MATH 630A Fall 2014 Section 1

Instructor: Professor Stefen Hui, GMCS 523.
Office Hours: 11AM-1145AM and by appointment

TAs: None
TA Office Hours: None

Prerequisites: Math 534A and Math 534B or equivalent
Text: Richard Bass, Real Analysis for Graduate Students, Second Edition

Calculators: Not required and not allowed for exams.

Homework: (50%) Approximately one assignment every two weeks.
Midterms: (20% each) There will be one midterm and it is tentatively scheduled for Oct 23, 2014. This date is subject to change. Make-up exams will be given only in cases of documented emergencies. The make-up exams will be different and possibly more difficult than the regular exam.
Final: (30%) 1030-1230, Thursday, Dec 11, 2014. This is a comprehensive exam. The exact details will be announced prior to the final.
Scrantron: Not required.

Grades: The grades will be determined by a modified curving procedure with the guarantee that: 90% - A, 80% - B, 70% - C, 60% - D, and below 50% - F.

Homework Policy

You may discuss the problems with your classmates and exchange ideas but you must compose the solutions entirely by yourself. It is acceptable to read outside references on material related to a problem but you should avoid reading solutions of an assigned problem or a closely related problem and you must never copy a solution from an outside source and turn it in as your own.

Mandatory University Senate Statement

If you are a student with a disability and believe you will need accommodations for this class, it is your responsibility to contact Student Disability Services at (619) 594-6473. To avoid any delay in the receipt of your accommodations, you should contact Student Disability Services as soon as possible. Please note that accommodations are not retroactive, and that accommodations based upon disability cannot be provided until you have presented your instructor with an accommodation letter from Student Disability Services. Your cooperation is appreciated.
Assumed Background

1. Good command of the material in Math 534A and Math 534B or equivalent courses.
2. Ability to write clearly and coherently.
3. Ability to understand and construct simple proofs; know the meaning of “proof by contraposition”, “proof by contradiction”, “if and only if”, “necessary and sufficient”, and related terms.

Course Outline

1. Topology of Real Numbers and Metric Spaces, Chapter 1 - 2 weeks
2. Family of Sets, Chapter 2 - 1 week
3. Measurress, Chapter 3 - 1 week
4. Construction of Measures, Chapter 4 - 2 weeks
5. Measurable Functions, Chapter 5 - 2 weeks
6. The Lebesgue Integral, Chapter 6 - 1 week
7. Limit Theorems, Chapter 7 - 2 weeks
8. Properties of Lebesgue Integrals, Chapter 8 - 2 weeks
9. The Riemann Integral, Chapter 9 - 1 week
10. Types of Convergence, Chapter 10 - 1 week

Respect your classmates’ learning space and right to a conducive learning environment by

- Arriving on time;
- Not leaving before the end of class except for an emergency; leaving early is very disruptive and is strongly discouraged;
- Not texting, web surfing, etc, while in class.