NSC 562
DISCRETE MATHEMATICS
FALL 2017

Credits: 4
Level: Introductory
Class time and room: MWF 9:30 – 10:20 Sci 217
Instructor: Kaethe Minden, `kminden@marlboro.edu`
Course webpage: `http://cs.marlboro.edu/courses/fall2017/disc_math/home`

Texts: These texts are available in the library on reserve. We may use other sources which will be posted on the website.
- Graham, Knuth, Patashnik. *Concrete Mathematics.*
- Daniel Velleman. *How to Prove it.*

Blurb: Discrete math is the study of mathematical objects on which there is no natural notion of continuity. Examples include the integers, networks, permutations and search trees. After an introduction to the tools needed to study the subject, the emphasis will be on you *doing* mathematics. Series of problems will lead gradually to proofs of major theorems in various areas of the discipline.

The class will start out being very problem oriented. We have some flexibility in topics we should cover. My suggestions are to begin by roughly following the Concrete Mathematics book with chapter 1, sections 2.1, 2.2, 3.4, 4.1-4.3, 4.6, 5.1-5.3, and potentially part of chapter 8. We should also cover an introduction to proofs and truth tables from Velleman's book, in chapter 1 and 3. I would also like to discuss graphs and trees, which I will post notes for on the website.

Come to class prepared to discuss material we have covered, and answer short writing prompts. There will be a midterm and a final project.

This is a four credit course. This means you should be expecting to spend about 12 hours each week, including class time, working on the material.

Grading: Homework (posted after each class on the website), the midterm, and the final project will each be 30% each of the overall average. I will drop the lowest homework before computing the average. Attendance and participation are 10% of the overall average.

What now: For Friday, look through the above suggestions for what topics to cover and let me know if there are any topics you wish to cover in particular. Please also read the preface to the Concrete Mathematics book.