Math 316: Fundamentals of Analysis
CRN: XXXXX term

Instructor: David C Steinberg
Office Hours: M 3 – 5; Th 2 – 3
Pronouns: He/him/his
Office: 3 Deady Hall
Email: dcstein@uoregon.edu (Please include “Math 316” in the subject line)

Class: room number, days

Course Assistant:
Name
office hours: room number, days

Anonymous Feedback: All students are encouraged to give me anonymous feedback about my teaching throughout the term. Go to https://curiouscat.me/DavidSteinberg, and leave me a message containing any constructive feedback you would like to give.

Required Text: Abbott’s “Understanding Analysis” 1st edition. (Free link on Canvas)

Prerequisites: MATH 253 or equivalent; one from MATH 232, MATH 262, MATH 307.

Canvas: You can use our Canvas website to see syllabus, homework assignments, your grades and more. To access our class canvas site go to:
http://canvas.uoregon.edu/
Please do not message me on Canvas.

Disabilities: The University of Oregon is working to create inclusive learning environments. Please notify me as soon as possible if there are aspects of the instruction or design of this course that result in disability-related barriers to our participation. You may also wish to contact Disability Services in 164 Oregon Hall at 346-1155 or disabsrv@uoregon.edu

Cheating: I have zero tolerance for academic misconduct. Anyone caught cheating will be subject to the most severe penalty that is in my power to administer. The student code of conduct is available here https://dos.uoregon.edu/conduct. Pleas of ignorance, forgetfulness, or accident shall not be received.

Grading: A: 90% or more, B: 80%–89%, C: 70%–79%, D: 60%–69%, F: below 60%. Plus grades will be awarded when the last digit is 8 or higher. Minus grades will be given if the last digit is either a 0 or 1. Your final percentage will be rounded to the nearest whole number. You must get at least 70% to receive a pass (P) grade if you are taking this course with the Pass/No Pass option.

Attendance: A significant portion of your grade will come from attending and participating in class. You should plan to attend every single class.
Course learning outcomes: Students must be able to demonstrate an understanding of the nature of mathematical proof by proving various assertions. The successful student should be able to:

- determine the cardinality of infinite sets
- calculate the limit of a sequence
- prove that a sequence converges to a computed limit
- determine the convergence of infinite sequences
- prove results about the topology of the real line.

Weekly assignments, as well as problems on the midterm and final exam, will provide students with opportunities to demonstrate the level of their abilities relative to the above learning outcomes.

Class: We will meet Monday, Wednesday, and Friday each week. With the exception of quizzes and review days, our class time will either be spent in discussion of a reading assignment, or spent in group work. You will be given attendance credit for every day you attend and make a reasonable effort. Points may be docked for lateness, inattention, or unwillingness to participate.

Reading: A crucial part of this class will be the reading assignments. One or twice per week, students will be expected to read five-to-ten pages from Abbott. It may not sound like much, but reading math is much, much slower than reading fiction. A short assignment will be submitted via email by 12:01am every reading day; its goal is to help you reflect and understand what you have just read. Reading assignments will be posted on Canvas a few days before they are due. These will be graded for completeness but not correctness. We will discuss these assignments in class during the reading day. The reading schedule is below.

Work: There will be two kinds of weekly work to submit: a reading assignment and a written assignment. The reading assignment is due on reading days, as described above. The written assignments will be posted on Canvas every Friday after class, and will include problems from the group work that you are meant to carefully solved and submitted. It may also include problems that were not from the group work. Written assignments are due in class every Wednesday.

Tentative Abbott reading (R) and group work (W) Schedule:

<table>
<thead>
<tr>
<th>Week</th>
<th>Monday</th>
<th>Wednesday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>W 1.1, 1.2</td>
<td>R 1.3</td>
<td>W 1.3</td>
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<tr>
<td>2</td>
<td>R 1.4 (18–23)</td>
<td>W 1.4 (18–23)</td>
<td>R 1.4 (23–29)</td>
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<tr>
<td>3</td>
<td>holiday</td>
<td>W 1.4 (23–29)</td>
<td>R 2.2</td>
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<tr>
<td>4</td>
<td>W 2.2</td>
<td>Review</td>
<td>Quiz</td>
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<tr>
<td>5</td>
<td>R 2.3</td>
<td>W 2.3</td>
<td>R 2.4</td>
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<tr>
<td>6</td>
<td>W 2.4</td>
<td>R 2.5</td>
<td>W 2.5</td>
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<tr>
<td>7</td>
<td>R 2.6</td>
<td>W 2.6</td>
<td>Review</td>
</tr>
<tr>
<td>8</td>
<td>Quiz</td>
<td>R 2.7</td>
<td>W 2.7</td>
</tr>
<tr>
<td>9</td>
<td>R 3.2</td>
<td>W 3.2</td>
<td>R 3.3</td>
</tr>
<tr>
<td>10</td>
<td>W 3.3</td>
<td>Review</td>
<td>Review</td>
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**Quizzes:** Friday, February 1st in class, covering sections 1.1–1.4. Monday, February 25th in class, covering sections 2.2–2.5.

**Final Exam:** 14:45 Wednesday, March 20, covering all material from the class, location to be determined.

**Grading Breakdown:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Quizzes</td>
<td>15%</td>
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<tr>
<td>Attendance</td>
<td>15%</td>
</tr>
<tr>
<td>Assignments</td>
<td>25%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>30%</td>
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**Make-up and Extra Credit:** Missed credit may not be made-up for any reason. In the case of serious illness or emergency, weight from elsewhere may be moved onto the final exam. The lowest assignment will be dropped to accommodate minor illness or life otherwise getting in the way of your work.

**Important Dates:**

- Friday of the 1st week – last day to drop without a ‘W’
- Monday of the 2nd week – last day to add a class
- Sunday at the end of the 7th week – last day to drop the course
- Thursday November 28 and Friday November 29 are holidays

**Regarding Sexual Violence:**
The UO is committed to providing an environment free of all forms of discrimination and sexual harassment, including sexual assault, domestic and dating violence and gender-based stalking. If you (or someone you know) has experienced or experiences gender-based violence (intimate partner violence, attempted or completed sexual assault, harassment, coercion, stalking, etc.), know that you are not alone. UO has staff members trained to support survivors in navigating campus life, accessing health and counseling services, providing academic and housing accommodations, helping with legal protective orders, and more.

Please be aware that all UO employees are required reporters. This means that if you tell me about a situation, I may have to report the information to my supervisor or the Office of Affirmative Action and Equal Opportunity. Although I have to report the situation, you will still have options about how your case will be handled, including whether or not you wish to pursue a formal complaint. Our goal is to make sure you are aware of the range of options available to you and have access to the resources you need.

If you wish to speak to someone confidentially, you can call 541-346-SAFE, UO’s 24-hour hotline, to be connected to a confidential counselor to discuss your options. You can also visit the SAFE website at safe.uoregon.edu.
Notes for the instructor:

- The course coordinator is David Steinberg: dcstein@uoregon.edu, feel free to contact me with any questions, comments, suggestions, or concerns.

- There are a variety of syllabi online (http://math.uoregon.edu/syllabi/), which are definitely worth checking out.

- The syllabus provided here is one very specific kind of syllabus. I always have the students read the textbook instead of lecturing to them, and have them spend a good deal of class time on groupwork. I encourage this kind of structure, and am happy to help if you are interested in trying this, but it is not required, and it is not the only way to teach this course. Many people prefer to lecture; you should do what you think will best serve the students.

- I have some practice exams and latexed homework solutions. Please send me an email if you are interested.

- A diligent student may be able to find a pdf of the textbook freely available online.

- The first and second edition differ enough that you should specify one or the other if you are going to assign readings or homework out of the book.

- CuriousCat is a nice way to give students the option of giving anonymous feedback, but this is optional. I’m sure this goes without saying, but please do not give your students my CuriousCat link.