

Instructor: James Jacobs  
 Office: CHCB Room 120.  
 Phone: 243-4986  
 Text: *Fundamentals of Physics*  
 by Halliday, Resnick and Walker. Eighth Edition. Chapters 1 through 16.  
 Purchase *iclicker* and bring it to class every day.  
 Optional Text: *Quick Calculus* by Ramsey and Kleppner. Second Edition.  
 Lectures: Mo,Tu,We,Fr, 1:10-2:00 PM. CHCB Room 131.  
 Exams: Tuesday evenings 6-8 PM; see schedule on next page.  
 Office Hours: Right after class (short questions). And by Appointment. Regular hours TBA.  
 Course Web site: [www.physics.umt.edu/phys211.html](http://www.physics.umt.edu/phys211.html)

**Homework:** I will recommend 10-20 problems per chapter to be worked out carefully by each student which will *not* be collected. In order for students to check their work, solutions to these problems will be available on the course web site. In addition, 1 or 2 extra problems per chapter will be assigned in class, and either collected, graded and returned to students or used as the basis for in-class questions using *iclicker* at the beginning of class on the due date. These problems will be graded not only for arriving at the correct result, but for the clarity and completeness of the solution process and understanding of the underlying conceptual issues. Solutions for these problems will be posted outside my office. Late homework assignments will not be accepted except under extreme circumstances. If you miss a class, be sure to find out if there was an assignment.

**Exams** There will be 4 mid-term exams given on Tuesday evenings from 6-8 PM during the semester (see schedule on page 2). Since each new topic will build on all previous concepts, a general working knowledge of previous material will be expected on all exams. The exams will be closed book except for a calculator and one 3×5 index card of notes that each student must prepare for themselves prior to the exam. Solutions to the exams will be posted outside my office and available on the course web site. Make-up exams will be given only in extreme situations and must be arranged IN ADVANCE. Please do not miss any exams. The final exam is comprehensive and will be held on Tuesday Dec. 15<sup>th</sup>, from 1:10pm to 3:10pm.

**Participation/Attendance** In addition to using *iclicker* for a portion of the homework score, several questions will be posed during each lecture to gauge student understanding of the topics being discussed. Some credit will be given for participation in this process and additional credit will be given for correct answers to these questions. After you have purchased and used your *iclicker* in class, go to the registration page at: [www.iclicker.com](http://www.iclicker.com) to register your *iclicker*. Be sure to use your 5-digit number from the first assignment as your student number.

**Laboratory:** Each student must also register for PHYS 213, a separate 1-credit hour laboratory course. Labs are held Mon 3:10-5 pm, Tues 3:10-5 pm or Wed 3:10-5 pm in room CHCB 225 or 229.

**General Remarks** This will be an intensive course; we will cover 16 chapters in 15 weeks (see schedule on the following page). Be sure to keep up on reading assignments and problem assignments. Add/Drop deadline is Nov. 2<sup>th</sup> at 4:30 PM. No drop or grade-option change petitions will be signed after this date without written verification of extreme circumstances. Prerequisite to this course is a *working* knowledge of college algebra, trigonometry, and pre-calculus. Co-requisites to this course are Math 171 (Calculus I), and PHYS 213 (Physics Laboratory) or equivalents.

### Grading

|                           |     |                             |
|---------------------------|-----|-----------------------------|
| In class mid-term exams:  | 44% | (4 @ 11% each)              |
| Homework:                 | 14% | ( $\approx$ 15 @ 0.8% each) |
| Participation/Attendance: | 12% |                             |
| Final exam:               | 30% |                             |

**Tentative Schedule – Topics**

Note that the lecture schedule is tentative, but the exam dates are firm.

| Week:                  | Chapters  | Topics                          | Notes                | Exams:  |
|------------------------|-----------|---------------------------------|----------------------|---|
| Week 1<br>8/31-9/4     | Ch.1,Ch.2 | Introduction.<br>1-D Kinematics |                      |   |
| Week 2<br>9/8-9/11     | Ch.2,Ch.3 | Vectors<br>2-D Kinematics       | (No class Monday)    |   |
| Week 3<br>9/14-9/18    | Ch.3,Ch.4 | Projectiles                     |                      |   |
| Week 4<br>9/21-9/25    | Ch.5      | Force<br>and Motion             |                      | Exam 1: 6-8 PM<br>Tues, Sept. 22                    |
| Week 5<br>9/28-10/2    | Ch.6,Ch.7 | Work<br>Energy                  |                      |   |
| Week 6<br>10/5-10/9    | Ch.7,Ch.8 | Conservation<br>of Energy       |                      |   |
| Week 7<br>10/12-10/16  | Ch.9      | Collisions.                     |                      | Exam 2: 6-8 PM<br>Tues, Oct. 13                     |
| Week 8<br>10/19-10/23  | Ch.10     | Angular Motion                  |                      |   |
| Week 9<br>10/26-10/30  | Ch.11     | Torque<br>Angular Momentum      |                      |   |
| Week 10<br>11/2-11/6   | Ch.12     | Statics                         |                      | Exam 3: 6-8 PM<br>Tues, Nov 3                       |
| Week 11<br>11/9-11/13  | Ch.13     | Gravitation                     | (No class Wednesday) |   |
| Week 12<br>11/16-11/20 | Ch.14     | Fluids                          |                      |   |
| Week 13<br>11/23-11/24 | Ch.15     | Oscilations                     | (No class Wed.→Fri.) |   |
| Week 14<br>11/30-12/4  | Ch.16     | Waves                           |                      |   |
| Week 15<br>12/7-12/11  | Ch.16     | Waves<br>Review                 |                      | Exam 4: 6-8 PM<br>Tues, Dec. 8                      |
| Week 16<br>12/14-12/18 |           | Final's Week                    |                      | Final Exam<br>Tuesday, Dec. 15<br>1:10 PM - 3:10 PM |