

# Math 2770

## Discrete Math

- Instructor:** Dr. Michael R. Oliver  
**Office:** GAB 410  
**Office hours:** TR 2–3:30 PM (or by appointment)  
**Phone:** 565-3386  
**E-mail:** moliver@unt.edu  
**Course website:** <http://www.math.unt.edu/~moliver/summer04.html>
- Course meets:** MTWR 12 noon–1:50 PM, GAB 317
- Prerequisites:** MATH 1710 and CSCI 1110 (may be taken concurrently)
- Text:** Rosen, *Discrete Mathematics and its Applications*, 5<sup>th</sup> edition  
Expect to do all of Chapter 1, sections 2.1 and 2.2, 3.1–3.4, 6.1 and 6.2. That’s probably 2/3 of the class; remaining topics are to be determined and may be taken from any other section of the text or from outside it. Possibilities include cryptography, graph theory, Ramsey theory, random numbers, formal logic, zero-knowledge proofs.
- Supplementary Texts:** Graham, Knuth, Patashnik, *Concrete Mathematics*, 2<sup>nd</sup> edition  
Knuth, *The Art of Computer Programming*, vol. 2, *Seminumerical Algorithms*
- Exams:** There will be two midterm exams, tentatively Thursday, June 10 and Monday, June 21. The final exam will be Friday, July 2.
- Project:** You will be asked to complete a “project” or “mini-thesis” on a topic of your choice (within limits of appropriateness to the course and non-triviality). The project proposal will be due Monday, June 14, but it’s not a bad idea to get it in and approved earlier. The project itself will be due Thursday, June 24. Plan to spend around 5–10 hours on the proposal and another 10–15 on the project.
- You may do the project by yourself or with a partner; partnership proposals will be expected to be more ambitious than individual ones.
- Homework:** Homework will be collected perhaps once or twice a week and “lightly graded” (say on a scale of zero, minus, check, plus). Homework is not an explicit part of the final grade, but a student slightly below a cutoff point will have a better chance of getting a break if he/she has done well on homework. Late homeworks will not be accepted.
- Attendance:** Attendance is not an explicit part of the grade. However, on exams you will be responsible for the *union* of what is covered in class, in the text, and in the homework. Also good attendance may contribute to the decision to give you the higher grade if you’re just below a cutoff point.
- Grading:** Grades will be based 20% on each of the two midterm exams, 25% on the project, and 35% on the final exam. The grading scale will be A – 85% or better, B – 75%, C – 65%, D – 55%.
- I recognize that the grading of the project will depend on inherently highly subjective judgments, so to reduce the uncertainty I will also compute your average *without* the project and apply a five-point penalty (out of one hundred). If your grade thus computed is higher than your grade with the project, you will get the higher grade.
- Conversely, if you undertake an ambitious project and really impress me with how well you complete it, I will apply a bonus of up to five points to your overall average.

- Academic Honesty:** No cheating will be tolerated. Any student caught cheating will receive an “F” for the course and a letter will be sent to the appropriate dean. Doing homework with classmates is not cheating and is encouraged. See [http://www.unt.edu/planning/UNT\\_Policy/volume3/18.1-11.html](http://www.unt.edu/planning/UNT_Policy/volume3/18.1-11.html)
- Cell phones:** Cell phones are to be turned OFF during class
- Makeups:** Makeups on midterms will be allowed only for good and documented cause, and you must arrange with me in advance. I may ask you to take the exam early rather than late. No makeup on the final—if for good cause you are unable to take the final, you must arrange for an incomplete (see below).
- Incompletes:** The grade of “I” will be granted only for good and documented cause, and you must be doing passing work at the time of the request, which cannot be earlier than Thursday, June 24, 2004. You must arrange to complete the missing work within one academic year.
- Drops:** Last day to drop with refund: Thursday, Jun. 3  
Last day to drop with instructor consent: Wednesday, June 23. I will give consent to anyone who asks, and I will not give you a “WF”. You should be aware that instructors in other classes may give you a “WF” if you drop their classes after Jun. 10.
- You are responsible for finding me to sign the drop slip, and for turning it in by the deadline. If you can’t find me, staff in the Math Office (GAB 435) may sign the slip on my behalf. **My signature on the drop slip does not automatically drop you; you must deliver the signed slip to the appropriate office.**
- Calculators:** No calculators. You won’t need them.  
(You’re free to use them for work on your project.)
- Math Lab:** The UNT Math Lab is located in GAB 440.  
Summer I 2004: May 31–July 1, 2004  
Monday–Thursday: 7 am – 7 pm  
Friday & Saturday: 1pm – 5 pm  
(Closed Sundays and holidays)
- Website: <http://www.math.unt.edu/mathlab>
- Disability accommodations:** It is the responsibility of students with certified disabilities to provide the instructor with appropriate documentation from the Dean of Students office.
- Deadlines:** Students are responsible for meeting all university deadlines (registration, fee payment, prerequisite verification, drop deadlines, etc. See Schedule of Classes and Undergraduate Catalog for policies and dates.)
- Course description:** **2770. Discrete Mathematical Structures. 3 hours.** Introductory mathematical logic, mathematical induction, relations and functions, combinatorics, counting techniques, graphs and trees, and finite automata theory. Prerequisite(s): MATH 1710 and CSCI 1110 (may be taken concurrently).