

**University of Colorado Boulder**  
**Department of Mathematics**  
MATH 3001 - Analysis I  
Section 001 and 003 - Fall 2017

**Class Meetings.**

Section 001: MWF 9:00–9:50am in ECCR 131

Section 003: MWF 2:00–2:50pm in CLRE 208

**Instructor.** Jordan Watts

**Office Hours.** M 1:00-1:50pm and 3:00-3:50pm; W 3:00-3:50pm; F 1:00-1:50pm

**Office.** MATH 327

**Course Website.** <http://euclid.colorado.edu/~jowa8403/math3001f17/index.php>

See the website for exam information, in-class activity information, homework assignments, the course schedule, a copy of this syllabus, and links to additional resources.

**Prerequisites:** MATH 2001 (Introduction to Discrete Mathematics), or equivalent. In particular, you should be familiar with finite sets, mathematical induction, the pigeon-hole principle, equivalence relations, and partial orders just to name a few things, as well as have experience with proving mathematical statements. Additionally, MATH 2130 or MATH 2135 (linear algebra) is required to ensure suitable mathematical maturity (*i.e.* experience with proofs). Both courses require a minimum of C-.

**Text:** Stephen Abbott, *Understanding Analysis, 2nd Edition*, Springer, 2016

**Course Outline:** Analysis I is a course in which the student goes back to single variable calculus, and learns the rigorous theory behind it. In particular, we will cover the topology and structure of the real line, sequences of real numbers, limits and continuity, differentiation, the Riemann integral, as well as the proofs of important theorems such as the Intermediate Value Theorem, the Mean Value Theorem, Taylor's Theorem, and the Fundamental Theorem of Calculus.

**In-Class Activities:** There will be weekly in-class activities, typically on a Friday, in which the students will work in groups on simple analysis problems. The goal is to ensure that the student becomes familiar with basic analytic arguments, with help from their peers; also, learning how to ask for help, or to give help, to peers is a crucial and extremely helpful exercise. There will be 11 such activities, of which 8 will count toward your final grade.

**Homework Assignments:** There will be written homework assignments due every other Wednesday. There will be 7 total, and the best 6 will be counted toward 20% of your final grade. You are encouraged to work on the homework assignments together, but each student must submit their own work in their own words.

**Midterms and Final Exams:** This course has two midterm exams and a final exam. Calculators and cell phones will not be allowed during any portion of any exam. **Use of any electronic device at any time during the exam will be considered cheating.**

There will be **no make-up exams** given under any circumstances except for those described in the policies outlines below, so make sure that you have no conflicts.

- Midterm 1: Friday, September 29, held in class.
- Midterm 2: Friday, November 10, held in class.

**Final Exam:** The final exam for the course is **cumulative**. It is scheduled for:

Date and Time: TBA

Location: TBA

**Grades:** The grade distribution will be calculated based on the following weighting:

- Midterms: 20% each
- Final Exam: 30%
- Homework Assignments: 20% (best 6 out of 7)
- In-Class Activities: 10% (best 8 out of 11)

## UNIVERSITY POLICIES AND STANDARDS

**Classroom Behavior and Respect for Diversity:** 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 differences of race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, veteran status, political affiliation, or political philosophy. Class rosters are provided to the instructor with 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.

**Accommodation for Disabilities and Temporary Medical Conditions:** If you qualify for accommodations because of a disability, please submit to your professor a letter from Disability Services in a timely manner (for exam accommodations provide your letter at least one week prior to the exam) 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. Contact Disability Services at 303-492-8671 or by e-mail at [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 and discuss your needs with your instructor.

**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, students are required to check the dates of exams, homework due dates, etc., ahead of time, and inform their instructor as soon as possible so that alternate arrangements can be made. In the case of homework, the assignment can be handed in late; in the case of an exam, the student will be given a different exam later.

See the campus policy regarding religious observances for full details.

**Discrimination and Harassment:** The University of Colorado Boulder (CU Boulder) is committed to maintaining a positive learning, working, and living environment. CU Boulder will not tolerate acts of sexual misconduct, discrimination, harassment, or related retaliation against or by any employee or student. CU's Sexual Misconduct Policy prohibits sexual assault, sexual exploitation, sexual harassment, intimate partner abuse (dating or domestic violence), stalking, or related retaliation. CU Boulder's Discrimination and Harassment Policy prohibits discrimination, harassment, or related retaliation based on race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, veteran status, political affiliation, or political philosophy. Individuals who believe they have been subject to misconduct under either policy should contact the Office of Institutional Equity and Compliance (OIEC) at 303-492-2127. Information about the OIEC, the above referenced policies, and the campus resources available to assist individuals regarding sexual misconduct, discrimination, harassment, or related retaliation can be found at the OIEC website.

**Honor Code:** All students enrolled in a University of Colorado Boulder course are responsible for knowing and adhering to the academic integrity policy. Violations of the policy may include: plagiarism, cheating, fabrication, lying, bribery, threat, unauthorized access to academic materials, clicker fraud, resubmission, and aiding academic dishonesty. All incidents of academic misconduct will be reported to the Honor Code Council ([honor@colorado.edu](mailto:honor@colorado.edu); 303-735-2273). Students who are found responsible for violating the academic integrity policy will be subject to non-academic sanctions from the Honor Code Council as well as academic sanctions from the faculty member. Additional information regarding the academic integrity policy can be found at <http://www.colorado.edu/honorcode>.