

Syllabus

Course:

Lecture: MoTuWeTh 5:30 p.m.-7:00 p.m.
Room: Wheatley W01-0031

Discussion Session: Sect 4AD, Class Nbr 2547 MoTh 7:10 p.m.-8:00 p.m. Wheatley W01-0020
Sect 5AD, Class Nbr 2548 MoTh 8:00 p.m.-8:50 p.m. McCormack M01-0207

This is NOT a laboratory course; if you need one, you should be enrolled in PHYSIC 181
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Lecturer: Vanja Dunjko (S-3-112)
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Office Hours: TBA

Grader: TBA

Tutoring: MoTuWeTh 10:30 a.m.–5:30 p.m. (location TBA)

Text: D. C. Giancoli, *Physics: Principles with Applications*, 6th ed.
(Pearson, Prentice Hall, 2005)

Mathematical preparation: To be able to follow the material, *basic* precalculus skills (meaning, *basic* skills in arithmetic, algebra, geometry, and trigonometry) should require only rather small mental effort on your part. For example, if, given a right triangle, someone asks you to solve for one side in terms of another and an angle, your reaction should be, “Oh, I know that. That’s easy... .” Physics concepts are involved enough in and of themselves; if you have trouble already with the very language in which they are expressed—which is math—you are likely to find the class very challenging. If you suspect you might be rusty on math, you should start brushing up as soon as possible, for example by doing sample problems on this site: <http://bama.ua.edu/~fcmath/>.

Attendance: Class attendance is mandatory. To provide an incentive, there will be frequent unannounced quizzes on assigned reading. For grading purposes, the quizzes will be treated as if they were additional homework assignments. To make up a missed quiz, you will need some convincing, documented reason for why you missed it, such as a letter from your doctor or employer.

Homework and quizzes: Performance on homework and quizzes will count for 25% of your final grade. Homework assignments will come once or twice each week, but you will

have about a week to work on each set. Because of the compressed nature of the course, a homework may get assigned before the previous one is due. Homework due dates may be determined as follows: figure out which discussion session is most nearly a week away from the date the homework was assigned; the homework is due the class after that discussion session. Bottom line: you'll have enough time, and the actual due date will be displayed on each homework assignment. Note that the score will be reduced by 10% for each day the homework is late.

Example: If a homework was assigned on Thursday of week 3, the homework is due on Monday of week 5. However, you should *think* of it as due on Friday of week 4, because there may be another homework due on Tuesday of week 5.

Exams: There is **no** cumulative final exam. Instead, there will be **three** sectional, non-cumulative examinations. They will together count for 75% of your grade, and will be administered on dates shown on the schedule. Each exam will cover roughly one third of the course material; the first exam will cover the material discussed up to and including “Law of motion–friction,” while the other two will only cover the material discussed since the preceding exam. However, note that many concepts and skills introduced in earlier sections of the course are heavily relied on in the later sections.

You need to bring a calculator to exams. Exams are closed book, but you may bring a sheet of paper on which you may write anything you wish.

Grades: $\% \text{ total grade} = 0.75 \times \text{total exam } \% \text{ grade} + 0.25 \times \text{total HW \& quizzes } \% \text{ grade}.$

A tentative guide to final letter grades is as follows:

F	D-	D	D+	C-	C	C+	B-	B	B+	A-	A
0-59	60-62	63-66	67-69	70-72	73-76	77-79	80-82	83-86	87-89	90-92	93-100

Hand calculators: Problem solving will require a calculator. It need **not** have graphing or programming capabilities. However, it should be a “scientific model,” meaning that it should support trigonometric functions, their inverse functions, the exponential function, and the natural logarithm. If you are taking the lab course, statistical function keys would be helpful.

Lecture schedule:

Week	Month	Date	Day	Chapter	Topic
I	May	25	Mo	No class	
		26	Tu	Ch 2	Velocity and Acceleration
		27	We	Ch 2	One-dimensional motion
		28	Th	Ch 3	Vectors
II	Jun	1	Mo	Ch 3	Two-dimensional motion
		2	Tu	Ch 4	Dynamics
		3	We	Ch 4	Law of motion
		4	Th	Ch 4	Law of motion—friction
III	Jun	8	Mo	Ch 6	Work and energy
		9	Tu	Exam 1	
		10	We	Ch 6	Potential energy
		11	Th	Ch 6	Conservation of energy
IV	Jun	15	Mo	Ch 7	Conservation of momentum
		16	Tu	Ch 7	Elastic collisions
		17	We	Holiday	(Bunker Hill Day)
		18	Th	Ch 7	Inelastic collisions
V	Jun	22	Mo	Reading	
		23	Tu	Exam 2	
		24	We	Ch 5	Gravity
		25	Th	Ch 8	Rotation
VI	Jun	29	Mo	Ch 8	Rotational dynamics
	Jul	30	Tu	Ch 11	Vibrations and waves
		1	We	Ch 9	Statics
		2	Th	TBA	
VII	Jul	6	Mo	TBA	
		7	Tu	Reading	
		8	We	Exam 3	