AST112 (Spring 2015)

Astronomy Undergraduate Lab (1 credit)

Time: Tuesday 7:00 - 9:50 pm
Location: A125 Physics Building

TA: Melissa Hoffman
Email: melissa.m.hoffman@stonybrook.edu
Office: Room 431, Earth and Space Sciences Building
Office Hours: TTh 2:00-3:30 PM

Instructor: Prof. Rosalba Perna
Email: rosalba.perna@stonybrook.edu
Office: Room , Earth and Space Sciences Building
Office Hours: MW 12:00-1:30 PM

Course Description: In this course you will become acquainted with some of the techniques and equipment used to make astronomical observations. This course will include 9 in-lab experiments and 3 observing sessions. This means that the lab schedule must be flexible to accommodate for bad weather. The dates mentioned for the observing session are tentative and would be confirmed only a week before. You should be prepared for both the observing session and the next lab in case the schedule must be adjusted.

Required text: Introductory Astronomy Lab Manual, 6th edition by Shipsey, Coy and MacCall

Materials: You must have a notebook dedicated for this course. A regular notebook will do, and a special lab notebook is not required. You will need a calculator that can compute trigonometric and logarithmic functions. For some of the labs, you may want to bring a ruler and protractor. Also, a computer with excel or a similar program will be helpful for data analysis.

Grading: Your grade will be based on 12 labs (including observing session) and a project (the moon lab). Each lab will be worth 10 points while the Moon Lab counts for 20 points. All labs will count towards the final grade. You will be provided with a detailed set of instructions for completing lab reports, including an outline and grading rubric in the first lecture. You should follow these instructions when preparing your lab reports or you will needlessly lose points.

The lab report always needs to be handed over the following week **before** the lab commences i.e. by 7 pm on Tuesday. Late lab reports are penalized 2 points per day and will not be accepted after **2:00 pm Thursday** i.e. you shall receive a zero credit on that report. These penalties shall be enforced strictly. One of the labs would require you to submit your lab notebook instead of a report, so please maintain the lab notebook in a clean and orderly fashion.

Attendance: Please be on time for the lab. The attendance sheet would be removed at 7 pm. As this is a lab class you should not miss any sessions. If you absolutely must miss a lab you should email me as soon as possible. You will be allowed to make up **only one** missed lab in event of a medical or likewise emergency situation.This will count for the entire 10 points so you will not get punished for any unfortunate occurrences. However, you will not be allowed to make up for more than one missed lab. If you miss a second lab, you must take zero points for that lab. This is a fixed policy.

Moon Lab:: In addition to your in-class work, you will also be doing some independent observations for the Moon Lab. You will receive instructions on how to do this lab, and you are expected to do the minimum of 5 observations out of class and the write-up.

Schedule:

Date	Lab	Required Reading
Feb 3	Overview of the Lab and Math Review	p.161-166 & handout
Feb 10	Observing Lab 1: the Winter Consteallations	p.175-180
Feb 17	The Cross Staff	p213-218
Feb 24	Parallax, Trigonometric Distances	p.33-42
Mar 3	Lenses and Telescopes	p.15-22
Mar 10	Observing Lab 2: Setting up a telescope	
Mar 24	Luminosity, Brightness, and Distance	p.23-32
Mar 31	Stars, Light, and Spectra	p.3-14
Apr 7	Observing Lab 3: Spring Consteallations	p.181-190
Apr 14	Stellar Properties and the HR diagram	p.83-94
Apr 21	Mass of Jupiter/Saturn	handout
Apr 28	Hubble's Law: Estimation of the age of Universe	p. 105-115

Important University Policies:
Americans with Disabilities Act: If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Disability Support Services, ECC (Educational Communications Center) Building, room128, (631) 632-6748. They will determine with you what accommodations, if any, are necessary and appropriate. All information and documentation is confidential.

Academic Integrity: Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty are required to report any suspected instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (School of Health Technology & Management, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school-specific procedures. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at http://www.stonybrook.edu/uaa/academicjudiciary/

Critical Incident Management: Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Faculty in the HSC Schools and the School of Medicine are required to follow their school-specific procedures.

SPECIAL NOTE REGARDING PLAGIARISM AND DISHONESTY: All instances of plagiarized work or academic dishonesty will be brought before the Academic Judiciary Committee. All parties involved (both the copier and the person who produced the original work) will be held accountable for any instance of plagiarism or dishonesty.