This exam covers:

- Derivatives: interpretation as rates of change, Taylor polynomials and Taylor polynomial approximations (including linear and quadratic approximation), Taylor series (2.4, 3.9, 10.1, 10.2)
- Definite Integrals: interpretation as accumulated net change, numerical approximation (5.1, 5.2, 7.5)
- Fundamental Theorem: using antiderivatives to evaluate definite integrals and using definite integrals to construct antiderivatives (5.3, 6.1, 6.4)
- Differential equations: finding general solutions using antidifferentiation or separation of variables, finding particular solutions, slope fields and solution curves, writing a differential equation to model growth or decay, half-life, equilibrium solutions (6.3, 11.1, 11.2, 11.4, 11.5)

Formulas to know:

- Local linearization and Taylor polynomials
- Taylor series for e^x, $\cos x$, $\sin x$ about $x = 0$.
- Trapezoidal Rule and Simpson's Rule

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.

Exercises for review, priority in bold:

- Ch 2 Review: **54**, **55**
- Ch 3 Review: **105**, 106
- Ch 5 Review: 6, **7**, 19, **23**, 25, 26, **29**, 30, 31
- Ch 6 Review: **1**, 2, **3**, 4, 49, **55**, 56, 57, **91**, 94
- Ch 7 Review: **183**, 184
- Ch 10 Review: **1**, 2, 3, 4, 6, **7**, 8, **11**, 12, **23**, 30, 32 (graphical part), 35, 37
- Ch 11 Review: **1**, **2**, 4, **5**, 6, **7**, 10, **11**, 26, , **27a**, 32, **34**, **36**, 40