Log of Math 126F

August 16 -notes

Post July 10 - notes

- See Caleb Geiger's notes

July 10 -notes

- 13.4 Motion in Space: Velocity and Acceleration
  - Velocity, acceleration, and displacement
  - Speed and distance traveled
  - Obtaining position vector from acceleration and initial conditions
  - Tangential and normal components of acceleration

July 7 - notes

- 10.3 Polar Coordinates
  - Definition of polar coordinates
  - Conversions between polar and cartesian coordinates
  - Graphs in polar coordinates
  - Symmetries of polar graphs
  - Tangents to polar curves

July 5 - notes

- 13.3 Arc length and Curvature
  - More parameterizing a curve with respect to arc length
  - The unit normal and unit binormal vector
  - TNB frame
  - The normal plane
  - The osculating plane
  - The osculating circle

July 3 - notes by Caleb Geiger

- 13.3 Arc length and Curvature
  - Definition of arc length
  - Parameterizing a curve with respect to arc length
  - Definition of unit tangent vector

  - Intuitive definition of curvature in terms of osculating circle
  - Computational definition of curvature

June 30 - notes

- 10.2 Calculus with parametric curves
  - Tangents of parametric curves
  - Arclength of parametric curves
- 13.2 Derivatives and Integrals of Vector Functions
  - Derivatives of vector functions
  - Unit tangent vectors of vector functions
  - Integrals of vector functions

June 28 - notes

- 12.6 Cylinders and Quadratic Surface
  - Transformations of quadratic surfaces from standard form
  - Converting equations into standard form equations by completing the square
- 10.1/13.1 Vector functions and space curves
  - Definition of vector functions
  - Definition of parametric equation
  - Definition of space curves
  - Intersections versus collisions
  - Graphs of vector functions
  - Limits of vector functions
  - Continuous vector functions

June 26 - notes

- 12.5 Equation of lines and planes
  - A point and normal vector defines a plane
  - Vector equation for a plane
  - Linear equation for a plane
  - All plane problems reduce to finding a point and a normal vector
  - Distance from a point to a plane
- 12.6 Cylinders and Quadratic Surface
  - Definition of a trace
  - Definition of a cylinder
  - Quadratic surfaces

June 22 - notes

- 12.4 Cross Product
  - Computational definition of cross product
  - Intuitive definition of cross product
  - Basic properties
  - Torque as a cross product
- 12.5 Equation of lines and planes
  - Defining data of a line (2 points or a point and direction)
  - Vector equation of a line
  - Parametric equation of a line
  - Symmetric equation of a line
  - Conversations between all forms
  - Skew, parallel, intersecting lines

June 20 - notes

- 12.2 Vectors
  - Equation of sphere
- 12.3 Dot product
  - Definition of dot product
  - Basic properties
  - Dot product as information about angles
  - Projection, components
  - Work as a dot product

June 18 - notes

- 12.1 Coordinate System
  - Graphs in 3d
  - Distance formula
- 12.2 Vectors
  - Definition of a vector
  - Addition, scalar multiplication,
  - length, normalization