

The exam will cover all material taught. Everything we talked about from Chapters 1-7 is fair game.

This document lists definitions and statements of theorems you should know. Not everything listed here will be asked on the final, and absence from this list is not a guarantee that it will not appear.

You should know all the things from the midterm 2 study guide.

Additional material since then:

Definitions:

- Definition of the derivative.
- The full on definition of the Riemann integral.
- A Riemann integrable function.
- Be able to define all the pieces that go into the above.
- Pointwise convergence.
- Uniform convergence.

Theorems:

- Interior Extremum Theorem
- Rolle's Theorem (typically known as Rolle's Lemma)
- Mean Value Theorem
- Cauchy Criterion for Uniform Convergence
- Fundamental Theorem of Calculus, both parts

Then, there is the material from the first midterm, including a lot of foundations for the class. Anything asked on the first midterm is fair game. The following come to mind.

Definitions:

- An upper/lower bound for a set.
- A bounded set.
- A supremum/infimum of a set.
- Convergence of sequences and series.
- Finite, infinite, countably infinite, uncountable sets.

- Axiom of completeness.
- A Cauchy sequence.

Theorems:

- Monotone Convergence Theorem
- Nested Interval Theorem
- Cauchy Criterion
- Bolzano Weierstrass Theorem
- Squeeze Theorem