

# PHYS 7C Notes

Collection of type setted notes from fall quarter of 2022  
Physics



**Eli Griffiths**



School of Physical Sciences  
U.C. Irvine  
United States  
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## Table of Contents

<b>Week 2</b>	<b>3</b>
0.1 Applications of Newtons Laws . . . . .	3
0.1.1 Equilibrium . . . . .	3
0.1.2 Friction Forces . . . . .	3
<b>Week 4</b>	<b>4</b>

## Week 2

### 0.1 Applications of Newtons Laws

#### How to deal with multiple objects:

As long as there is no relative motion between multiple objects, you can treat them as a single object. Otherwise, construct a free body diagram for all objects in the system.

#### 0.1.1 Equilibrium

In Equilibrium

$$\sum \vec{F} = \vec{0}$$

Not In Equilibrium

$$\sum \vec{F} \neq \vec{0}$$

When an object is in equilibrium, its velocity remain constant (and therefore its trajectory remains constant and linear).

#### 0.1.2 Friction Forces

$$\begin{aligned} f_k^{friction} &= \mu_k n \\ f_s^{friction} &\leq \mu_s n. \end{aligned}$$

In general  $\mu_k < \mu_s$ , but both coefficients of friction can hold values larger than 1. (*Note: both coefficients are dimensionless; no units*).

## Week 4

## List of Theorems