MGF 1107 — Mathematics for Liberal Arts II
Syllabus

Tallahassee Community College, Spring 2006	Instructor: Rex Abert
Section 8, Reference # 38200	Office: SM 277
MWF 1:25-2:15 pm	Phone: 201-9790
Office Hours: T: 5-6 pm, W: 2:30-5:30 pm or by appointment	E-mail: abertr@tcc.fl.edu

Important Dates

Last day to withdraw and receive a refund	January 13
Last day to change from audit to credit	January 30
Last day to withdraw and receive a grade of W	March 27
Final Exam	Wednesday, April 26, 12:30 - 2:30 pm

Required Materials
Bring these materials to class every day!

- Textbook: *Thinking Mathematically*, Third Edition, by Robert Blitzer, Pearson Prentice Hall, 2005.
- Calculator: Be sure it has a factorial key $\boxed{x!}$, an exponentiation key $\boxed{y^x}$ or $\boxed{x^y}$ or $\boxed{\wedge}$, and logarithm keys $\boxed{\text{LOG}}$ or $\boxed{\text{LN}}$. (See below)
- ID: A photo ID is required for tests and the final exam.
- Handouts will provided by your instructor.

Course Description
This course is appropriate for liberal arts students who plan to concentrate in fields which require no specialized mathematics beyond the general education level. The course content includes selected topics from number theory and bases, linear programming, and the mathematics of finance. This course cannot be used to statisfy degree requirements for students with credit in MGF 2202. MGF 1107 contains non-algebra CLAST skills. Note: Business or math-science related majors should be taking other math courses. Prerequisite: A grade of "C" or better in MAT 1033, or satisfactory score on placement test, SAT, or ACT.

Grading Policy
The average of the four unit test grades will be 80% of your final grade, and the final exam will comprise the other 20%. The final exam will replace your lowest test grade, if

1. the exam grade is higher than the lowest test grade.
2. the student took all 4 tests.

The grading scale is A = 90-100, B = 80-89, C = 70-79, D = 60-69, F = 0-59.

Course Topics and Objectives

Unit I Voting and Apportionment

- Study the different methods of counting votes and apply them to example elections
- Analyze how the method used to count votes can change the outcome of an election
- Study the methods used to apportion the US House of Representatives at different times in the history of the US
- Understand the differences in the methods of apportionment and how the method chosen can lead to different apportionments among the states
- Study the paradoxes that may result from Hamilton's method of apportionmen
- Apply the Huntington-Hill method of apportionment to examples of representation of groups

Unit II Numeration Systems

- Study historical methods of numeration, including the Egyptian and Roman systems of numeration
- Learn the significance of postitional systems and the computational advantages of them
- Study Hindu-Arabic numeration in base 10 and base 2
- Apply the rules of positional systems and binary numeration to perform computations in base 2
- Understand the notion of "number", and how the value of a number is independent of how it is written

Unit III Linear Programming

- Develop/review the mathematical tools to solve linear programming problems.
- Read and analyze a problem description and discern the information relevant to solving the problem
- Apply mathematical tools to optimize a given situation subject to constraints.

Unit IV Mathematics of Finance

- Simple and Compound Interest, Annuities
- Analyze and compare investment alternatives to select the best option
- Analyze loan options to budget monthly payments and decide how much house/car/boat is affordable
- Project the time required to retire debt
- Develop savings plans to achieve a financial goal

Help!

- Video tutorials for every math class offered at TCC are available in the Math Center.
- CD-ROM and/or DVD Digital Videos for every section of the text are in the Math Learning Center, Audio Visual Center of the Library (overnight check-out available), and all Open Access Computer Labs.
- Videotapes correlated to each important topic may be checked out or viewed in the library and may be checked out from SM 246
- Companion Web Site `wps.prenhall.com/esm_blitzer_thinkmath_2` for practice quizzes, tests, CLAST quizzes, and Powerpoint presentations. Use the "Jump to ..." pull-down menu to select a chapter.
- Student's Solution Manual: worked-out solutions to odd-numbered exercises and all Review and Chapter Test exercises; sold at the TCC Bookstore.
- The Math Learning Center has links to online tutorials for this and other math courses. `www.tcc.fl.edu/dept/acsu/mc/docs/mgf1107/index.htm`

Attendance and Administrative Withdrawal Policy

Attendance is required and roll will be checked. The instructor has the right to make changes in the pacing schedule and you need to be in class to keep current with any changes. Coming in late or leaving early may be counted as absences. If you accumulate more than 3 absences, you may be administratively withdrawn from the course. However, **if you wish to withdraw from this course, it is your responsibility to do so.** The last day you may withdraw from the course is March 27, 2006.

Assignments

Included in this syllabus is a list of practice problems for the semester. Exercises are assigned for each class period and should be completed before the next class. Be sure to do all the assigned problems in order to gain an understanding of the material.

Calculators

You are required to own and use a scientific calculator. Graphing calculators are NOT required in this course, however, they are acceptable with the exception of the TI-89 (or its equivalent). If you use a graphing calculator, I may reset its memory prior to each test and the final exam. Graphing calculators are available in the library for your use.

Testing

Four tests will be given (photo ID and calculator required) as listed in the pacing schedule unless changes are announced in class. The final exam is comprehensive and will be given on April 26, 12:30 - 2:30 pm. Bring #2 pencils, TCC ID, and your calculator. No photo ID = No Exam!

Make-up Policy

The make-up policy is simple: THERE ARE NO MAKE-UP TESTS. If you must miss a test, please notify me before the test, if possible, or as soon as possible after the fact. If your absence is excused *with verifiable documentation*, your final exam grade will be used for the missed test grade. This exam grade replacement may be done only once. There will be NO make-ups for the final exam. **A grade of "0" will be recorded for a missed exam until satisfactory documentation is provided.**

An excused absence includes, but is not necessarily limited to, jury duty, military service, illness (doctor's note required), incarceration, hospitalization, officially sanctioned school activities. The following (not an exhaustive list) do not constitute an excused absence: travel, airline tickets, weddings, heavy traffic, oversleeping, work conflict, or starting Spring Break early. When you sign up for this class, you incur an obligation to be here. Plan your schedule accordingly.

Help Outside of Class

I will gladly help you during my office hours provided you have made the effort to be in class and have tried to do the assigned work. The Math Learning Center also offers excellent help. Your tuition and fees give you unlimited use of the center. The Math Learning Center is located in DH 255,and is open M & T 8 am to 8 pm, W & R 8 am to 7 pm, and F 8 am to 1 pm.

Classroom Policy

No eating drinking, or smoking is allowed in classrooms. Place all trash in the appropriate container and have all beepers and cellular phones turned off during class. Any student whose electronic equipment interrupts class will be asked to leave the room and not return until the next class period. Disruptions during exams will result in the exam being confiscated and a grade of zero on the exam. I MEAN IT! TURN THEM OFF!

Students with Disabilities

Students with disabilities needing academic accomodations must (1) register with and provide appropriate and acceptable documentation to Disability Support Services in Student Union 172, and (2) *during the first week of class,* bring a letter to the instructor from the DSS indicating that you need academic accomodations. This syllabus and other class materials are available in alternative format upon request.

ACADEMIC ALERT TO STUDENTS

House Bill 1545, passed by the 1997 Florida Legislature, requires that students enrolled in the same college credit course more than two times shall pay non-resident fees for the third attempt of the course. Florida colleges and universities were required to start counting attempts beginning Fall 1997. An enrollment is considered a valid attempt if the course remains on your schedule past the published College refund date, January 13, 2006. On the third attempt, not only do you pay non-resident fees, but you may not withdraw from the course.

The fourth attempt is allowed only through an academic appeals process based on major extenuating circumstances. All grades from the third and subsequent attempts will be calculated into the grade point average.

MGF 1107 — Liberal Arts Math II
Tentative Pacing Schedule—Spring, 2006

Monday	Tuesday	Wednesday	Thursday	Friday
January 9 Classes Begin	10	11 14.1	12	13 14.1
16 MLK Holiday	17	18 14.2	19	20 14.2, 14.3
23 14.3, 14.4	24	25 14.4	26	27 H.-Hill Apportionment
30 Review	31	February 1 Test 1	2	3 5.1, 5.2
6 5.3	7	8 5.4, 5.5	9	10 4.4
13 4.1, 4.2	14	15 4.3	16	17 Review
20 Test 2	21	22 6.2, 6.5	23	24 7.2, 7.6
27 7.5	28	March 1 7.5, 7.7	2	3 Linear Programming
6 —	7 Spring	8 —	9 Break	10 —
13 Linear Programming	14	15 Linear Programming	16	17 Review
20 Test 3	21	22 Calculator Practice	23	24 8.1
27 8.2	28	29 8.3	30	31 Eff. Yield & How Long?
April 3 Annuities	4	5 Annuities and Amortization	6	7 Amortization 8.5
10 Review	11	12 Test 4	13	14 5.7
17 Review for Final	18	19 Review for Final	20	21 Review for Final
24	25	26 Final Exam 12:30-2:30	27	28

MGF 1107 Homework Problems

Section	Page	Problems
Unit I — Voting, Appportionment, Graphs		
14.1	735	1-25 odd, 27, 28, 29, 30, 37
14.2	747	1-19 odd
14.3	760	1-17 odd, 23, 24, 25, 26
14.4	771	1, 5, 9
Ch. 14 Review	773	1-43 all
Ch. 14 Test	776	1-24 all
Unit II — Bases and Number Theory		
5.1	200	1-10, 25-41 odd, 45-67 odd, worksheet on divisibility
5.2	211	5-11 odd, 19-63 odd, 81-91 odd
5.3	225	25-79 odd
5.4	234	1-7 odd, 17-51 odd, 57-61 odd, classification of numbers
5.5	242	1, 3, 5, 6, 7, 8, 9, 10, 11, 12, 21, 23, 25, properties
4.1	168	1-31 odd
4.4	187	1-35 odd, 57
4.2	187	7, 8, 15, 16, 23, 24, 33, 34, 43
4.3	181	3, 4, 21, 22, 27, worksheet on binary system
Ch. 4 Review	189	1-7 all, 14, 20, 27, 31, 38-43 all, 45-49 all
Ch. 4 Test	191	1-5 all, 12, 14, 20-23 all
Ch. 5 Review	266	1-8 all, 11, 12, 17-27 odd, 36-46 all, 47-53 all, 60-74 all, 76-85 all
Ch. 5 Test	268	1-10 all, 13-21 all
Unit III — Linear Programming		
6.2	289	1-49 odd, 75, 77
6.5	316	25-49 odd, 61
7.2	354	1-7 odd, 9, 13, 17, 21-31 odd, 41-47 odd
7.6	390	1-21 odd, 23-33
7.5	382	1, 3, 5, 7, 25-35 odd, 41
7.7	396	1, 23, 7, 11, worksheets on linear programming
Ch. 6 Review	332	10-14 all, 44-50 all
Ch. 6 Test	334	4-6 all, 11, 18, 19, 20
Ch. 7 Review	401	45, 46, 47, 51-56 all, 59-74 all
Ch. 7 Test	403	12, 14, 16-21 all
Unit IV — Mathematics of Finance		
8.1	413	1-45 odd, 55-59 odd, 61-65 odd
8.2	419	1-25 odd, 31-35 odd
8.3	425	1-33 odd
		Worksheets on annuity and amortization problems
8.5	444	1, 3, 9, 11
Ch. 8 Review	456	1-15 all, 18-22 all, 25-33 odd, 35-42 all, 49-52 all
Tested only on the Final Exam		
5.7	260	1, 5, 9, 13, 21-35 odd, 49, 53, 59, 63, 65, 77-83 odd