

MATH 120: Business Mathematics - Spring 2005

Class Meetings: MWF 10:00-10:50 or Tu,Th 10:30-11:45

Instructor: Andrew B. Perry, Ph.D.

Office: Schoo 118

Office Hours:

Mon/Wed/Fri 11-11:30 AM

Mon/Wed/Fri 2-3 PM

Tuesday 10-10:30 AM

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Course Description : This course is a survey of mathematics as applied in business situations. The perspectives of both the consumer and the business owner are considered.

Prerequisites: College Algebra, or the equivalent

Required Textbook(s): Math for Business and Life, John Webber, Olympus Publishing, ISBN 0-9716809-1-4

Optional Reference: Student Solutions Manual:

- available online at www.webbertext.com
- paper solutions manual available at bookstore, probably for less than \$ 10.00

Grading Procedures: Final grades will be computed as follows:

- Three (3) Tests ... 60 % (each worth 20 %)
- Final Exam ... 25 %
- Homework ... 10 %
- Class Participation/ Groupwork ... 5 %

Students will be guaranteed minimum grades according to the following schedule:
94 % = A ; 90 % = A- ; 87 % = B+ ; 83 % = B ; 80 % = B- ; 77 % = C+ ; 73 % = C ; 70 % = C- ; 67 % = D+ ; 63 % = D ; 60 % = D-

Late Submission of Assignments: Students may submit up to three (3) assignments late during the semester for full credit, but only if these assignments are received by the beginning of the next class meeting after the due date. If more than three assignments are submitted one class period late, they may be subject to a small penalty at the discretion of the instructor (depending on extenuating circumstances). Any work submitted more than one class period late will receive a grade of ZERO PERCENT (0 %) unless prior arrangements had been made with the instructor in advance of the due date - or a lesser penalty at the instructor's discretion.

Classroom Format: Lecture, Problem Solving

Class Web Sites: We will use the Manhattan course management system from time to time. At the beginning of the semester please log on to this virtual classroom. If necessary, I can help you get started Please go to the Post Office module and send me (Andrew Perry) an email for practice. Go to www.springfieldcollege.edu - current students - manhattan online coursework and follows links to our section. I also have my own web site www.professorperry.com .

Attendance: Attendance at all classes is required, unless you have arranged an excused absence BEFORE the class in question. See the *Student Handbook* for examples of excusable absences. Generally I will be quite flexible and lenient IF YOU INFORM ME IN ADVANCE. In order for an absence to be excused, you must send me email through the Manhattan Post Office module including the date of the absence and the reason.

This Manhattan Post Office email should be sent as early as possible, but in any case no later than twenty-four (24) hours after the missed class.

Attendance will affect your final grade as follows:

- Zero unexcused absences and at most one excused absence ... increase final grade by 1 %
- At least 1 week equivalent (150 minutes) of unexcused absences (but less than 2 weeks or 300 minutes) ... decrease final grade by 5 %
- At least 2 weeks equivalent (300 minutes) of unexcused absences ... decrease final grade by 10 %

For example, if your course average is 91 % (ordinarily an A-) but you have 200 minutes of unexcused absences, you will have a net 86 % score and a B for the class.

Approximate Examination Dates:

Regular exams: February 14-18, March 9-11, April 19-21

Final exam: Friday May 6, 12:30 PM (for Tu/Th section), or Monday May 9, 10:15 AM (for MWF section). There will almost certainly be one or more opportunities to take the exam earlier than the scheduled time for students who so choose.

Exact examination dates will be announced in class.

Course Outline:

Topics To Cover (Subject To Change)

Part I: Brief Review of Basic Mathematics (2 weeks) Equations (Ch.3) Percents (Ch.4) Basic Statistics (Ch. 23.1) Graphing (Ch. 23.2)

Part II: Survey of Business Mathematics (10 weeks) Trade and Cash Discounts (Ch.5) Markup and Markdown (Ch.6) Simple and Compound Interest (Ch. 8) Time Value of Money Problems (Ch. 9.1,9.2,9.5) Future Value (Ch. 10.1,10.4) Present Value (Ch. 11.1) Installment Loans (Ch. 12.1) Open End Credit (Ch. 12.4) Inventory Valuation (Ch. 18.1) Depreciation (Ch. 19) Taxes (Ch.20)

Part III: In-Depth Explorations- Lecture/Handouts/Internet Only, No Text- (3 weeks) Income Taxes Investing (including tax consequences)

Statement on Academic Honesty : Academic dishonesty of any sort will not be tolerated. Students cheating on exams or engaged in any other improper behavior will be reported to the Dean of Students for appropriate disciplinary action, and at the instructor's discretion, will normally receive a grade of F for the course.

Statement on Classroom Decorum : Students are expected to behave in an adult manner during class time. No eating or drinking is permitted. If students must talk to one another during a lecture, it should be very quiet. Students creating a disturbance will be asked to leave class.

Statement on Special Needs: If you have a documented physical, learning, or psychological disability on record with the Director of Student Support Services (748-3768), you may be eligible for reasonable academic accommodations to help you succeed in this course. It is your responsibility to request such accommodations in advance and to provide appropriate documentation to the Director of Student Support Services. Please let me know of your request as soon as possible, so that I can work with you and the director to arrange for reasonable accommodations.

College Policies on Attendance and Academic Honesty:
See the *College Catalog* or the *Student Handbook* for the complete text of these policies.

Course Outcomes:

1. Students will be able to do basic calculations involving fractions, percents and basic algebra
2. Students will be able to calculate simple and compound interest in a variety of situations
3. Students will be able to calculate markup and markdown whether based on cost or selling price, includes series markups or markdown
4. Students will be able to calculate income, property, and sales taxes
5. Students will be able to assign valuation to inventory according to several methods including LIFO and FIFO
6. Students will be able to do calculate depreciation tables using different depreciation methods
7. Students will be able to do calculations related to the mathematics of investing

Assessment of Outcomes: Homework, Exams

HOMEWORK

CR = CHAPTER REVIEW exercises which are directly at the end of each chapter (NOT the problems in the appendix)

Part I: Brief Review of Basic Mathematics (2 weeks)

Equations (Ch.3) — CR 6-42 multiples of 3 ;43,44

Percents (Ch.4) — CR 4-36 multiples of 4 ; 41,42,43,44,45,46,47

Basic Statistics (Ch. 23.1) — CR 4,5,6,7,8,9,10

Graphing (Ch. 23.2) — CR 11,12,13,14,15

Part II: Survey of Business Mathematics (approx. 10 weeks)

Trade and Cash Discounts (Ch.5) 1-9 all; 12-18 all; 25,26,27,29,30,31,32

Markup and Markdown (Ch.6) — CR 3-27 multiples of 3; 29,30,40,41,42,43

*Simple and Compound Interest (Ch. 8) CR 1-8 all; 12,15,21; 26-29 all; 30,34,37,38,40,43,44,45,46

*Time Value of Money (Ch. 9.1,9.2,9.5) 1-9 all; 15-21 all; 40,41,42,43

*Future Value (Ch. 10.1,10.4) 1,3,5,7;24,26,28

*Present Value (Ch. 11.1) 1,2,9,10,11

*Installment Loans (Ch. 12.1,12.3) 5,6,7,8,17,21

*Open End Credit (Ch. 12.4) 26,27,34

Inventory Valuation (Ch. 18.1) 2,3,4,5,6,7

Depreciation (Ch. 19) 1-13 all; 18,19,22,23,24,32,33,34,35

Taxes (Ch.20) 3,4,5,6,7,8,12,13,20,21,23,24,25,26

Note: Ch.8-12 are closely related and all could be lumped into a single large chapter called "Interest"

Part III: In-Depth Explorations- Lecture/Handouts/Internet Only, No Text- (approx. 2 weeks) Income Taxes ; Investing (including tax consequences)- Homework To Be Announced

Homework Requirements / Grading

Your homework assignment is to SHOW HOW EACH ANSWER WAS OBTAINED. Writing out the final answer doesn't matter, and you don't even have to write the final answer on your paper unless you feel like it (although I do suggest writing it). All I care about is your intermediate steps, that is, your work.

Your grade will be based on whether or not you showed enough work to convince the grader that you made a good-faith effort to solve all problems.

For example, if the homework problem asks you to calculate 5 % sales tax on a \$ 200.00 purchase, you may write down on your homework paper

$$(\$200)(.05) = \$ 10.00$$

or if you prefer you may write

$$(\$ 200)(.05)$$

but do not write

$$\$ 10.00.$$

If you write something like the following

$(\$ 200)(5) = \$ 1000$; hey grader this answer doesn't match with the answer in the book what did I do wrong?

then you will still get at least partial credit for this homework problem because it appears you are making a sincere effort to solve the problem

If you merely write down the final answer to each problem, you won't be able to look back at your homework and figure out how you did each problem when you study for tests, so you will be hurting yourself. Also, it will look like you copied all the answers from the back of the book. For that reason, a paper with nothing but final answers will be graded the same as a blank paper.

Once in a while a problem is so simple that there is no work you can show, and that's OK. However, you should be showing some work on most problems of every homework assignment if not all.