

Math 395: Real Analysis II

Spring 2020

Jay Daigle

Course Description

This is a second course in real analysis, further developing the concepts presented in MATH 310. Topics may include basic measure theory, the Lebesgue measure and Lebesgue's theory of integration, normed linear spaces, and a rigorous treatment of limits and calculus in multidimensional spaces.

Math 395 is a 4-unit course. It is expected that students in this class will be devoting at least twelve(12) hours a week (including in-class time) on average.

Instructor Info

Lectures:	MWF 4:05 – 5:00 PM	Fowler 201	
Instructor:	Jay Daigle	Office Hours:	MWF, 1:30 - 2:45 PM
Office:	Fowler 325	Often in Office:	TR, 12:30 - 1:30 PM
Email:	gdaigle@oxy.edu		TR, 3:00 - 5:00 PM
Course Webpage:	http://jaydaigle.net/analysis		

References

There is *no mandatory textbook* for this course. I will post complete lecture notes and homework assignments on the course webpage.

The primary reference I will be using is *Lebesgue Integration on Euclidean Space* by Frank Jones. I will also refer to *Measure, Integral, and Probability* by Marek Capiński and Ekkehard Kopp.

Grading

- Homework: 50%
- Redo Problems: 15%
- Midterms: 10% each
- Final: 15%

Course Policies

- **Homework:** Homework is by far the most important component of this course. Math is a skill that can only be learned by practice, and it's very difficult to understand the material until you have worked through applying it.

Homework will be assigned weekly and collected on Fridays. I will do my best to return it by the following Monday. I will *not* except late homework without prior permission or a note from the dean or the health center. If you need an extension, please email me before the homework is due. I am usually up late.

Please begin the homework early, and discuss it with your classmates and with me. This is important enough to get its own paragraph.

- **Redo Problems:** One problem on each week's homework will be starred. You may *not* discuss this problem with classmates, though you should of course feel free to discuss it with me as much as you like. You must submit the starred problem on a *separate, detached sheet of paper* each week.

I will be exceptionally picky grading the starred problems, and in particular I will grade precision and clarity of writing. After receiving my feedback, you may resubmit the problem the following week with corrections and edits made, and the new grade will replace the earlier.

If you go a full week without submitting a problem or getting an extension from me, your grade will be locked in. This mostly means you can't put them off and then redo all of them in the last week of the term. (This is a terrible idea and never works).

- **Exams:** There will be two midterms and a final. The midterm dates are tentatively February 21 and April 1. The final exam will follow the official schedule.

The tests are less important than the homework, and of necessity can only test material shallowly. We will discuss the tests more when the test dates approach.

College Policies

- **Academic Ethics:** Students are expected to comply with the Student Handbook, in particular the section on Academic Ethics. You can find the policy at <https://www.oxy.edu/student-handbook/academic-ethics/academic-misconduct>
- **Title IX:** In the event that you choose to write or speak about having experienced sexual or interpersonal violence, including sexual assault, dating violence, domestic violence, stalking, sexual exploitation or any other form of sexual harassment, federal and state education laws require that, as your instructor and a designated Responsible Employee, I notify the Title IX office. They will contact you to let you know about accommodations and support services at Oxy and reporting options both on and off-campus.

If you do not want the Title IX Office notified, instead of disclosing this information to your instructor, you can speak confidentially with the following people on campus:

- Marianne Frapwell, Survivor Advocate, Project SAFE (survivoradvocate@oxy.edu)
- Emmons Counseling (For appointments, call: 323-259-2657)
- Rev. Dr. Susan Young, Office of Religious and Spiritual Life (young@oxy.edu)

The sexual misconduct policy, along with additional resources, can be found at: <http://www.oxy.edu/sexual-respect-title-ix/policies-procedures>.

- **Special Accommodations/Learning Differences:** Students with documented disabilities and learning differences who are registered with Disability Services are required to present their accommodation letter to the instructor at the beginning of each semester or as soon as possible thereafter. Any student who has, or thinks they may have, a physical, learning, or psychological disability may contact Disability Services at (323) 259-2969 to learn about available services and support. More information is available at <http://www.oxy.edu/disability-services>.
- **Accommodations for Reasons of Faith and Conscience:** Consistent with Occidental College's commitment to creating an academic community that is respectful of and welcoming to persons of differing backgrounds, we believe that students should be excused from class for reasons of faith and conscience without academic consequence. While it is not feasible to schedule coursework around all days of conviction for a class as a whole, faculty will honor requests from individual students to reschedule coursework, to be absent from classes that conflict with the identified days. Information about this process is available on the ORSL website: <https://www.oxy.edu/office-religious-spiritual-life>.