

Math 5322 02: Real Analysis  
MWF 11:00, MA 111

**Course Information:**

Instructor: Chris Monico  
Email: [c.monico@ttu.edu](mailto:c.monico@ttu.edu)  
Office: MA-252  
Phone: (806)742-2580 x 271  
Office Hours: T/Th 10:00-12:30, or by appointment.  
Required Text: *Real Analysis*, H. Royden and P. Fitzpatrick, 4th Edition

**Important Dates:**

Exam 1	Wednesday, 10/20
Last day to drop a course	Monday, 11/1
Last day of classes	Wednesday, 12/8
Final Exam	Wednesday, 12/15, 1:30pm–4:00pm

**Expected learning outcomes** Upon completion of this two semester series, students should master concepts and theories of outer measure, the Caratheodory extension theorem, general measures, Lebesgue integrals with respect to a measure, Lebesgue measures, Lebesgue-Stieltjes measures, product measures, convergence theorems, Fubini-Tonelli theorem, signed measures, functions of bounded variation, absolutely continuous functions, differentiation theory, differentiation of a measure, metric spaces, compactness, Banach spaces,  $L^p$  spaces Hilbert spaces, basic Fourier analysis, bounded linear functionals, dual spaces, and bounded linear operators.

**Assessment of learning outcomes** The expected learning outcomes for the course will be assessed through scheduled exams and homework assignments. The student's final grade in this course will consist of the following weighted components:

Homework:	50%
Exam 1:	25%
(Cumulative) Final Exam:	25%

Homework will be assigned regularly and collected weekly. (Late) homework assignments will not be accepted after I've made solutions available. Students may work on assignments cooperatively (indeed, I encourage it), except when otherwise instructed.

Your final letter grade for this course will be determined as follows.

90–100%	A
80–89%	B
65–79%	C
55–64%	D
0–54%	F

**Attendance:** Class attendance is *mandatory*. It is assumed that you will attend, so I will not waste your time by taking attendance. However, keep in mind that it will be decidedly difficult for you to pass this course if you do not attend. If you miss a class, it is *your responsibility* to find out what you missed (assignments, notes,...); you may do so by asking a fellow student, or stopping by during my office hours. I will not answer email which amounts to "I overslept and missed class; what assignment is due tomorrow?"

**Extremely important:** If you are absent for an exam, you will not be permitted to make it up unless you are absent for one of the following reasons:

- You are out of town performing duties on behalf of the university (i.e., athletics). Advance notification is required.
- Religious holiday (see below).
- Severe illness, documented by a physician.
- Death in the family.
- Other extenuating circumstances, at the instructor's discretion (I'm not particularly generous with this).

**ADA Accommodation:** Any student who, because of a disability, may require special arrangements in order to meet the course requirements should contact the instructor as soon as possible to make any necessary arrangements. Students should present appropriate verification from Student Disability Services during the instructors office hours. Please note instructors are not allowed to provide classroom accommodations to a student until appropriate verification from Student Disability Services has been provided. For additional information, you may contact the Student Disability Services office in 335 West Hall or 806-742-2405.

**Religious Holy Day Observance (OP 34.19)**

1. "Religious holy day" means a holy day observed by a religion whose places of worship are exempt from property taxation under Texas Tax Code §11.20.
2. A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. A student who is absent from classes for the observance of a religious holy day shall be allowed to take an examination or complete an assignment scheduled for that day within a reasonable time after the absence.
3. A student who is excused under Section 2 may not be penalized for the absence; however, the instructor may respond appropriately if the student fails to complete the assignment satisfactorily.

**Academic integrity** "It is the aim of the faculty of Texas Tech University to foster a spirit of complete honesty and a high standard of integrity. The attempt of students to present as their own any work that they have not honestly performed is regarded by the faculty and administration as a serious offense and renders the offenders liable to serious consequences, possibly suspension."

It is expected that students will comply with all usual academic integrity standards, as described in the Texas Tech University Catalog.

**For example:** if one consults any source other than the textbook or material from in-class lectures in order to complete an assignment, then it must be cited. This includes working with your peers, information found on the Internet, problem solutions from previous semesters, other textbooks,...