campus Testing Center Hours
Monday thru Thursday 10-1 and 2-7 p.m.
Friday          9:30 -Noon and 1:00- 4:30 p.m.
Since space is limited, call CCCA for an appointment before each test (410) 586-3057.

Leonardtown Campus Testing Center Hours
Monday – Thursday  10:00 a.m. – 2:00 p.m.;  3:00 p.m. – 7:00 p.m.
Friday            9:00 a.m. – 12:30 p.m.;  1:00 p.m. – 4:30 p.m.
Since space is limited, call Jackie Davis for an appointment before each test (301) 475-8799.
XIV. Miscellaneous Information

All chapters: Do not complete Summary Exercises or Net Assets unless assigned (e.g. see text pp. 37, 39).

Complete assigned problems, not problem sets in “By the Number” Supplement. Odd answers to sections and all answers to review and cumulative review in text pp. 811 – 838.

AWL Tutor Center – Purchased with text
1-888-777-0463

Omit Appendix A. 2 (Financial Calculations) and Appendix B (Metrics)

Omit Essay Questions (e.g. 13 p. 258)

Video Viewing Questions (Optional) (e.g. Study Guide pp. 12-14)

Business Applications (Optional) (e.g. Study Guide pp. 229-230)

Key Formulas are important (e.g. See inside cover of text)

Lesson overview and “Some Words of Advice” in Telecourse Study Guide are important (e.g. pp. 113-117 and pp. 117-118)

Key Formulas, Terms (Only as needed to solve problems and understand concepts)

XV. Sample Course Assignments and Target Dates

Jan. 29  Meet the Faculty Night  7-8 p.m.
La Plata Campus

Feb. 2  View Telelesson 1
Read pages xvii and xviii (Success in Business Math)
Read Appendix A. 1 (L.O. 1,2,3,5,7,9,10) pp. 756-763
Odd problems 1-25 page 764
Note: Avoid percent, memory and special function keys unless you fully understand their logic
View telelesson 2
Read 1.1, 1.2, 1.3
Complete pretest 1 – 9 page xviii and check your Answers on page xxi.

Feb. 5
Read 3.1, 3.2, 3.3, 3.4
Memorize thirds, fourths, fifths, eighths (p.29)
Complete odd 1 – 47 p. 77 (3.1)
Odd 1 – 15 p. 83 (3.2)
Odd 1 – 21 p. 89 (3.3)
Odd 5 – 17 p. 96 (3.4)

View telelesson 3
Read 2.1, 2.2, 2.3, 2.4
Odd p. 46 (2.1)
Odd 1 – 19 pp. 51-52 (2.2)
Odd 1 – 19 p. 58 (2.3)
Odd 19 – 49 p. 65 (2.4)

Complete pretest 10 – 17 page xviii-xix and check answer page xxi.

Feb. 9
Read 3.5 odd 1 – 15 p. 105 (3.5)
Odd 19 – 39 p. 84-85 (3.2)
Odd 27 – 35 p. 90 (3.3)
Odd 3 – 13 p. 91 (3.3)
21, 23 p. 96 (3.4)
Odd p. 97-98 (3.4)
Odd 17 – 33 p. 106-107 (3.5)
Odd 49 – 65 p. 47 (2.1)

Feb. 12
Read “Solving Applied Problems” p. 52 (2.2)
Odd 37 – 51 p. 53 (2.2)
Odd 35 – 45 p. 59 (2.3)
Odd 55 – 71 p. 66 (2.4)

Feb. 16
View Telelesson 4
Read 4.3

Read “Reconciling a Checking Account” p. 135
Odd 3 – 11 p. 139 (4.3)

Feb. 19
View Telelesson 5
Read 5.1, 5.2, 5.3 pp. 148-171
Odd 1 – 17 p. 157 (5.1)
Feb. 24  DEADLINE*****Test 1 (Chapters 1 - 5)

Feb. 26  View Telelesson 7
Read 6.1, 6.2
Odd 7-43 p. 210-211 (6.1)
Odd 1-11 p. 216 (6.2)
Odd 21 - 26 p. 217 (6.2)
Odd 37 - 45 p. 218 (6.2)

View only Telelesson 8

March 2  View Telelesson 9
Read 7.1
Odd 1 - 15 p. 246 (7.1)
Odd 17 - 33 p. 247 (7.1)
35, 37, 41, 45, 49, 53, 59, 61, pp. 248-249 (7.1)

View only Telelesson 10

March 5  View Telelesson 11
Read 8.1, 8.2, 8.3, 8.4
Odd 27 - 43, 49 - 55 p. 293 (8.1)
Odd 27 - 32 p. 298 (8.2)
Odd 35 - 43 p. 299 (8.2)

March 9   Odd 1 - 23 p. 305 (8.3)
Odd 25 - 37 p. 306 (8.3)
Odd 11 - 31 p. 312 (8.4)
Odd 35 - 45 p. 313 (8.4)

March 12 View Telelesson 12
Read 9.1, 9.2, 9.3
Odd 15 - 31 pp. 328-329 (9.1)
Odd 29 - 47 pp. 336-337 (9.2)
Odd 27 - 35 pp. 342 (9.3)

March 16 Read 10.1
Odd 23 - 31 p. 358 (10.1)

March 18 View only Telelesson 13
March 19 DEADLINE******Test 2 (Chapters 6 – 10)

March 22–28  Spring Break for Lecture Classes

March 26  View Telelesson 14  
Read 11.1, 11.2, 11.3  
Odd 1 - 9 p. 386 (11.1)  
Odd 19 - 33 p. 387 (11.1)  
Odd 7 - 11 p. 394 (11.2)

March 30  Read 11.3  
Odd 1 - 5 pp. 400-401 (11.3)  
Odd 21 - 27 p. 401 (11.3)

April 2  View Telelesson 15  
Read 12.1, 12.2  
Odd 9 - 19 p. 426 (12.1)  
Odd 31 - 37 p. 427 (12.1)  
Odd 1 - 9 p. 435 (12.2)  
Odd 17 - 27 p. 436 (12.2)

April 6  View Telelesson 16  
Read 13.1, 13.3, 13.4  
Odd 1 - 15 p. 465 (13.1)  
Odd 23 - 31 p. 466 (13.1)  
Odd 13 - 17 p. 480 (13.3)  
Odd 1 - 5 p. 485 (13.4)  
Odd 11 - 21 p. 486 (13.4)  
View Telelesson 17

April 9  View Telelesson 18  
Read 14.1, 14.2, 14.3  
Odd 1 - 15 p. 504 (14.1)  
Odd 35 - 45 p. 505 (14.1)  
Odd 47 - 55 p. 506 (14.1)  
Odd 5 - 9, 13 - 23 pp. 512-513 (14.2)  
Odd 1 - 7 p. 517 (14.3)  
Odd 11 - 19 pp. 518-519 (14.3)

April 13  DEADLINE*****Test 3 (Chapters 11 – 14)

April 16  View Telelesson 19  
Read 16.1, 16.2, 16.3  
Odd 1 - 25 p. 583 (16.1)  
Odd 1 - 25 p. 589 (16.2)  
Odd 1 - 21 p. 596 (16.3)
27, 29, 31, 33, 35 pp. 597-598 (16.3)

April 20 View Telelesson 20
Read 18.4, 18.5
1, 3 p. 689 (18.4)
Odd 5 – 17 p. 690 (18.4)
Odd 1 – 9 pp. 694-695 (18.5)
15, 17 p. 697 (18.5)

April 23 View Telelesson 21
Read 17.1, 17.3
1, 3 p. 625 (17.1)
1 pp. 639-640 (17.3)

April 27 View Telesesson 22
View Telesesson 23
Read 18.1
Odd 1 – 21 pp. 667-668 (18.1)

April 30 View Telelesson 24
Read 19.2, 19.3, 19.4, 19.5
Odd 1 – 21 pp. 721-723 (19.2)
Odd 1 – 15, 19 pp. 727-728 (19.3)
Odd 1 – 9, 13 – 35 pp. 734-735 (19.4)
Odd 1 – 15 pp. 737-738 (19.5)

May 4 View Telelesson 25
Read 19.1
Odd 1 – 5 p. 713 (19.1)
View Telelesson 26

May 10 DEADLINE*****Test IV (Chapters 16 – 19)