Last updated: Wed, Jan 27, 4:30pm.[1]

Instructor:	Prof. Sarah Frei	**Time:**	MWF 11:00-11:55AM
Office:	426 Herman Brown	**Classroom:**	Zoom (if in person: ABL 131)
Email:	`sarah.frei@rice.edu`	**Office Hours:**	Tues 2-3pm, Fri 10-11am

Class Webpage: Look for `Math 101 S02 Sp21` on Canvas

TAs: TBD

Class Meetings: Per university requirements, we will begin the course meeting online. You will find the Zoom link for class on Canvas. The class will run synchronously, and every class meeting will be recorded and posted to Canvas for students unable to attend in real-time. We will begin meeting in person once students have returned to campus, *if it seems safe to do so.*

Textbook: *Calculus, Volume 1*, OpenStax. This book can be *freely and legally* downloaded at `openstax.org`. You can also purchase a hardcopy from the same site; the book is sold at cost. We will cover, approximately, Chapters 2-5 and part of 6.

Learning Outcomes: A successful student in this course should be able to:

- model and solve a wide class of optimization problems that are accessible to differential calculus
- model and solve a wide class of problems that can be answered by calculating an appropriate integral

Much of the other material covered in this course is necessary to meet these two objectives.

Weekly homework problems, quiz questions, and problems on the midterms and final exam will provide students with opportunities to demonstrate the level of their abilities relative to the above learning outcomes.

More generally, mathematics courses should be viewed as an opportunity to develop and strengthen your problem-solving skills; you will be given numerous opportunities to grapple with complex problems and strategize solutions. These are skills you will certainly need to employ throughout as well as after your time at Rice.

Ardila's Axioms: I believe in the axioms laid out by SFSU Professor Federico Ardila[2], and I will use them to guide my instruction of this course.

1. Mathematical potential is distributed equally among different groups, irrespective of geographic, demographic, and economic boundaries.
2. Everyone can have joyful, meaningful, and empowering mathematical experiences.
3. Mathematics is a powerful, malleable tool that can be shaped and used differently by various communities to serve their needs.
4. Every student deserves to be treated with dignity and respect.

[1] Please note that this syllabus is subject to change at any time! Especially if/when students return to campus.
[2] https://www.ams.org/publications/journals/notices/201610/rnoti-p1164.pdf

Online Platforms: This course will combine **four** online platforms:

Canvas, Zoom, webWork, and GradeScope.

You should spend time acquainting yourself with each of them. I explain below how we will use each platform in this course.

Canvas Discussion Boards: A successful on-line course requires a community. The material in this course can be abstract at times, as well as confusing. These are natural feelings, but they can be seriously amplified by isolation. In order to help each other out, this term we will be using the Canvas Discussion Boards for class discussion. Participation is expected; it will be very difficult to earn points towards the participation grade for the course if you don't (see below). This will be a place for you to discuss course logistics, course concepts, and homework assignments.

Homework: You will have two types of homework.

1. **WeBWorK:** WeBWorK is an online homework system. You may log in using the link on the main menu of Canvas labeled "WeBWorK" or by directly accessing the website at https://webwork.math.rice.edu/webwork2/Math101Spring21Frei/. You will need to sign in with Username: Net ID and Password: Rice student ID number (including the S). Login right away and let me know if you have trouble accessing webWork. Homework will be due **every Monday and Friday at 11:59PM**, starting on Friday, Jan 29th.

   All homework problems on WeBWorK are to be completed online, and are quite similar to textbook exercises. It is **strongly recommended** that you keep a notebook where you write down complete solutions to the assigned exercises; you can use this notebook to study for exams. If your work is not detailed enough to be useful when studying, it is unlikely to earn much credit if it were being graded.

2. **Written Assignments:** Every week I will assign 5-7 problems whose solutions you can either type up using LaTeXor write up by hand, and then scan and upload to **GradeScope**. You will receive an email invitation to register. Written assignments will be due by **11:59pm on Wednesdays**. The first assignment will be due on Feb 3rd. To scan your solutions to problems, I recommend the App **Genius Scan**, though you are welcome to use whatever works for you!

   The problems in the written assignments will be of a nature that cannot be covered by online systems. They will typically be graded and returned to you a week after you hand them in.

Your two lowest WeBWorK scores and your lowest written-assignment will be dropped.

A note about accommodations: We are all living in a time of unprecedented circumstances, and I recognize that this means you may experience hardships out of the ordinary throughout this semester. Please do not hesitate to ask for reasonable accommodations (e.g. homework extensions) should you find yourself in such a situation. I reserve the right to not grant accommodation requests, but it doesn't hurt to ask!

Quizzes and Exams: There will be approximately one quiz every other week (excluding exam weeks), during class on Fridays. They will be administered on Canvas. Each quiz will cover the material discussed in lectures since the previous quiz. I will drop the lowest-scoring quiz.

There will be **two midterm exams** during the semester, administered online. You will have a 2.5-hour window to download, take and upload solutions to the exam. You will have a choice of two times to take the exam, to take into account the different time zones that people are physically in. You will be asked to chose a time for each midterm in the next few weeks, and the exam will only be released to you at your chosen time.

The first midterm will be on **Thursday, March 4th (week 6), 7:30–9:30PM**, with an alternate test taking place **Friday, March 5th, 6:00–8:00AM**.

The second midterm will be on **Tuesday, April 13th (week 12), 7:30–9:30PM**, with an alternate test taking place **Wednesday, April 14th, 6:00–8:00AM**.

> **Final exam:** The date for the final exam is not available at this time. It is the policy of the Mathematics Department that no final may be given early to accommodate student travel plans. If you make travel plans that later turn out to conflict with the scheduled exam, then it is your responsibility to either reschedule your travel plans or take a zero in the final.

Exams are pledged. Books, notes, online resources and calculators will **not** be allowed on exams. Make-up exams will be allowed only in the case of a documented medical emergency. If an exam conflicts with a holiday you observe, please let me know before the end of the second week of classes.

Participation: This course is starting out fully online, and it is unclear if or when we will be able to meet in person. As such, engagement is crucial in an online course. We need to create a community to help sustain each other through the semester. In order to help us get started, 4% of your grade will be devoted to participation. Earning this portion of your grade is very simple: we will have a system of **participation points**. Each participation point is worth 0.1% of your grade. So, for example, if you accrue 28 participation points, you will receive 2.8% towards your 4% participation grade. After earning your first 40 participation points you will have accrued 4% of your course grade.

Here are activities that earn you participation points:

- You post a short introduction of yourself on the Canvas Discussion board in the first week of class (I have posted my own introduction). (1 point)
- You post or answer a math question on a Canvas Discussion board (1 point). A contribution to the discussion of a math question counts. Posts with no content, e.g., "Your question is very interesting!" will not receive a participation point.
- You ask a question in virtual office hours (1 point).

Some comments/requests on discussion boards can be helpful, even if they don't earn a point, e.g., "I don't understand what you mean by BLAH in your question. Can you rephrase/expand on it?"

You can also earn **negative points** by disrespecting fellow class members, belittling them, or otherwise publically bullying them. A comment of the form "Wow, that's a stupid question" will earn you -5 points and a warning. There will be no second warning: you will no longer be able to earn participation points through the discussion boards. It will be hard to earn participation points thereafter, but you will only have yourself to blame.

I will endeavor to keep your participation tally updated on Canvas, roughly every week. If over time you believe your total is off, let me know by email. I expect everyone can earn this grade.

Grading: Course grades are weighted according to the following:

Hand-in Homework	9%
webWork Homework	9%
Quizzes	6%
Participation	4%
Midterm and Final Exams	22%/22%/28%, 22%/17%/33%, or 17%/22%/33%, whichever benefits you the most

Honor Code: Homework (both webWork and written assignments) is not pledged. You can collaborate with other students in the class. In fact, **you are very much encouraged to collaborate**; see the section on Canvas Discussions above. However, **you are not allowed to look up solutions in any written form**; in particular, you are not allowed to look up solutions online. Doing so will be considered an honor code violation.

On written assignments you should write up your solutions individually. Make sure you understand the solution to a problem before typing in your answer on webWork.

All exams are pledged. You will be provided with certain formulas in the exam that could prove useful, so you don't have to memorize them (details to come). You are not allowed to use calculators, notes, or resources to seek or look up solutions to exam problems, including but not limited to: electronic devices, Chegg, course hero, photo math, wolfram alpha, MathWay, etc, etc, etc. Using any such device or app will be considered a serious honor code violation and will be summarily and mercilessly reported to the Honor Council. Please don't force my hand on this.

Attendance: Attendance is not required. However, if you are able to make it to class synchronously, I strongly encourage you to attend. In any case, you are responsible for all the material and announcements covered in class. While Canvas is a valuable resource, not all announcements will be posted there. You are responsible for reading any emails/announcements I send to the class through Canvas.

Statement of Conduct: The Department of Mathematics supports an inclusive learning environment where diversity and individual differences are understood, respected, and recognized as a source of strength. Racism, discrimination, harassment, and bullying will not be tolerated. We expect all participants in mathematics courses (students and faculty alike) to treat each other with courtesy and respect, and to adhere to the mathematics department standards of collegiality, respect, and sensitivity:

`mathweb.rice.edu/department-statement-collegiality-respect-and-sensitivity`

as well as the Rice Student Code of Conduct. If you think you have experienced or witnessed unprofessional or antagonistic behavior, then the matter should be brought to the attention of the instructor and/or department chair. The Ombudsperson is also available as an intermediate, informal option, and contacting them will not necessarily trigger a formal inquiry. See the above website for details on how to contact the Ombudsperson.

Title IX Statement: Rice University cares about your wellbeing and safety. Rice encourages any student who has experienced an incident of harassment, pregnancy discrimination or gender discrimination or relationship, sexual, or other forms interpersonal violence to seek support through The SAFE Office. Students should be aware when seeking support on campus that most employees, including myself, as the instructor, are required by Title IX to disclose all incidents of non-consensual interpersonal behaviors to Title IX professionals on campus who can act to support that student and meet their needs. For

more information, please visit `safe.rice.edu` or email `titleixsupport@rice.edu`.

Disability Support: If you have a documented disability that may affect academic performance, you should: (1) make sure this documentation is on file with Disability Resource Center (Allen Center, Room 111 / adarice@rice.edu / x5841) to determine the accommodations you need; and (2) get in touch with me to during the first two weeks of class to discuss your accommodation needs. All such discussions will remain as confidential as possible.

Tentative Weekly Schedule: The following schedule of sections to be covered is approximate, and subject to change. Attend class regularly to stay up-to-date with what sections will be covered on homework and quizzes/exams each week. Note that this schedule does **not** include the homework assignments.

Week	Assessment	Sections	Notes
1		Review, 2.1–2.3	
2	Quiz 1	2.4, 3.1	
3		3.2, 3.3 (parts), 3.4	
4	Quiz 2	3.5 (parts), 3.3 (finish)	No class Wed 2/17 (Sprinkle Day)
5		3.5 (finish), 3.6, 3.8	
6	**Midterm 1**	Review, 3.7	No class Mon 3/01 (Sprinkle Day)
7		3.9, 4.1	
8	Quiz 3	4.2–4.4, 4.9	
9		4.5, 4.6	No class Fri 3/26 (Sprinkle Day)
10	Quiz 4	4.6, 4.8, 4.7	
11		5.1, 5.2, 5.3	
12	**Midterm 2**	5.3, 4.10, Review	
13		5.5, 5.4, 6.1	
14	Quiz 5	6.2, 6.3	
15/16	**Final Exam**		Finals, no classes