Math 2260 – Calculus II for Science and Engineering

Spring 2023

Instructor:	Akram Alishahi	**Time:**	TR 9:35 am - 10:50 am	Food Science 0202
Email:	akram.alishahi@uga.edu		W 12:40 pm - 1:30 pm	Boyd GSRC 0203
Office:	Boyd 501			
Office hours:	Tue: 12:40pm-1:40pm			
	Wed: 11:30am-12:30pm			

Course Page: eLearning Commons (https://uga.view.usg.edu)

Textbooks:
OpenStax Calculus Volumes 2, available for free here:
   https://openstax.org/details/books/calculus-volume-2
OpenStax Calculus Volumes 3, available for free here:
   https://openstax.org/details/books/calculus-volume-3

Course Description: This course will roughly consist of four units, though the material is cumulative and interrelated. We'll begin with some applications of the basic integration skills from Calculus 1. Then we'll learn more integration techniques and explore how differential equations model change in our world. About halfway through the course, we'll study sequences and series, which are the foundation for approximating complicated functions using nice ones we like. Finally, we'll get a glimpse of multivariable calculus by setting up our understanding of 3D space using vectors, lines, and planes.

Prerequisites: MATH 2250 or MATH 2300H

Assignments: You will be evaluated in the following areas:

1. **Midterm exams:** Our midterm exams will be traditional paper-and-pencil exams given during class time. **No makeup exams will be given**, and these exams may not be repeated. If you are absent from a scheduled midterm, and your absence is excused (generally, this requires a medical or legal explanation, with supporting documentation), the grade for the missing exam will be replaced with your final exam grade. If you know in advance that you cannot be in attendance for a particular midterm, discuss this with me ASAP.

   Tentative midterm dates:

   Midterm 1:............................ Feb 8

   Midterm 2:........................... Mar15

   Midterm 3:........................... Apr 12

2. **Final exam:** May 9 8am-11am* If you have three or more final exams scheduled during a 24-hour period, you are eligible to request a rescheduled exam; mass exams are to

be rescheduled first if possible. See the official university exam conflict policy for details: https://curriculumsystems.uga.edu/curriculum/finalExamConflicts/

Final exam will also be traditional paper-and-pencil exam. **You must take the final to pass.**

3. **Quizzes:** We will have twelve 15 min quizzes in class, roughly every Wednesday. The exact dates are marked on the tentative course schedule in this syllabus. The two lowest scores will be dropped. Make-up quizzes will not be given.

4. **WeBWork**: This course has a free online homework system called WeBWorK. Your username for WebWorK is your UGA myID, and your password is your nine digit 810 or 811 student number. To access WebWorK off campus, you will need a VPN; here is a link to information about using VPN with WebWorK: http://www.math.uga.edu/webwork/VPN

Grading:

Midterms	45% (Each exam counts for 15%)
Final	30% (you must take the final to pass)
Quizzes	10% (roughly once per week)
WeBWork	15% (weekly)

Getting Help: If you're having trouble, get help immediately. The first places to look for help are my office hours. Office hours are times that I set aside especially for students to come and discuss math. When you come to office hours, you can arrive at any time that is convenient for your schedule (not just at the beginning). Be sure to allow yourself enough remaining time to ask questions. Here are some things we can do during office hours:

- go over problems you are stuck on

- talk about questions from class work

- discuss strategies for studying, taking exams, etc.

- talk about how you are doing in the class

If you want to meet with me individually or speak privately during office hours (e.g. about your grades), email me at least 24 hours in advance.

There are also study hall/tutoring options available. See https://www.math.uga.edu/2250help for more information.

Tentative Course Outline:

Week	Book Sections (* means Vol. 3)	Topics	Comments
1	1.2, 1.3, 1.5	Intro and review of integration basics	Welcome to Calculus II
2	2.1–2.2	Area between curves and volume by slicing and washers	Q1 on Wed
3	2.2–2.4	Volumes by washers and shells, arc length, surface areas of revolution	Q2 on Wed
4	2.5, 4.3	Review on volume, Applications	Q3 on Wed
5	3.1	Review, Integration by parts	Midterm 1 on Wed
6	3.2, 3.3	Trig integrals and trig substitution	Q5 on Wed
7	3.4, 3.7	Partial fractions, improper integrals	Q6 on Wed
8	3.7	Improper integrals and review of integration methods	Q7 on Wed
9		Spring break	
10	5.1	Review, intro to sequences and series	Midterm 2 on Wed
11	5.1–5.4	Divergence and integral tests, comparison tests	Q8 on Wed
12	5.5, 5.6, 6.1	Alternating series, ratio and root tests, power series	Q9 on Wed
13	6.2–6.4	Convergence of power series, Taylor and Maclaurin series	Q10 on Wed
14	*2.5, *2.6	Review, Intro to multivariable equations and 3D space	Midterm 3 on Wed
15	*2.1–*2.2	Vectors in 2D and 3D, dot product and applications	Q11 on Wed
16	*2.1–*2.4	Cross product and applications, Final exam review	Q12 on Wed

Course Policy

- **Calculator Policy:** You may use a calculator for homeworks, but not on quizzes or exams.

- **Academic Honesty Policy:** 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: https://honesty.uga.edu/Academic-Honesty-Policy/. 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 me.

- **Specific Academic Honesty Guidelines for This Course:** You may not discuss a graded assignment with other students until that assignment has been graded and returned to you, unless you have been given explicit permission to do so. You are encouraged to discuss homework with others. The following are examples of academic dishonesty and are prohibited in this course:

    - getting an answer by finding a solution to a similar problem and changing the numbers to your own numbers without thinking through (and working through) the steps on your own
    - getting someone (or an app) to work a problem for you and submitting the work as your own
    - using unauthorized materials during a testing situation (e.g. midterms) including cheat sheets, the internet, another person's test paper, an unauthorized calculator, etc.
    - having a cell phone or smart watch accessible during a testing situation, even if you are not using it to find problem solutions This is not an exhaustive list; it is meant to give you an idea of prohibited activities.

- **Attendance Policy**: Not mandatory.

- **Mental health and wellness resources:** If you or someone you know needs assistance, you are encouraged to contact Student Care and Outreach in the Division of Student Affairs at 706-542-7774 or visit `https://sco.uga.edu`. They will help you navigate any difficult circumstances you may be facing by connecting you with the appropriate resources or services. UGA has several resources for a student seeking mental health services (`https://healthcenter.uga.edu/bewelluga/counseling/`). If you need help managing stress anxiety, relationships, etc., please visit BeWellUGA for a list of FREE workshops, classes, mentoring, and health coaching led by licensed clinicians and health educators in the University Health Center (`https://healthcenter.uga.edu/bewelluga/`). Additional resources can be accessed through the UGA App.

- **Accessibility Statement** If you anticipate issues related to the format or requirements of this course, please meet with me. I would like us to discuss ways to ensure your full participation in the course. If you determine that formal, disability-related accommodations are necessary, it is very important that you be registered with the Disability Resource Center located in Clark Howell Hall (Voice: 706-542-8719 or TTY: 706-542-8778 or Web: `https://drc.uga.edu`) and notify me of your eligibility for reasonable accommodations. We can then plan how best to coordinate your accommodations.

- **FERPA Notice** The Federal Family Educational Rights and Privacy Act (FERPA) grants students certain information privacy rights. See the registrar's explanation at `https://apps.reg.uga.edu/FERPA/`

- **Disclaimer**: The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary. It is the responsibility of the student to seek clarification of the grading policy and/or course requirements and procedures from the instructor.