Chapter 12 Vector-Valued Functions

Chapter Summary

12.1

- Analyze and sketch a space curve given by a vector-valued function.
- Extend the concepts of limits and continuity to vector-valued functions.

12.2

- Differentiate a vector-valued function.
- Integrate a vector-valued function.

12.3

- Describe the velocity and acceleration associated with a vector-valued function.
- Use a vector-valued function to analyze projectile motion.

12.4

- Find a unit tangent vector at a point on a space curve.
- Find the tangential and normal components of acceleration.

12.5

- Find the arc length of a space curve.
- Use the arc length parameter to describe a plane curve or space curve.
- Find the curvature of a curve at a point on the curve.
- Use a vector-valued function to find frictional force.