

# Course Information

Math 4350–002

Fall 2009

September 4, 2009

**Instructor:** Prof. Lance D. Drager. Office: Math 236. Office Phone: 742–2580, Ext. 242.. If you let the office phone ring long enough, you'll get me or a voice mail system you can leave a message on. My e-mail address is [lance.drager@ttu.edu](mailto:lance.drager@ttu.edu).

Course materials will sometimes be posted on my web page, which is <http://www.math.ttu.edu/~drager>.

**Office Hours:** M–F, 2:00pm–3:00pm. You can come by outside of formal office hours; I'll usually have time to talk to you. Please feel free to come by if you need help.

**Text:** The text is: Robert G. Bartle and Donald R. Sherbert, **Introduction to Real Analysis, Third Edition**, Willey, NY, 2000, ISBN 978-0-471-32148-4. We will cover (approximately) Chapters 1–5 and Sections 6.1 and 6.2.

**Learning Outcomes:** Students learn how to think and reason abstractly in the context of analysis of the real line, and learn how to write correct and clear mathematical arguments in this context. There will be a heavy emphasis on proofs, especially epsilon-delta proofs. Concepts and skills to be mastered by the students include but are not limited to: suprema, infima, limits of sequences, limits of functions, continuous functions, derivatives of functions on the line.

**Assessment of Learning Outcomes:** The assessment of student's mastery of the skills and concepts as specified in the expected learning outcomes will occur, with appropriate course grades assigned, as follows:

1. Two in-class exams.
2. The final exam.
3. Exam corrections.
4. Homework.

The in-class exams and the final exam will all be equally weighted. and will count for 50% of the grade.

	Raw (x)	Rescaled (y)	
A	95	96	$y = \frac{100 - 90}{100 - 86}(x - 86) + 90$
	92	94	
	<b>86</b>	90	
B	83	86	$y = \frac{90 - 80}{86 - 78}(x - 78) + 80$
	82	85	
	<b>78</b>	80	
C	75	76	$y = \frac{80 - 70}{78 - 70}(x - 70) + 70$
	73	74	
	72	73	
(cut off at <b>70</b> )			
D	66	67	$y = \frac{70 - 60}{70 - 55}(x - 55) + 60$
	64	66	
	61	64	
	58	62	
F	<b>55</b>	60	$y = \frac{60}{55}x$
	50	48	
	48	52	
	47	45	
	40	44	

Table 1: Grade rescaling

Students will be allowed to rework examination problems they got wrong outside of class. The score on the exam corrections will be the maximum of the score on the original exam and the reworked exam. If you don't do the corrections, you get the same score on the corrections as on the original exam. The exam corrections will count for 10% of the final grade.

The homework will count for 40% of the final grade. There will be a heavy emphasis on learning to write correct proofs.

Exams will be announced well in advance.

For each exam, I will determine a grade range for the A's, B's, C's, D's and F's. I will then linearly resale the grades in the A range to the interval [90, 100], the grades in the B range will be rescaled to the interval [80, 89], and so forth.

At the end of the course, I will average the grades and assign letter grades with cutoffs 90% for A, 80% for B, 70% for C and 60% for D; I might lower these a little, but not much. Thus, with this system, you can determine your standing at any time.

For example, consider a hypothetical exam with the raw scores as in Table 1. The grade ranges might hypothetically be chosen as indicated. The numerical scores would then be rescaled as indicated in the table, using the formulas on the right and then rounding to the nearest point. The grade rescaling function would be as graphed in Figure 1.

**Final Exam:** The final exam is on Monday, August 12, from 7:30 a.m. to 10:00 a.m. It will be given in our usual classroom.

**Makeups:** If you are absent from an exam and convince me that your reason was legitimate, I will give a makeup exam. Late homework will only be accepted with a serious, legitimate excuse.

**Class Attendance:** To begin with, I will not count attendance towards the grade, although I may pass out a sign up sheet to check the class roll. Many studies show that class attendance is important in getting a good grade. I will institute an attendance system if it seems necessary!!

Remember, you are responsible for all material covered in class and all announcements made in class. If you have to miss a class, you should check with me or a classmate to see what happened.

**Formative Assessment:** Continuous formative assessment of the progress of the course will occur via ongoing communication between the instructor and the students. To this end, all students are encouraged to ask questions during class and to seek the instructor's help out of class when needed. Other activities in support of student-instructor communication will include: practice exams and quizzes, review of homework, and personal interviews with students doing poorly on work assigned at the beginning of the course.

**Identification:** You should be prepared to show your Texas Tech picture ID at any quiz or exam.

**Accommodations for Disabilities:** Any student who, because of a disability, may require special arrangements in order to meet course requirements should contact the instructor as soon as possible to make necessary accommodations. Students should present appropriate verification from Disabled Student Services, Dean of Students Office (AccessTECH). No requirement exists that accommodations be made prior to completion of this approved University process.

**Religious Holy Days:** A student may be absent from class for a religious holy day, as legally defined, and will be allowed to make up any missed examination or assignment within a reasonable time after the absence. You must notify me at the beginning of the session of any scheduled class days on which you will be absent for a religious holy day. See [http://www.depts.ttu.edu/officialpublications/catalog/\\_AcademicsRegulations.php](http://www.depts.ttu.edu/officialpublications/catalog/_AcademicsRegulations.php)

**Academic Misconduct:** 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 work any work that they have not honestly preformed is regarded by the faculty and administration as a serious offense and renders the offenders liable to serious consequences, possibly suspension.

For more information, and a description of what is considered to be misconduct, see [http://www.depts.ttu.edu/officialpublications/catalog/\\_AcademicsRegulations.php](http://www.depts.ttu.edu/officialpublications/catalog/_AcademicsRegulations.php)

**Civility in the Classroom:** Students are expected to assist in maintaining a classroom environment that is conducive to learning. In order to assure that all students have the opportunity to gain from time spent in class, unless otherwise approved by the instructor, students are prohibited from engaging in any

other form of distraction. Inappropriate behavior in the classroom shall result, minimally, in a request to leave class.

For more information, see [http://www.depts.ttu.edu/officialpublications/catalog/\\_AcademicsRegulations.php](http://www.depts.ttu.edu/officialpublications/catalog/_AcademicsRegulations.php)

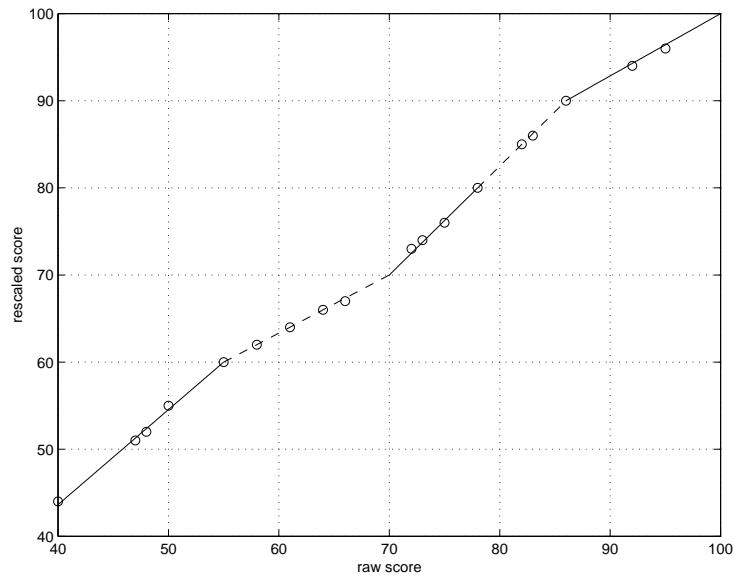


Figure 1: Graph of the grade rescaling function