Physics 12 Course Outline 2016 - 2017

Teacher: Mr. Cheung

Email: wcheung@sd38.bc.ca

Website: http://cheungphysics.weebly.com/

Textbook: Physics by Giancoli

Equipment: **ALWAYS** have a pencil, an eraser, a calculator, a ruler and some paper. **Graph paper** is a must for this course – make sure you always have a few sheets.

Topics: We will cover much of, but not the same, stuff that you will find in the textbook. It more or less follows the official BC guidelines for this course. We will be following the order shown below.

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Subject</th>
<th>Topic Covered</th>
<th># Classes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Math Review</td>
<td>Units, vectors, algebra, trigonometry</td>
<td>3</td>
</tr>
<tr>
<td>2 – 3</td>
<td>Kinematics</td>
<td>Velocity, acceleration, projectiles (2D)</td>
<td>11</td>
</tr>
<tr>
<td>4 – 5</td>
<td>Dynamics</td>
<td>Newton’s Laws, forces, FBDs, gravitation</td>
<td>10</td>
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<tr>
<td>5</td>
<td>Circular Motion</td>
<td>Circular motion, centripetal force</td>
<td>5</td>
</tr>
<tr>
<td>6 – 7</td>
<td>Momentum &amp; Energy</td>
<td>Momentum, impulse, work, power</td>
<td>15</td>
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<tr>
<td>8 – 9</td>
<td>Equilibrium</td>
<td>Equilibrium, torque, center of gravity</td>
<td>6</td>
</tr>
<tr>
<td>16 – 17</td>
<td>Electrostatics</td>
<td>Coulomb’s Law, electric fields</td>
<td>8</td>
</tr>
<tr>
<td>18 – 19</td>
<td>Circuits</td>
<td>Current, Ohm’s and Kirchhoff’s Law</td>
<td>9</td>
</tr>
<tr>
<td>20 – 21</td>
<td>Electromagnetism</td>
<td>Magnetic field, induction, flux, Lenz’s and Faraday’s Laws</td>
<td>15</td>
</tr>
</tbody>
</table>

Marks: Marks will be split up as shown below.

35% **Assignments:** Homework, labs and projects.
40% **Unit Tests:** Major tests covering the core concepts from the material each unit.
25% **Final Exam:** A final exam at the end of the year will test all of the material in the course.

Extra Help: I want you to pass this course.

- Ask for help when you need it in class. I’ll be more than happy to assist.
- Talk to your peers
  - They might have a different way of explaining things that you find easier to understand. Don’t underestimate how much this can help.
- Arrange to meet me outside of class hours: before or after school, during lunch
- Email me; hopefully I will receive it in time to help
Absences: You may miss classes sometimes due to medical reasons, family business, field trips, etc. If you miss a class, it is 100% your responsibility to get caught up. Some things you should do:

- Get the notes and an explanation from someone who was here
- Go through the textbook section that covers the material you missed
- Get copies of any handouts that you missed – I’ll have them available
- Do the homework that was assigned
- Hand in anything that was due that day
- Ask me questions after you have done all of that other stuff

If you miss a test, you will write a make-up test immediately when you get back unless there is some extremely good reason not to. Expect the make-up test to be at least as hard as the original – after all, you had extra time to prepare. If you know about your absence in advance, it is in your best interest to arrange to write the test ahead of time instead of late.

Food and electronics:

- Unfortunately this is a SCIENCE ROOM, which means no food or drinks. People dissect chemically-preserved animals on these tables. If you want to eat off of them, that’s disgusting.
- Music IS NOT allowed when I’m talking or during notes, labs and activities.
- Music is fine while you are working independently (not during quizzes and tests of course), but your media player should be FLAT ON YOUR DESK, not in your hands.

Cambie’s Three Rs

Be Responsible:

- An abuse of the washroom privilege will result in it being taken away.
- Do your own work. Anything perceived as cheating will result in an automatic zero, as well as further disciplinary action after consultation with the principal and your parents. DON’T DO IT!!

Be Respectful:

- Do not interfere with the education of others (e.g. talking out of turn or while others are talking, making excessive noise, etc . . .)
- Respect for every member of the classroom. Failure to show respect will not be tolerated.

Ready to Succeed

- Bring all necessary supplies to class.
- Be on time. If you are late, bring a note.
- Make sure you record each day’s assignment in your agenda.