

## MA 3831 – Principles of Real Analysis I – Term A25 Syllabus

**Instructor:** Prof. Guanying Peng

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- Office: Stratton Hall 426
- Lectures: M-R 9:00-10:50 am, Stratton Hall 205
- Office hours: M 2-3 pm, R 11 am-12 pm

**TA:** Yulong Jiang

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- Discussions: W 9:00-9:50 am, Stratton Hall 205
- Office hour: TBA

**Textbook:**

W. Rudin, *Principles of Mathematical Analysis*, third edition, 1976.

**Course description:**

Principles of Real Analysis is a two-part course giving a rigorous presentation of the important concepts of classical real analysis. Topics covered in the sequence include: basic set theory, elementary topology of Euclidean spaces, metric spaces, compactness, limits and continuity, differentiation, Riemann-Stieltjes integration, infinite series, sequences of functions, and topics in multivariate calculus.

**Course outline (*tentative, subject to change*):**

1. The real number system
2. Numerical sequences and series
3. Basic topology of Euclidean spaces
4. Limits and continuity, compactness

**Grading:**

Homework	30%
Exam 1	35%
Exam 2	35%
Total	100%

Grades will be assigned as either A, B, C, I, or NR

- An average of 90% will ensure an A for the course.
- An average of 80% will ensure a B for the course.
- An average of 70% will ensure a C for the course.

**Homework:**

In order to encourage students to keep up with the course and to prepare for the exams, written homework problems will be assigned and collected each week. These will be graded for credit,

and will constitute 30% of your grade. Your work should be neat and complete – and you will need to scan it to a *single* PDF and upload it to Canvas by the deadline.

**Exams:**

There will be two in-class exams throughout the term. Each exam will constitute 35% of your grade. Exams are closed-book, no notes, no calculators, and no exam corrections will be permitted.

*Exam 1:* Thursday, September 18 (tentative), in class, Stratton Hall 205

*Exam 2:* Thursday, October 9 (tentative), in class, Stratton Hall 205

**Missed Homework and Exams:**

In general, **no late homework submissions or make-up exams will be allowed**. Exceptions may be made under unusual circumstances, but approval from the instructor must be obtained prior to the deadline of an assignment or an exam (or within 24 hours if prior approval is not possible). Approved late submissions or make-up exams should be completed as soon as possible within a week of the original date. Rare and unusual circumstances may be considered.

**Academic Accommodations Statement:**

Students with approved academic accommodations should plan to submit their accommodation letters through the [Office of Accessibility Services Student Portal](#). Should you have any questions about how accommodations can be implemented in this particular course, please contact the instructor as soon as possible. Students who are not currently registered with the Office of Accessibility Services (OAS) but who would like to find out more information about requesting accommodations, documentation guidelines, and what the accommodated interactive process entails should plan to contact OAS either by email [AccessibilityServices@wpi.edu](mailto:AccessibilityServices@wpi.edu), by phone (508) 831-4908, or by stopping by the office on the 5th floor of Unity Hall.

**Academic Integrity:**

There is no place for cheating in a university. As future leaders of our society, WPI students will be held to the highest ethical standards. Hard-working honest students can be assured that the instructor and the TA will do their best to preserve the integrity of their good work by being vigilant and promptly and forcefully prosecuting cases of academic dishonesty. Each student should be familiar with WPI's Academic Integrity Policy, which can be found at <https://www.wpi.edu/about/policies/academic-integrity>. If you are ever unsure as to whether your intended actions are considered academically honest or not (including the use of AI tools), please contact your instructor in advance.