

Math 123 Finite Mathematics

Departmental Syllabus Fall 2008

Monday – Wednesday – Friday Schedule

Instructor Contact Information: This information is section specific and will be given here in the copy given to each student on the first day of classes.

Course Description: For students not planning to major in the physical sciences, engineering, mathematics, or computer science. Exponential and logarithmic functions, interest and annuities, linear systems and matrices, optimization. Prereq: satisfactory placement test score, or 119 or 130. Students who receive a grade of C or better in Math 123 may not subsequently receive credit for 119. **(QR)**
3 credit hours.

Text: *Finite Mathematics*, by Waner and Costenoble, Custom 4th Edition, Brooks Cole Publishers.

Course Companion Websites: Enhanced WebAssign – Start Smart Guide for Students: Use the “passkey” that came with your new textbook and the instructions provided by your instructor to access this and other online resources to accompany your text.

Calculator: A graphing calculator is required for this course. The Math Department highly recommends and provides support for the TI-83+ and TI-84+ models. The PIVOT program is required and can be downloaded to your calculator by the Math Tutorial Center staff. While other calculators may be used with your instructor’s permission, instructors and tutorial center staff may not be able to provide help on how to use them. Use of cell phone calculators and calculators with advanced alpha-numeric capabilities, such as the TI-89, is forbidden in this course.

Grades: Grades will be determined using the grading scale below. Your letter grade is a measure of your mastery of course material and your fulfillment of course objectives. You should keep all of your graded work until final grades are posted. The homework and quizzes category may contain other material to be specified by the individual instructor on their individual syllabus.

Grading Scale:

| | | | |
|-------------------------------|------------|--------------------------|-------------------------|
| | | $90\% \leq A \leq 100\%$ | $70\% \leq C \leq 73\%$ |
| 5 Tests (drop 1) for total of | 60% | $87\% \leq A- < 90\%$ | $67\% \leq C- < 70\%$ |
| Homework and Quizzes | 20% | $83\% \leq B+ < 87\%$ | $63\% \leq D+ < 67\%$ |
| <u>Cumulative Final Exam</u> | <u>20%</u> | $80\% \leq B < 83\%$ | $60\% \leq D < 63\%$ |
| Total Possible | 100% | $77\% \leq B- < 80\%$ | $57\% \leq D- < 60\%$ |
| | | $73\% \leq C+ < 77\%$ | $F < 57\%$ |

Final Exam: The comprehensive final exam date and time will be stated on the individual instructor’s syllabus.

All students are required to take the final exam. Students who miss the final without securing permission ahead of time will fail the course.

Attendance & Make-up Policy: This will be clearly stated on the individual instructor's syllabus.

Disability Services: If you need course adaptations or accommodations because of a documented disability or if you have emergency information to share, please contact the Office of Disability Services at 2227 Dunford Hall at 974-6087.

Math Tutorial Center: The Math Tutorial Center is in Ayres Hall room 322. It provides **free tutoring**. Hours of operation are posted at <http://www.math.utk.edu/MTC/>. Please make use of this free service.

| Important Dates: | |
|-----------------------------|--|
| Add/drop without W deadline | August 29, 2008 |
| Test 1 | September 10, 2008 |
| Test 2 | September 26, 2008 |
| Test 3 | October 20, 2008 |
| Drop with W deadline | October 21, 2008 |
| Test 4 | November 5, 2008 |
| Drop with WP/WF deadline | November 11, 2008 |
| Test 5 | November 26, 2008 |
| Final Exam | Dependent on class meeting time, stated clearly on individual syllabus |

Classroom Etiquette: Please be considerate of the instructor and those around you. Come to class on time and stay the entire period. Turn off cell phones and beepers during class. Do not talk to classmates at inappropriate times. Refrain from reading newspapers or working on other coursework during class. For information on Classroom Behavior Expectations and consequences of non-compliance please see the following link: <http://www.math.utk.edu/Undergraduate/undergrad/Expectations.pdf>

Academic Standards of Conduct:

All students are expected to abide by the University **Honor Statement**. In mathematics classes, violations of the honor statement include copying another person's work on any graded assignment or test, collaborating on a graded assignment without the instructor's approval, using unauthorized "cheat sheets" or technical devices such as calculators, cell phones or computers for graded tests or assignments, or other infractions listed in "*Hilltopics*". These violations are serious offenses, subject to disciplinary action that may include failure in a course and/or dismissal from the University. The instructor has full authority to suspend a student from his/her class, to assign an "F" in an exercise or examination, or to assign an "F" in the course. See "*Hilltopics*" for more complete information. A report of all offenses will be sent to appropriate deans and the Office Student Judicial Affairs for possible further action.

The Honor Statement

An essential feature of the University of Tennessee is a commitment to maintaining an atmosphere of intellectual integrity and academic honesty. As a student of the University, I pledge that I will neither knowingly give nor receive any inappropriate assistance in academic work, thus affirming my own personal commitment to honor and integrity.

The following schedule is tentative. Each instructor has the option to vary dates and assignments as they see fit. **Sections 2.1, 2.2, 2.3, 3.1, 3.2, and 3.3 are to be taught and tested without calculators.** Emphasis should be on Applications and Communication and Reasoning Exercises.

| Dates | Section | Topic and Suggested Homework/Practice Problems |
|------------------------|----------------|--|
| 8/20, 22 | 2.1 | Introduction, Syllabus, and Systems of Two Equations in Two Unknowns odd: 1 – 13, 25 – 65 |
| 8/25, 27 | 2.2 | Using Matrices to Solve Systems of Equations odd: 1 – 41, 51 – 63 |
| 8/29, 9/3, & 5 | 2.3 | Applications of Systems of Linear Equations odd: 1 – 13, 17, 19 odd: 25 - 55 |
| 9/8 | Review | |
| 9/10 | Test 1 | Sections 2.1, 2.2, and 2.3 No Calculators of any kind |
| 9/12 | 3.1 | Matrix Addition and Scalar Multiplication odd: 1 – 63 |
| 9/15, 17 | 3.2 | Matrix Multiplication odd: 1 – 25, 29 – 57, 63 – 73, 77 – 83 |
| 9/19, 22 | 3.3 | Matrix Inversion odd: 1 – 33, 43 – 57, 63 – 77 |
| 9/24 | Review | |
| 9/26 | Test 2 | Sections 3.1, 3.2, and 3.3 No Calculators of any kind |
| 9/29, 10/1 | 3.4 | Game Theory all odd |
| 10/3 | 3.5 | Input-Output Models all odd |
| 10/6, 8 | 4.1 | Graphing Linear Inequalities all odd |
| 10/13, 15 | 4.2 | Solving Linear Programming Problems Graphically all odd |
| 10/17 | Review | |
| 10/20 | Test 3 | Sections 3.4, 3.5, 4.1, and 4.2 |
| 10/22, 24 | 4.3 | The Simplex Method: Solving Standard Maximization Problems all odd |
| 10/27, 9, & 31 | 4.4 | The Simplex Method: Solving General Linear Programming Problems All odd |
| | 4.5 | The Simplex Method and Duality (Suggested if time allows) all odd |
| 11/3 | Review | |
| 11/5 | Test 4 | Fixed Date Do Not Push Back Sections 4.3, 4.4, and 4.5 |
| 11/7 | 5.1 | Simple Interest all odd |
| 11/10, 12 | 5.2 | Compound Interest (add continuous compounding) all odd plus continuous |
| 11/14, 17, 19, & 21 | 5.3 | Annuities, Loans, and Bonds all odd |
| 11/24 | Review | |
| 11/26 | Test 5 | Sections 5.1, 5.2, and 5.3 |
| 12/1 | Review | |
| | Final | Date and time by class meeting time per UT Final Exam Schedule |