Instructor: Dr. Tho Nguyen
Office: Physics Building, room 233 Phone: 706-542-2492
Email: ngtho@uga.edu

Topics: The course introduces the basic physical concepts of classical mechanics.


Class: Monday, Wednesday and Friday, PHYS1211-25698: 11:30am–12:20am, Physics 202
PHYS1211-30232: 10:20am–11:10am, Physics 221

There will be no cell phones, computers, ipads… allowed during the class. I might ask you to leave the class if you do your personal things other than physics in the class.

Office Hours: Monday, Wednesday and Friday, 1pm–2:30pm, Physics 233.

Exams: One sheet with own hand-written notes on ONE side is permitted as well as a standard, non-programmable calculator, but no other material. Excused midterm exam absence with documented reason causes the grade of the final exam to be substituted for the midterm exam; unexcused absence entails grade F with a zero credit. There are three midterms but you are allowed to drop the worst one at the end of the semester. Therefore, each midterm will have 15% of the total grade. Missing the final exam without documented reason results in failing the course. If the instructor decides that final exam absence was excusable, the average grade of the midterms will be substituted. There will be no make-up exams.

Homework: There will be graded assignments on a regular basis with mandatory deadlines in the LON-CAPA system (http://spock.physast.uga.edu). No late homework is accepted. Teamwork is acceptable, even encouraged. There won’t be homework make-ups. Homework will be graded automatically by the LON-CAPA system when the deadline is passed.

In case you can’t log into LON-CAPA:

Read the "Log-in Help" link on the main login page, and/or the "Student FAQ". There are several possible causes outlined on those pages, including: Is your UGA password expired? Check to see whether you can log in to eLC or Athena. Sometimes UGA servers expire student passwords for some services and not others. Therefore, your first step should almost always be to reset your UGA password on myid.uga.edu. Have you tried
quitting your browser and restarting it? Have you tried a different browser (Chrome vs. Firefox, for example)? Have you tried a different computer? Disabling browser add-ons and extensions sometimes helps. There are some add-ons that don't always play well with login pages.

**Reading Assignments and Quizzes:**

You are required to read the assigned textbook sections before the class in which those topics are going to be discussed. The tentative lectures are listed in the end of this syllabus. I will sometimes assign sort quizzes based on the reading and past lectures. The quizzes will randomly happen in the first 5 to 10 minutes of the class time. There will be no make-up quizzes. I will allow you to miss one and only one quiz because of any reasons. Therefore, attendance in the lectures is necessary to get this credit.

**Labs:**

For information about labs and schedule, consult the Lab Coordinator at the Physics Department. The lab syllabus is available online at: [http://www.physast.uga.edu/courses](http://www.physast.uga.edu/courses).

**Grade:**

Total Grade = 20% Labs + 15% Homework + 5% Quizzes and attendance + 30% two Midterms + 30% Final

**Notes:**

1) Failing the lab (no grade assignment due to non-attendance or grade F) causes a total grade F for the entire course.

2) Your grades and course announcement will be posted on the eLC website, https://uga.view.usg.edu/. Please check your eLC account frequently.

**Grading:**

\[100,90\]: A; (90,88]: A-; (88,85]: B+; (85,80]: B; (80,78]: B-; (78,75]: C+; (75,70]: C; (70,68]: C-; (68,60]: D; (60,0]: F

**NOTE:** No rounding; 89.99 = A-, etc

**Academic honesty:**

All members of the academic community are committed to honesty. The academic honesty policy statement of the UGA can be viewed online at [www.uga.edu/honesty](http://www.uga.edu/honesty).

**Tutors:**

Tutors are available either for free through the UGA Tutoring Program at Milledge Hall, [http://tutor.uga.edu](http://tutor.uga.edu), or for pay through the Physics Department, [http://www.physast.uga.edu/tutors](http://www.physast.uga.edu/tutors).
<table>
<thead>
<tr>
<th>Class</th>
<th>Date</th>
<th>Reading task</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1</td>
<td>Wed: 08/17</td>
<td>Chapter 1</td>
<td><strong>CONCEPTS OF MOTION</strong></td>
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<td>3 types of basic physical quantities;</td>
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<td>Unit conversion; dimensional analysis;</td>
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<td>significant figures; Scientific notation</td>
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<td>2</td>
<td>Fri: 08/19</td>
<td>2.1-2.7</td>
<td><strong>1D KINEMATICS</strong></td>
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<td>Structure of mechanics; reference frames</td>
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<td>Position, distance, &amp; displacement</td>
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<td>Average speed &amp; velocity</td>
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<td>Instantaneous velocity; Acceleration</td>
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<td>Motion with constant acceleration</td>
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<td>Applications</td>
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<td>Freely falling objects</td>
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<td>3</td>
<td>Mon: 08/22</td>
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<td>Wed: 08/24</td>
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<td>6</td>
<td>Mon: 08/29</td>
<td>3.1-3.4</td>
<td><strong>VECTORS</strong></td>
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<td>Scalars vs. Vectors</td>
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<td>Coordinate systems &amp; vector components</td>
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<td>Adding &amp; subtracting vectors</td>
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<td>Unit vectors</td>
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<td>Relative motion</td>
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<td>Position, displacement, velocity, &amp; acceleration vectors</td>
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<td>7</td>
<td>Wed: 08/31</td>
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<td>8</td>
<td>Fri: 09/2</td>
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<td>9</td>
<td>Mon: 09/5</td>
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<td>Labor day</td>
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<td>10</td>
<td>Wed: 09/7</td>
<td>4.1-4.3</td>
<td><strong>2D KINEMATICS</strong></td>
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<td>Acceleration; 2D Kinematics</td>
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<td>Projectile motion</td>
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<td>11</td>
<td>Fri: 09/9</td>
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<td>12</td>
<td>Mon: 09/12</td>
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<td>Wed: 09/14</td>
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<td>Fri: 09/16</td>
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<td>Mon: 09/19</td>
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<td><strong>Exam 1</strong></td>
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<td>16</td>
<td>Wed: 09/21</td>
<td>5.1-5.7, 6.1-6.6, 7.1-7.5</td>
<td><strong>NEWTON’S LAWS OF MOTION</strong></td>
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<td>Force; Catalogue of forces;</td>
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<td>Newton’s Laws; Free-body diagrams;</td>
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<td>Weight; Normal Forces; Inclines; Frictional forces; Strings &amp; springs</td>
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<td>9.1-9.6 10.1-10.7</td>
<td>WORK &amp; ENERGY</td>
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<td>11.1-11.6</td>
<td>IMPULSE &amp; LINEAR MOMENTUM</td>
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<td>Fri: 10/21</td>
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<td>31</td>
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<td>Fri: 10/28</td>
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<td>Fall Break</td>
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<td>Fri: 11/4</td>
<td>4.5-4.7</td>
<td>ROTATIONAL KINEMATICS</td>
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<td>36</td>
<td>Mon: 11/7</td>
<td>12.1-12.11</td>
<td>ROTATIONAL DYNAMICS &amp; STATIC EQUILIBRIUM</td>
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<td>37</td>
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<td>42</td>
<td>Mon: 11/21</td>
<td>13.1-13.6</td>
<td>NEWTON’S LAW OF GRAVITY</td>
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Gravitational attraction of spherical bodies
Kepler’s Laws of orbital motion. Motion of satellites
Gravitational potential energy
Energy conservation

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<tr>
<td>43</td>
<td>Wed: 11/23</td>
<td>Holiday: Thanksgiving</td>
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<td>Fri: 11/25</td>
<td>Holiday: Thanksgiving</td>
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<td>45</td>
<td>Mon: 11/28</td>
<td>Exam 3</td>
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<td>46</td>
<td>Wed: 11/30</td>
<td>Oscillations</td>
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<td>15.1-15.6</td>
<td>Periodic motion</td>
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<td>Simple harmonic motion (SHM)</td>
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<td>Connection b/w uniform circular motion &amp; SHM</td>
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<td>Mass on a spring</td>
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<td>Energy conservation in SHM</td>
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<td>The pendulum (simple &amp; physical)</td>
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<td>47</td>
<td>Fri: 12/2</td>
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<td>48</td>
<td>Mon: 12/5</td>
<td>Final day of the class</td>
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<tr>
<td>49</td>
<td>Tues: 12/13</td>
<td>Final Exam from 7 pm to 10 pm</td>
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Fall 2022

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<thead>
<tr>
<th>Event</th>
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<tr>
<td>Orientation</td>
<td>Aug. 15</td>
<td>Monday</td>
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<tr>
<td>Advisement</td>
<td>Aug. 15</td>
<td>Monday</td>
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<tr>
<td>Registration</td>
<td>Aug. 16</td>
<td>Tuesday</td>
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<tr>
<td>Classes Begin</td>
<td>Aug. 17</td>
<td>Wednesday</td>
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<tr>
<td>Drop / Add for undergraduate and graduate level courses</td>
<td>Aug. 17 – 23</td>
<td>Wednesday - Tuesday</td>
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<tr>
<td>Holiday: Labor Day - No Classes</td>
<td>Sept. 5</td>
<td>Monday</td>
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<tr>
<td>Withdrawal Deadline</td>
<td>Oct. 24</td>
<td>Monday</td>
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<tr>
<td>Fall Break</td>
<td>Oct. 28</td>
<td>Friday</td>
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<tr>
<td>Last Day of Classes prior to Thanksgiving Break</td>
<td>Nov. 22</td>
<td>Tuesday</td>
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<tr>
<td>Event</td>
<td>Start Date</td>
<td>End Date</td>
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<tr>
<td>Holiday: Thanksgiving - No Classes</td>
<td>Nov. 23-25</td>
<td>Wednesday - Friday</td>
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<td>Classes Resume</td>
<td>Nov. 28</td>
<td>Monday</td>
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<tr>
<td>Friday Class Schedule in Effect</td>
<td>Dec. 6</td>
<td>Tuesday</td>
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<td>Classes End</td>
<td>Dec. 6</td>
<td>Tuesday</td>
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<tr>
<td>Reading Day</td>
<td>Dec. 7</td>
<td>Wednesday</td>
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<td>Final Exams</td>
<td>Dec. 8-14</td>
<td>Thursday - Wednesday</td>
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<td>Commencement</td>
<td>Dec. 16</td>
<td>Friday</td>
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<td>Grades Due</td>
<td>Dec. 19</td>
<td>Monday, 12 PM</td>
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