Math 251 Suggested Weekly Schedule

1. Week 1
    - Course introduction
    - Three dimensional coordinate systems (12.1)
    - Vectors (12.2)
    - The dot product (12.3)
2. Week 2
    - The cross product (12.4)
    - Equations of lines and planes (12.5)
    - Cylinders and quadric surfaces (12.6) (briefly)
3. Week 3
    - Vector functions and space curves (13.1)
    - Derivatives and integrals of vector-functions (13.2)
    - Arc length, curvature, torsion (13.3)
4. Week 4
    - Motion in space: displacement, velocity, and acceleration (13.4)
    - Functions of several variables (14.1)
    - **Exam 1** (covers through Section 13.4)
5. Week 5
    - Partial derivatives (14.3)
    - Tangent planes and Linear Approximation (14.4)
    - The chain rule (14.5)
6. Week 6
    - Directional derivatives and the gradient vector (14.6)
    - Maximum and minimum values (14.7)
7. Week 7
    - Lagrange multipliers (14.8)
    - Double integral over rectangles (15.1)
8. Week 8
    - **Exam 2** (covers through Section 14.8)

9. Week 9
    - Double integral over general regions (15.2)
    - Double integrals in polar coordinates (15.3)
    - Applications of double integrals (15.4) (optional)
10. Week 10
    - Surface Area (15.5) Note: If pressed for time, this concept can be combined with Section 16.6
    - Triple integrals (15.6)
    - Triple integrals in cylindrical coordinates (15.7)
11. Week 11
    - Triple integrals in spherical coordinates (15.8)
    - Change of Variables in Multiple Integrals, Jacobians (15.9)
12. Week 12
    - Vector fields (16.1) **Exam 3** (covers Chapter 15)
13. Week 13
    - Line integrals (16.2)
    - Fundamental theorem of line integrals (16.3)
    - Green's theorem (16.4)
14. Week 14
    - Curl and divergence (16.5)
    - Parametric Surfaces and their areas (16.6)

      Note: Thanksgiving falls on this week in the fall.
15. Week 15
    - Surface Integrals (16.7)
    - Stokes' Theorem
16. Week 16
    - The Divergence Theorem (16.9)
    - Review for final.
    - **Final Exam** (covers Chapter 16)

      Note: Instructors should be wary of redefined days in week 16 and adjust their coverage of topics accordingly.