

**First hour exam is this coming Friday.**

**Exam policy is explained on the class website:**  
**<http://faculty.washington.edu/storm/121C/>**

**You **will need** the following.**

- 1. Scantron sheet (bubble sheet)**
- 2. Pencil and eraser**
- 3. Calculator that can calculate sines, square roots, and do the usual arithmetic**

**You may bring a single page with notes on it that you made.**

**You **may not use** the following:**

- 1. Calculator with text information stored**
- 2. Computer (including blackberry or palm)**
- 3. Cell phone (turn off and stow)**
- 4. Any audio playing device**
- 5. Books or notes besides the single page mentioned above. (Close and stow)**

**The exam will cover material through chapter 5.3 of Tipler and Mosca. That is, it will not cover Center of Mass. There will be about half multiple choice questions and some problems to work out.**

A very compact summary of what we have covered so far:

**Vectors.** How to get **components** from **magnitude** and **direction**, and vice versa. How to add and subtract vectors.

**Motion in one dimension: Position, displacement, velocity and acceleration.**

1. Get information about all 3 from **graphs** of position or velocity vs time

2. **Relative** motion

3. **Equations** relating

a. Displacement, average velocity, time

b. Velocity, average acceleration, time

c. Distance, time uniform acceleration

d. Velocity, distance, uniform acceleration

## Motion in two (or three) dimensions

1. **Projectiles** (uniform acceleration in one direction, constant component of velocity in the other)
2. **Circular motion – Centripetal** acceleration (equation relating it to speed and radius).
3. **Curved motion** – Consider both **tangential** and **centripetal** acceleration. Tangential a changes speed, centripetal changes direction (only).

## Newton's Laws of motion

$$(\vec{F} = m\vec{a} \text{ and } \vec{F}_{AB} = -\vec{F}_{BA})$$

Various forces: **weight, normal force, springs, tension** in string and **friction**

**Free Body Diagrams** – Get net forces, determine accelerations.