

Principles of Analysis
(MATH 3083)
Fall 2004

Professor: Paul Bailey

Office: WIL 228

Office Hours: MWF 10 am to 11 am, 2 pm to 3 pm; TR 1 pm to 2 pm

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Book: *Elementary Analysis: The Theory of Calculus*, by Kenneth A. Ross

Grading

| | | | |
|-----------|-------------|------------------|-----|
| A: | 85% to 100% | Homework: | 20% |
| B: | 70% to 84% | Quizzes: | 20% |
| C: | 50% to 69% | Midterm: | 20% |
| D: | 30% to 49% | Final: | 40% |
| F: | 0% to 29% | | |

Homework exercises will be assigned daily, to be attempted before the next class. The purpose of these exercises is practice; they will not be collected or graded.

Homework problem sets will be assigned periodically, to be due in one week. The write up of each problem should state both the problem and then the solution. It should be neat and legible, using words in complete sentences, where appropriate.

You are welcome to work with each other on problem sets if you follow these rules: 1) anyone you discuss a problem with should be mentioned in your solution, and the originator of any idea should be so credited, and 2) you must write your solution in your *own words* (NO COPYING). Any violation of rules 1) and 2) is academic dishonesty.

Quizzes will be given weekly, on Friday. The midterm examination will be given in mid-October. The final examination is scheduled for Wednesday, December 15, at 8:00 am.

Approximate Syllabus

| Week | Beginning | Topic | Sections |
|---------|-----------|------------------------------|---------------|
| Week 1 | Aug 30 | Axiomatic Numbers | 1, 2, 3, 4, 5 |
| Week 2 | Sep 6 | Constructed Numbers | 6 |
| Week 3 | Sep 13 | Sequences | 7, 8, 9 |
| Week 4 | Sep 20 | Subsequences | 10, 11, 12 |
| Week 5 | Sep 27 | Compactness in Metric Spaces | 13 |
| Week 6 | Oct 4 | Series | 14, 15 |
| Week 7 | Oct 11 | Cardinality | 16 |
| Week 8 | Oct 18 | Continuity | 17, 18, 19 |
| Week 9 | Oct 25 | Continuity in Metric Spaces | 20, 21, 22 |
| Week 10 | Nov 1 | Power Series | 23, 24 |
| Week 11 | Nov 8 | Power Series | 25, 26 |
| Week 12 | Nov 15 | Differentiation | 27, 28 |
| Week 13 | Nov 22 | Differentiation | 29, 31 |
| Week 14 | Nov 29 | Integration | 32, 33 |
| Week 15 | Dec 6 | Integration | 34 |