

The nineteenth century would see ever expanding investigations into the assumptions of calculus, an inspection and refitting of the structure from the footings to the pinnacle, so thorough a reconstruction that calculus was given a new name: analysis.

– David Bressoud, *A Radical Approach to Real Analysis*

Text. S. Abbott, *Understanding Analysis*, 2nd edition.

COVERAGE: the place of the real numbers among ordered fields; selected sections of chapters 1, 2, 3, 4, 7.

Office hours. MWF 2:00 – 3:30. CJ 120. Come for the math; stay for the hang. Bring a friend.

Homework. The weekly agenda will be posted on BLACKBOARD under **Assignments**. Take advantage of this residential community by consulting with one another on your homework problems.

In today's world and in the future, most great accomplishments ... will be collaborative. And that same sort of creative collaboration – exactly the same sort of contentious, committed, competitive, cantankerous, inspiring, enlightening teamwork – exists in the most successful enterprises ... Creative teams are about creative relationships ...

– Christopher Dickey (1951 - 2020), foreign editor for *The Daily Beast*, Hamilton College Commencement address, May 2014

- PREPARE HOMEWORK IN TEAMS OF TWO. Each team uploads one submission, typeset in L^AT_EX, to **Gradescope**. Problem solutions require justification unless specific mention is made to the contrary.
- You may, on occasion, be invited to *rewrite and resubmit* a solution to a homework problem. If you accept the invitation, please submit the rewrite within a week.

Writing. This is a writing-intensive course. All the criteria used for any written work apply.

Complementing course content, we will focus on methods and strategies, as well as techniques and structural aspects involved in fashioning sound, logical, cogent, persuasive mathematical arguments.

The basic problem in writing mathematics is the same as in writing biology, writing a novel, or writing directions for assembling a harpsichord: the problem is to communicate an idea. ... You must organize what you want to say, and you must arrange it in the order you want it said in, you must write it, rewrite it, and re-rewrite it several times, and you must be willing to think hard about and work hard on mechanical details such as diction, notation, and punctuation. That's all there is to it.

– Paul R. Halmos, *I Want to be a Mathematician – an Automathography in Three Parts*

- PREFERRED PRONOUNS for formal mathematical writing: we, one, it. Inappropriate pronouns: I, you.

Three in-class quizzes. **September 12, October 15, November 14**

Three mid-term tests. **4:00 p.m. – 6:00 p.m. on: September 26, October 29, December 5**

→ Courses, rehearsals, athletics, etc. that are scheduled during test times take precedence. ←

→ See me to arrange for testing accommodations, if applicable. ←

Comprehensive final exam: **7:00 p.m. – 10:00 p.m. on: Monday, December 15**

Grading. The following weightings will be used to compute your final grade in the course.

Homework	8%
Quizzes (highest: 8%, middle: 6%, lowest: 4%)	18%
Tests (highest: 20%, middle: 18%, lowest: 16%)	54%
Final exam	20%

