MATH 377, Fall 2021  
Instructor: Dr. Rachel Schwell  
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Office: Marcus White 321  Office Phone: 832-2844  
Office Hours: Mt 10:00 – 11:30 am; T 12:30 – 2:30 pm; or by appt.

Course Description: MATH 377 is an in-depth exploration of some of the fundamental concepts of calculus. In particular, we will closely study the properties of real numbers and the concepts of limit and convergence. Time permitting, we will also explore the fundamentals of derivatives and series.

Text: The text we will be using is Basic Analysis I, v. 5.3, by Jiří Lebl, freely available here: https://www.jirka.org/ra/.

Class Times: The class will meet MWF 1:40-2:50 in Barnard 407.

Course Assessments: There will be written (typed) homework assignments every week, a midterm, a cumulative final exam, and various in-class activities including regular student presentations. Written exams must be taken in pencil, with points taken off for using pen. Exams may only be made up in advance, or afterwards only with the proper documentation justifying your absence.

Homework Expectations and Policies: Written homework will be 1-3 problems per week, to be typed up and submitted online, of a more proof-based nature. The grading of your homework will be based on both the clarity of the solutions as well as their accuracy, as the communication of your ideas is an essential part of mathematics. It is often difficult to even gauge the correctness of a solution if it has not been clearly communicated. Thus, your solutions must be clearly expressed using correct terminology and precise language (which will in turn help you to better understand the concepts). While you may collaborate with classmates on homework, you must write up your own solutions in your own words.

We will be using a mastery grading system on the written homework, meaning, there are only three possible grades you can achieve on a given problem:

M – Mastered: you’ve got the concept and the communication and you’re good to go  
P – Progressing: there’s still something important that you’re missing, in concept or communication, but you’re on your way  
N – Not yet: you’re missing the overall concept and should go back and maybe start fresh in your understanding of it; or, in extreme cases, the communication is lacking to the point where it is difficult to assess if you are grasping the concept (or if you submit work that is not your own)

In addition to these grades, you will receive plenty of written feedback of course. You may rewrite problems as many times as you want in order to achieve an “M”, however, the final deadline for a given homework set will be two weeks after it is assigned, and so you will want to give yourself plenty of time to rewrite any problems that do not achieve the desired level. You may submit problems one at a time as you complete them, as opposed to waiting for the entire set to be finished.

When you are writing up your homework problems, and you are not sure how much of an explanation to include, always remind yourself that you should think of your audience as your classmates. In other words, if you were to hand your write-up to a skeptical classmate, would they understand it and be convinced of your argument? If not, more detail is needed.
Any problem you turn in or present to the class should be written in your own words. When you present or turn in a problem, you will be asserting that you have not received any unauthorized help on the work and that you understand the argument you are presenting. You must not look to any source other than your classmates or me for solutions to problems; this includes books, magazines, the internet, completed solutions of your fellow students and notes from students who have taken this class in previous semesters. If you are unsure of the permissibility of a source, please ask me. I am quite aware of the existence of online solutions and know how to search them. 

All homework must be done in LaTeX, free math typesetting software that is what mathematicians use to type their work. Please see the introductory video posted on Piazza (under the “LaTeX” tab).

Presentations: I will assign some homework problems from the text as “Presentation problems”. Some other potential problems to present will be certain proofs that appear in the text, but require interpretation. These will be posted in a google spreadsheet where you can sign up to claim a problem. Once a problem is claimed, we will work out a reasonable date together for the presentation.

Note that presenting a correct solution that you don’t really understand is NOT the goal. When presenting, keep in mind that your audience is not me, your instructor, but your classmates, and so your presentations must be aimed toward your peers to ensure that they understand and are convinced of any claims you are making. Presentations will be graded as simply P or NP. You should be able to receive a “P” as long as you put in a good-faith effort to present a correct, coherent solution that you understand and to respond to feedback given and learn from it. If you receive an NP, you may reattempt it taking into account all the feedback you have received from me and from your classmates.

If you make a mistake, you can either attempt to fix the problem on the spot (with the help of the audience if you like), or you can try again the next class if you know you need more time to process it. Either way, don’t stress out about it! Everyone makes mistakes, and it’s a sign that learning is taking place. I’ve made plenty of mistakes in my career, including during presentations.

As an audience member, you will be expected to follow along with your peers’ presentations, and it is certainly in your best interests to do so since you will be responsible for those concepts. Also, I expect you to be supportive of your classmates when they are at the board presenting. We are all in this together, and so attempting to boost your own standing by putting others down will not be met with approval. However, questions and other constructive contributions are encouraged and included in your participation grade as noted below. Do not feel embarrassed to ask a question: chances are that if you have a particular question, then someone else in the class has a similar or even identical one. Note: once a classmate has begun his or her presentation, we must follow along with the direction in which (s)he is going and not attempt to direct him or her toward alternative solutions.

Course Grading: We continue the mastery grading theme. Below are the specifications for each grade category:

To earn an A you must do all of the following:
- Complete at least 10 weekly homework assignments at at least a “P” level (means complete all problems on the assignment at that level)
• Earn an “M” on at least 8 weekly homework assignments
• Present at least three times with a grade of P
• Earn at least an 85% weighted exam average between the midterm and final (weight 1.5)
• Contribute substantive feedback on at least one-third of the presentations

To earn a B you must do all of the following:
• Complete at least 8 weekly homework assignments at at least a “P” level
• Earn an “M” on at least 6 weekly homework assignments
• Present at least two times with a grade of P
• Earn at least an 75% weighted exam average between the midterm and final (weight 1.5)
• Contribute substantive feedback on at least one-fourth of the presentations

To earn a C you must do all of the following:
• Complete at least 6 weekly homework assignments at at least a “P” level
• Earn an “M” on at least 5 weekly homework assignments
• Present at least once with a grade of P
• Earn at least an 65% weighted exam average between the midterm and final (weight 1.5)
• Contribute substantive feedback on at least some presentations

To earn a D you must do all of the following:
• Complete at least 4 weekly homework assignments at at least a “P” level
• Earn at least an 50% weighted exam average between the midterm and final (weight 1.5)

If you do not meet all of the D requirements, you will receive an F.

The distinctions between -, +, etc. within each letter grade will be based on “extra” achievements such as more presentations and/or mastery of more homework assignments, or where your exam grades fall within the range for that letter grade, or your participation in class. If you have achieved all but one level in a given category (and that level is still at the requirement for the grade level immediately below it), you will receive the “-“ grade for that letter.

The minimum exam grade average requirement may be negotiable on a case-by-case basis (for example, if you absolutely bomb an exam but have made good progress in other areas). The other requirements are non-negotiable.

Time and Effort Expectations: You should expect to put in the standard expected amount of out-of-class time, which is two hours for every credit hour, or eight hours total per week for this course. That is an average: some students may require more time, some students may require less. There is no shame in requiring more time for mastery.

A big part of studying mathematics is learning how to think, and then communicating that thought process. This involves many attempts with many false starts, and often long hours on one problem. Therefore, you should consider this process to be as much a goal of the course as is simply learning the topics. You will often find these moments to be your most stimulating, rewarding, and satisfying (while simultaneously your most frustrating!).

Piazza: We will be using the free online course system Piazza to communicate with each other. I will post announcements and information there, and you may post at any time with a question or comment, either to me privately or to the whole class. This is also where you will submit all assignments and where I will return them. This can be accessed via Blackboard; you will see a
link to it on the left when you log in and click on this course. There is also an app which you can use on your portable devices.

COVID-19 Sanitary Measures: As you are all aware, we are all required to wear masks while indoors on campus, unless we are alone. This includes in class, and it is part of my job to enforce this policy. If you need to take a sip of water during class, you may briefly lower your mask to do so and then put it back on. If you need to eat something quickly, I totally understand, but please step outside into the hall to do so (and make sure there is no one nearby). If I need to take a drink of water, I will do so behind the plexiglass screen at the front of the room.

We are also required to maintain at least three feet between us, which should be feasible during group work. I will maintain at least three feet of distance when approaching your group to discuss or answer questions.

The campus blueprint with details regarding all sanitary measures can be found here: https://www.ccsu.edu/blueprint/files/Blueprint%20Fall%202021.pdf

University Policies:

1. You must take the final examination at the time specified on the CCSU website: Wednesday December 8, 1:00 – 3:00 pm.

2. If you are a student with a documented disability, and would like to request academic accommodations, you are encouraged to contact Student Disability Services (SDS) at 860-832-1952, or email disabilityservices@ccsu.edu. Please visit the SDS website at http://www.ccsu.edu/sds/ to download an Intake form and documentation requirements. Temporary impairments may also qualify for accommodations. Central Connecticut State University provides reasonable accommodations in accordance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act for students with documented disabilities on an individualized basis.

3. The last day to withdraw from a course is Wednesday, November 17. Approvals for withdrawal are not required; however, it is strongly recommended that students consult with their academic advisors prior to deciding to withdraw. Cessation of attendance, notice to the instructor, or telephone calls to the Enrollment Center are not considered official notice of a student’s intention to drop the course.

After November 17 withdrawals are allowed only under extenuating circumstances and require approval of the course instructor, department chair and dean of the School of Arts and Sciences. Poor academic performance is not considered an extenuating circumstance.

4. You are responsible for understanding and abiding by the University’s policy on academic integrity. Information on the policy may be found at http://www.ccsu.edu/AcademicIntegrity/. This policy is rigorously enforced by the Department of Mathematical Sciences.

Title IX Information:

Statement on Discrimination and Harassment

Central Connecticut State University strives to maintain our campus as a place of work and study for faculty, staff, and students that is free of all forms of prohibited discrimination and harassment based upon age; ancestry; color; gender identity and expression; intellectual disability; learning disability; mental disorder; physical disability; marital status, national origin; race; religious
creed; sex, (including pregnancy, transgender status, sexual harassment and sexual assault); sexual orientation; or any other status protected by federal or state laws.

Any student who has concerns about should contact the Office of Equity & Inclusion (OEI) at 860-832-1652, Student Affairs at 860-832-1601, or their faculty member. The OEI is located on the main floor of Davidson Hall, room 119.

**Sexual Misconduct, Intimate Partner Violence and Stalking**

Central Connecticut State University (CCSU) will not tolerate sexual misconduct against students, staff, faculty, or visitors in any form, including but not limited to: sexual assault, sexual exploitation, sexual harassment, or stalking, as defined in CCSU policies. For additional information, please consult the CCSU policy at https://www.ccsu.edu/diversity/policies/index.html. **All faculty members and staff have a duty to report incidents of sexual harassment including sexual misconduct, intimate partner violence and stalking to Pamela Whitley, Title IX Officer, Office of Equity & Inclusion, Davidson Hall, 119.**

**To file a report, contact:** Equity & Inclusion (860-832-1652), Student Conduct (860-832-1667) or Student Affairs (860-832-1601). For criminal complaints, contact the University Police (860-832-2375).

**For support and advocacy, contact:** Office of Victim Advocacy at 860-832-3795 or jflanagan@ccsu.edu; Student Wellness Services at 860-832-1945 (confidential); Women’s Center at 860-832-1655; the local YWCA’s Sexual Assault Crisis Services Hotline at 860-223-1787 (confidential) and Prudence Crandall Center for Domestic Violence (confidential) at 888-774-2900 (24-hour hotline).