Unit 2: Product of Vectors

Content Area: **Mathematics**
Course(s): **Multivar Calc H**
Time Period: **Semester 1**
Length: **9 weeks**
Status: **Published**

Standards

MA.K-12.2	Reason abstractly and quantitatively.
MA.K-12.7	Look for and make use of structure.
TECH.8.1.12.E.CS1	Plan strategies to guide inquiry.

Enduring Understanding

Students use what they recently learned about vectors in space and perform specific operations with them and understand their meaning and what applications can be made.

How one expression can have both magnitude and direction.

Essential Questions

How do I find the product of two vectors?

What are the different methods of finding these products and what do they mean?

What uses or applications do their products give us?

Knowledge and Skills

- Find the dot product of two vectors
- Find the cross product of two vectors
- Find the angle between two angles
- Determine if vectors are parallel or orthogonal
- Find the direction angles made with the positive coordinate axes
- Find the scalar and vector projections of one vector on another
- Find the area of a parallelegram using cross product
- Discover other uses and future uses of products of vectors

Transfer Goals

There are equations to express the motion of an object in the real World.

Manipulation of an expression can allow for a more transparent representation.

Resources

AP Calculus, by Finney

Desmos.com

MIT Opencourseware