Physics 211: Mechanics – Spring 2018

Syllabus

Physics 211 (Mechanics) is intended for students of the physical science majors who have already studied some mechanics as part of an introductory physics course and ready for a deeper look at the subject. Students majoring in Physics, Mathematics and Engineer are candidates for this course. We will cover the following subjects:


Newton’s Laws of Motion; Projectiles and Charged Particles; Momentum and Angular Momentum; Energy; Oscillations; Calculus of Variables; Lagrange’s Equations; Two-Body Center-Force Problems; Rotational Motion of Rigid Bodies and Coupled Oscillators and Normal Modes.

Time: MWF 9:40 AM - 10:30 AM in Waterman 456.

Prerequisites: Physics 152, Math 121 or equivalent courses.

Instructor: Professor Junru Wu

Office Address: Discovery W420B

Grading: Weekly assignments 40%; Two Midterm exam 20% ; Final exam 40%

Policies & Expectations: • Homework – Assignment problems will be mostly from the textbook and will be assigned (nearly) every week. The homework will cover material discussed in class that week. About 50% of assignment will be graded. No late homework will be accepted. The goal of the homework problems is for you to convince me that you understand the material and have mastery of the concepts and techniques that have been discussed in lecture. Please type your homework using Microsoft Office as neatly as possible.

Attendance –We will proceed the course at a fairly rapid pace and it will be difficult for you to make up. Attendance at all classes is strongly encouraged.

Homework Assignment

Assignment 01: Due 01/27/18, Taylor: 1.10, 1.18, 1.19, 1.21, 1.23, 1.39, 1.44, 1.45, 1.48

Assignment 02: Due 02/3/18, Taylor: 2.2, 2.6, 2.11, 2.41, 2.44

Assignment 03: Due 02/17/18, Taylor: 3.4, 3.10, 3.11, 3.18, 3.21 & 3.33

Assignment 04: Due 03/3/18, Taylor: 4.2, 4.9, 4.12, 4.23, 4.36, 4.38, 4.39 & 4.43

Assignment 05: Due 03/24/18,Taylor: 5.2, 5.4, 5.13, 5.23, 5.37, 5.41, 5.44, & extra credit: 5.49
Assignment 06: Due 03/31/18, Taylor: 6.4, 6.9, 6.11, 6.20, 6.22 & 6.25
Assignment 07: Due 04/7/18, Taylor: 7.8, 7.15, 7.20, 7.22, 7.31, 7.37 & 7.41
Assignment 08: Due 04/14/18, Taylor: 8.2, 8.9, 8.12, 8.13, & 8.22
Assignment 10: Due 04/28/18, Taylor: 10.3, 10.4, 10.5, 10.9, 10.10, & 10.19.