

Math 251 Suggested Weekly Schedule

James Stewart (Early Transcendentals) Eighth Edition

- Week 1
 - Course introduction
 - Three dimensional coordinate systems (12.1)
 - Vectors (12.2)
 - The dot product (12.3)
 - The cross product (12.4)
- Week 2
 - Equations of lines and planes (12.5)
 - Cylinders and quadric surfaces (12.6) (*briefly*)
 - Vector functions and space curves (13.1)
- Week 3
 - Derivatives and integrals of vector-functions (13.2)
 - Arc length, curvature (13.3)
 - Motion in space: displacement, velocity, and acceleration (13.4)
- Week 4
 - Functions of several variables (14.1)
 - Limits and continuity (*optional*) (14.2)
 - Partial derivatives (14.3)
 - **Exam 1** (covers through Section 13.4)
- Week 5
 - Tangent planes and Linear approximation (14.4)
 - The chain rule (14.5)
 - Directional derivatives and the gradient vector (14.6)
- Week 6
 - Maximum and minimum values (14.7)
 - Lagrange multipliers (14.8)
- Week 7
 - Double integral over rectangles (15.1)
 - **Exam 2** (covers Chapter 14)

- Week 8
 - Double integral over general regions (15.2)
 - Double integrals in polar coordinates (15.3)
 - Applications of double integrals (*optional*) (15.4)
 - Surface Area (15.5) (*can be combined with section 16.6 if pressed for time*).
- Week 9
 - Triple integrals (15.6)
 - Triple integrals in cylindrical coordinates (15.7)
 - Triple integrals in spherical coordinates (15.8)
- Week 10
 - Change of Variables in Multiple Integrals, Jacobians (15.9)
 - Vector fields (16.1)
- Week 11
 - **Exam 3** (covering chapter 15)
- Week 12
 - Line integrals (16.2)
 - Fundamental theorem of line integrals (16.3)
 - Green's theorem (16.4)
- Week 13
 - Curl and divergence (16.5)
 - Parametric surfaces and their area (16.6)
 - Surface integrals (16.7)
 - Note:** Thanksgiving falls on this week in the fall.
- Week 14
 - Stokes' Theorem (16.8)
 - The Divergence Theorem (16.9)
- Week 15
 - Review for final
 - Final Exam (covers chapter 16) (Go to the office of the registrar for the Final Exam Schedule)
 - Note:** Last week of class has redefined days. See important Dates for more details.