MATH 311-01 Elementary Analysis
FALL 2019

Lecture: MWF 10–10:50, Morton 40
Instructor: Eric Swartz
E-mail: easwartz@wm.edu
Office hours: MWF 11–12 and by appointment, Jones 133. I will usually be around after 1 PM in the afternoons MWF. If my door is open, feel free to stop in!
Course homepage: We will use **Blackboard** as our course homepage.
Important dates: September 6 (Add/drop deadline), October 28 (Withdraw deadline)

Content: An introduction to the theory of real variables, the topology of the real line, convergence and uniform convergence, limits and continuity, differentiation, Riemann integration and the Fundamental Theorem of Calculus.

Textbook: We will (roughly) follow *Understanding Analysis* by Stephen Abbott, Second Edition. However, the older edition of this text is acceptable! This book is recommended, not required.

Homework: Homework will be assigned in each class. The definitive list of assigned homework will be posted on Blackboard. You are strongly encouraged to do all or most of each assignment before the next class. However, correctness is even more critical than promptness. Incorrect proofs will be returned for you to repair, and you will not receive a grade from me until they're completely correct. The final due date for each problem is two weeks after the problem is assigned. (If class does not meet two weeks after a problem is assigned, then it's due at the following class meeting.) Your final homework grade will be based on the number of *completely correct* proofs handed in on time, *regardless of how many incorrect versions you turned in previously.*
Don't wait until the day before a problem is due to make your first attempt! Especially early in the semester, as you are getting used to writing proofs, problems may take multiple tries to get completely correct! Turn in an attempt as soon as possible after it's assigned so that you can get feedback.
Late homework will only be accepted under truly extraordinary circumstances (e.g., major surgery).
In order to be counted correct, a proof must be written in clear, correct English.
While you may discuss the problems with your classmates (and you are in fact encouraged to do so!), copying someone else's work is strictly prohibited and will result in scores of zero for *everyone* involved. In particular, you may not use another student's final work as a "model," and you may not allow other students to study your final work. Everyone must hand in final proofs separately. Needless to say, copying or adapting a proof from another source (e.g., book or internet) is strictly prohibited as well.

LaTeX: Your homework assignments must be typeset using LaTeX. You can download your own dedicated program, or you may use the online editor available at `https://www.overleaf.com/`. Sign up for free, start a new project, and paste the text from "sample.tex" into the source side.

It is easy to google commands/techniques that you don't know, but a list of common symbols is available at `http://cklixx.people.wm.edu/TeX-symbol.pdf`

Tests: There will be a midterm on Friday, October 11. The final exam will be comprehensive and will take place Wednesday, December 18, from 2– 5 PM.

Grading:

$$\text{Homework: } 50\%$$
$$\text{Midterm: } 20\%$$
$$\text{Final: } 30\%$$

Final letter grades are assigned using the scale: A 93–100, A- 90–92, B+ 87–89, B 83–86, B- 80–82, C+ 77–79, C 73–76, C- 70–72, D+ 67–69, D 63–66, D- 60–62, F <60
This scale is not rigid! Lower cutoffs are often used.

Honor code: Students are expected to uphold the honor code in this class. Any suspected infraction will be reported. Rest assured, I am older and more experienced than you are. **I will catch you if you cheat!**