SYLLABUS (Version: 08/09/2007)
PHYS 1111: Introductory Physics-Mechanics, Waves, Thermodynamics
Prerequisite: MATH 1090 or MATH 1113

Instructor: Dr. Andrei Galiautdinov
Department of Physics and Astronomy, University of Georgia
Office: 228B
Email: ag1@uga.edu

COURSE DESCRIPTION: The first semester of a two-semester introductory course in physics. A knowledge of algebra and trigonometry is assumed. Mechanics (forces, Newton’s laws of motion), wave phenomena, and thermodynamics. Offered fall, spring, and summer semesters every year.

I. MEETING TIMES

• TTH Section: 11:00-12:15 PM
• MWF Section: 12:20-1:10 PM

II. OFFICE HOURS

• TTH: 12:15-1:15 PM
• MW: 1:10-2:10 PM

III. COURSE MATERIALS

• All other materials related to this course, including Announcements, Homework/Online Quizzes/Reading Quizzes, due dates/times, etc. will be posted on UGA WebCT at https://webct.uga.edu under PHYS 1111 (FALL 2007) (Galiautdinov).
• Check your WebCT account regularly!

IV. GRADING POLICY

• Your Overall Percentage Score Average (OPSA) will be determined as follows:
  20% of the Lab Grade +
  20% of the Homework/Online Quizzes/Reading Quizzes +
  15% of Test 1 +
  15% of Test 2 +
  15% of Test 3 +
  15% of the Final Exam
  = 100%

• Letter Grades are determined from the foregoing OPSA as follows:
  A ≥ 93%, A− ≥ 90%, B+ ≥ 87%, B ≥ 83%, B− ≥ 80%, C+ ≥ 75%, C ≥ 70%, C− ≥ 65%, D ≥ 55%, F < 55%

• All students are required to take the final exam.
• The final exam grade will automatically replace the lowest of your three hourly tests, if it is higher.
• An absence (any reason) for any test will allow final exam grade to be substituted for that test grade.
• Only one (1) absence for a test will qualify for such substitution.
• No make-up of examinations will be allowed.
V. IN-CLASS TESTS

- There will be three (3) closed book, closed notes in-class tests on selected chapters.
- The material covered on the tests and the test dates will be announced in class.
- Make-up exams will not be given.
- You may bring with you one (1) sheet of paper containing anything you think might be useful on the test (physical constants, formulae, diagrams, problem solutions, etc.), as long as it is all hand-written. You may write on both sides.
- The only electronic item allowed on the test is a simple (non-graphing, non-symbolic, non-programmable) scientific calculator.
- You are not allowed to use any other electronic device(s). If you do, you will get a zero (0) for the test, which will not be substituted by the final exam grade.
- On the tests you must work individually.
- If you are finished early, submit your work and leave quietly.

VI. ACADEMIC HONESTY

Your academic work must meet the standards contained in “A Culture of Honesty.” You are responsible to inform yourselves about those standards before performing any academic work.

VII. HOW TO DO WELL IN THIS CLASS?

- GOALS: What we would like to be able to do in this class is four-fold:
  1. To apply basic physical principles to realistic situations.
  2. To solve realistic problems.
  3. To perceive and/or resolve contradictions involving our, deeply rooted in intuition, preconceptions.
  4. To organize the ideas of physics hierarchically.
- As far as I know, there is no easy, a walk-in-the-park-sort of way to achieve that.
- SURPRISE: Educational research has consistently shown that lectures alone are generally inefficient in conveying information to most students, and are even less effective in teaching reasoning skills.
- Active learning is the key to success in physics.
- No matter how good the text is, no matter how well the course is designed, our effort to learn physics effectively will fail if you do not come to class prepared. Such preparation includes, among other things, reading and thinking about the subject ahead of time.
- Do not expect to understand everything you read; however, you do have to make an honest effort.
- When you read your text, make notes, record questions, and ask your questions in class. Also...
- ATTENTION! ...learn how to separate important from unimportant. Some authors go on a tangent ranting about unimportant details. Your task, while reading, is to drop the water and keep the substance!
- You must solve problems, all the time, as many as you possibly can.
- REMEMBER: You can no more learn to think like physicists simply by listening to the lecture than someone can become a pianist simply by listening to a pianist play, which means that...
- ...listening is no replacement for personal practice.
- Thus, practice! Solve problems!
- IMPORTANT: reading a section ahead of time prepares you for the unexpected. By knowing what to expect you eliminate the need to frantically write down everything your teacher says in class. Instead, you will be spending your precious time actively thinking about the topic and recording only those things that matter most.

The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary.
### TABLE I: Fall 2007 Master Schedule

ATTENTION: This schedule is preliminary. It is subject to modification, possibly including exam dates. *Updated versions will be periodically posted on WebCT.*

<table>
<thead>
<tr>
<th>Week</th>
<th>Dates</th>
<th>Reading</th>
<th>Topics</th>
<th>Important Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Aug. 16–Aug. 17</td>
<td>1.1–7</td>
<td>Intro to Physics</td>
<td></td>
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<tr>
<td>1</td>
<td>Aug. 20–Aug. 24</td>
<td>2.1–7</td>
<td>1D Kinematics</td>
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<tr>
<td>2</td>
<td>Aug. 27–Aug. 31</td>
<td>3.1–6</td>
<td>Vectors in Physics</td>
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<tr>
<td>3</td>
<td>Sep. 03–Sep. 07</td>
<td>4.1–5</td>
<td>2D Kinematics</td>
<td>M: LABOR DAY</td>
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<tr>
<td>4</td>
<td>Sep. 10–Sep. 14</td>
<td></td>
<td>TEST #1: Chapters 1-4</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>5.1–4</td>
<td>Newton’s Laws of Motion</td>
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<tr>
<td>5</td>
<td>Sep. 17–Sep. 21</td>
<td>5.5–7</td>
<td>Newton’s Laws of Motion</td>
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<td></td>
<td></td>
<td>6.1-6.2</td>
<td>Applications of Newton’s Laws</td>
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<tr>
<td>6</td>
<td>Sep. 24–Sep. 28</td>
<td>6.3–5</td>
<td>Applications of Newton’s Laws</td>
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<td></td>
<td></td>
<td>7.1–4</td>
<td>Work &amp; Kinetic Energy</td>
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<tr>
<td>7</td>
<td>Oct. 01 — Oct. 05</td>
<td>8.1–5</td>
<td>Potential Energy &amp; Conservation of Energy</td>
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<tr>
<td>8</td>
<td>Oct. 08 — Oct. 12</td>
<td>9.1–7</td>
<td>Linear Momentum &amp; Collisions</td>
<td>F: MIDPT WITHDRWL DLINE</td>
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<td>9</td>
<td>Oct. 15 — Oct. 19</td>
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<td>TEST #2: Chapters 5-9</td>
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<td></td>
<td></td>
<td>10.1–3</td>
<td>Rotational Kinematics &amp; Energy</td>
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<tr>
<td>11</td>
<td>Oct. 29 — Nov. 02</td>
<td>11.1–8</td>
<td>Rotational Dynamics &amp; Static equilibrium</td>
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<tr>
<td>12</td>
<td>Nov. 05 — Nov. 09</td>
<td>12.1,2,4,5</td>
<td>Gravity</td>
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<td>13</td>
<td>Nov. 12 — Nov. 16</td>
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<td>TEST #3: Chapters 10-12</td>
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<td>13.1–13.6</td>
<td>Oscillations About Equilibrium</td>
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<td>14</td>
<td>Nov. 19 — Nov. 23</td>
<td>14.1,2,4,6</td>
<td>Waves &amp; Sound</td>
<td>W-F: THANKSGIVING</td>
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<td>15</td>
<td>Nov. 26 — Nov. 30</td>
<td>14.7,8</td>
<td>Waves &amp; Sound</td>
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<td>16.1,2,4,5</td>
<td>Temperature &amp; Heat</td>
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<tr>
<td>16</td>
<td>Dec. 03 — Dec. 07</td>
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<td>Course Review</td>
<td>T: FRIDAY SCHEDULE</td>
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<td>TH: CLASSES END</td>
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<tr>
<td>17</td>
<td>Dec. 10 — Dec. 14</td>
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<td>FINAL EXAM</td>
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