Physics 106
Astronomy
Spring Evening Term, 2013

Prerequisites: MAT130, or a working knowledge of algebra

Instructor: Charles Benesh

Phone: x5265

e-mail: cbenesh@wesleyancollege.edu

Web: [http://www.wesleyancollege.edu/~cbenesh](http://www.wesleyancollege.edu/~cbenesh)

Office Hours: to be announced

Grading:
- 40% - 3 Exams
- 20% - Final Exam
- 20% - Weekly Homework and Quizzes
- 20% - Weekly Laboratory


- **Lecture Attendance:** Regular attendance in class is both expected and recommended. Generally, quizzes are only given when attendance falls below 80%. Therefore, the day you don’t show up is more likely to have a quiz.....

- **Quizzes:** I reserve the right to give unannounced in class quizzes which will count towards the homework portion of your grade. No makeup quizzes will be given.

- **Homework:** Each week there will be a homework assignment. Assignments are posted on the course web page and on the MasteringAstronomy website. You will be sent a reminder via email on Friday(usually) when a
new assignment is posted. In most instances, the assignment will be due on Tuesday (11 days later.)

On a few occasions there may be additional online activities assigned.

- **Laboratory:** There will be a total of twelve labs for this course. With two exceptions, each week’s lab will be conducted in two parts, during the second “half” of class. In order to complete the lab, *you must be present on Tuesday when the lab begins. Students will not be allowed to begin the lab on Thursday. There will be no opportunity to makeup missed labs.* Lab reports are due on Thursday one week after completion of the lab.

On one occasion we will go out and observe the sky using the College’s small telescopes. Weather permitting, this will be done early in the semester when it will be sufficiently dark during class hours. As the semester progresses, it gets dark later, which means that you may be required to stay later than usual to complete this activity.

You are also be required to take a “field trip” up the street to the Museum of Arts and Sciences to see the planetarium and telescopes they have there.
## Class Schedule - Physics 106

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan 17</td>
<td>The Birth of Astronomy - NO LAB</td>
<td>READ: Chapter 1</td>
</tr>
<tr>
<td>22</td>
<td>Getting Around the Sky - Celestial Coordinates</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Phases and Eclipses, Parallax</td>
<td>Lab 1: Planetarium Visit</td>
</tr>
<tr>
<td>Jan 29</td>
<td>Geocentrism vs. Helio-Centrism</td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>Galileo, Kepler, and Newton</td>
<td>Lab 2b: Celestial Sphere</td>
</tr>
<tr>
<td>Feb 5</td>
<td>Newton II</td>
<td>Lab 3a: Parallax</td>
</tr>
<tr>
<td>7</td>
<td>Light</td>
<td>Lab 3b: Parallax</td>
</tr>
<tr>
<td>Feb 12</td>
<td>Interference and Diffraction</td>
<td>Lab 4a: Celestial Scavenger Hunt (Backup Date)</td>
</tr>
<tr>
<td>Feb 14</td>
<td>Exam I - Chapters 1-3</td>
<td>Layb 4b: Celestial Scavenger Hunt (Backup Date)</td>
</tr>
<tr>
<td>Feb 19</td>
<td>Black-Body Radiation</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Telescopes</td>
<td>Lab 5b: Newton’s Laws</td>
</tr>
<tr>
<td>Feb 26</td>
<td>Atomic Spectroscopy I</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>Atomic Spectroscopy II</td>
<td>Lab 6b: Light and Waves</td>
</tr>
</tbody>
</table>

**READ:** Chapters 4 & 5
Mar 5  The Solar System I - The Regular Cast  
    Lab 7a: Optics  
    7  Exam II  
    Lab 7b: Optics  
    **READ:** Chapters 4 & 5  

Mar 11-15  **SPRING BREAK - NO CLASS**  

Mar 19  The Solar System II - Guest Stars  
    Lab 4a: Celestial Scavenger Hunt (Backup Date)  
Mar 21  Earth I  
    Lab 4b: Celestial Scavenger Hunt (Backup Date)  
    Read Chapter 5 & 6  

Mar 26  Earth II  
    Lab 8a: Sizing Things Up  
    28  Earth III  
    Lab 8b: Sizing Things Up  
    **READ:** Chapter 7  

Apr 2  Mercury  
    Lab 9a: Rotation of Mercury  
    4  Venus  
    Lab 9b: Rotation of Mercury  
    **READ:** Chapter 8  

Apr 9  Mars  
    Lab 10a: Astrometry of Asteroids  
    11  Extra-Terrestrial Life  
    Lab 10b: Astrometry of Asteroids  
    **READ:** Chapters 9 & 10  

Apr 16  Jupiter - The Big One  
    Lab 4a: Celestial Scavenger Hunt (Backup Date)  
    18  Exam III  
    Lab 4b: Celestial Scavenger Hunt (Backup Date)  
    **READ:** Chapters 11 & 12
Apr  23  Saturn
     Lab 11a: Moons of Jupiter
25  Uranus, Neptune, and Pluto
     Lab 11b: Moons of Jupiter

Apr  30  The Sun’s Surface
            NO LAB

May  7  Final Exam - 5:30 PM