



Math 362.001 Mathematical Modeling II

COURSE SYLLABUS: Spring 2018

Instructor: Rebecca Dibbs, PhD

Office Location: 303 Binnion

Office Hours: TWR: 11-12, TR 5-6 or by appointment

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COURSE INFORMATION

Materials

Textbook(s) Required: Calculus, 5th Edition, by Deborah Hughes Hallett. Material covered during the session will be Chapter 1-6 and part of 7.

Optional: How to Ace Calculus by Adams et al. Used copies can generally be found for under \$5 on Amazon.com.

Course Description: This course examines differential and integral calculus of functions of one variable, as follows. Topics include limits; continuity; derivatives; curve sketching; applications of the derivative; the definite integral; derivatives and integrals of trigonometric functions; and use of computer technology. Prerequisite Two years of high school algebra and trigonometry or Math 361.

Student Learning Outcomes

1. Students will demonstrate proficiency in the use of mathematics to structure their understanding of and investigate questions in the world around them.
2. Students will demonstrate proficiency in treating mathematical content at an appropriate level.
3. Students will demonstrate competence in the use of numerical, graphical, and algebraic representations.
4. Students will demonstrate the ability to interpret data, analyze graphical information, and communicate solutions in written and oral form.
5. Students will demonstrate proficiency in the use of mathematics to formulate and solve problems.
6. Students will demonstrate proficiency in using technology such as handheld calculators and computers to support their use of mathematics.

COURSE REQUIREMENTS

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 school-related travel
- *field trip for another class
- *being detained upon entering the country by Homeland Security

Course Activities

Labs: On Tuesdays we will work in small groups on activities that develop the central concepts in the course. Attendance and participation is especially crucial on these days. You will turn in individual write-ups of these labs activities. It is also important to ask questions of the other groups (who will generally work on related but slightly different problems than your own group) when they present as you will be responsible for all the problems on exams. Your lowest lab grade will be dropped.

Prelabs/Postlabs: The purpose of these assignments is to help me determine where the class is at and how much time we should spend on a particular topic. Prelabs are expected to be completed before class, and postlabs will be completed at the end of class on Tuesday. These assignments will be graded on completion.

Attendance: There may be topics covered in class that are not in the text. You are responsible for all material covered. I don't take attendance, but there is a strong correlation between attendance and final grades. Missing class more than once or twice during the semester is likely to affect your grade, either directly or indirectly. If you do miss class, you should get notes and/or handouts from your classmates and see me during office hours.

Homework: There will be problems assigned for each section. Homework will be due the class after the section is covered.

The key to success in this course is regularly working with other students in the class, doing the homework early and asking questions when you have them!!! We will discuss homework 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 homework.

Exams: We will have three in class exams. (See calendar for dates). Make-up exams are possible only if there is a *documented* emergency.

Workload and Assistance: You should expect to spend **8 to 12 hours each week**, outside of class, on the course material. This includes reading, homework, 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 total points system. 3400 points are possible in the class. Assignments are weighted in the following manner:

Assignment	Total Points Possible
Best 14 labs	280
Pre-labs, Post-labs	60
Best 25 Homework	500
Best 35 Prep sheets	175
Attendance & Professionalism	135
Tests	500 each, 1500 total
Final	750

All point totals will be rounded to the nearest whole points before grades are assigned. Point ranges for final grades will be as follows:

A: 2790-3400 points
B: 2720 - 2789 points
C: 2380 - 2719 points

D: 2040 - 2379 points
F: 0 - 2039 points

TECHNOLOGY REQUIREMENTS

Use of a graphing calculator having at least the capabilities of the TI-83 will be helpful throughout the course. 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.

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

Fax (903) 468-8148

StudentDisabilityServices@tamuc.edu

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. (See *Code of Student Conduct from Student Guide Handbook*).

COURSE OUTLINE / CALENDAR

WEEKLY SCHEDULE:

Week of...	Tuesday	Thursday
1/19	1.1 Lab 1 <i>Pre-lab 1 due</i> <i>Post-lab due</i>	1.2 1.3
1/26	1.4 Lab 2 <i>Pre-lab 2 due</i> <i>Lab 1 due</i> <i>Post-lab due</i>	1.5 1.6
2/2	1.7 Lab 3 <i>Pre-lab 3 due</i> <i>Lab 2 due</i> <i>Post-lab due</i>	1.8 2.1
2/9	2.2 Lab 4 <i>Pre-lab 4 due</i> <i>Lab 3 due</i> <i>Post-lab due</i>	2.3 2.4
2/16	2.5 Lab 5 <i>Pre-lab 5 due</i> <i>Lab 4 due</i> <i>Post-lab due</i>	2.6 3.2
2/23	3.2 Lab 6 <i>Prelab 6 due</i> <i>Lab 5 due</i> <i>Postlab due</i>	Test 1
3/1	3.3 Lab 7 <i>Prelab 7 due</i> <i>Lab 6 due</i> <i>Postlab due</i>	3.4 3.5
3/8	3.6 Lab 8 <i>Prelab 8 due</i> <i>Lab 7 due</i> <i>Postlab due</i>	3.7 3.9

Week of...	Tuesday	Thursday
3/15	SPRING	BREAK
3/22	4.1 Lab 9 <i>Prelab 9 due</i> <i>Lab 8 Due</i> <i>Postlab due</i> TEST 2 IN TESTING CENTER	4.2 4.4 TEST 2 IN TESTING CENTER THROUGH FRIDAY
3/29	4.6 Lab 10 <i>Prelab 10 due</i> <i>Lab 9 due</i> <i>Postlab due</i>	TEST 3
4/5	5.1 Lab 11 <i>Prelab 11 due</i> <i>Lab 10 due</i> <i>Postlab due</i>	5.2
4/12	5.3 Lab 12 <i>Prelab 12 due</i> <i>Lab 11 due</i> <i>Postlab due</i>	5.4 6.1 6.2
4/19	6.3 Lab 13 <i>Prelab 13 due</i> <i>Lab 12 due</i> <i>Postlab due</i>	6.4 6.5
4/26	7.1 Lab 14 <i>Prelab 14</i> <i>Lab 13 due</i> <i>Postlab due</i>	TEST 4
5/3	What is a limit? Lab 15 <i>Prelab 15</i> <i>Lab 14 due</i> <i>Postlab due</i>	4.8 Final Review <i>Lab 15 due</i>
FINALS WEEK	HW 15 due day of the final	