Instructor: Yekaterina Epshteyn

Math 1320

Tentative Week-by-Week Guide of Textbook Sections. It will be Adjusted Based on the Progress of the Course.

- Week 1: 6.1, 6.2, 6.3— Areas, Volumes, shells, cylinders.
- Week 2: 6.4, 6.5, 6.6—Arc length, Average Values, Applications of Integration to Engineering; 7.1–Modeling with Differential Equations.
- Week 3: 7.2, 7.3, 7.4—Direction Fields, Differential Equations, Exponential Growth and Decay.
- Week 4: 8.1, 8.2, 8.3—Sequences, Series, Convergence Tests for Series.

Week 5: 8.4, 8.5, 8.6— Power Series, Representing Functions with Power Series.

Week 6: 8.7-8.8 Taylor and Maclaurin Series, Applications of Taylor Polynomials.

Week 7: 9.1, 9.2, 9.3 Three Dimensional Coordinates, Vectors, Dot Product.

Week 8: 9.4-9.5 Cross Product, Equations of Lines and Planes.

Week 9: 9.6, 9.7, 10.1 Functions and Surfaces, Cylindrical and Spherical Coordinates, Vector Function.

Week 10: 10.2, 10.3, 10.4 Derivatives and Integrals of Vector Functions, Arc Length, Curvature.

Week 11: 10.4,10.5 Velocity, Acceleration, Parametric Surfaces.

Week 12: 11.1, 11.2, 11.3 Functions of Several Variables, Limits, Partial Derivatives.

Week 13: 11.4-11.5 Tangent Planes, Linear Approximation, Chain Rule.

Week 14: 11.6-11.7 Directional Derivative, Gradient Vector, Maximum and Minimum Values.

Week 15: 11.8 Lagrange Multipliers.