

# Unit 1: Introduction to MVC/3D coordinate planes and vectors

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

## Standards

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MA.K-12.1                      Make sense of problems and persevere in solving them.  
MA.K-12.2                      Reason abstractly and quantitatively.

## Enduring Understanding

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The idea of what Multivariable Calculus is discussed and learned by extending known ideas from previous Calculus courses

Symbolic representation allows us to reason abstractly.

## Essential Questions

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How can we build upon a system?

What is the significance of notation?

## Knowledge and Skills

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- Draw and label three dimensional coordinate axes
- Plot and find the distances between two points in space
- Write equations of spheres
- Make connections to real life multivariable situations
- Use data from table and use familiar 2 variable functions
- Use 2D vectors to draw resulting properties and extend to 3D
- Find magnitude and component form of 3D vectors

## Transfer Goals

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Students will transfer their knowledge of 2-dimensional Calculus to 3D.

Thinking in this class will help them contemplate 3D spaces for art, printing, or the sciences.

## **Resources**

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AP Calculus, by Finney

Desmos.com

[MIT Opencourseware](#)