Math 251 Suggested Weekly Schedule

• 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)
  – Vector functions and space curves (13.1)

• Week 3
  – Derivatives and integrals of vector-functions (13.2)
  – Arc length, curvature, torsion (13.3)
  – Motion in space: displacement, velocity, and acceleration (13.4)

• Week 4
  – Functions of several variables (14.1)
  – Limits and continuity (briefly) (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)
  – Double integral over general regions (15.2)
  – Double integrals in polar coordinates (15.3)
• Week 8
  – Applications of double integrals (15.4)
  – **Exam 2** (covers through Section 15.3)

• Week 9
  – Triple integrals (15.6)
  – Triple integrals in cylindrical coordinates (including applications of triple integral) (15.7)
  – Triple integrals in spherical coordinates (15.8)

• Week 10
  – Change of Variables in Multiple Integrals, Jacobians (15.9)
  – Vector fields (16.1)
  – Line integrals (16.2)

• Week 11
  – Curl and divergence (16.5)
  – Fundamental theorem of line integrals (16.3)
  – Green’s theorem (16.4)

• Week 12
  – Parametric surfaces and their area (15.5, 16.6)
  – Surface integrals (16.7)
  – **Exam 3** (covers through Section 16.2 and Section 16.5)

• Week 13
  – Continue 16.7
    **Note:** Thanksgiving falls on this week in the fall.

• Week 14
  – Stokes’ Theorem (16.8)
  – The Divergence Theorem (16.9)
    **Note:** Instructors should be wary of redefined days in week 15 and adjust their coverage of topics accordingly.

• Week 15
  – Continue 16.9
  – Review for final.
    **Note:** Last week of class has redefined days. See important Dates for more details.