

MATH 2002 Number Systems: An Introduction to Higher Mathematics

Spring 2020

Course Instructor: Dr. Markus Pflaum

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Lecture hours and Venue: MWF 10:00 a.m. - 10:50 a.m., ECCR 131.

Office Hours: Mon. 11:00 a.m. - 12.00 p.m., Tue. 3:00 p.m. - 4:00 p.m. and by appointment

Course Prerequisites: MATH 1300 or MATH 1310 or APPM 1345 or APPM 1350 (all minimum grade C-)

Textbook:

Elliott Mendelson: *Number Systems and the Foundations of Analysis*,

Dover Books on Mathematics, Dover Publications, Inc. (required).

Sergei Ovchinnikov: *Number Systems: An Introduction to Algebra and Analysis*,

Pure and Applied Undergraduate Texts, American Mathematical Society (optional).

Course Homepage:

<http://math.colorado.edu/courses/NumberSystems>

Course Contents: Introduces the concepts of mathematical proofs using the construction of the real numbers from set theory. Topics include basic logic and set theory, equivalence relations and functions, Peano's axioms, construction of the integers, the rational numbers and axiomatic treatment of the real numbers.

The main intention of this course is to provide a bridge between the more computationally oriented Calculus courses and the more abstract upper division Mathematics courses like MATH 3001 Analysis 1 and MATH 2135 Linear Algebra. It serves as a prerequisite for these courses and can be taken as an alternative to MATH 2001.

Homework and Exams: Homework assignments will be given on the course homepage on a bi-weekly basis. Homework is due at the beginning of each class on the second Friday following the assignment. It is the student's responsibility to get these assignments in the event of an absence from class. Homework will be graded. Late turn-ins will not be accepted. Show all your work.

Midterm exam: TBA

Final exam: TBA

Course Grading: Your grade will be determined from the graded homework (50%), the midterm (20%), and the final exam (30%).

Syllabus Statement

Accommodation 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. Contact Disability Services at 303-492-8671 or 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.

Classroom Behavior: 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. 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 of Conduct.

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, 303-492-5550). Students who are 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.

Sexual Misconduct, Discrimination, Harassment and/or Related Retaliation: 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 (including sexual assault, exploitation, harassment, dating or domestic violence, and stalking), discrimination, and 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. Information about the OIEC, university policies, anonymous reporting, and the campus resources can be found on the OIEC website. 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.

Religious Holidays: 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, contact the instructor for making appropriate arrangements. See the campus policy regarding religious observances for full details.

An electronic version of the syllabus statement is available under <https://www.colorado.edu/academicaffairs/node/390/attachment>.