



Math 500.001 Discrete Mathematics

COURSE SYLLABUS: Summer 2026

Instructor: Rebecca Dibbs, PhD

Office Location: 318 Binnion

Office Hours: 3-4 pm CST MTWR on ZOOM

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COURSE INFORMATION

Materials

Textbook(s) Required: A Discrete Transition to Advanced Mathematics, by Bettina and Thomas Richmond

MATH 500 – Discrete Mathematics

Hours: 3

Study of formal logic; sets; functions and relations; principle of mathematical induction; recurrence relations; and introductions to elementary number theory and graph theory; counting (basic combinatorics); asymptotic complexity of algorithms; and NP-completeness. This course is useful to those taking graduate classes in computer science. It is also helpful to secondary teachers by giving them a better understanding of the terms and ideas used in modern mathematics. This is an elective course, eligible for the non-thesis option of the MS degree in math only. The maximum credit hours can be earned towards the MS degree in math among MATH 500, 550, 560 is six. Prerequisites: A grade of C or better on MATH 2414.

COURSE REQUIREMENTS

Course Activities

Videos: This is an online class. You are expected to watch all of the posted videos before the day one the schedule that covers those topics.

Video Check: To ensure that you are prepared for the lab, there will be an open note quiz on D2L every day there is not a test. The quiz ends promptly after 20 minutes. Your lowest three grades will be dropped.

Labs: Every day, we will be working on labs. Labs will consist of a mix of problem sets and activities to help you master the material. Labs are due the Sunday after they are assigned in the course calendar. however, labs will be accepted until the day of the respective unit test. Your lowest two labs will be dropped

The key to success in this course is regularly working with other students in the class and asking questions when you have them!!! We will discuss lab problems in class, but there will often not be enough time to discuss all of them. Please come to office hours or visit the math tutoring lab if you have additional questions about the lab.

Exams: There will be three unit exams and a final in this course. See course calendar for dates.

Workload and Assistance: You should expect to spend a **minimum of TWO to THREE HOURS every day**, outside of class, on the course material. This includes watching the videos, labs, and studying for quizzes and exams. Some weeks (those in which an exam is scheduled, for instance) may require more of your time, other weeks may require less, but *on average*, budget 8 to 12 hours each week. **I can't stress enough that in order to be successful in this class you should spend much of this time working with other students in the class!** Please ask questions and seek assistance as needed. You may email me at any time, and I encourage you to make use of my office hours

GRADING

This class will be graded on a weighted percentage system. Percentages are assigned as follows:

Table 1. Grading breakdown

Assignment	Total Points Possible
Video Check (3 drops)	5%
Labs (2 drops)	30%
Test 1	15%
Test 2	15%
Test 3	15%
Final	20%

All grades will be rounded up to the nearest whole percent before grades are assigned. This means an 89.1 rounds to an 90 and is an A, while a 78.9 rounds to a 79 and is a C. As a graduate student, a B is considered the minimum passing grade for a course:

A: 87-100%

D: 57-66%

B: 77-86%

F: 0-56%

C: 67-76%

TECHNOLOGY REQUIREMENTS

Use of a graphing calculator having at least the capabilities of the TI-83 will be helpful throughout the course. TI-89 is highly recommended. A computer algebra system will be used for some problem exploration, enhanced conceptual understanding, and to engage students as active participants in the learning process.

COMMUNICATION AND SUPPORT

Interaction with Instructor Statement

My primary form of communication with the class will be through Email and Announcements. Any changes to the syllabus or other important information critical to the class will be disseminated to students in this way via your official University Email

address available to me through MyLeo and in Announcements. It will be your responsibility to check your University Email and Announcements regularly.

Students who Email me outside of regular office hours can expect a reply within 24 hours M-F. Students who Email me during holidays or over the weekend should expect a reply by the end of the next regularly scheduled business day.

myLeo Support

Your myLeo email address is required to send and receive all student correspondence. Please email helpdesk@tamuc.edu or call us at 903-468-6000 with any questions about setting up your myLeo email account. You may also access information at <https://leo.tamuc.edu>.

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures

Academic Honesty

Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including (but not limited to) receiving a failing grade on the assignment, the possibility of failure in the course and dismissal from the University. Since dishonesty harms the individual, all students, and the integrity of the University, policies on scholastic dishonesty will be strictly enforced. In **ALL** instances, incidents of academic dishonesty will be reported to the Department Head. Please be aware that academic dishonesty includes (but is not limited to) cheating, plagiarism, and collusion.

Cheating is defined as:

- Copying another's test or assignment
- Communication with another during an exam or assignment (i.e. written, oral or otherwise)
- Giving or seeking aid from another when not permitted by the instructor
- Possessing or using unauthorized materials during the test
- Buying, using, stealing, transporting, or soliciting a test, draft of a test, or answer key

Plagiarism is defined as:

- Using someone else's work in your assignment without appropriate acknowledgement
- Making slight variations in the language and then failing to give credit to the source

Collusion is defined as:

- Collaborating with another, without authorization, when preparing an assignment

If you have any questions regarding academic dishonesty, ask. Otherwise, I will assume that you have full knowledge of the academic dishonesty policy and agree to the conditions as set forth in this syllabus.

Texas A&M University-Commerce acknowledges that there are legitimate uses of Artificial Intelligence, ChatBots, or other software that has the capacity to generate text, or suggest replacements for text beyond individual words, as determined by the instructor of the course.

Any use of such software must be documented. Any undocumented use of such software constitutes an instance of academic dishonesty (plagiarism).

Individual instructors may disallow entirely the use of such software for individual assignments or for the entire course. Students should be aware of such requirements and follow their instructors' guidelines. If no instructions are provided the student should assume that the use of such software is disallowed.

In any case, students are fully responsible for the content of any assignment they submit, regardless of whether they used an AI, in any way. This specifically includes cases in which the AI plagiarized another text or misrepresented sources.

Late Policy: Late work/Make-ups will not be accepted without a documentable and valid excuse, because the lowest grade(s) in each category is dropped. Examples of documentable and valid excuses include:

- *car accident w/ police report
- *illness w/ doctor's note (you or your child)
- *athletic or other mandatory extra-curricular travel
- *field trip for another class
- *being detained upon entering the country by Homeland Security

University Specific Procedures

ADA Statement

Students with Disabilities

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services

Texas A&M University-Commerce

Gee Library- Room 132

Phone (903) 886-5150 or (903) 886-5835

COURSE OUTLINE / CALENDAR

Note: **BOLD** indicates an assignment that is due that day. I suggest that you turn in your lab the day after it is assigned, but labs will be accepted without penalty until the test window closes. The Test 1, Test 2, and Test 3 windows are the day the test is listed on the calendar and two days after that. The final exam window is as listed on the calendar.

Table 2. Course Calendar

Monday	Tuesday	Wednesday	Thursday
Syllabus/D2L intro 1.1 1.1 VC	1.2 & 1.3 1.2/1.3 VC	1.4 & 1.5 1.4/1.5 VC	1.6/2.1 1.6/2.1 VC
2.2 & 2.3 2.2/2.3 VC	TEST 1	3.1 & 3.2 3.2/3.2 VC	3.3 & 3.4 3.4/3.4 VC
4.1 & 4.2 4.1/4.2 VC	4.3/4.4 4.3/4.4 VC	4.5 4.5 VC	TEST 2
5.1 & 5.2 5.1/5.2 VC	6.1 & 6.2 6.1 & 6.2 VC	7.1 & 7.2 7.1 & 7.2 VC	TEST 3
Study for Final Exam	Study for Final Exam	FINAL EXAM	FINAL EXAM