Comments:

Several of the files contain embedded animations . These animations will run with only some pdf viewers. One that should work is the Adobe Reader.

Because of the schedule in W14, I did not use the sections on cylindrical and spherical coordinates, change of variables, parametric surfaces and surface area, and arc length and curvature – these may be more rough than the others.

Here is an outline of how I think current list of sections should be organized. The sections marked with \* can be skipped or moved without loss of continuity.

Chapter: Multivariable Functions and Vector Functions

* Functions, Traces, and Contours
* Vectors
* The Dot Product
* The Cross Product
* Lines and Planes
* Vector-Valued Functions
* Derivatives of Vector-Valued Functions
* Arc Length and Curvature\*

Chapter: Differentiation of Functions of Several Variables

* Limits
* Partial Derivatives
* Linearizations
* The Chain Rule
* Directional Derivatives
* Optimization
* Constrained Optimization -- Lagrange Multipliers

Chapter: Integration of Functions of Several Variables

* Double Integrals over Rectangles
* Iterated Integrals
* Double Integrals over General Regions
* Applications of Double Integrals
* Polar Coordinates and Double Integrals in Polar Coordinates
* Parametrically Defined Surfaces and Surface Area\*
* Triple Integrals
* Cylindrical and Spherical Integrals and Triple Integrals
* Change of Variables