1. Course evaluation: Your grade will be calculated as follows:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework* (Online)</td>
<td>10%</td>
</tr>
<tr>
<td>Lab**</td>
<td>10%</td>
</tr>
<tr>
<td>Quizzes†</td>
<td>5%</td>
</tr>
<tr>
<td>Exam 1‡</td>
<td>15%</td>
</tr>
<tr>
<td>Exam 2‡</td>
<td>15%</td>
</tr>
<tr>
<td>Exam 3‡</td>
<td>15%</td>
</tr>
<tr>
<td>Final Exam† (common)</td>
<td>30%</td>
</tr>
</tbody>
</table>

*An online homework assignment will be due each Sunday at 11 PM on WileyPLUS. There will be total fifteen (15) online homework assignments on WileyPLUS. Late homework will not be accepted.

**There will be total 10 labs (see the course schedule for details). During each lab you will write a report in your lab-notebook based on your own laboratory measurements and get your lab-report signed by me/the lab instructor at the end of your lab. After finishing all your labs, you will submit your lab-notebook (on Nov 29, 2012) to me to get your final lab grade.

† In-class quizzes will be given without any prior notice.

‡ Four examinations are scheduled for the semester:

<table>
<thead>
<tr>
<th>Exam</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam 1</td>
<td>September 27, 2012 (Thursday)</td>
</tr>
<tr>
<td>Exam 2</td>
<td>November 1, 2012 (Thursday)</td>
</tr>
<tr>
<td>Exam 3</td>
<td>December 6, 2012 (Thursday)</td>
</tr>
<tr>
<td>Final Exam</td>
<td>date will be decided later</td>
</tr>
</tbody>
</table>

[Note: Exam 1, 2 and, 3 will be held in CH001, during regular lab hours (9:55 AM-11:45AM for Sec 4341 and 1:30PM-3:20PM for Sec 6541)]

2. Grades

Grades will be linearly scaled to a standard with which you are all familiar:

- Greater than or equal to 90: A
- Greater than or equal to 80 (but less than 90): B
- Greater than or equal to 70 (but less than 80): C
- Greater than or equal to 60 (but less than 70): D
- Less than 60: F
Syllabus, Topics, and Schedule


The schedule of day-by-day lecture topics is listed below. To get the most out of each lecture, you should read -- AHEAD OF TIME! -- so that the lecture discussions will have something to stick to in your memory banks.

<table>
<thead>
<tr>
<th>Course</th>
<th>Lecture time</th>
<th>Lecture Room</th>
<th>Lab Time</th>
<th>Lab Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>SP211/4341</td>
<td>MWF4</td>
<td>CH011</td>
<td>R34</td>
<td>CH001</td>
</tr>
<tr>
<td>SP211/6541</td>
<td>MWF6</td>
<td>CH011</td>
<td>R56</td>
<td>CH001</td>
</tr>
</tbody>
</table>

To access homework assignments on WileyPLUS
- Go to [www.wileyplus.com](http://www.wileyplus.com).
- Click on the green button “Get started.”
- In the find your class box type “US Naval Academy” and then click “Find.”
- Click on the + under “Calc Physics” and then choose the green arrow for your Section Name (4341 or 6541) under Instructor “Rajratan Basu.”

**Week 1: 20 August - 24 August**
Monday Administration
Wednesday 2.1 - 2.6 1D Kinematics
**Thursday: Lab 0 (Introduction to Lab)**
Friday 2.7 Constant Acceleration
*HW1 due: Sunday 11 PM*

**Week 2: 27 August - 31 August**
Monday 2.9 Free Fall
Wednesday 4.1 - 4.4 2D and 3D Kinematics
**Thursday: Lab1 (1D Kinematics)**
Friday 4.5 - 4.6 Projectile Motion
*HW2 due: Sunday 11 PM*

**Week 3: 4 September - 7 September**
Tuesday 4.7 Uniform Circular Motion
Wednesday 4.8 - 4.9 Relative Motion
Thursday 5.1 - 5.8 Newton's Laws
Friday 5.9 Applying Newton's Laws
*HW3 due: Sunday 11 PM*

**Week 4: 10 September - 14 September**
Monday 5.9 Applying Newton's Laws
Wednesday 6.1 - 6.3 Friction
**Thursday: Lab2 (2D Kinematics)**
Friday 6.4 - 6.5 Drag, Uniform Circular Motion
*HW4 due: Sunday 11 PM*
**Week 5: 17 September - 21 September**
Monday 7.1 - 7.6 Kinetic Energy, Work, Work Done by Gravity
Wednesday 7.7 - 7.9 Work done by Variable Forces, Power
**Thursday Lab3 (Newton's Laws)**
Friday 8.1 - 8.5 Potential Energy, Conservation of Mechanical Energy
*HW5 due: Sunday 11 PM*

**Week 6: 24 September - 28 September**
Monday 8.6 - 8.8 Conservation of Energy
Wednesday 9.1 - 9.5 Center of Mass, Momentum
***Thursday EXAM-I***
Friday Demo 1: Kinematics and Dynamics
*HW6 due: Sunday 11 PM*

**Week 7: 1 October - 5 October**
Monday Impulse, Conservation of Momentum
Wednesday 9.9 - 9.11 Collisions
**Thursday: Lab4 (Uniform Circular Motion)**
Friday 10.1 - 10.5 Rotational Kinematics
*HW7 due: Sunday 11 PM*

**Week 8: 9 October - 12 October**
Wednesday Rotational Kinetic Energy, Rotational Inertia
**Thursday: Lab5 (Work and Energy)**
Friday 10.8 - 10.9 Torque, Newton's 2nd Law for Rotation
*HW8 due: Sunday 11 PM*

**Week 9: 15 October - 19 October**
Monday 10.10 Work and Rotational Kinetic Energy
Wednesday 11.1 - 11.4 Rolling
**Thursday: Lab6 (Momentum and 1D Collisions)**
Friday 11.6 - 11.7 Angular Momentum
*HW9 due: Sunday 11 PM*

**Week 10: 22 October - 26 October**
Monday 11.8 - 11.11 Conservation of Angular Momentum
Wednesday 13.1 - 13.6 Newton's Law of Gravitation
**Thursday: Lab7 (2D Collisions and Center of Mass)**
Friday 13.7 - 13.8 Kepler's Laws, Satellites
*HW10 due: Sunday 11 PM*

**Week 11: 29 October - 2 November**
Monday 14.1 - 14.4 Fluids: Density and Pressure
Wednesday 14.6 - 14.9 Fluids: Pascal, Archimedes, Ideal Fluids
***Thursday EXAM-2***
Friday Demo 2: Energy and Momentum
Week 12: 5 November - 9 November
Monday 14.10 Bernoulli's Equation
Wednesday 15.1 - 15.4 Simple Harmonic Motion
Thursday: Lab8 (Rotational Kinematics and Dynamics)
Friday 15.6 Pendulums
HW12 due: Sunday 11 PM

Week 13: 13 November - 16 November
Wednesday 15.8 - 15.9 Damped and Forced Oscillations
Thursday Lab9 (Simple Harmonic Motion)
Friday 16.1 - 16.6 Traveling Waves
HW13 due: Sunday 11 PM

Week 14: 19 November - 21 November
Monday 16.7 - 16.10 Energy, Power, the Wave Equation, Superposition, Interference
Wednesday 16.12 - 16.13 Standing Waves (early schedule)
HW14 due: Sunday 11 PM

Week 15: 26 November - 30 November
Monday 17.1 - 17.3, 17.6 Sound Waves, Intensity
Wednesday 17.7 - 17.8 Sources of Musical Sound, Beats
Thursday: Lab10 (Standing Waves)
Friday 17.9 - 17.10 Doppler Effect, Shock Waves
HW15 due: Sunday 11 PM

Week 16: 3 December - 7 December
Monday Review Day
Wednesday Review Day
*** Thursday EXAM-3 ***
Friday Demo 3: Simple Harmonic Motion and Waves