This course is an introduction to real analysis. The main topics of the course include: the real number system, Euclidean spaces, fundamental concepts in metric spaces, the concepts of continuity, compactness, differentiation and integration in one variable case, as well as sequences and series of functions. This is rigorous mathematics class that is based on proofs.

**Prerequisite.** Two of M341, 328K or 325K with a grade of at least C. Students who receive a grade of C in M325K or M328K are advised to take M361K before attempting M365C.

**Class Time and Location.** The class will meet T TH 12:30 AM - 2:00 AM @ RLM 5.124.

**Instructor.** Kui Ren  
Office: RLM 10.170  
Phone: 512-471-3152  
Email: ren@math.utexas.edu  
Office Hours: T TH 11:00AM-Noon + Appointments.

**Homework and Exams.** There will be 14 homework sets, two in-class midterms and one final exam. The lowest two scores among the 14 homework scores will be dropped when calculating the final homework score. In principle, no late homework will be accepted and no makeup exam will be arranged.

**Grading Policy.** The final grade will be weighted roughly as follows:

Homework 24%, Exam I 23%, Exam II 23%, Final Exam 30%.

The letter grades are distributed as follows:

- 90% - 100% : Grade A
- 80% - 89% : Grade B
70% - 79% : Grade C
60% - 69% : Grade D
0% - 59% : Grade F

**Course Webpage.** All the homework will be posted on the university teaching tool, the blackboard system:

https://courses.utexas.edu/webapps/portal/frameset.jsp

**Textbooks.**

**Fundamental Ideas of Analysis (required)**
Michael Reed
John Wiley & Sons, Inc, 1998

**Principles of Mathematical Analysis (recommended)**
Walter Rudin

**Important Dates.**

- 01/21/2011, Last day of official add/drop period
- 02/02/2011, Last day to drop a class for possible refund
- 02/22/2011, In-class Exam I
- 03/28/2011, Last day to drop with dean’s approval
- 04/05/2011, In-class Exam II
- 05/14/2011, Final Exam

**Miscellaneous.**

- The University of Austin provides upon request appropriate academic accommodations for qualified students with disabilities. For more information, contact the Office of the Dean of Students at 471-6259, 471-6441 TTY.
- It is the policy of The University of Texas at Austin that you must notify the instructor at least fourteen days prior to the classes scheduled on dates you will be absent to observe a religious holy day.
M365C: Real Analysis I, Spring 2011

Unique #: 56335

Lecture Schedule

- 01/18 (TU): Section 1.1
- 01/20 (TH): Section 1.2; HW #1 Handout
- 01/25 (TU): Section 1.3
- 01/27 (TH): Section 1.4; HW #2 Handout
- 02/01 (TU): Section 2.1
- 02/03 (TH): Section 2.2; HW #3 Handout
- 02/08 (TU): Section 2.4
- 02/10 (TH): Section 2.5; HW #4 Handout
- 02/15 (TU): Section 2.6
- 02/17 (TH): Section 3.1; HW #5 Handout
- 02/22 (TU): Exam I
- 02/24 (TH): Section 3.2; HW #6 Handout
- 03/01 (TU): Section 3.3
- 03/03 (TH): Section 3.5; HW #7 Handout
- 03/08 (TU): Section 3.6
- 03/10 (TH): Section 4.1; HW #8 Handout
- 03/15 (TU): Spring Break; No Class
- 03/17 (TH): Spring Break; No Class
- 03/22 (TU): Section 4.2
- 03/24 (TH): Section 4.3; HW #9 Handout
- 03/29 (TU): Section 4.5
- 03/31 (TH): Section 5.1; HW #10 Handout
- 04/05 (TU): Exam II
- 04/07 (TH): Section 5.2; HW #11 Handout
- 04/12 (TU): Section 5.3
- 04/14 (TH): Section 5.6; HW #12 Handout
- 04/19 (TU): Section 5.7
- 04/21 (TH): Section 6.1; HW #13 Handout
- 04/26 (TU): Section 6.2
- 04/28 (TH): Section 6.3; HW #14 Handout
- 05/03 (TU): Section 6.4
- 05/05 (TH): Review
- 05/14 (SA): Final Exam Time: 2:00PM-4:00PM; Location: TBA
- 05/19 (TH): Final Grade Due at 10:00AM

Note that there are probably minor changes on the schedule. Those changes will be announced in class.