

# Dynamics Review - Lecture 3

ME3050 - Dynamics Modeling and Controls

May 28, 2020

## Describing Motion

## Lecture 3 - Describing Motion

- Degrees of Freedom
- Translation
- Rotation
- Examples

# Degrees of Freedom

The Degrees of Freedom is the number of independent motions that exist in a system.

OR

The Degrees of Freedom is the minimum number of coordinates required to completely describe motion or state of the system.

## What is Dynamics?

"Dynamics is the study of how moving objects behave. Dynamics is the part of mechanics that studies movement and its causes. The study of the causes of motion and changes in motion is known as dynamics. Dynamics is the study of how moving objects behave."

"The dynamical system concept is a mathematical formalization for any fixed "rule" which describes the time dependence of a point's position in its ambient space. "

# Dynamics in Mechanical Engineering

Why are we studying Dynamics?

# Examples

Cool Stuff...