Instructor: Zhi-Feng Huang, 356 Physics Building
Tel: (313) 577 2791; Email: huang@physics.wayne.edu
Office hours: Mon & Wed 2:30pm – 3:30pm, or by appointment

Lecture time and location: MWF 9:35am – 10:30am, 2009 Science Hall

Textbook: PHYSICS by Giambattista, Richardson, and Richardson, McGraw-Hill

Course website: Wayne State Blackboard

Co-requisite: PHY 2131 (Lab). This is a separate, one-credit laboratory course, with its own instructors, grades, procedures, and Lab Manual (required). It MUST be taken concurrently with PHY 2130. For further details and lab schedule please contact Dr. Scott Payson (577-3280, payson@physics.wayne.edu). No lab during the first week.

Quiz Sections: Meet once per week, to discuss homework assignments, ask questions regarding lectures, textbook, and course materials, and learn problem solving skills. The attendance of quiz sections is crucial for understanding course contents and maintaining a good grade. During the semester, quiz section instructors will give in-class short quiz tests about every two weeks. The scores of the best-five tests will be counted in your quiz section grade; No make-up quiz tests will be given.

Homework: 1) Practice homework problems are assigned each week (see page 3). Although they will not be graded, it is strongly recommended that you work out all the problems by yourself before bringing them to the quiz sections for discussion. Also, it is extremely important to handle your homework and understand the course materials timely. Due to the fast pace of the course it is almost impossible to recover once falling behind.

2) Online homework (10% extra bonus): Posted in WebAssign online system (http://www.webassign.net) and graded automatically; About 2-3 problems will be assigned each week, and they will be due around 1-2 weeks after posted; Late submission of solutions will NOT be accepted. A WebAssign access card valid for two semesters may be included in the textbook package; or you could purchase the access online. Please consult your WebAssign Student Guide for further info.

Note that it is impossible to obtain a good grade in this course without making conscientious efforts on all the homework and attending course lectures and quiz sections.

Reading Assignments: The tentative schedule of lectures and reading assignments for this course is given on page 2. It is very important to complete the assigned reading and review/understand the lectured materials of the last class before the next lecture.

Exams: Three midterm exams (in class), and one final exam (cumulative), all with multiple choice questions (no partial credit). There will be NO make-up exams for any reason. However, the lowest score of the midterm exams will be dropped, and hence only the best two grades of the 3 midterms will be counted. Note also that the final exam schedule is determined by the university, and CANNOT be changed.

You MUST bring your Wayne State ID to the exam and present it to a proctor when handing in the exam. No electronic devices (other than a calculator) are allowed.
Grading:
Midterm exams (best two): 25% each, totally 50%
Final exam: 35%
Quiz section: 15%
Online homework: 10% (bonus)

Grading scale:
A   90 – 100%  B-   70 – 74%  D+ 50 – 54%
A-  85 – 89%  C+   65 – 69%  D  45 – 49%
B+  80 – 84%  C    60 – 64%  D- 40 – 44%
B   75 – 79%  C-   55 – 59%  F   0 – 39%

Additional Resources and Help:
Physics Resource Center, located in Room 172 of Physics Research Building. The scheduled time will be announced later, or can be found from the physics department main office. This is a Help Center for students taking undergraduate physics; there you will be able to get assistance with your homework, lab work, and other issues related to this course.

Supplemental Instruction, which may be available at Academic Success Center. See http://www.success.wayne.edu/supplemental/suppinstruction.php for details.

Class Schedule (subject to change)

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topic</th>
<th>Reading (Ch.Sec)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sep 03 W</td>
<td>Introduction, Units, Dimensions</td>
<td>1.1-1.8</td>
</tr>
<tr>
<td></td>
<td>Sep 05 F</td>
<td>Graphs, Displacement, Velocity</td>
<td>1.9-2.3</td>
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<tr>
<td>2</td>
<td>Sep 08 M</td>
<td>Velocity, Acceleration</td>
<td>2.3-2.4</td>
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<td></td>
<td>Sep 10 W</td>
<td>Constant Acceleration in One Dimension, Free Fall</td>
<td>2.5-2.7</td>
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<td>Sep 12 F</td>
<td>Vectors, Motion in Two Dimensions</td>
<td>3.1-3.4</td>
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<td>3</td>
<td>Sep 15 M</td>
<td>Projectile Motion, Relative Velocity</td>
<td>3.5-3.6</td>
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<td></td>
<td>Sep 17 W</td>
<td>Force and Newton’s Laws of Motion</td>
<td>4.1-4.4</td>
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<td></td>
<td>Sep 19 F</td>
<td>Applications of Newton’s Laws</td>
<td>4.5-4.11</td>
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<td>4</td>
<td>Sep 22 M</td>
<td>Circular Motion, Radial Acceleration</td>
<td>5.1-5.3</td>
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<td>Sep 24 W</td>
<td>Radial Acceleration, Orbits</td>
<td>5.3-5.7</td>
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<td>Sep 26 F</td>
<td><strong>First Midterm Exam (Chapters 1-4)</strong></td>
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<td>Sep 29 M</td>
<td>Work and Energy, Conservation of Energy</td>
<td>6.1-6.4</td>
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<td></td>
<td>Oct 01 W</td>
<td>Gravity, Hooke’s law, Power</td>
<td>6.5-6.8</td>
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<td>Oct 03 F</td>
<td>Momentum and Impulse</td>
<td>7.1-7.3</td>
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<td>Oct 06 M</td>
<td>Conservation of Momentum, Center of Mass</td>
<td>7.4-7.6</td>
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<td>Oct 08 W</td>
<td>Collisions in 1D, Rotational Energy and Inertia</td>
<td>7.7-7.8, 8.1</td>
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<td>Oct 10 F</td>
<td>Torque, Equilibrium</td>
<td>8.1-8.6</td>
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<tr>
<td>7</td>
<td>Oct 13 M</td>
<td>Angular Momentum and Conservation</td>
<td>8.7-8.9</td>
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<td>Oct 17 F</td>
<td>Buoyancy</td>
<td>9.4-9.6</td>
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<td>8</td>
<td>Oct 20 M</td>
<td>Simple Harmonic Motion</td>
<td>10.5-10.7</td>
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<td>Oct 22 W</td>
<td>Pendulum</td>
<td>10.8-10.10</td>
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Oct 24  F  Second Midterm Exam (Chapters 5-9)

9  Oct 27  M  Waves, Interference, Reflections  11.1-11.6
   Oct 29  W  Standing Waves and Sound  11.7-12.5
   Oct 31  F  Sound Waves, Doppler Effect  12.6-12.10

10  Nov 03  M  Temperature, Thermal Expansion  13.1-13.3
    Nov 05  W  Gases, Absolute Temperature  13.4-13.6
    Nov 07  F  Ideal Gases, Collisions  13.6-13.8

11  Nov 10  M  Internal Energy, Specific Heat  14.1-14.3
    Nov 12  W  Ideal Gases, Phase Transitions, Latent Heat  14.4-14.6
    Nov 14  F  Heat Transfer, Conduction and Radiation  14.6-14.8

12  Nov 17  M  The First Law of Thermodynamics  15.1-15.3
    Nov 19  W  Third Midterm Exam (Chapters 10-14)
    Nov 21  F  Heat Engines and Refrigerators  15.4-15.8

13  Nov 24  M  Entropy, The 2nd and 3rd Law of Thermodynamics  15.9-15.11
    Nov 26  W  Light, Reflection, and Refraction of Light  23.1-23.5
    Nov 28  F  Thanksgiving Break (no class)

14  Dec 01  M  Mirrors and Lenses  23.6-23.9
    Dec 03  W  Eye, Interference  24.3, 25.1-25.3
    Dec 05  F  Young’s Double-Slit Experiment, Diffraction  25.4-25.6

15  Dec 08  M  Single Slit Diffraction  25.7-25.8
    Dec 10  W  Review for the Final Exam

Dec 16  Tuesday  Final Exam (8:00 AM – 10:30 AM)  Cumulative

Homework Assignments

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Problems</th>
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<tbody>
<tr>
<td>1</td>
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