This course is an introduction to real analysis. The main topics of the course include three parts: (i) fundamental concepts and results in metric spaces (such as the concepts of convergence, continuity, completeness and compactness); (ii) fundamental properties of continuous functions and the theory of differentiation and Riemann integration of one-variable functions; and (iii) the theory of sequences of real-valued functions. Warning: This is rigorous mathematics class that is based mostly on proofs!

This course may be used to fulfill the mathematics component of the university core curriculum and addresses the following three core objectives established by the Texas Higher Education Coordinating Board: communication skills, critical thinking skills, and empirical and quantitative skills.

Prerequisite. Two of M341, 328K or 325K with a grade of at least C. Students are strongly advised to take M361K before attempting M365C.

Class Time and Location. The class will meet TTh 2:00PM - 3:30PM @ NOA 1.116.

Instructor. Kui Ren
Office: RLM 10.170
Phone: 512-471-3152
Email: ren@math.utexas.edu
Office Hours: TTh 1:00-2:00PM + Appointments.

Textbooks.
Principles of Mathematical Analysis (required)
Walter Rudin

Fundamental Ideas of Analysis (recommended)
Michael Reed
John Wiley & Sons, Inc, 1998
Homework and Exams. There will be 14 homework sets. The first 13 homework will be graded, each based on 100 points. The lowest scores from your homework will be dropped when calculating your final score. No late homework will be accepted without compelling reasons. There will be one in-class midterm exam, based on 100 points, and a final exam, also based on 100 points. In general, no makeup exam will be arranged without compelling reasons.

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

Homework 30%, Midterm I 20%, Midterm II 20%, Final 30%

Let \( \{H_i\}_{i=1}^{12} \) be the 12 highest scores selected from your homework scores, \( E_1 \) and \( E_2 \) be your score on the midterm exams, and \( F \) be your score on the final exam. Then your final score will be computed as

\[
\text{Final Score} = \frac{1}{12} \sum_{i=1}^{12} H_i \times 0.3 + E_1 \times 0.2 + E_2 \times 0.2 + F \times 0.3.
\]

The final scores of the class will be linearly rescaled so that the highest score in the class is 100. The letter grades are distributed as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Score Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>90% - 100%</td>
</tr>
<tr>
<td>A-</td>
<td>87% - 89%</td>
</tr>
<tr>
<td>B+</td>
<td>84% - 86%</td>
</tr>
<tr>
<td>B</td>
<td>81% - 83%</td>
</tr>
<tr>
<td>B-</td>
<td>78% - 80%</td>
</tr>
<tr>
<td>C+</td>
<td>75% - 77%</td>
</tr>
<tr>
<td>C</td>
<td>72% - 74%</td>
</tr>
<tr>
<td>C-</td>
<td>69% - 71%</td>
</tr>
<tr>
<td>D+</td>
<td>66% - 68%</td>
</tr>
<tr>
<td>D</td>
<td>63% - 65%</td>
</tr>
<tr>
<td>D-</td>
<td>60% - 62%</td>
</tr>
<tr>
<td>F</td>
<td>0% - 59%</td>
</tr>
</tbody>
</table>

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

http://canvas.utexas.edu/

Important Dates.

- 08/27/2015, First day of class for M365C-53560
• 08/31/2015, Last day of official add/drop period
• 09/07/2015, Labor Day holiday
• 09/11/2015, Last day to drop the class for possible refund
• 10/01/2015, Midterm I for M365C-53560
• 11/03/2015, Last day to change registration to pass/fail
• 11/05/2015, Midterm II for M365C-53560
• 11/26/2015, No class due to Thanksgiving Holiday
• 12/03/2015, Last day of class for M365C-53560
• 12/15/2015, Final exam for M365C-53560

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 “a student who misses classes or other required activities, including examinations, for the observance of a religious holy day should inform the instructor as far in advance of the absence as possible, so that arrangements can be made to complete an assignment within a reasonable time after the absence”.

• The following recommendations regarding emergency evacuation are from the Office of Campus Safety and Security:

  1. Occupants of buildings on The University of Texas at Austin campus are required to evacuate buildings when a fire alarm is activated. Alarm activation or announcement requires exiting and assembling outside.

  2. Familiarize yourself with all exit doors of each classroom and building you may occupy. Remember that the nearest exit door may not be the one you used when entering the building.

  3. Students requiring assistance in evacuation shall inform their instructor in writing during the first week of class.

  4. In the event of an evacuation, follow the instruction of faculty or class instructors.
5. Do not re-enter a building unless given instructions by the following: Austin Fire Department, The University of Texas at Austin Police Department, or Fire Prevention Services office.


7. A link to information regarding emergency evacuation routes and emergency procedures can be found at: www.utexas.edu/emergency