Sample Syllabus and Analysis

AJ Bu

1 Analysis of the Syllabus

A syllabus should provide any important information about the course and serve as a type of contract between students and the instructor. I believe the instructor is responsible for making their expectations clear early on, so students always know what is required of them and do not unfairly face adverse consequences due to confusion regarding these expectations. As such, the course syllabus should clearly communicate the expectations the instructor has of the students as well as what the students can expect of the instructor and the course.

My syllabus begins with some general, crucial information about the course. This format enables students to quickly access the most important information, such as my email address, the time and location of my office hours, the meeting time and location of the class, the date of the final exam, and the textbook. It also includes the prerequisites so that students can make sure they have the appropriate background for the course.

The syllabus then establishes what the students can expect in the course as well as what I expect of my students. The first few sections of this portion include a description of the course and the learning goals. In these sections, I tell the students the material and textbook chapters that will be covered, so that they have a general sense of what to expect to learn in the course. I also emphasize that the course will take a lot of work, setting the expectation for the intensity of the course, and encourage them to come to me for help.

The syllabus proceeds to describe policies regarding attendance and participation as well as overall classroom setting. I discuss my expectations for them to attend and participate in class, avoid using their cell phones for non-class related reasons, and interact with each other respectfully. I believe that these expectations are important to state in the syllabus, as it is difficult to make these changes after the course already started. I also state that workshops and quizzes cannot be made up, so that students are not surprised by this policy when they miss class. I again emphasize that course is fast paced and it is easy to fall behind. I discuss how participation is crucial to their learning and encourage them to participate without worrying about making mistakes.

The next portion of the syllabus covers the components of their grades. It starts by stating how the course grade is calculated and then explains the expectations for each component. These sections inform students of the frequency of homework, quizzes, workshops, and exams. Here, I tell students when homework is due and the exam dates, and I commit to announcing quizzes at least one day in advance. Moreover, I explicitly state that notes and calculators are not permitted on quizzes nor exams, so that they can study accordingly. I also describe workshops so that students who have not previously done workshops at Rutgers know what to expect. Lastly, I clearly define the make-up policy for each component of their course grade.

Toward the end of the syllabus, I provide a list of resources for students. I include a link to the academic integrity policy, so that students can make sure that they abide by the policy. I also direct students who would like to request accommodations to the Office of

Disability Services, and I remind them to bring their Letter of Accommodations to me as soon as possible. Doing so helps students that may be too shy to approach me directly with questions regarding accommodations and avoids drawing potentially unwanted attention to students with disabilities. Finally, I list some student wellness services that provide support for students who are struggling with mental health or are victims of violence, stalking, or harassment. It is important for students to know that these resources are available should they need them.

The last page of the syllabus includes a tentative class schedule. The class schedule informs students who need to miss class what is covered during lecture that day, allowing them to stay on top of the material. Moreover, it allows students that want to look ahead to preview the material before class. It also helps students prepare for exams by letting them know when the exams will be as well as what will be covered on each exam.

2 Sample Syllabus

Math152: Calculus II for the Mathematical and Physical Sciences
Section F4 — Summer 2023
Rutgers University

Instructor Information

Name: AJ Bu
Office: Hill 732
Email: ab1854@math.rutgers.edu   (Please use your Rutgers email to contact me)
Office Hours: MW 3:00-4:00, T 11:50-12:50, or by appointment

Class Information

Dates: June 26, 2023 – August 16, 2023
        (No class on Tuesday, July 4)
Time: Monday – Thursday: 1:00 PM – 2:55 PM
Classroom: SEC 203 (Busch)
Final Exam: August 16, 2023 (Time will be announced later)

Disclaimer

This syllabus is subject to change according to the needs of the class, as deemed appropriate by the instructor. Any changes will be announced on Canvas and changed on this document.

Prerequisites

Math 135, Math 151, or equivalent. Math 151 is the recommended prerequisite, but this class can be taken after Math 135. There are a few sections of material that are covered in Math 151 but not in Math 135, so you will need to do some self-study to make up the gap if you are coming from Math 135. For the topics covered in Math 151, see here:
    https://math.rutgers.edu/academics/undergraduate/courses/941-01-640-151.

Textbook

The required textbook is Thomas' Calculus: Early Transcendentals (14th edition), by Hass, et al. with MyMathLab access code. You may use either the hardcover edition (ISBN 978-0134768762) or the eBook (ISBN 978-0134764528); they contain exactly the same material. Both are available through the Rutgers bookstore.

Course Description

Math 152 (Calculus II for Math and Physical Sciences) is a continuation of Math 151, and is part of the three-semester calculus sequence for the mathematical and physical sciences at Rutgers University, New Brunswick. Math 152 covers the integral calculus and its applications, the theory of infinite series and power series, parametric curves, polar coordinates, and complex numbers.

This class is very challenging and should be taken seriously, even if you took a Calculus class in high school and did well in Calculus 1 previously. Everyone can learn the material in this class and succeed in this class, but it will likely take a lot of work and effort, depending on how much you remember and learned from your previous math classes. If you feel like you are missing something or are struggling, do not hesitate to come to me for help.

Learning Goals

Math 152 covers Chapters 5, 6, 8, 10, and 11 of the textbook, and a packet of materials on complex numbers that will be distributed near the end of the course. The course sets the following learning goals for each student:

- To use integrals to find volumes, arc lengths, and surfaces of revolution.

- To find antiderivatives using techniques including u-substitution, integration by parts, and trigonometric substitution.

- To determine whether an infinite series converges, and to find and user Taylor series and Taylor polynomials.

- To use derivatives and integrals with parametric equations, and with equations defined in polar coordinates.

- To use polar and exponential forms of a complex number.

    A more detailed version of the learning goals can be found on the Canvas page.

SAS Core Curriculum Learning Goals

This course fulfills both the Quantitative Information (QQ) and Mathematical or Formal Reasoning (QR) learning goals of the SAS Core Curriculum:

QQ: Formulate, evaluate, and communicate conclusions and inferences from quantitative information.

QR: Apply effective and efficient mathematical or other formal processes to reason and to solve problems.

Attendance and Participation

You are expected to attend all class meetings. Quizzes and workshops will take place during class, which cannot be made up outside of class. Beyond graded assignments, summer classes move very fast; missing even one class will put you pretty far behind, and it is difficult to catch up.

    Moreover, I strongly believe that the only way to learn math is by doing it, so you will be doing a fair amount of practice problems in class. Participation in this course is essential for your success in understanding the material.

Classroom Setting

Using your cell phone or other device for any other purposes not directly related to your in-class work is not acceptable. Doing so is very distracting to you and to others, and it is inappropriate.

It is also expected that you will participate in class discussions and activities. Not only will they make the class more engaging and interesting, but you will learn more from what is being discussed if you are actively involved in the class. Being wrong and making mistakes in class is not only fine, but encouraged; it's the best way for you to learn. Therefore, we have the following norms for both classroom discussion and group work:

1. Everyone's opinion is important and valuable towards learning. There are often different ways to solve a problem, and learning someone else's approach can help you understand the problem better.

2. Listen for understanding.

3. Criticize ideas, not individuals. We are all here to learn calculus and grow as individuals, and everyone makes mistakes. Discussions will focus on the mistake was made and not the person who made them, because it is a learning experience for everyone.

Grade Breakdown

The course grade is determined by the following components:

Midterms	200 pts total
Mylab	40 pts total
Quizzes	60 pts total
Workshops	50 pts total
Final Exam	200 pts
Total	550 pts

Homework

The homework will be assigned on Mylab and is the same across all Math152 courses this term. There will be no extensions on these assignments. Because of this, the homework for each section will be due the Sunday immediately after the material is covered in class. This is to accommodate your schedules; I would not recommend waiting until then do your homework. Doing the work closer to the date it is assigned will help you stay on top of the material and help you prepare the quizzes and workshops that week.
To access MyLab, please go through the course canvas site.

Quizzes

There will be 1-2 quizzes each week, covering recent course content. Calculators, formula sheets, or references of any kind are not allowed during quizzes. They will take place during class and will be announced in class at least one day in advance. There will be no makeup quizzes.

Workshops

Workshops contain problems that are designed to improve your understanding of the material as well as your ability to communicate about mathematical ideas. You will work in groups during class, and each group will submit their solutions together at the end of the class period. The emphasis will be on problem-solving strategies, multi-step problems, and showing your work. Workshops will be given once or twice a week.

Exams

There will be two 80-minute midterm exams, which will take place on July 13 and July 31. The final exam will be 3-hours on August 16 (time and location to be announced). Notes and calculators are *not* permitted during the exams.

Make-Up Policy

There are no make-up quizzes, MyLab assignments, or workshops. If for any reason a student will not be able to take an exam, or finds themselves in a situation, medical or otherwise, in which they will not be able to perform at their usual proficiency, they should notify the instructor right away and explain the situation. The instructor must be notified as soon as possible, and in any event before the exam. In the event of an extended absence, students should consult with the Dean of Students office to help verify their absence. Due to the accelerated pace of summer courses, it is extremely difficult to catch up after falling behind. For an absence to be excused, it must be approved by me; do not assume it will be granted. If you must miss an exam due to an unavoidable emergency, your final will be weighted more instead.

Academic Integrity

All students in the course are expected to be familiar with and abide by the academic integrity policy (https://academicintegrity.rutgers.edu/sites/default/files/pdfs/current.pdf). Violations of the policy are taken very seriously.

Accessibility Accommodations

Full disability policies and procedures are indicated at http://ods.rutgers.edu/. Students with disabilities requesting accommodations must present a Letter of Accommodations to the instructor as early in the term as possible (see https://ods.rutgers.edu/my-accommodations/letter-of-accommodations).

Student Wellness Services

Just In Case Web App

http://codu.co/cee05e
Access helpful mental health information and resources for yourself or a friend in a mental health crisis on your smartphone or tablet and easily contact CAPS or RUPD.

Counseling, ADAP Psychiatric Services (CAPS)

(848) 932-7884 / 17 Senior Street, New Brunswick, NJ 08901/ www.rhscaps.rutgers.edu

CAPS is a University mental health support service that includes counseling, alcohol and other drug assistance, and psychiatric services staffed by a team of professional within Rutgers Health services to support students' efforts to succeed at Rutgers University. CAPS offers a variety of services that include: individual therapy, group therapy and workshops, crisis intervention, referral to specialists in the community and consultation and collaboration with campus partners.

Violence Prevention Victim Assistance (VPVA)

(848) 932-1181 / 3 Bartlett Street, New Brunswick, NJ 08901 / www.vpva.rutgers.edu

The Office for Violence Prevention and Victim Assistance provides confidential crisis intervention, counseling, and advocacy for victims of sexual and relationship violence and stalking to students, staff and faculty. To reach staff during office hours when the university is open or to reach an advocate after hours, call 848-932-1181.

Disability Services

(848) 445-6800 / Lucy Stone Hall, Suite A145, Livingston Campus, 54 Joyce Kilmer Avenue, Piscataway, NJ 08854/ https://ods.rutgers.edu

Rutgers University welcomes students with disabilities into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student with a disability must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation:
https://ods.rutgers.edu/students/documentation-guidelines
If the documentation supports your request for reasonable accommodations, your campus's disability services office will provide you with a Letter of Accommodations. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. To begin this process, please complete the Registration form on the ODS web site at:
https://ods.rutgers.edu/students/getting-registered

Tentative Schedule

The following is a *tentative* schedule for the course and is subject to change.

Date	Sections	Topics
6/26	5.1, 5.2, 5.3	Area, finite sums, and average values
6/27	5.5, 5.6	Review of u-substitution and area between curves
6/28	6.1	Volume by cross-sections (including disk/washer method)
6/29	6.2	Volume by shells; other applications
7/3	6.3 and 6.4	Arc Length and Surface Area
7/4		NO CLASS
7/5	8.2	Integration By Parts
7/6	8.3	Trigonometric Integrals
7/10	8.4	Trigonometric Substitution
7/11	8.8	Improper Integrals
7/12	10.1	Sequences
7/13	5.5, 5.6, 6.1-6.4, 8.2-8.4, 8.8	**MIDTERM 1**
7/17	10.2	Infinite Series
7/18	10.3	The Integral Test
7/19	10.4	Comparison Tests
7/20	10.5	Absolute Convergence: The Ratio and Root Tests
7/24	10.6	Alternating Series and Conditional Convergence
7/25	10.7	Power Series
7/26	10.8	Taylor and Maclaurin Series
7/27	10.9	Convergence of Taylor Series
7/31	10.1-10.8	**MIDTERM 2**
8/1	10.10	Applications of Taylor Series
8/2	11.1 and 11.2	Parametrization of Plane Curves & Calculus with Parametric Curves
8/3	11.2	Calculus with Parametric Curves
8/7	11.3	Polar Coordinates
8/8	11.4	Graphing with Polar Coordinates
8/9	11.5	Areas and Lengths in Polar Coordinates
8/10	Packet	Complex Numbers
8/14	Packet	Complex Numbers
8/15		Catch up and Review
8/16	Everything	**3-Hour FINAL EXAM (Time and location TBD)**