This exam covers:

- Applications of the Integral: average value, area, volume, arclength, density, center of mass, work, hydrostatic pressure/force, income stream, consumer/producer surplus (5.4, 8.1, 8.2, 8.4, 8.5, 8.6)
- Sequences: ways of representing a sequence, convergence of a sequence (9.1)

Format of the exam:

- Most problems will be similar to homework problems.
- Calculators will not be permitted; numerical computations will be amenable to hand calculation, at least in my opinion.
- There is one "fill-in-the-blanks" question which tests your knowledge of basic facts and your understanding of key ideas.

Make sure you **understand the basic concepts** underlying each application and **understand the process** of setting up a Riemann sum and a definite integral in all of the applications. In some applications there are also some specific formulas to memorize. (See below.)

Specific facts and formulas to know:

- Arclength formulas.
- Center of mass formulas.
- Present and future value formulas.
- Convergence/divergence of sequences of the form x^n or $1/n^p$.

To study for the exam, make sure you understand the **homework problems**. If you understand all of those problems thoroughly, work on these additional problems from the 6th edition of the textbook.

- Ch 5 Review: 10-16, 27, 28
- Ch 8 Review: 5-28, 34-50, 53-57, 66-76, 78, 83, 85
- Ch 9 Review: 13-16, 66-70