Enduring Understandings	Learning Objectives	Essential Knowledge
(Students will understand that...)	(Students will be able to...)	(Students will know that...)
EU 2.1: The derivative of a function is defined as the limit of a difference quotient and can be determined using a variety of strategies.	**LO 2.1C:** Calculate derivatives.	**EK 2.1C7: (BC)** Methods for calculating derivatives of real-valued functions can be extended to vector-valued functions, parametric functions, and functions in polar coordinates.
EU 2.3: The derivative has multiple interpretations and applications including those that involve instantaneous rates of change.	**LO 2.3C:** Solve problems involving related rates, optimization, rectilinear motion, **(BC)** and planar motion.	**EK 2.3C4: (BC)** Derivatives can be used to determine velocity, speed, and acceleration for a particle moving along curves given by parametric or vector-valued functions.
EU 3.4: The definite integral of a function over an interval is a mathematical tool with many applications involving accumulation.	**LO 3.4C:** Apply definite integrals to problems involving motion.	**EK 3.4C1: (BC)** The definite integral can be used to determine displacement, distance, and position of a particle moving along a curve given by parametric or vector-valued functions.
	LO 3.4D: Apply definite integrals to problems involving area, volume, **(BC)** and length of a curve.	**EK 3.4D3: (BC)** The length of a planar curve defined by a function or by a parametrically defined curve can be calculated using a definite integral.