Instructor: Bronson Lim
Office: Fenton Hall 311
Office Phone: 541-346-5620
Office Hours: MTWR 9:00-10:00, and by appointment
Email: bcl@uoregon.edu
Class: 10:00-10:50, MTWRF, DEA 307

Course Webpage: pages.uoregon.edu/bcl/teaching/315-su16

Prerequisites: Math 253 or equivalent; one from Math 232, 262, 307.

Text: Understanding Analysis, by Stephen Abott. I will assign problems from the second edition. We will discuss sections from chapters 1-4.

Work Load: An average well-prepared student should expect to spend at least twelve hours of work per week outside class attendance, but there will be a lot of variation depending on background and ability.

Objectives: The course serves as a transition between the computationally oriented calculus sequences (Math 251/2/3 and Math 281/2) and some of the more theoretically oriented 400 level courses (the analysis sequence Math 413/4/5 and the complex variables sequence Math 412/3). More importantly, it serves as an entry into proof based mathematics supplementing the course on proof theory (Math 307).

The course will begin with an introduction to cardinality and the real numbers - irrationality, completeness, uncountability. Results on sequences and series will be discussed including Monotone Convergence Theorem, Bolzano-Weierstrass Theorem, Cauchy Criterion. The topology of the real line will also be discussed - open and closed set, compactness, connectedness, Baire’s Theorem. The course will finish with limits and continuity - functional limits, continuous functions, Intermediate Value Theorem.

Problem of the Day: The problem of the day will count towards 20% of your final grade. I will ask a problem relevant to the lecture at the end of each class to be due at the beginning of the next class.

Homework: Homework will count towards 20% of your final grade. Homework will be collected twice per week on Tuesdays and Fridays at the beginning of class. Homework must be typed. Extra credit will be awarded to those who type their homework with \LaTeX, see the course website for more information. You may also see me and we can set it up.

Chapter Exams: There will be four chapter exams covering the material from the previous chapter. They are worth 15% each.
Grading:

Problem of the Day .................................................. 20%
Homework ............................................................ 20%
Four Chapter Exams .............................................15%(each)

Plus and minus grades will be awarded in the upper and lower 2% of a bracket. (e.g. A grade of B+ is awarded for course grades between 88% and 90%, assuming no curve in grades).

Student Conduct: I plan to treat every student with respect and, as such, expect my students to show respect for me and for the class as a whole. Violations of the student conduct code result in the incident being included on your student conduct record and can result in a failing grade on any course work related to the violation or a failing grade in the course. The University of Oregon requires ALL instances of cheating be reported, no matter how small. Copying content from other students and submitting it as your own work is grounds for failing the class. The University Student Conduct Code (available at [http://conduct.uoregon.edu](http://conduct.uoregon.edu)) defines academic misconduct. Students are prohibited from committing or attempting to commit any act that constitutes academic misconduct.

Special Accommodations: If you are currently registered with Disability Services for a documented disability, please present your paperwork to me as close to the beginning of the term as possible so that we can design a plan for you. If you have a disability but are not registered with DS, you should contact them as soon as possible. It is much more likely that measures can be taken to provide adequate special accommodation if the organization is done through DS.

Blackboard/Webwork/Canvas: I will not be using blackboard, webwork, or canvas. All course documents will be posted on the course website.

Important Dates: For a list of important dates such as drop deadlines, etc.g see: [http://registrar.uoregon.edu/calendars/academic](http://registrar.uoregon.edu/calendars/academic)

Showing Work: I will read your work just as it is written. It is therefore important to write coherently. You must always show work as it is the process which is important, not the answer. Problems with little to no work may result in a score of zero points.

Basic Notions: The following notions I consider obvious but you should be aware of them.

1. I will read your work just as it is written, so write coherently. If you or a classmate cannot understand what you’ve written, then neither can I.

2. You may always schedule appointments with me if you need any help. This means that the excuse “I can’t make your office hours because (insert typical excuse)” is unacceptable.

3. Ask questions when you have them. If you don’t ask I assume that you know the material. And don’t forget a good student is a student who asks questions.
4. Expect to spend 8-12 hours a week on this course. If you don’t have this amount of time to dedicate, then don’t take the course.

5. If you miss class, you are responsible for the material that is covered.

**Title IX**: Under Title IX, The instructor has a duty to report relevant information. The UO is committed to providing an environment free of all forms of prohibited discrimination and sexual harassment, including sexual assault, domestic and dating violence and gender-based stalking. Any UO employee who becomes aware that such behavior is occurring has a duty to report that information to their supervisor or the Office of Affirmative Action and Equal Opportunity. The University Health Center and University Counseling and Testing Center can provide assistance and have a greater ability to work confidentially with students. Note: UO employees also have a duty to report child abuse. For those classes and/or processes in which students have historically reported information regarding child abuse, the language can be expanded to provide that notice as well by adding the following statement: All UO employees are required to report to appropriate authorities when they have reasonable cause to believe that any child with whom they come in contact has suffered abuse or any person with whom they come in contact has abused a child.

**Work Hard!** I think this course will be great! Remember to stay on top of things, do your work, and see me if you need help. After all, I only exist to help you! Outside of scheduled office hours email is the best way to contact me, as I check it often. Good luck!