Astronomy 105 Laboratory

Laboratory Coordinator: Mr. Edward Michaels
Office Hours: MW 2-3 pm, Tu 3-4 pm, Th 2-4 pm
Office: Miller Science Building, Room 325
Voice: 468-2362 Email: emichaels@sfasu.edu
Web Site: www.physics.sfasu.edu/michaels/ast_105/index_lab.html
Lab Classroom: Miller Science Building, Room 318
Lab Times by Section: 20: M 1:00 pm, 21: M 3:00 pm, 22 M 5:00 pm,
23: Tu 12:30 pm, 24: Tu 2:30 pm, 25: Tu 4:30 pm, 26: W 1 pm, 27: W
3:00 pm

LAB CALENDAR

<table>
<thead>
<tr>
<th>Date</th>
<th>Lab Exercise</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>--- Aug. 28 – Aug. 30</td>
<td>No Labs</td>
<td>---</td>
</tr>
<tr>
<td>1 Sep. 04 – Sep. 6</td>
<td>Constellations - Star Charts</td>
<td>1</td>
</tr>
<tr>
<td>2 Sep. 11 – Sep. 13</td>
<td>Scientific Measurements</td>
<td>11</td>
</tr>
<tr>
<td>3 Sep. 18 – Sep. 20</td>
<td>Mercury’s Orbit</td>
<td>25</td>
</tr>
<tr>
<td>4 Sep. 25 – Sep. 27</td>
<td>Lunar Phases</td>
<td>33</td>
</tr>
<tr>
<td>5 Oct. 02 – Oct. 04</td>
<td>Emission Spectra</td>
<td>39</td>
</tr>
<tr>
<td>6 Oct. 09 – Oct. 11</td>
<td>The Earth’s Orbital Velocity</td>
<td>47</td>
</tr>
<tr>
<td>7 Oct. 16 – Oct. 18</td>
<td>The HR Diagram</td>
<td>53</td>
</tr>
<tr>
<td>8 Oct. 23 – Oct. 25</td>
<td>Stellar Distance</td>
<td>67</td>
</tr>
<tr>
<td>9 Oct. 30 – Nov. 01</td>
<td>Ages and Distances of Clusters</td>
<td>81</td>
</tr>
<tr>
<td>10 Nov. 06 – Nov. 08</td>
<td>Hubble’s Law</td>
<td>87</td>
</tr>
<tr>
<td>11 Nov. 13 – Nov. 15</td>
<td>The Rotation of Saturn / Lab Exam Review</td>
<td>95</td>
</tr>
<tr>
<td>--- Nov. 20 – Nov. 22</td>
<td>Thanksgiving Holidays</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>Nov. 27 – Nov. 29</td>
<td>Lab Exam</td>
</tr>
</tbody>
</table>

CLASSROOM POLICIES
Each week’s lab begins with a brief presentation by the teaching assistant (15-30 minutes). Important instructions and procedures for completing the lab exercise are given at that time. At the conclusion of the presentation, students will then complete the lab exercise under the guidance of the lab teaching assistant.

1. It is very important that you arrive on time!
2. Come prepared! Read over the lab exercise before coming to class (see calendar) and bring required materials (see Supplies below).
3. No cell phone use of any kind is allowed (including texting, calculator use, games or leaving class to answer phone …). Students observed using a cell phone will lose 10 points off their daily lab grade – if a second warning is given the daily grade will be zero.

SUPPLIES
Each student MUST bring the following supplies to every lab session.

1. Pencil and eraser
2. Laboratory Manual
3. Star Chart (will be handed out in first lab)
4. Calculator (bring to every lab!)

If you do not bring the required supplies for a particular lab, you will not be able to complete the lab. Please don’t forget to bring them!

NIGHT LAB
Please read the following night lab guidelines carefully.

1. Night labs will be held on specific dates and times at the SFA Observatory. You are required to attend only one of these labs. A link to the night lab calendar can be found on the Astronomy 105 Night Lab Web Page (http://www.observatory.sfasu.edu/nightlab.html). To reserve space for a particular night, go to the web page and complete the online form. Upon completing this form you will be added to that night's roster (Important: Do not sign up for more than one night lab at a time).

2. On the evening of your night lab, meet at the circle drive located between the Kennedy Auditorium and the University Center a few minutes before the scheduled time. A bus will provide transportation to and from the SFA Observatory. The bus will leave promptly at the scheduled time, so don't be late! It usually takes about 3 hours to complete the lab. (Note: You must ride the bus, use of personal vehicles is not allowed).

3. Cloudy weather frequently results in the cancellation of night labs. To check the weather status for a particular night, go to the Astronomy 105 Night Lab web page. If the weather looks questionable, the decision to 'go' or 'cancel' on a particular night, may not be made until shortly before lab time. If the lab is canceled it is not necessary to show up at the bus stop but you will need to sign up for another night. You may have to sign up several times due to weather cancellations. Don't get discouraged!

4. Important: Due to time and space constraints the following night lab policies are necessary. Please read them carefully!
   - Space is limited to 30 students for each night lab and there will only be a limited number of night labs offered each semester. If the weather cooperates, it is possible we may finish night labs by mid-semester! Do not procrastinate! Complete your night lab as early in the semester as possible.
   - If you signed up for a night lab and are unable to attend, please remove your name from the roster no later than 5 pm on the day of the lab. Instructions for removing your name can be found at the Astronomy 105 Night Lab web page. By not removing your name from the roll you are preventing someone else from attending lab. If your name is on a night lab roster and you fail to attend the lab it will be considered an unexcused absence. This means you will receive a grade of zero for the night lab and will not be permitted to sign up again. If the night lab is cancelled due to weather it is not necessary to remove your name from the roster, just sign up for another night.

GENERAL EDUCATION CORE CURRICULUM
This course has been selected to be part of Stephen F. Austin State University's core curriculum. The Texas Higher Education Coordinating Board has identified six objectives for all core courses: Critical Thinking Skills, Communication Skills, Empirical and Quantitative Skills, Teamwork, Personal Responsibility, and Social Responsibility. SFA is committed to the improvement of its general education core curriculum by regular assessment of student performance on these six objectives.

Assessment of these objectives at SFA will be based on student work from all core curriculum courses. This student work will be collected in D2L through LiveText, the assessment management system selected by SFA to collect student work for core assessment. LiveText accounts will be provided to all students enrolled in core courses through the university technology fee. You will be required to register your LiveText account, and you will be notified how to register your account through your SFA e-mail account. If you forward your SFA e-mail to another account and do not receive an e-mail concerning LiveText registration, please be sure to check your junk mail folder and your spam filter for these e-mails. If you have questions about LiveText call Ext. 1267 or e-mail SFALiveText@sfasu.edu.

The chart below indicates the core objectives addressed by this course, the assignment(s) that will be used to assess the objectives in this course and uploaded to LiveText this semester, and the date the assignment(s) should be uploaded to LiveText. Not every assignment will be collected for assessment every semester. Your instructor will notify you which assignment(s) must be submitted for assessment in LiveText this semester.
<table>
<thead>
<tr>
<th>Core Objective</th>
<th>Definition</th>
<th>Course Assignment Title</th>
<th>Date Due in LiveText</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Thinking Skills (CO 1)</td>
<td>To include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.</td>
<td>Lunar Phases Lab</td>
<td>Not Assessed this Semester</td>
</tr>
<tr>
<td>Communication Skills (CO 2)</td>
<td>To include effective development, interpretation and expression of ideas though written, oral, and visual communication.</td>
<td>Lunar Phases Lab</td>
<td>Not Assessed this Semester</td>
</tr>
<tr>
<td>Empirical and Quantitative Skills (CO 4)</td>
<td>To include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.</td>
<td>Scientific Measurements Lab</td>
<td>Not Assessed this Semester</td>
</tr>
<tr>
<td>Teamwork (CO 5)</td>
<td>To include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal.</td>
<td>Lunar Phases Lab</td>
<td>Not Assessed this Semester</td>
</tr>
</tbody>
</table>

**GRADING**

There are 12 grades that will be used in determining a lab average (11 indoor labs and the night lab). The average of the 12 scores will count 75% and the Lab Exam 25% of the FINAL LAB AVERAGE.

\[
\text{FINAL LAB AVERAGE} = (\text{Average of 12 Labs } \times 0.75) + (\text{Lab Exam } \times 0.25)
\]

Astronomy 105 (Lecture) and Astronomy 105L (Lab) are averaged into one grade and **THE SAME GRADE WILL BE RECORDED FOR BOTH LECTURE AND LABORATORY.** The **FINAL COURSE GRADE** is explained in your lecture syllabus.

**LAB ABSENCES**

We realize that occasionally there are legitimate reasons for missing a lab such as illness, family emergency and participation in certain university-sponsored events. Please read the following absence policy carefully.

1. If you will be missing lab because of an approved university-sponsored event you must inform the astronomy laboratory coordinator at least one week before the absence.
2. Students are responsible for providing timely documentation satisfactory to the astronomy laboratory coordinator for each absence. You have **one week** after missing a lab to present your documentation otherwise the absence cannot be excused.
3. Students will receive a grade of zero for each UNEXCUSED lab absence.
4. Whether an absence is excused or unexcused, a student is still responsible for all course content. The online astronomy website has self-paced modules that will help a student review the material he or she may have missed due to an absence. This material is for review only and will not be graded. The modules are located here: [http://www.physics.sfasu.edu/markworth/ast105l.htm](http://www.physics.sfasu.edu/markworth/ast105l.htm)
Withheld Grades (A-54)
At the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future semesters, the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average.

Academic Integrity (A-9.1)
Abiding by university policy on academic integrity is a responsibility of all university faculty and students. Faculty members must promote the components of academic integrity in their instruction, and course syllabi are required to provide information about penalties for cheating and plagiarism as well as the appeal process. (Much of this information will be provided through internet links.)

Definition of Academic Dishonesty
Academic dishonesty includes both cheating and plagiarism. Cheating includes, but is not limited to: (1) using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class; (2) falsification or invention of any information, including citations, on an assignment; and/or (3) helping or attempting to help another in an act of cheating or plagiarism. Plagiarism is presenting the words or ideas of another person as if they were your own. Examples of plagiarism include, but are not limited to: (1) submitting an assignment as if it were one's own work when, in fact, it is at least partly the work of another; (2) submitting a work that has been purchased or otherwise obtained from the Internet or another source; and (3) incorporating the words or ideas of an author into one's paper or presentation without giving the author due credit.

Please read the complete policy and the appeals process at http://www.sfasu.edu/policies/academic_integrity.asp and http://www.sfasu.edu/policies/academic_appeals_students.asp

Students with Disabilities
To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS) in the Human Services Building (Room 325, 468-3004 or 468-1004) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodations and/or auxiliary aids to be provided. Failure to request services in a timely manner may delay your accommodations. For additional information, go to http://www.sfasu.edu/disabilityservices/.

Student Counseling Center
Rusk Building 3rd Floor
(936) 468 -2401
Email: counseling@sfasu.edu
The Student Counseling Center is available free of charge to students and is staffed with professional therapists to meet a variety of needs. All interactions with the Student Counseling Center are guaranteed confidential. Licensed Counselors are available from 8:00a.m.-5:00p.m. Monday -Friday. The department is closed on certain holidays, Spring Break and Winter Break when the university is closed. If you are in need of assistance after hours or on the weekend please call: University Police: (936)468-2608 or MHMR Crisis Line: (800)392 -8343. If the situation is life threatening please dial 911.