

Syllabus Finite Math

Course: MA 113-04, 4 Credits

Time/ Location: M, T, W, R 8:00-8:50 a.m. JXJ 3311

Term: Fall, 2024

Instructor: Steven H. Annelin

E-Mail: sannelin@nmu.edu

Office Hours: Jamrich 2236: M, T, W, R 9:00-10:00 a.m., or by appointment. Please schedule all appointments beforehand.

If you need to meet at another time, please send me an email.

Required Supplies: *Finite Mathematics*, Goldstein; 13th Edition

Link in Educat redirects you to the company website for course materials.

Websites for this class:

Educat: educat.nmu.edu Course documents, gradebook, discussion forums

My classroom is a place where you will be treated with respect. In this course, each voice has something of value to contribute. Please take care to respect the different experiences, beliefs, and values expressed by students, faculty and staff. Each member of this class is expected to contribute to a respectful, welcoming, and inclusive environment for every other member of the class.

Please understand, it is expected that you work on homework for each class period prior to the next class period in the event questions arise that need further explanation. Class periods are primarily for new material and don't always allow for much time to answer questions from previous lessons, but I do encourage asking if you need help. Fifty minutes will go by quickly when material is being presented, so paying attention to examples is crucial to aiding in your understanding. **Keep your cell phone off and away from you to avoid the temptation of looking at your messages/notifications.**

Course Description and Learning Outcomes

This course is designed primarily for students in business, economics, management, and the social sciences and life sciences. MA 113 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. "The study of applications of mathematics beyond algebra to the business world. Topics include [algebra], probability and statistics, annuities and loan amortization, and an introduction to linear programming. If time permits, an introduction to game theory, and Markov processes may be included. Course Content: · This course is broken down into three distinct areas: 1.) Systems of equations/inequalities and linear programming; 2.) Formulas and the mathematics of finance; 3.) Probability and Statistic concepts

At the completion of the course, students should be able to demonstrate the following skills.

1. Write a system of linear equations that models the information presented
2. Solve a system of linear equations to determine the unique solution using appropriate methods
3. Write the constraints for a linear programming problem, including the objective function that will be maximized/minimized accordingly
4. Identify the vertices of the feasible region for linear programming applications

5. Write the system of matrices associated with the equations for a linear programming application
6. Complete operations on square matrices, including the calculation of the determinant and inverse matrix
7. Construct Venn diagrams to represent information
8. Use fundamental counting rules, permutations, and combinations to answer probability related questions
9. Assign probabilities of basic events, compound events, independent events, and dependent events
10. Apply probability and counting rules to applications
11. Construct a simple tree diagram for probability events
12. Calculate values for simple interest, compound interest, loans and annuities

Prerequisites: Passing grade in MA 100, or satisfactory score on math placement exam.

Technical skills: Student must be able to navigate websites including Educat. You must use and check your @nmu.edu email **daily**.

Technology requirements: Computer with internet access, access to scanner, scientific calculator. Does not have to be a graphing calculator, but some processes will be demonstrated on the graphing calculator. A TI84+ or similar version will be used to demonstrate processes in this course. Desmos.com/matrix calculator will also be introduced for student use in solving homework problems.

Grades: Grades are based on the following scale

90-100%	A
80-89%	B
70-79%	C
60-69%	D
0-59%	F

Your grade has the following components:

Attendance	5% (Attendance is factored into your final grade)
Homework	10%
Quizzes	15%
Exams	40%
Final Exam	30%

Homework: Homework problems for each section/chapter are set up on the textbook website. You should have ample time to complete the assignments based on when the material is scheduled to be taught and when the assignments are due.

Quizzes: Quizzes are also set up on the textbook website and should be completed individually. The system does randomize questions based on the objective being measured, so each student will have a slightly different quiz question.

Exams: Exams **must** be taken on the scheduled day unless a valid reason is given and a make up day is arranged with us. I would prefer the use of pencil, if possible, for all exams.

Final exam: As per the NMU calendar.

For written work (quizzes, exams, and final exams) you are graded not only on correctness, but also on clarity of work. If I can't read your writing, then a correct answer **will not** get you full credit. You must show all steps. Just giving the answer will not earn full credit. Again, you must show all work. Word problems can often be solved by just "thinking" about it. In this class you must use algebra and show all work to earn credit.

Disability needs: If you have a need for disability-related accommodations or services, please inform the Coordinator of Disability Services in the Dean of Students Office at 2001 C. B. Hedgcock Building (227-1737 or disserv@nmu.edu). 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.

Here is the website for disability services: <http://www.nmu.edu/disabilityservices/node/1>

ABSENCE STATEMENT:

NMU Official Statement on absences during the pandemic: If you are experiencing COVID-19 symptoms, do not attend class, work, or campus and community activities. Please communicate with your instructors and/or work supervisors via email or phone to say you are not feeling well and will be absent. Stay home, avoid contact with others as much as possible, and contact your healthcare provider or the NMU Health Center for next steps. Instructors are not required to provide remote class sessions for absent students. If you are absent due to COVID-19 symptoms, please contact your instructor to discuss what options may be available to you. You can visit the *Safe On Campus* website (<https://www.nmu.edu/safe-on-campus>) or the Dean of Students Office for help with non-course related COVID-19 and pandemic questions.

My personal attendance statement: I take attendance daily and record it in Starfish, the NMU support system. I factor in attendance into your final grade. IF you have a valid reason for missing class, please send me an email with a reason.

Academic Integrity: Students are expected to do their own work and follow the university academic honesty policy. This policy can be found in the student handbook. See link here: <http://www.nmu.edu/dso/studenthandbook>

Late work: Accepted without penalty in most cases, but not always. Contact the instructor. Deadlines are meant to help you finish the class on time.

Important dates:

Drop: Drop procedure: <http://www.nmu.edu/records/adddropprocedure>

Withdrawals: Last day for course withdrawal with a W grade will be per the Academic Calendar for the University, which should be Friday, December 8 by 5:00 pm. I will recommend withdrawal for any student earning below 60%. A W grade and an F grade have the same effect on your full-time status. The difference is that an F grade hurts your GPA, but a W grade does not. It always benefits you to get a W, instead of an F. Withdrawal procedure: <http://www.nmu.edu/records/node/19>

For complete withdrawal deadlines and policies, see www.nmu.edu/registrar/node/19

Extra Resources:

There are many resources available to help you succeed in this class and as a student. Here are the links to many campus resources:

Student Handbook: <https://www.nmu.edu/dso/studenthandbook>

Health Center <http://webb.nmu.edu/HealthCenter/>

Online Student Services <http://www.nmu.edu/online/>

Computer Help Desk (IT) <http://it.nmu.edu/helpdesk>

Disability Services <http://www.nmu.edu/disabilityservices/home-page>

Veterans Services <http://www.nmu.edu/veterans/veteran-student-services>

Dean of Students <http://www.nmu.edu/dso/home-page>

Olson Library <http://library.nmu.edu/>

Counseling Center <http://www.nmu.edu/counselingandconsultation/home-page>

Writing Center <http://www.nmu.edu/writingcenter/home-page>

Financial Aid <http://www.nmu.edu/financialaid/home>

Everything else offered on this website: <http://www.nmu.edu/students>