- **Official Course Description and 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, and posted on the course website, above. Be sure to have (e.g., on your phone) 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, request via email.
- **Teaching Assistants**: Strosacker Physics Learning Center (BPS 1248) will have several TAs (TBD) available during the hrs. 9:00 am - 9:00 pm Monday & Tuesday
- **Textbook**: Rex&Wolfson(**R&W**), CollegePhysics **& MasteringPhysics(MP)**,1/e(2010) Bookstore - **MP access code** and (optional) Text 0321611187/ISBN-13: 9780321611185 On Line - **MP access code** and (optional) E-book, use www.masteringphysics.com Course ID is BROMBERG07439. Instructions for Registration on the **Course Website**. If you want a top grade, I strongly recommend obtaining the Printed Text or the E-book. If you may drop PHY231, purchase **MP** access code **on line** (refund for 15days).
- **Readings**: R&W readings, Examples, and "Got It?" components of the text 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 on material listed on the *Course Schedule*.
- **Homework**: **MasteringPhysics** is used for homework. Course ID is BROMBERG07439 **YOU MUST PURCHASE ACCESS** and **REGISTER** - See **Textbook** and **website** The Homework Set # on the *Course Schedule* is due at 11:59 pm on the Tues. evening listed. Keep a notebook and bring your attempts at solutions to any trip to the Learning Center. No credit for work done after the deadline, but complete for study.
- **Exams**: There are **3 midterm exams** during regular class hours on the dates shown on the *Course Schedule*. The exams are closed book, but you may use ONE (double-sided) 8-1/2"x11" sheet of handwritten (not a copy) notes and equations (Final Exam, 2 sheets). Exams are based on the textbook, lecture, homework, or quiz materials and will consist of conceptual and numerical problems. There will be a common **2-hr Final Exam on Mon., April 28, 8:00pm – 10:00pm**, Rm. TBD. You will need a calculator, a #2 pencil and your student ID when taking an exam. **NO cell-phone, PDA, or other device with external links can be used during any 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%), **Mastering Physics** Homework (10%), three Midterm exams (10% each), Final Exam (50%). The 4 lowest Clicker Session scores will be dropped. See website for details. Only written Medical excuses for ONE missed Midterm Exam will be accepted. A makeup exam or 1.5 times the sum of the other two Midterm's grades, will be at the lecturer's discretion.
- **Grades**: The mean grade in PHY231 will be about 3.0. In *each section* the approx. % of enrolment for grades; 4.0(15%), 3.5(25%), 3.0(25%), 2.5(15%), 2.0 or lower (20%).
- **Disability?** For an accommodation, you **must register** immediately with the instructor.

Course Schedule on the back

Course Schedule

Wk	Date	Day	Topics	R&W Reading	Examples (E)	"Got-It" (G)	MP HW
1	1/7	T	Syllabus/Units/Sig. Fig.	Ch. 1.1-4	E 1.1-9	G 1.1-2, 4	
	1/9	Th	1D Motion Variables/Signs	Ch. 2.1-3	E 2.1-5	G 2.1-3	*Set 0*
2	1/14	T	1D Motion Constant Acceleration	Ch. 2.4-5	E 2.6-12	G 2.5	**Set 1**
	1/16	Th	2D Vector Algebra/Components	Ch. 3.1-3	E 3.1-4	G 3.1- 2	
3	1/21	T	2D Motion Equations/Projectiles	Ch. 3.4 (3.5 later)	E 3.5-9	G 3.4	**Set 2**
	1/23	Th	**Midterm Exam 1**	Ch. 1-3			
4	1/28	T	Force Vectors, Net Force Vector, Weight	Ch. 4.1-2	E 4.1	G 4.2	
	1/30	Th	Elastic Forces, Newton's 3 Laws	Ch. 4.2-3	E 4.2-7	G 4.3	
5	2/4	T	Friction & Drag	Ch. 4.4 (4.5 later)	E 4.8-10	G 4.4	**Set 3**
	2/6	Th	Work & Kinetic Energy	Ch. 5.1-3	E 5.1-7	G 5.1-3	
6	2/11	T	Potential Energy, Energy Conservation	Ch. 5.4-5	E 5.8-12	G 5.4-5	**Set 4**
	2/13	Th	Power, Energy and Momentum	Ch. 5.6 & Ch. 6.1	E 5.13-14, E 6.1	G 5.6	
7	2/18	T	Momentum & Newton's 2nd & 3rd Laws	Ch. 6.1-2	E 6.1-4	G 6.1	**Set 5**
	2/20	Th	Momentum Conservation, 1D Collisions	Ch. 6.2-3	E 6.4-10	G 6.2-3	
8	2/25	T	2D Collisions, Center of Mass	Ch. 6.4-5	E 6.11-14	G 6.4	**Set 6**
	2/27	Th	**Midterm Exam 2**	Ch. 1-6			
9	3/4		*Spring Break*				
	3/6		*Spring Break*				
10	3/11	T	Rotational Kinematics	Ch. 3.5; 8.1-3	E 3.10, E 8.1-7	G 3.5, G 8.1,3	
	3/13	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	3/18	T	Gravitational Potential Energy	Ch. 9.3-5	E 9.10-13	G 9.4	**Set 7**
	3/21	Th	Rot. Inertia, Energy and Momentum	Ch. 8.4-5	E 8.8-11	G 8.5	
12	3/25	T	Rotational Dynamics, Equilibrium	Ch. 8.6-9	E 8.12-17		**Set 8**
	3/27	Th	Properties of Solids, Liquids & Gases	Ch. 10.1-3	E 10.1-8	G 10.2-3	
13	4/1	T	Buoyancy & Fluid Properties	Ch. 10.4-6	E 10.9-13	G 10.5	**Set 9**
	4/3	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	4/8	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 10**
	4/10	Th	**Midterm Exam 3**	Ch. 1-13 (no 7,11)			
15	4/15	T	2nd Law of Thermodynamics, Entropy	Ch. 14.3-5	E14.7-13	G 14.3-4	
	4/17	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	4/22	T	Sound, Doppler Effect	Ch. 11.3-5	E 11.6-13	G 11.3-4	**Set 11**
	4/24	Th	Review				
17	4/28	M	**Final Exam 8:00-10:00 pm, Rm TBD**	Ch. 1-14			