Physics 1103: Stellar Astronomy Laboratory

Fall 2019

Course Information

Meeting Place & Time: ASU Planetarium (VIN P-02), Thursday 03:00-04:50 PM

Instructor
Dr. Kenneth Carrell
Office: VIN 119, Phone: (325) 942-2136, Email: kenneth.carrell@angelo.edu
Office Hours: M 1-2 PM, R 1-3 PM, M-F 11am-12pm (if no groups)

Course Description
Physics 1103, Stellar Astronomy Laboratory, is a one credit hour introductory study of the current knowledge and techniques of astronomy and astrophysics. Broad topics in the field will be covered, but the emphasis will be on stellar astronomy and cosmology.

Required Materials

The Norton Starry Night Workbook by Desch & Marks

This workbook comes with a download code for the Starry Night College software. Both the software and workbook are required for this course. Starry Night College is a realistic and user-friendly planetarium simulation program that is designed to allow you to perform observational activities on your computer.

Academic Integrity
Angelo State University expects its students to maintain complete honesty and integrity in their academic pursuits. Students are responsible for understanding and complying with the university Academic Honor Code and the ASU Student Handbook.

Accommodations for Disabilities
The Student Life Office is the designated campus department charged with the responsibility of reviewing and authorizing requests for reasonable accommodations based on a disability, and it is the student’s responsibility to initiate such a request by contacting the Student Life Office. The Student Life Office will establish the particular documentation requirements necessary for the various types of disabilities.

Religious Holidays
A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. A student who fails to do class work for the observance of a religious holy day shall be allowed to take an examination or complete an assignment scheduled for that day within a reasonable time after the absence.
**Planetarium Class Etiquette**

- No food, drinks, or tobacco products are allowed in the planetarium or the outer lobby area.
- Please do not leave trash in the planetarium or lobby.
- Please do not disturb fellow students during class time.
- Please do not put your feet up on the chair in front of you.
- Silence cell phones and other electronic devices.
- No texting/messaging during class.
- Please let me know if you will be using any electronic device during class.

**Assessing Outcomes & Grade Determination**

**Method of Assessing Outcomes**

- Student learning outcomes will be assessed through tests administered on Blackboard for each of the completed labs.
- Make sure you complete each lab before you attempt to take the test.
- You will not have enough time to do the lab and take the test at the same time. All tests are timed with a limit of 30 minutes and once started, the test must be completed in one sitting.
- DO NOT leave the test before clicking **Save and Submit**.

**Grade Determination**

Your final grade will be determined by your scores on all lab tests. There are 14 tests worth 25 points each giving a total of 350 possible points. An extra credit lab will also be available to help raise your grade.

Angelo State University employs a letter grade system. Grades in this course are determined on a percentage scale: A = 90-100%, B = 80-89%, C = 70-79%, D = 60-69%, F = 59% and below

Final course grades will also be determined in part based on attendance as follows:

<table>
<thead>
<tr>
<th>Number of Absences</th>
<th>Highest Grade Possible</th>
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<tbody>
<tr>
<td>0-2 (&lt;85% attendance)</td>
<td>A</td>
</tr>
<tr>
<td>3 (79% attendance)</td>
<td>B</td>
</tr>
<tr>
<td>4 (71% attendance)</td>
<td>C</td>
</tr>
<tr>
<td>5-6 (55-65% attendance)</td>
<td>D</td>
</tr>
<tr>
<td>7+ (&lt;=50% attendance)</td>
<td>F</td>
</tr>
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Course Outline

Getting Started

- Download *Starry Night College* software on to your computer. The software download instructions are given on the inside cover of your *Starry Night Workbook*.
- Alternatively, you can also access *Starry Night College* in the MCS 111 computer lab (computers 10-44), but you will still need to purchase the *Starry Night Workbook* to have access to the Student Exercise instructions and answer sheets.
- Make sure you read the Preface (p. vii) and Quick Tips (p. ix) in the workbook.

Action Plan

Follow this plan as you work your way through each lab assignment:

1. Labs will be assigned on the day of our class meeting each week (Thursday at 3 PM). I will give you pre-lab instructions in class. This usually takes 30 minutes or less.
2. Go to the site that you choose to complete this lab (either the MCS 111 computer lab or use your personal computer).
3. Follow the instructions (LAB INSTRUCTIONS tab in *Blackboard*) for each lab carefully and fully.
4. Do each lab as assigned (see lab assignment schedule below), answering all the questions and/or recording data on the *Starry Night Workbook* answer sheet or on the *Starry Night Work Sheets* (available on our *Blackboard* site).
5. I recommend that you do the labs on the day they are assigned, since you will already have a two-hour block of time built into your schedule for this class.
6. After you complete the lab, take the *Blackboard* lab quiz (look in the LAB TESTS tab).
7. Make sure you submit the test when you complete it and that you meet the deadline for submission for the test.
8. You can use your completed workbook answer sheet pages or work sheets to help you while taking the test.
9. You do not have to turn in the answer sheet from the *Starry Night Workbook* or the work sheets.
10. Grades will be reported in *Blackboard* (Tools/My Grades).
Laboratory Assignments and Due Dates
NOTE: “End of the day” means 11:59 PM and tests are unavailable after 11:30 PM
Aug 29 – Lab 1 – Starry Night Tutorial  
Blackboard test due by the end of the day Sunday Sep 8.

Sep 5 – Lab 2 – Starry Night Student Exercises E1, E2, E3, & E4  
Blackboard test due by the end of the day Sunday Sep 8.

Sep 12 – Lab 3 – Starry Night Student Exercises B3, B4, & B5  
Blackboard test due by the end of the day Sunday Sep 15.

Sep 19 – Lab 4 – Starry Night Student Exercises F1, F2, F3, F4, & F5  
Blackboard test due by the end of the day Sunday Sep 22.

Sep 26 – Lab 5 – The Magnitude Scale and Distances (p. 67 in workbook)  
Blackboard test due by the end of the day Sunday Sep 29.

Oct 3 – Lab 6 – Stars and the HR Diagram (p. 71 in workbook)  
Blackboard test due by the end of the day Sunday Oct 6.

Oct 10 – Lab 7 – Nebulae: The Birth and Death of Stars (p. 75 in workbook)  
Blackboard test due by the end of the day Sunday Oct 13.

Oct 17 – Lab 8 – Pulsars and Supernova Remnants (p. 79 in workbook)  
Blackboard test due by the end of the day Sunday Oct 20.

Oct 24 – Lab 9 – Starry Night Student Exercises F6, F7, & F8  
Blackboard test due by the end of the day Sunday Oct 27.

Oct 31 – Lab 10 – Starry Night Student Exercises G1, G2, G3, & G4  
Blackboard test due by the end of the day Sunday Nov 3.

Nov 7 – Lab 11 – Quasars and Active Galaxies (p. 87 in workbook)  
Blackboard test due by the end of the day Sunday Nov 10.

Nov 14 – Lab 12 – Views of the Milky Way (p. 91 in workbook)  
Blackboard test due by the end of the day Sunday Nov 17.

Nov 21 – Lab 13 – Globular Clusters (p. 95 in workbook)  
Blackboard test due by the end of the day Sunday Nov 24.

Dec 5 – Lab 14 – The Neighborhood of the Sun (p. 99 in workbook)  
Blackboard test due by the end of the day Sunday Dec 8.

Extra Credit – Lab 15 – Beyond the Milky Way Galaxy (p. 103 in workbook)  
Blackboard test due by the end of the day Sunday Dec 8.