

MATH 512 01R & 41S & 71R  
INTRODUCTION TO REAL ANALYSIS II  
SPRING 2016

CONTACT INFORMATION:

NAME : Dr. Hasan Coşkun  
OFFICE : Binnion Hall BIN 314  
PHONE : 903.886.5951  
WEB : <http://faculty.tamuc.edu/hcoskun/>  
E-MAIL : [hasan.coskun@tamuc.edu](mailto:hasan.coskun@tamuc.edu)  
OFFICE HOURS : MWF 11:00a-12:50p (Bin 314),  
R 11:00-11:50a (Whitley Hall, STEM LLC, 6th floor),  
R 12:00-12:50p (Bin 314), otherwise by appointment

DESCRIPTION AND POLICIES:

1. CLASS SCHEDULE: R 5:00-7:40p, MPLX131 (41S) & BA244 (01R) & BC322 (71R).
2. TEXTBOOK: Introduction to Analysis by William R. Wade, 4th Edition, ISBN-13: 978-0132296380, ISBN-10: 0132296381.
3. WEBSITE & INTERNET: An eCollege website has been created for the course which may be accessed from student myLEO accounts following the eCollege and then the My Courses tabs. All files and documents that the instructor shares with the class will be posted in the Doc Sharing folder in the course website. All material posted at the course website is copyrighted ©. You are allowed to retain one copy of each file for your personal use, but the files should not be duplicated and distributed in any form.
4. COURSE DESCRIPTION: Properties of real numbers, continuity, differentiation, integration, sequences and series of functions, differentiation and integration of functions of several variables. Prereq: Math 511 or Consent of Instructor.
5. SOFTWARE: *Mathematica* software is required for the course. It will be used for carrying out computations in discussion sessions, homework exercises, exams and projects. Mathematica 10 may be installed in Mathematics computer lab in BIN 328, and in computer labs at the Metroplex center. Personal student licenses can be purchased online at the Wolfram Mathematica website <http://www.wolfram.com/mathematica/how-to-buy/education/>. Mathematica has recently introduced an online version. In principle, it should be the same with the desktop version, but the user interface looks different. You may use it at your own risk. We will be using the desktop version for all classroom presentations, and other activities. A TI-84 is recommended.

6. TESTS & PROJECTS: There will be a midterm test/project (200 points) and a comprehensive final/project (200 points). No make-up test will be given without an official, written, university accepted excuse. The student must contact the instructor the next working day and present the documented excuse to make up a test.
7. HOMEWORK: Homework will be assigned in every class meeting on a regular basis. Selected assignments and problems will be graded only, but all homework problems should be worked out. The requested assignments will be due the next class day and will be turned in electronically to Dropboxes at the eCollege website. You may work in groups unless otherwise instructed, however the paper you turn in must be your own work. Late homework is not accepted. Attendance may be used instead to assign the homework score which will be 50 points of the final grade.
8. LEARNING OUTCOMES: Students who complete this course successfully will
  - a) learn the *terminology* of Real Analysis
  - b) learn the *methods* used in Real Analysis
  - c) learn the *applications* of abstract theoretical results to practical problems
9. TENTATIVE COURSE OUTLINE: We plan to cover parts of these topics each week as time permits.
  0. Introduction to Mathematica
  1. Real Number System  $\mathbb{R}$
  2. Sequences in  $\mathbb{R}$
  3. Continuity on  $\mathbb{R}$
  4. Differentiability on  $\mathbb{R}$
  5. Integrability on  $\mathbb{R}$
  6. Infinite Series
  7. Metric Spaces
  8. Differentiability on  $\mathbb{R}^n$
  9. Integration on  $\mathbb{R}^n$
  10. Vector Calculus
  11. Fourier Series
10. TENTATIVE EXAM SCHEDULE:

Midterm	200 pts	Tuesday March 22, 2016	in class
Final	200 pts	Tuesday May 10, 2016	in class

11. **GRADING SCALE:** All scores will be added and a letter grade will be assigned according to the following table.

A	406 - 450 pts
B	361 - 405 pts
C	316 - 360 pts
D	271 - 315 pts
F	0 - 270 pts

12. **OTHER IMPORTANT DATES:** Double check all the dates at the University website.

March 14-18, 2016	Spring break
April 3, 2016	Last day to drop a class
April 29, 2016	Last day to withdraw from Spring 2016
May 6, 2016	Last class day

13. **MISCELLANEOUS:** Your enrollment in this course indicates that you agree to observe all the conditions and regulations of this syllabus and the Student Handbook. Your test and homework scores may be filed to be used anonymously for educational research.

It is your responsibility to secure the software licenses and other resources (such as a personal computer with proper operating system to run the software, broadband internet access, etc.) to be able to complete and communicate all assignments, tests and projects to the instructor as required. The access information to Library resources, and Help Desk for technical support are available through the eCollege website.

Policies pertaining to scholastic dishonesty are identical to TAMU-Commerce regulations given in the Student Handbook, available online at the website <http://web.tamuc.edu/studentLife/documents/studentGuidebook.pdf>. All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment (See Student's Guide Handbook, Policies and Procedures, Conduct). Disruptive behavior (including use of electronic devices in classroom) and scholastic dishonesty in any form will not be tolerated.

Students requesting accommodations for a disability should contact the Office of Student Disability Resources and Services, Texas A&M University-Commerce, Gee Library, Room 132, Phone: (903) 886-5150 or (903) 886-5835, Fax: (903) 468-8148, or Email: [StudentDisabilityServices@tamuc.edu](mailto:StudentDisabilityServices@tamuc.edu).

Any possible changes to be made in this syllabus by the instructor during the semester will be announced in class or by email.