

PHYSICS 231/231C, INTRODUCTORY PHYSICS I, SYLLABUS

<http://www.pa.msu.edu/courses/phy231/index.html>

INSTRUCTORS:

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Office Hr.s : Wed. 1:30 - 3:00 PM in #1248 BPS, 3:00 - 3:30 PM in #4208A BPS, or by appt.

Remco Zegers (8:00 AM Lecture), zegers@nscl.msu.edu, (517) 333-6473

Office Hr.s : Mon. 9:15 - 10:15 AM in #1248 BPS, or by appt.

Bill Lynch (9:10 AM Lecture), lynch@nscl.msu.edu, (517) 333-6319

Office Hr.s : Tue. 9:00 - 10:00 AM in #1248 BPS, or by appt.

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Office Hr.s : Monday 11:30 AM - 12:30 PM in #1248 BPS, or by appt.

HELP ROOM: #1248 BPS, See home page for times

CALENDAR

	Monday	Wednesday	Thur./Fri.	
Aug/Sep	30 Intro	1 1.1-1.9	3 2.1-2.4	Intro & motion in 1D
Sep	6 Labor Day	8 2.5-2.7 (HW Set 1 due)	10 3.1-3.3	1D & 2D motion
Sep	13 3.4-3.6	15 Review (HW Set 2 due)	16/17 Exam 1,2,3	2D motion and vectors
Sep	20 4.1-4.2	22 4.3-4.4 (HW Set 3 due)	24 4.5-4.6	Laws of motion
Sep/Oct	27 5.1-5.3	29 5.4-5.6 (HW Set 4 due)	1 5.7-5.8	Laws of motion/energy
Oct	4 6.1-6.2	6 Review (HW Set 5 due)	7/8 Exam 4,5	Energy
Oct	11 6.3	13 7.1-7.3 (HW Set 6 due)	15 7.4-7.6	Momentum/collisions & rotation
Oct	18 7.7-7.9	20 8.1-8.3 (HW Set 7 due)	22 8.4-8.5	Rotation & equilibrium
Oct	25 8.6-8.7	27 Review (HW Set 8 due)	28/29 Exam 6,7,8	Rotational dynamics
Nov	1 9.1-9.3	3 9.4-9.9 (HW Set 9 due)	5 10.1-10.3	Solids/fluids & thermal physics
Nov	8 10.4-10.6	10 11.1-11.3 (HW Set 10 due)	12 11.4-11.7	Thermal energy and processes
Nov	15 12.1-12.3	17 Review (HW Set 11 due)	18/19 Exam 9,10,11	Laws of thermodynamics
Nov	22 12.4-12.6	24 12.7-12.8,13.1 (HW Set 12 due)	26 Thanksgiving	Thermodynamics & vibrations
Nov/Dec	29 13.2-13.5	1 13.6-13.10 (HW Set 13 due)	3 13.11-14.3	Vibrations, waves & sound
Dec	6 14.4-14.8	8 14.9-14.11 (HW Set 14 due)	10 Review	Sound
Dec		15 Final Exam, 8-10 PM, Location TBA		

- Homework due at 10 PM Wednesday evenings.
- Midterms for 231 are Fridays in class, midterms for 231C are Thursday evenings at 7:00 PM in Chemistry 138.
- LON-CAPA corrections (see below) to midterms are due at 10 PM on Sunday following exam.

GRADING SCALE
(120 possible points)

4.0	≥ 110
3.5	100-110
3.0	90-100
2.5	80-90
2.0	70-80
1.5	60-70
1.0	50-60

SCORING UNITS
(20 pt.s each)

4 Midterms	1 unit each
Final Exam	2 units
Homework	1 unit

Exam unit (Midterm or final) with lowest score will be dropped. If final-exam unit has lowest score, it will count as only one unit. No make-ups for midterms will be offered without exceptional circumstances. All students must take the final.

EXAMS

- Bring #2 pencil, calculator, ID (graphical calc.s are ok)
- CLOSED NOTE - CLOSED BOOK, formula sheet provided
- Midterms : 20 questions (8 numerical, 12 conceptual), $\approx 1/2$ will be *modified*[†] homework problems.
- Midterms can be “corrected” by logging into LON-CAPA after exam and entering answers between 5:00 PM the day of the exam until 10:00 PM Sunday evening. If beneficial, original score will be replaced by $(3/4)\text{original} + (1/4)\text{corrected}$. “Correcting” requires re-doing all the problems, not just those that were missed.
- Final : 40 questions (16 numerical, 24 conceptual)
- Final is cumulative; $(1/2)$ of questions will come from material after 4th midterm. Remainder will come exclusively from *modified*[†] questions from midterms and practice exams.

[†]If question originally gave x and asked for y , *modified* question might give y and ask for x .

HOMEWORK

- On-line, <http://www.loncapa.org>, use Pilot ID and password
- For directions, see <http://msu.loncapa.org/res/msu/felicia/Instructions/instructions.html>
- No extensions for technical problems (e.g. “I can’t log in from my parent’s home”)
- Graded relative to 90% of possible points (ceiling of 100%)

IN-CLASS QUIZES (PHY 231)

- Quizzes taken electronically, students must buy clickers (see home page for details)
- Extra credit up to 5 points offered. Score based on 80% of possible quiz points. (no make-ups)

ESSAY (PHY 231C)

- 2.5 - 3.5 single-space pages. Essay should discuss how principles of physics affect technology for use in some profession. For example, essay could cover electro-cardiograms.
- Extra credit points up to 5 points.
- Must be submitted as email attachment to prattsc@msu.edu in PDF, HTML or PS format before final exam.
- More details will be emailed to 231C students.

TEXTBOOK

Serway and Faughn, Ed. 6. Old versions are fine.