

ASSIGNMENT: Text, Chapter 10 (Remember that we will not cover Section 7)

CONCEPTS:

1. Work in rotational motion
2. Angular momentum; conservation of angular momentum
3. Angular momentum $\vec{\ell} = \vec{r} \times \vec{p}$, where $\vec{p} = m\vec{v}$ is the momentum.
4. Angular momentum is conserved if there are no *external* torques.
5. Comparison of Newton's Second Law for translational and rotational motion:

translational	rotational
$\vec{F} = \frac{d\vec{p}}{dt}$ most general case	$\vec{\tau} = \frac{d\vec{\ell}}{dt}$ most general case
$\vec{F} = m\vec{a}$ special case (m constant)	$\vec{\tau} = I\vec{\alpha}$ special case (I constant)

TURN IN: Chapter 10, Question Q.10.22; Exercises 10.27, 10.39, 10.40, 10.43, 10.47; Extra Credit Exercise 10.41

NOTES AND ANNOUNCEMENTS

1. Remember that our next exam is on Thursday 19 November. The exam will cover Chapters 9, 10, and possibly the first three sections of Chapter 11. This schedule should allow us to set aside Tuesday 17 November for review.

You may bring to the exam one sheet of paper with anything you like written on it *except* worked-out problem or sample problem solutions. I will ask you to turn in this sheet of paper with the exam.
2. Remember that the numerical answers to the even problems and my worked solutions to the homework problems are on the course web site.
3. The laboratory continues to meet today and tomorrow. We will do Experiment 9, Rotational Dynamics (Part I only). This experiment should help with the ideas of torque and moment of inertia.
4. I will be leaving for a seminar in Minneapolis immediately after the 11:20–12:30 section on Friday. Plan on turning in homework immediately after 12:30. If you have questions about the material, try to get them answered early!