

## NEIU MATH 251:

## Discrete Mathematics

Brooke Beardsley

Phone: 773-442-5765 (O)

Office: SCI 212H

[B-Beardsley@neiu.edu](mailto:B-Beardsley@neiu.edu)

<http://www.neiu.edu/~bhbeards>

Office Hours (Fall 2009):

- 8:30-9:00AM, MWF
- 10:30-11:AM, MWF
- 3:00-4:00PM, MW
- Also by appointment

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### Text:

Epp, Susanna S. Discrete Mathematics with Applications. Thomson Brooks/Cole, 2004, 3<sup>rd</sup> edition.

ISBN: 0-534-35945-0

### Course Goal:

The objective of this course is to develop our logical skills to prove / show mathematical concepts. Students will be required to demonstrate this skill through the writing of formal mathematical proofs. The secondary goal is to survey of some of the branches of mathematics.

### Grading:

90-100%	A
80-90%	B
70-80%	C
60-70%	D
0-60%	F

Tentatively, the final grade shall be determined by three midterm exams, a final exam, quizzes and draft assignments. Most, if not all of these examinations will require the student to demonstrate their proof writing capability. The grading distribution will be followed as shown below. All exams are closed notes, closed book, and closed technology.

Quizzes:	15%
Draft Assignments	15%
Midterms:	40%
Final:	30%

Class participation is beneficial to all, not only will it help a single student better understand concepts, it may also provide the rest of the class with some insight. The lack

of participation forces the instructor to assume that the students are fluent with the current topic and may prompt the instructor to provide the class with an exam to increase both the mid-term exam count as well as the number of exams which will be counted for a grade. To prevent this, it is strongly encouraged that students come to class prepared: homework completed and background text read.

**Homework:**

Homework will be an ungraded activity that will be reviewed when it is due. It is highly encouraged that this be turned in on time so that the instructor may provide feedback.

**Quizzes:**

There will be 5 quizzes through this course. Students will be notified 1 week in advance and will be distributed at the beginning of a class period on the selected quiz day. These may not be made up unless a prior arrangement has been made for a student missing a class period.

**Draft Assignments:**

There will be 3 draft assignments provided through out the course of the semester. Each Draft assignment will be a set of 2-3 revisions (draft(s) and a final). Only the final revision will be scored. For each revision that is late, a 5% penalty will be applied to the final draft score.

**Quality of work to be received:**

In-class work (quizzes and exams) will be given more leeway than out-of-class assignments (homework and multiple draft assignments).

- In-class graded work
  - Abbreviations are allowed.
  - Complete sentences with correct spelling and grammar are required but errors will be given more leeway than in out-of-class work, i.e., extremely minor errors will be marked but no points will be deducted, larger errors will result in a loss of points, and errors that make the mathematical answer itself unclear will lose a majority of (or all) potential points.
- Out-of-class graded work
  - Abbreviations are not allowed.
  - Complete sentences are required.
  - Incorrect spelling/grammar will lower your grade.
- Out-of-class ungraded work
  - Although homework is generally not handed in, students always have the option of either handing in work to be evaluated and returned or bringing it in (during office hours or other times by appointment) to be discussed in person. Students are strongly encouraged to do this throughout the term both with informal justifications and with formal proofs.

**Classroom Policy:**

Student conduct in the classroom shall meet college policy. Consequences of conduct not

acceptable shall be in keeping with the college policy. Please turn off cellular phones and pagers before entering the classroom.

**Calculators:**

A calculator is not required for this course. No calculators will be permitted for examinations or quizzes.

**Expectations:**

Prepared attendance is a must: have homework ready to turn in at the beginning of class, have questions that have from home prepared. (Students **are** expected to do a considerable amount of studying at home), and show up.

**Topics Covered:**

- Logic
- Proofs
- Elementary Number Theory
- Induction
- Set Theory, Boolean Algebra
- Counting and probability
- Functions and the Pigeonhole principle
- Relations