Course Description

The 'discrete' in Discrete Mathematics refers to the gaps between the integers. Discrete mathematics studies phenomena and processes that have individual units or sequential steps. With the rise of digital computing, it has become an increasingly important branch of mathematics. This class is an introduction to a collection of topics in the subject, including algorithms, combinatorics (counting), recurrence relations, and graph theory. We'll also spend some time at the beginning of the term building a mathematical foundation by studying logic, proof, sets, relations, and functions.

Essential Information

Professor	David Maxwell
Office	Chapman 308C
Phone	474-1196
Email	`ffdam@uaf.edu`
Web	`http://www.math.uaf.edu/~maxwell`
Text	**Discrete Mathematics**, 5th Edition, *Richard Johnsonbaugh*, Prentice Hall

Prerequisite:

The course prerequisites is a grade of 'C' or better in M201.

Class Time

There will be three one-hour lecture classes each week. Although I'll be doing a lot of the talking during lectures, you are strongly encouraged to stop me at any point to ask questions. Lectures are more interesting and also more relevant when you get involved.

Lecture Times
MWF   11:45-12:45 Chapman 104

Office Hours

I have tentatively scheduled four office hours. These will be changed if they are inconvenient for my students. The finalized office hours will be posted on my web site. You are welcome to schedule an appointment outside the regular office hours; please send me an email.

Monday   2:10-3:10
Tuesday   3:10-4:10
Wednesday2:10-3:10
Friday   9:00-10:00

Math Lab

The Math Lab in Chapman 305 has tutors available at scheduled times throughout the week. This is a great place to get help with your homework or while studying. The hours for the Math Lab are posted on its door.

Homework

Mathematics is only learned by doing. This explains the strong emphasis in this class on homework. There is an assignment due every week at the start of Monday's class. The specific homework problems to be solved will appear on my web site at the latest one week before the homework is due. I will grade a representative sample of the homework problems, usually with an emphasis on the less routine problems.

Midterms

There will be two in-class midterm exams. Each midterm will only cover material seen since the previous midterm (i.e. they will not be cumulative).

Friday October 15
Friday November 12

Final Exam

There will be a final exam held on Wednesday, December 15 from 10:15am–12:15pm. The final will be comprehensive with an emphasis on material learned since the last midterm.

Evaluation

Course grades will be determined as follows:

Homework	30%
Midterm 1	15%
Midterm 2	15%
Final	40%

Letter grades will be assigned according to the following scale. This scale is a guarantee; I also reserve the right to lower the thresholds.

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

Tentative Schedule

Week	Topics and Events
8/30–9/2	Section 1.1
9/6–9/10	Sections 1.2, 1.3 Monday: Holiday
9/13–9/17	Sections 1.4, 1.6 Friday: Last day for withdrawal without a 'W'
9/20–9/24	Sections 2.1, 2.2, 2.4
9/27–10/1	Sections 2.5, 2.6, 2.8
10/4–10/8	3.1, 3.2 + Cardinality Friday: Midterm 1
10/11–10/15	Sections 3.3, 3.4, 3.5
10/18–10/22	Sections 3.6, 3.7 + Arithmetic algorithms
10/25–10/29	Sections 4.1, 4.2, Friday: Last day for withdrawal with a 'W'

Week	Topics and Events
11/1–11/5	Sections 4.6, 4.7
11/8–11/12	Sections 4.8, 4.3 Friday: Midterm 2
11/15–11/19	Sections 5.1, 5.2, 5.3
11/22–11/26	Divide & Conquer, Section 6.1 Thursday, Friday: Holiday
11/29 –12/3	Sections 6.2, 6.3, 6.4
12/6 –12/10	Sections 6.5, 6.6, 6.7
12/13 –12/18	Section 6.7 Wednesday: Final

Rules and Policies

Attendance Attend every class. Attend every recitation. Although attendance is not directly part of your grade, it is very easy in a math class to fall behind after skipping even one class.

Collaboration You are encouraged to work together in solving homework problems. But each student must write up their solutions independently. Cloning (copying another student's homework) is not permitted and is a form of Academic Dishonesty (see below). If you receive significant help solving a problem, it is customary to make a note in your homework to give the person who helped you credit.

Late Homework Late homework will never be accepted. Ever. To compensate for this policy, your two lowest homework scores will be dropped.

Exam Aids Exams will be written without any aids. No notes, books or calculators will be allowed.

Makeup Exams You can make up an exam if certain extenuating circumstances prevent you from taking it and if you inform me in advance. Contact me as soon as possible if you are going to miss an exam.

Disabilities Services I will work with the Office of Disabilities Services (203 Whitaker, 474-7043) to provide reasonable accommodation to students with disabilities.

Cell Phones Turn off your cell phone before you come to class.

Incomplete Grade Incomplete (I) will only be given in Computer Science, Mathematics or Statistics courses in cases where the student has completed the majority (normally all but the last three weeks) of a course with a grade of C or better, but for personal reasons beyond his/her control has been unable to complete the course during the regular term. Negligence or indifference are not acceptable reasons for the granting of an incomplete grade. (Note: this is essentially the old University policy.)

Late Withdrawals A withdrawal after the university deadline from a Department of Mathematical Sciences course will normally be granted only in cases where the student is performing satisfactorily (i.e., C or better) in a course, but has exceptional reasons, beyond his/her control, for being unable to complete the course. These exceptional reasons should be detailed in writing to the instructor, department head and dean.

Academic Dishonesty Academic dishonesty, including cheating and plagiarism, will not be tolerated. It is a violation of the Student Code of Conduct and will be punished according to UAF procedures.