

Calculus II – Math 252

Syllabus

Instructor: Alexander Kleshchev; office: Deady 309,
e-mail: klesh@uoregon.edu, phone 6-4718.

Class meets: MUWF 2:00-2:50, Deady 102.

Office hours: MF 3:00-3:50 (or by appointment), Deady 309.

Text: *Single Variable Calculus, Early Transcendentals*, Stewart, 6th Edition. We will cover roughly chapters 5,6 and 7.

Exams: There will be 2 midterms on Wednesdays of week 4 and week 8. There will be a two hour final exam at the time scheduled by the registrar's final exam calendar.

Quizzes: We will have quizzes on Wednesdays the first 15 minutes of class time.

Homework: There will be weekly homework assignments, due on Wednesday. We will usually devote Tuesdays to answering homework questions.

Grades: Each midterm will count as 20% of your grade, the total homework will count as 20% of your grade, the total quizzes will count as 10%, and the final exam will count for 30%.

The students are expected to have a working knowledge of Math 251. This class will be much easier if you spend some time in advance refreshing your memory about differentiation.

It is extremely important to study the relevant part of the text *before* the related lecture. This will make lectures easier to understand and give you a chance to ask questions that come up reading the text.

Doing the homework seriously is the most important thing you can do to succeed in this course. Start early, and do some every day. You may work together on homework, as long as the work you do is really your own.

Please do ask questions about the homework, or any other aspect of the course, in class. I will always be happy to spend the first few minutes of class dealing with homework questions, or questions from previous lectures, so come prepared! In order to ask questions effectively, make notes to yourself as you review lectures (and discover points that are unclear to you), as you study the text (and notice things that you

are not sure you understand), and as you work on homework and come to problems you have trouble with.

Course Goals

Main goal of this class is to understand the idea of integral and learn the techniques for basic computations. In other words we will learn what is the meaning of expression like $\int_0^\infty \frac{dx}{x^2+1}$, how to compute it, and what it is good for.

Approximate Schedule

Week 1: The Area problem and definite integral as a limit of Riemann sums. 5.1-5.2.

Week 2: Indefinite integral and the fundamental theorem of calculus. 5.3-5.4.

Week 3: The substitution rule. Computation of areas between curves. 5.5 and 6.1.

Week 4: Applications of integration: volumes, work, average values. 6.2-6.5.

Week 5: Integration by parts. 7.1.

Week 6: Trigonometric integrals. 7.2-7.3.

Week 7: Integration of rational functions. 7.4-7.6.

Week 8: Approximate integration. 7.7.

Week 9: Improper integrals. 7.8.

Week 10: Review.