

**MAA4212 (3009) Real Analysis and Adv Calc 2**  
**MWF Period 5 (11:45 a.m - 12:35pm) Room: ARCH 215**

---

**Instructor:** Cheng Yu, chengyu@ufl.edu.

**Office room:** LIT 306.

**Office Hours:** MF 4 periods or by appointment.

**Canvas Messages:** Check your emails often so that you do not miss any important announcements.

**Course Content and Objectives** A continuation of MAA4211. A rigorous treatment of the foundations of Calculus. Topics include sequences and series of functions, differentiation, the Riemann integral, the calculus of several variables including the inverse and implicit function theorems. In addition to mastery of the course content, course objectives include reading, writing, and discovering proofs and constructing proofs and counterexamples in analysis.

**Textbooks:** The text is a set of course notes freely available as a .pdf file at the canvas site for this course.

**Tentative weekly schedule**

Metric space basics, two weeks

Completeness and compactness, two weeks

Continuity, three weeks

Sequences of functions and  $C(X)$ , two weeks

Linear Algebra review, two weeks if time allows

The derivative, two weeks

Inverse and Implicit Function Theorems, one week

**Homework assignments:** There will be 6 homework assignments. Please do all homework problems independently. Each worth 5 points, will be assigned, collected, and graded. There will be other excise questions.

**Exams:** No use of calculators, or books will be allowed during any tests. No makeups WITHOUT medical documentation. There will be two exams as follows

Exam 1:2/27, Monday.

Exam 2:4/26, Wednesday.

**Grade Policy:** There will be 6 homework assignments, each one is 10 percent. There are 2 exams, each exam is 20 percent. The class participation will be considered in borderline grades. There will be several extra credit points during semester. The grade scale is as follows:

A : [90, 100].  
B+:[85, 90).  
B : [80, 85).  
B-:[77, 80).  
C+:[75, 77).  
C : [70, 75).  
C-:[68, 70).  
D : [60, 68).  
F : [0, 60).

**Students with Disabilities:** Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, [www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/)) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

**Diversity and inclusion:** I am committed to diversity and inclusion of all students in this course. I acknowledge, respect, and value the diverse nature, background and perspective of students and believe that it furthers academic achievements. It is my intent to present materials and activities that are respectful of diversity: race, color, creed, gender, gender identity, sexual orientation, age, religious status, national origin, ethnicity, disability, socioeconomic status, and any other distinguishing qualities.