Northern Michigan University - Fall 2001

MA 103 - Finite Mathematics

Monday thru Thursday
8:00 to 8:50 a.m.
207 Jamrich Hall

7:00 to 8:40 p.m.
Monday, Wednesday
1706 West Science

Instructor: **Pat Jennings**
Office: **221 West Washington St. (across from Post Office)**
Phone: **228-2808**
email: **Pat@Jennings.net** [or on campus at **pjenning**]

office hours: **by appointment only**
I will be available in the classroom immediately after class. If you need more time, please call me at my office and schedule an appointment.

Course Content: This course is designed primarily for students in business, economics, management, and the social sciences and life sciences. MA 103 builds on the algebraic skills of MA 100 while emphasizing applications, modeling, and decision-making from business, social and natural sciences, medicine, and other areas. It is a prerequisite for MA 171 and can be used as a Liberal Studies elective under Division III Natural Sciences/Mathematics.

Text: Finite Mathematics, Sixth Edition, Lial, Greenwell, Miller (Addison-Wesley, 1998)

If you do not have a Thinkpad laptop computer, a graphing calculator is needed for this class. I suggest getting a Texas Instruments TI-83. If you have a laptop, go over to Learning Resource Center in the basement of the Student Center and ask the attendant to install *TI Interactive*.

Prerequisites: MA 100 with a grade of "C" or better, or satisfactory score on the Mathematics Placement Exam. Note that we will not be doing a lot of review in this class. If you have not met the prerequisites, or if you have not taken any math class for several years, please see me before the end of the drop/add period.

Grading: Grades will be weighted according to the following:

Chapter Tests	50%
Quizzes	20%
Final Exam	30%

The final grade will be a weighted average of the above corresponding to the following scale:

A	90 - 100
B	80 - 89.99
C	70 - 79.99
D	60 - 69.99
F	less than 60

There will be no other grades given. Incompletes will be pursuant to University policy.

Unless announced otherwise, all tests and quizzes are closed book and closed notes. Calculators may be used and tables will be provided, if needed.

Quizzes will be given once or twice a week, unannounced, and cannot be made up under any circumstances. If you miss only one or two quizzes, it will not significantly affect your grade. However, missing most of them will. In most cases, a quiz will consist of one or two homework problems and you are encouraged to work in groups of two or three.

Chapter: Tests: There will be at least four tests, usually at the end of each chapter. Tests will be announced at least one week in advance and you will have one hour to complete it. The actual test dates will depend on how fast the class is going. The Final Exam will be two hours long and will cover the entire course. You *must* take the final exam to pass the course.

Tests can be made up only for a good reason and you must provide documented proof (i.e. note from doctor, subpoena, funeral announcement, etc.) before you can take a makeup. If possible, please notify me before the test if you are not going to be there. Except for university related functions, I will solely determine whether or not the reason that you have for missing a test is valid.

All makeup tests will be taken in the Mathematics Dept. office on the first floor of West Hall. No tests will be returned until all makeups have been completed.

Homework: Homework assignments will be given, but not graded. If you want me to go over a particular homework problem, email me the page and problem number and I will go over it the next class. I will not go over any homework problem unless you email it to me first!

As a general rule, you should spend two hours on homework for every hour that you are in class. (This applies for all courses that you take in college) Since this is a 4 credit hour course, You should spend at least 8 hours per week on reading and homework assignments. If you have had an especially hard time with mathematics in the past, plan on spending at least 12 hours per week for this course. I recommend that you set scheduled times for this course (as well as your other courses) and stick to this schedule. Plan your schedule now so that you do not get bogged down later in the semester.

Attendance: Other than the quiz grades, I will not be taking attendance for this course. However, since you are making such an investment in this course, it is to your advantage to put your best effort into learning the material that is presented by attending class regularly and keeping up on the homework. If you are not able to attend class due to work commitments, child care, or some other reason, let me know and we can work out some reasonable arrangement.

Academic Honesty: You must do all of your own work. If you cheat, you will not learn the material, and if you get away with passing this course by cheating, you will have a very difficult and frustrating time in your later courses. Also, you will be constantly looking over your shoulder worried about getting caught, and that, in itself is not worth it. If you do get caught cheating on a test or other assignment, you will get an automatic **F** for this course, and you could be subject to other sanctions. The bottom line is, if you cheat, you are really cheating yourself out of time, money, and, possibly, your future career.

Disabilities: If you have a need for disability-related accommodations or services, please inform the Coordinator of Disability Services in the Disability Services Office at 1104 University Center (227-1737). Reasonable and effective accommodations and services will be provided to students if requests are made in a timely manner, with appropriate documentation, in accordance with federal, state, and University guidelines.

Course Outline

We will follow this outline. The numbers correspond to the chapters in the text.

1. Review of Algebra
    a. Polynomials and rational expressions
    b. Solving equations and inequalities
    c. Exponents and radicals
2. Linear Functions
    a. Equations of lines
    b. Functional notation and definitions
    c. Linear functions and models
    d. Math models and curve fitting
3. Matrices
    a. Definitions and applications for matrices
    b. Solving systems of equations using matrices
    c. Operations with matrices and finding inverses
    d. Modeling and solving problems using matrices
4. Linear Programming
    a. Graphing linear inequalities
    b. Solving linear programming problems graphically
    c. Modeling and solving linear programming applications
5. Finance
    a. Simple and compound interest
    b. Geometric sequences and annuities
    c. Loans and amortization
    d. Present value of future money
6. Probability
    a. Notation, Venn diagrams, counting techniques
    b. Probability of simple and compound events
    c. Conditional probability
    d. Bernoulli trials
    e. Probability distributions of random variables; means (or expected values)
7. Introductory Statistics
    a. Graphical representations of data-sets, frequency tables
    b. Numerical summaries of data-sets