

Nebraska Wesleyan University
Math 1450: Finite Mathematics
Section 01
Fall 2014

Instructor: Austin Mohr
Text: Finite Mathematics
Sixth Edition
Waner & Constenoble
Time: MWThF 11:00 am – 11:50 am
Room: Olin 111
Office: Olin 109D
Office Hours: MWThF 10:00 am – 11:00 am, 12:00 pm – 1:00 pm (or by appointment)
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Course Website: AustinMohr.com/math1450
Final Exam: Thursday, December 18 at 2:00 pm

Course Description

A survey of specialized mathematical techniques used to solve contemporary problems in business, economics and the social sciences. Topics include linear regression, matrix algebra, optimization, logic, and probability.

Grading Scale

A: 90–100, B+: 85–89, B: 80–84, C+: 75–79, C: 70–74, D+: 65–70, D: 60–65, F: below 60

Assignments

| | |
|-----------------------|-----------------------------------|
| Participation | 1 point total |
| Homework | 2 points total |
| Projects | 2 points total |
| Exams | 12 points total (see description) |
| Extra Credit Homework | 1 point total |

Things to Buy

- WebAssign with eBook: Purchase access code online at WebAssign.net or at the bookstore. (\$75 total)

or

- WebAssign and Printed Textbook: Purchase bundled textbook and code at the bookstore. (\$140 total)

WebAssign

All homework will be submitted through WebAssign. Sign up for an account at WebAssign.net using the access code you purchased and the class key **nebrwesleyan 8336 7770**.

Daily Routine

Bring every day:

- Printed textbook or a device that can access your eBook (such as a laptop or tablet).

Before class:

- Read the textbook pages or watch the video specified in the homework assignment on WebAssign.
- Complete the homework assignment. Each assignment will be due by 4 am on the day it is to be discussed. (The point is that you hopefully sleep between the time you complete the homework and the time you come to class to discuss it.)

During class:

- I will have a few things to say to the whole class.
- Afterwards, I will give some questions to try in groups for the remainder of the time. Your solutions are *not* graded, but your willingness to work with classmates during this time constitutes your participation grade.

After class:

- Consider working extra credit problems on WebAssign, paying special attention to the problems you found most challenging during class. Extra credit assignments are due one week after the relevant class period.

Exams

We will be making use of “Mastery-Based Examinations”. I learned of the concept from Professor George McNulty, for whom I have the utmost respect. It is quite an unusual system, so I will describe it briefly here. Please do not hesitate to ask me for clarification.

Short Description

You only receive credit for completely correct responses, but you will get many chances throughout the semester to display mastery.

Long Description

I have boiled the course down to sixteen essential types of questions. Your first in-class exam will be the first four of these questions. Your second in-class exam will consist of eight questions total: the first four questions are slight variations of those from the first exam, while the other four questions will be new. In a similar fashion, the third in-class exam will consist of twelve questions (only four of which are new) and the fourth in-class exam will consist of sixteen questions (only four of which are new). The final exam will not have any truly new questions, but will consist of variations of the questions you have already seen.

You will be given one of three grades for each problem you try: Master, Journeyman, or Apprentice. “Master” means you have fully understood the concept. “Journeyman” means you are well on your way to mastery but still need to clarify some details. “Apprentice” means you have not understood the concept and need to carefully study it again. Mastery of a question earns you full credit, while any other score earns you no credit. If you fail to master a question on the first try, you may attempt the similar version that appears on later tests. Once you have mastered one type of question, you need not attempt it ever again.

After the final exam, your overall exam grade will be 100% minus 5% for each unmastered question. For example, a student who has mastered all but three problems will receive an overall exam grade of 85%.

Participation

We will be experimenting this semester with “group roles”. Each individual in a group will have a clearly defined job to carry out as you work to understand the material and solve problems. S/he will keep that role for the entire day and receive a new role the next day so that everyone becomes proficient in all roles.

| Role | Actions | Examples |
|----------|---|--|
| Manager | <ul style="list-style-type: none"> • Be the first to engage with a problem • Keep your group on-track • Make sure everyone in your group participates | <ul style="list-style-type: none"> • “Here’s one way to approach this problem.” • “Let’s come back to this later if we have time.” • “Chris, what do you think about this idea?” |
| Recorder | <ul style="list-style-type: none"> • Act as a scribe for your group (including insightful remarks from the Skeptic) • Check for understanding of all members • Make sure all members of your group agree on plans and actions • Summarize (restate) your group’s discussion and conclusions | <ul style="list-style-type: none"> • “That’s an important objection. Let me copy it down.” • “Do we all understand this diagram?” • “Are we in agreement on this?” • “So here’s what we’ve decided.” |
| Skeptic | <ul style="list-style-type: none"> • Help your group avoid coming to agreement too quickly • Question the applicability of techniques • Make sure all possibilities are explored • Suggest alternative ideas | <ul style="list-style-type: none"> • “What other possibilities are there?” • “How do you know this approach is valid?” • “Let’s try to look at this another way.” • “I’m not sure we’re on the right track.” |

Extra Help

- Me: Come to my office hours or email/call me to schedule another time.
- Math Tutoring Center: Walk-in tutoring is provided by Nebraska Wesleyan mathematics majors every Monday through Thursday from 6 pm – 9 pm in the Cooper Center.

Accommodations

Nebraska Wesleyan University seeks to maintain a supportive academic environment for students with disabilities. To ensure their equal access to all educational programs, activities, and services, federal law requires that students with disabilities notify the university, provide documentation, and request reasonable accommodations. If you need accommodation in this course, please notify me so that I can verify that the required documentation is filed with the Academic Affairs Office and that your accommodation plan is in place. You should also meet with Prof. Sandy McBride, the Services for Students with Disabilities Coordinator (Old Main 126, 465-2346, smcbride@nebrwesleyan.edu).

Academic Integrity

Academic integrity is one of the basic principles of a university community. Nebraska Wesleyan University encourages and expects the highest standards of academic honesty from all students. The Student Code of Conduct states that “cheating, plagiarism, or other forms of academic dishonesty” are subject to disciplinary action. Refer to the Student Code of Conduct for additional information. Academically dishonest students may receive penalties up to and including receiving an F in the course.