

MATH2260 - Calculus II for Science and Engineering

1. COURSE INFORMATION

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Office hours: MWF 10:00-12:00

Book: Hass/Weir/Thomas, *University Calculus, Third Edition, Early Transcendentals*

2. PREREQUISITES

The general prerequisite for the course is a solid understanding of differentiation and basic techniques of integration at the level of MATH2250. In particular, students should have solid algebra and trigonometry skills, and be able to compute integrals and derivatives of polynomials, trigonometric functions, exponential and logarithmic functions, and inverse trigonometric functions. Students should also be familiar with limits.

3. DISCLAIMER

The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary.

4. COURSE GOALS

The goal of the course is for the students to become fluent in using various techniques of integration to solve applied problems. The main content of the course is the theory of sequences and series leading up to Taylor's Theorem: that any function may be approximated by polynomials within known error bounds, and that these approximations may be used to estimate limits, derivatives, and integrals of the functions.

5. PRINCIPAL COURSE ASSIGNMENTS

This course has a substantial workload. Student responsibilities include:

- Attendance to all scheduled class meeting times.
- Weekly quizzes based on the previously covered material.
- Solving problems via the online *Web Work* interface
- Three written assignments.
- Three midterm examinations
- One final exam, three hours in length.

It has been shown that working as part of a study group has been beneficial to learning and retaining studied material. **Form a group early** and make use of all of the available resources, including office hours.

6. GRADING POLICY

Your overall grade is computed according to the following breakdown:

- (1) 10% for your quiz scores
- (2) 10% for your WebWork scores
- (3) 5% for each of the three assignments
- (4) 12% for each of the three tests
- (5) 29% for the final exam.

After grades are calculated for each student using these weights, the instructor will rank the students by average and determine thresholds for grades of A, B, C, D, and F. As a guideline, these will be around 90%, 80%, 70%, and 60%, respectively. Though improvement and other circumstances are taken into account in deciding thresholds for letter grades, students with a higher numerical average almost always receive higher letter grades than those with lower numerical averages.

7. REQUIRED COURSE MATERIAL

The companion textbook for this class is an excellent resource for practice problems and further studies. The material covered in this course is primarily contained in Chapters 6, 8, 9 and 11 of the course textbook. Some version of the book is required, so you're welcome to use the first or second edition, although all suggested problems will refer the third edition.

8. COURSE SCHEDULE

Below is an outline of the topics covered in the course and the corresponding sections in the textbook.

Topics	Sections	
Integration by Parts	8.1	
Trigonometric Integrals	8.2	
Trigonometric Substitutions.	8.3	
Partial Fractions	8.4	
Numerical Integration	8.6	
Improper Integrals	8.7	
First Test	Chapter 8	02/06/2018
Volumes by Slicing and Rotation	6.1	
Volumes by Cylindrical Shells	6.2	
Arclengths	6.3	
Areas of Surfaces and Revolutions	6.4	
Work	6.5	
Center of Mass and Moments	6.7	
Separable Differential Equations	7.2	
Sequences	9.1	
Series	9.2	
The Integral Test	9.3	
Comparison Tests	9.4	
Ratio and Root Tests	9.5	
Alternating Series	9.6	
Second Test	Chapters 6, 8 + 9.1 - 9.6	03/06/2018
Power Series	9.7	
Taylor and MacLaurin Series	9.8	
Convergence of Taylor Series	9.9	
Binomial Series and Applications	9.10	
Coordinate Systems	11.1	
Vectors	11.2	
The Dot Product	11.3	
The Cross Product	11.4	
Lines and Planes in Space	11.5	
Third Test	All Sections	04/17/2018
Course Review		
Final Exam	(all course material)	Date T.B.A.

9. ATTENDANCE POLICY

Students are expected to attend class regularly. Students who miss more than 6 classes may be withdrawn from the course by the instructor.

10. WEBWORK

For this class, we're using a web-based homework system called **WebWork**. The login link is

https://webwork.math.uga.edu/webwork2/Math2260_Iliev_S18/

Your username comes from your uga.edu email address. If your email address is `jones@uga.edu`, then your username is `jones`. Your password is your nine-digit 810 number, without spaces.

WebWork lets you try the homework questions as many times as you like until the assignment is due. The system will tell you whether or not you have the right answer. This lets you correct your work immediately. After the assignment's due date, the system will show you the correct answer for each problem when you try it (but your answers won't be scored). Since the system shows you the answers immediately after the due time, I can't give extensions on homework. You may complete assignments in advance if you wish.

You are welcome to work together on **WebWork** problems, but be warned: **the problems are a little different for each student**, so copying other students answers won't work. It is certainly possible to solve many of the homework problems using online tools such as Wolfram—Alpha. You should use these tools with care. If you are stuck on a problem, using the "Show steps" option on Alpha can give you good information about how to solve a problem. On the other hand, if you become dependent on tools like Alpha, you are likely to do very poorly on the exams.

When you first login to **WebWork**, you'll see three buttons on the left. Use the "Change Email" and the "Change Password" button to set your preferred identification. Then try "Begin Problem Sets" to see how the system works. You can select a set and print it out in PDF format to work out the problems on paper if you like. Your problems will be the same when you login again to enter the answers.

11. ACADEMIC HONESTY

In this class, we maintain a cooperative culture of honesty. This means that you are responsible for your own honesty, and for reporting the academic honesty violations of others. As a University of Georgia student, you have agreed to abide by the University's academic honesty policy, "A Culture of Honesty," and the Student Honor Code. All academic work must meet the standards described in "A Culture of Honesty" found at: www.uga.edu/honesty. Lack of knowledge of the academic honesty policy is not a reasonable explanation for a violation. Questions related to course assignments and the academic honesty policy should be directed to the instructor.

It is perfectly acceptable to work on homework problems in groups in this course. However, the help you should get from your fellow students should enable you to complete the problem on your own. Recruiting another student to complete the homework for you, or to simply provide answers to the problems, is a violation of the honesty policy.

12. MAKE-UP EXAMINATIONS

No makeup examinations will be given in the course. If you are absent from a scheduled exam, and your absence is excused (with supporting medical or legal documentation), the portion of the course grade assigned the missed exam will be divided equally between the other exams (including the final exam). Students with an excused absence from multiple exams will be withdrawn or given a grade of "T".