

Syllabus PHY231 – Spring 2013 – Sections 1&2

- **Official Course Website:** <http://www.pa.msu.edu/courses/phy231>
- **Lecture:** BPS1410, Sec. 1, 10:20 – 11:40; Sec. 2, 12:40 – 2:00; **Attend ONLY your section.** You will have an assigned seat for every lecture or exam. It will be sent to you by email. Have access (e.g., on your phone) to your seat number. **You Must Sit In Your Assigned Seat.**
- **Instructor:** C. Bromberg, Rm: BPS3225, Email: bromberg@pa.msu.edu, 517-884-5580
- **Office Hours:** Wednesday 11:00 – 1:00, BPS 3225, or by appointment via email.
- **Teaching Assistants:** Strosacker Physics Learning Center (BPS 1248) will have several TAs available during the hrs. 9:00 am - 9:00 pm Monday & Tuesday.
- **Textbook (R&W):** Rex & Wolfson, College Physics, ISBN 978-0-321-61116-1. **You are strongly advised to Purchase this edition of the book.**
- **Course description and Prerequisites:** see website
- **Readings:** R&W readings, Examples, and “Got It?” components of the book are listed in the *Course Schedule* (see next page) for each lecture. Pay close attention to the worked out examples, and the “Got It?” questions; answers are at the back of each chapter.
- **I-clickers:** You must own and bring (**only your own**) “i-clicker” to (**only your**) lecture section, and sit only in your assigned seat. There will typically be a few I-clicker quiz questions during each class. The quiz questions will be based on the Examples and “Got It?” questions listed on the *Course Schedule* for that lecture.
- **HW:** The LON/CAPA (L/C) online system is used for homework. Please visit www.longcapa.msu.edu and login using your MSU Net ID and password. Select the “PHY 231, Spring 2013” class. The Homework Set # on the *Course Schedule* is due at 11:59 pm on the Tuesday evening listed. Keep a notebook and bring your attempts at solutions to any trip to the Learning Center.
- **Exams:** There will be **three midterm exams** during regular class hours on the dates shown on the *Course Schedule*. The exams will be closed book, but you may use ONE (double-sided) 8-1/2”x11” sheet of handwritten (not a copy) notes and equations during each exam. Exams are based on material from the textbook, a lecture, homework or quiz and will consist of conceptual and numerical problems. There will be a common **2-hr Final Exam on Wednesday, May 1, 8:00pm – 10:00pm**, Rm. to be decided. You will need a calculator, a #2 pencil and your student ID when taking an exam. **NO cell-phone, PDA, or computer can be used during an exam.** Alternate Final Exam will be available ONLY for students satisfying the requirements as stated by the Registrar.
- **Academic Dishonesty:** University rules and procedures regarding academic dishonesty will be strictly applied without exceptions, for i-clicker Questions, HW, and Exams.
- **Grading Criteria:** Grades are based on in-lecture i-clicker Questions (10%), L/C Homework (10%), three Midterm exams (10% each), Final Exam (50%). The 4 lowest Clicker Session grades will be dropped. See website for details. Only written Medical excuses for ONE missed Midterm Exam will be accepted. A makeup exam or a weighting by 1.5 of the sum of the other two Midterm Exams, will be at the lecturer’s discretion.
- **Grades:** The mean grade in PHY231 will be about 3.0. In *each section* the approximate percentage of the enrollment obtaining each grade are; 4.0(15%), 3.5(25%), 3.0(25%), 2.5(15%), 2.0 or lower (20%).
- **Disabilities:** Students with a disability must register with the instructor in person.

Course Schedule on the back

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Course Schedule

Wk	Date	Day	Topics	R&W Reading	Examples (E)	"Got-It" (G)	L/C HW
1	1/8	T	Syllabus/Units/Sig. Fig.	Ch. 1.1-4	E 1.1-9	G 1.1-2, 4	
	1/10	Th	1D Motion Variables/Signs	Ch. 2.1-3	E 2.1-5	G 2.1-3	
2	1/15	T	1D Motion Constant Acceleration	Ch. 2.4-5	E 2.6-12	G 2.5	Set 1
	1/17	Th	2D Vector Algebra/Components	Ch. 3.1-3	E 3.1-4	G 3.1-2	
3	1/22	T	2D Motion Equations/Projectiles	Ch. 3.4 (3.5 later)	E 3.5-9	G 3.4	Set 2
	1/24	Th	Midterm Exam 1	Ch. 1-3			
4	1/29	T	Force Vectors, Net Force Vector, Weight	Ch. 4.1-2	E 4.1	G 4.2	
	1/31	Th	Elastic Forces, Newton's 3 Laws	Ch. 4.2-3	E 4.2-7	G 4.3	
5	2/5	T	Friction & Drag	Ch. 4.4 (4.5 later)	E 4.8-10	G 4.4	Set 3
	2/7	Th	Work & Kinetic Energy	Ch. 5.1-3	E 5.1-7	G 5.1-3	
6	2/12	T	Potential Energy, Energy Conservation	Ch. 5.4-5	E 5.8-12	G 5.4-5	Set 4
	2/14	Th	Power, Energy and Momentum	Ch. 5.6 & Ch. 6.1	E 5.13-14, E 6.1	G 5.6	
7	2/19	T	Momentum & Newton's 2nd & 3rd Laws	Ch. 6.1-2	E 6.1-4	G 6.1	
	2/21	Th	Momentum Conservation, 1D Collisions	Ch. 6.2-3	E 6.4-10	G 6.2-3	
8	2/26	T	2D Collisions, Center of Mass	Ch. 6.4-5	E 6.11-14	G 6.4	Set 5
	2/28	Th	Midterm Exam 2	Ch. 1-6			
9	3/5		<i>Spring Break</i>				
	3/7		<i>Spring Break</i>				
10	3/12	T	Rotational Kinematics	Ch. 3.5; 8.1-3	E 3.10, E 8.1-7	G 3.5, G 8.1,3	
	3/14	Th	Newton's Laws & Rotations	Ch. 4.5; 9.1-2	E 4.11-13, E 9.1-9	G 4.5, G 9.1	
11	3/19	T	Gravitational Potential Energy	Ch. 9.3-5	E 9.10-13	G 9.4	Set 6
	3/21	Th	Rot. Inertia, Energy and Momentum	Ch. 8.4-5	E 8.8-11	G 8.5	
12	3/26	T	Rotational Dynamics, Equilibrium	Ch. 8.6-9	E 8.12-17		Set 7
	3/28	Th	Properties of Solids, Liquids & Gases	Ch. 10.1-3	E 10.1-8	G 10.2-3	
13	4/2	T	Buoyancy & Fluid Properties	Ch. 10.4-6	E 10.9-13	G 10.5	
	4/4	Th	Temperature, Heat, Kinetic Theory	Ch. 12.1-4; 13.1-2	E 12.1-13, E 13.1-4	G 12.1-4, G 13.2	
14	4/9	T	Phase Changes, Intro. Thermodynamics	Ch. 13.2-4; 14.1-2	E 13.5-14, E 14.1-6	G 13.3-4, G 14.1-2	Set 8
	4/11	Th	Midterm Exam 3	Ch. 1-13 (no 7,11)			
15	4/16	T	2nd Law of Thermodynamics, Entropy	Ch. 14.3-5	E 14.7-13	G 14.3-4	Set 9
	4/18	Th	Oscillations, Waves & Interference	Ch. 7.1-6; 11.1-2	E 7.1-9, E 11.1-5	G 7.1-4, G 11.1-2	
16	4/23	T	Sound, Doppler Effect	Ch. 11.3-5	E 11.6-13	G 11.3-4	Sets 10&11
	4/25	Th	Review				
17	5/1	W	Final Exam 8:00-10:00 pm, Rm TBD	Ch. 1-14			