

**Math 3001: Analysis 1**  
**Spring 2020**

**Class meetings:** MWF 10:00-10:50 a.m. in ECCR 110

**Instructor:**

Dr. Judith Packer  
MATH 227  
303-492-6979  
packer@colorado.edu  
<http://math.colorado.edu/~packer/20math3001.html>

**Office hours:** MWF, 11:00 a.m. - 12:00 noon, or by appointment

**Prerequisites:** Math 2001 (Introduction to Discrete Mathematics), or the equivalent

**Text:** *Analysis, With an Introduction to Proof*, S.R. Lay, Pearson - Prentice Hall, 2014, 5th edition. After a quick review of Chapters 1 and 2, we will cover most of Chapters 3–7, and part of Chapter 8.

**Course outline:** This course is meant to familiarize the student with the rigorous theory behind the study of functions of a single real variable, and goes over the proofs of some of the major results used in calculus. Topics to be covered include: the topology and order structure of the real line; sequences of real numbers and limits of sequences; functions of a real variable: limits of functions at a point, continuous functions and their properties – Intermediate Value Theorem, uniform continuity; the derivative of a function at a point and differentiability, the Mean Value Theorem, and Taylor’s Theorem; the Riemann integral and its properties, and the Fundamental Theorem of Calculus; and if time permits, a brief overview of series of real numbers and power series expansions.

**Grading:** Grades will be based on two in-class midterms (25% each), weekly homework assignments consisting of problems from the text (25%) and in-class activities, and a comprehensive final exam (25%). You are allowed to work together on homework, although each student must submit an individual write-up. Homework will usually be due on Wednesdays, and late homework will not be accepted.

**Test and exam dates:**

Midterm 1: Wednesday, February 19, 2020, in class  
Midterm 2: Friday, April 3, 2020, in class  
FINAL EXAM: Saturday, May 2, 2020, 4:30 p.m. – 7:00 p.m., in class.

THERE WILL BE NO MAKE-UP EXAMS, so make sure now that you have no conflicts!

**Friendly advice:**

- **Come to class.** Things will often be said in class that are not covered in the text, and participating in classroom discussions is an important part of the learning process.
- **Read the book.** The text is intended to be read *in addition to* classroom lectures, and it contains many more details and examples than are possible to cover in lectures. It’s a new revision of a classice, and I’m also curious to see what’s new and what remains.

- **Do the homework.** Not only does it count for a significant portion of your grade, but this is one of the best ways to study and learn.
- **Come to office hours.** I am happy to help you with the homework, or discuss anything we've done in class.

#### **Other Important Dates:**

- **January 29, 2020 (Wed.):** Last day to drop a course without Tuition/Fee charges and without a "W" appearing on your transcript.
- **March 20, 2020 (Fri.):** Last day to drop a course via MyCUInfo; Last day for students to make arrangements with their instructor if they have three or more final exams on the same day or two final exams scheduled to meet at the same time.
- **April 30, 2020 (Thurs.), 11:59 p.m.:** Last day for students to withdraw from the university for Spring semester. All withdrawals are assessed 100% of tuition and fees (\$0 refund) and "W" grades are posted to transcripts.

**Accommodations for disabilities:** If you qualify for accommodations because of a disability, please submit your accommodation letter from Disability Services to your faculty member in a timely manner so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities in the academic environment. Information on requesting accommodations is located on the Disability Services website, <http://disabilityservices.colorado.edu/>. Contact Disability Services at 303-492-8671 or [dsinfo@colorado.edu](mailto:dsinfo@colorado.edu) for further assistance.

If you have a temporary medical condition or injury, see Temporary Medical Conditions under the Students tab on the Disability Services website (<http://disabilityservices.colorado.edu/>).

**Religious observances:** Campus policy regarding religious observances requires that faculty make every effort to deal reasonably and fairly with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. In this class, assignments will either be rescheduled or dropped from grading calculations depending on the nature of the conflict. If you have a conflict, please advise me as soon as possible so that arrangements can be made. See full details at <https://www.colorado.edu/policies/observance-religious-holidays-absences-classes-or-exams>

#### **Miscellaneous University Rules & Regulations:**

- **Honor Code:** All students enrolled in a University of Colorado Boulder course are responsible for knowing and adhering to the Honor Code. Violations of the policy may include: plagiarism, cheating, fabrication, lying, bribery, threat, unauthorized access to academic materials, clicker fraud, submitting the same or similar work in more than one course without permission from all course instructors involved, and aiding academic dishonesty. All incidents of academic misconduct will be reported to the Honor Code ([honor@colorado.edu](mailto:honor@colorado.edu)); 303-492-5550). Students found responsible for violating the academic integrity policy will be subject to nonacademic sanctions from the Honor Code as well as academic sanctions from the faculty member. Additional information regarding the Honor Code academic integrity policy can be found at the Honor Code Office website at <https://www.colorado.edu/sccr/honor-code>.

- **Classroom behavior policy:** Students and faculty each have responsibility for maintaining an appropriate learning environment. Those who fail to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, veteran status, political affiliation or political philosophy. For more information, see the policies on classroom behavior and the Student Code of Conduct (check website <https://www.colorado.edu/sccr/>). CU Boulder recognizes that students' legal information doesn't always align with how they identify. Students may update their preferred names and pronouns via the student portal; those preferred names and pronouns are listed on instructors' class rosters. In the absence of such updates, the name that appears on the class roster is the student's legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records. For more information, see the policies on classroom behavior and the Student Code of Conduct. See policies at <http://www.colorado.edu/policies/classbehavior.html> .
- **Statement on Discrimination and Harrassment:** The University of Colorado Boulder (CU Boulder) is committed to fostering a positive and welcoming learning, working, and living environment. CU Boulder will not tolerate acts of sexual misconduct, intimate partner abuse (including dating or domestic violence), stalking, or protected-class discrimination or harassment by members of our community. Individuals who believe they have been subject to misconduct or retaliatory actions for reporting a concern should contact the Office of Institutional Equity and Compliance (OIEC) at 303-492-2127 or [cureport@colorado.edu](mailto:cureport@colorado.edu). Information about the OIEC, university policies, anonymous reporting, and the campus resources can be found on the OIEC website, <http://www.colorado.edu/odece/> .

Please know that faculty and instructors have a responsibility to inform OIEC when made aware of incidents of sexual misconduct, discrimination, harassment and/or related retaliation, to ensure that individuals impacted receive information about options for reporting and support resources.