

MAT 512 – Introduction to Real Analysis – Spring 2013

Course Description: Real number system, set theory and elementary topological properties of the real line, continuity and differentiability, sequences and series, uniform convergence, Riemann integration, and improper integrals.

Prerequisite: MAT 412

Instructor: Prof. JT Cox, 213B Carnegie, jtcx@syr.edu, 443-1488

Class Time and Location: Tu/Thur 2:00--3:20, Carnegie 124

Office Hours: held in **Carnegie 213B**

- Mon 2:30—4:00
- Wed 2:30—4:00
- and at other times by appointment

Blackboard: We will make occasional use of Blackboard.

Text: *An Introduction to Analysis (4th ed.)* by W. Wade. We will cover parts of Chapters 5-9 as time permits.

Attendance and Participation: Attendance is required! If you miss a class, you are responsible for obtaining notes for that class from a student who attended. It is also your responsibility to find out about any announcements made in class.

Reading: Reading and *re-reading* the definitions, theorems and proofs in the text is **essential** for success in this course! Expect to spend several hours a week just reading!

Homework: Problems will be assigned regularly, some of which will be submitted for grading. No late homework will be accepted. You are encouraged to discuss assigned problems with your classmates and work together. However, the solutions you submit for grading must be written (completely) by you, and not copied from any source. You must write solutions neatly, literately, and in a logical coherent manner on standard 8.5x11 paper.

Quizzes: Short weekly or even daily quizzes will be given. They will consist of definitions and/or true/false questions and/or example/counterexample type questions. *No make-up quizzes will be given.*

Exams: There will be two midterm exams (dates to be announced) and a final exam. *No make-up exams will be given.* The final exam is scheduled for **Tuesday, May 7, 10:15am-12:15pm**. The final will be offered at no other time.

Grading: The following *provisional* grading scheme will be used: homework 20%, quizzes 20%, midterm exams 20% each, final exam 20%. The scheme may be modified, and in addition, *attendance may be factored into the course grade!*

Learning Goals:

- understanding the nature and role of deductive reasoning in mathematics
- ability to use and understand the usage of standard mathematical notation
- ability to follow proofs and other mathematical discourse
- ability to write rigorous proofs of mathematical statements

Disability-Related Accommodations: If you believe that you need accommodations for a disability, please contact the Office of Disability Services(ODS), <http://disabilityservices.syr.edu>, located in Room 309 of 804 University Avenue, or call (315) 443-4498 for an appointment to discuss your needs and the process for requesting accommodations. ODS is responsible for coordinating disability-related accommodations and will issue students with documented disabilities Accommodation Authorization Letters, as appropriate. Since accommodations may require early planning and generally are not provided retroactively, please contact ODS as soon as possible. You are also welcome to contact me privately to discuss your academic needs although I cannot arrange for disability-related accommodations.

Academic Integrity Statement: The Syracuse University Academic Integrity Policy holds students accountable for the integrity of the work they submit. Students should be familiar with the Policy and know that it is their responsibility to learn about instructor and general academic expectations with regard to proper citation of sources in written work. The policy also governs the integrity of work submitted in exams and assignments as well as the veracity of signatures on attendance sheets and other verifications of participation in class activities. Serious sanctions can result from academic dishonesty of any sort. For more information and the complete policy, see <http://academicintegrity.syr.edu>

Faith Tradition Observances. SU's religious observances policy, found at http://supolicies.syr.edu/emp_ben/religious_observance.htm, recognizes the diversity of faiths represented among the campus community and protects the rights of students, faculty, and staff to observe religious holy days according to their tradition. Under the policy, students are provided an opportunity to make up any examination, study, or work requirements that may be missed due to a religious observance provided they notify their instructors before the end of the second week of classes. For fall and spring semesters, an online notification process is available through MySlice/Student Services/Enrollment/My Religious Observances from the first day of class until the end of the second week of class.