PHYS 321-002: Astronomy and Astrophysics II (Revised for Remote Learning)

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Overview

PHYS 321 is the second of a two-semester introductory sequence to astronomy and astrophysics. It is a quantitative introduction to the astronomy of stars, the galaxy, and cosmology, with an emphasis on the physical principles involved.

Course Outline

1. Light, Blackbody Radiation, Color Index
2. The Interaction of Light and Matter
3. Stellar Spectra and Stellar Atmosphere
4. The Interiors of Stars
5. Stellar Birth
6. Stellar Evolution
7. Stellar Remnants
8. Black Holes and General Relativity
9. Close Binary Star Systems
10. The Milky Way Galaxy
11. Galaxies and Galactic Evolution
12. The Structure of the Universe
13. Cosmology

Grading

Homework (20%), class participation and final presentation (20%), two in-class exams (15% each, 30% total), and final exam (30%). Conversion to the final letter grade is based on the following chart. Grades are not negotiable.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>&gt;85</td>
</tr>
<tr>
<td>B+</td>
<td>&gt;75-85</td>
</tr>
<tr>
<td>B</td>
<td>&gt;65-75</td>
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<tr>
<td>C+</td>
<td>&gt;55-65</td>
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<tr>
<td>C</td>
<td>50-55</td>
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<tr>
<td>D/F</td>
<td>&lt;50</td>
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Class Policies

Students must attend all classes, in person or virtual, unless they have a legitimate reason and have notified the professor in prior to the class. Makeup exams will only be allowed under extraordinary circumstances such as severe illness. Students need to contact the professor in advance to make alternative plans for taking the exam and must present proof that clearly states the reason AND date. Use of phones, tablets, and laptops is restricted only to in-class exercises or note taking. The University Academic Integrity Code is taken very seriously and enforced strictly.

Textbook

Introduction to Modern Astrophysics, 2nd Edition, by Carroll & Ostlie. This is the same textbook as PHYS 320.

Prerequisite

Phys320 Astronomy & Astrophysics I

Course Web Page

https://canvas.njit.edu/, where you will find lecture notes, homework assignments, announcements, and/or reading assignments.

Homework

Homework assignments are all written assignments, due each week at the start of the class. Late submissions will have grades reduced by 50% and must be turned in by the last class for credit.

Exams

There will be two in-class exams and one final exam. The format of the exams is similar to homework problems. The final exam has to be taken to receive a passing grade. Bring calculators.