Course Syllabus: AST 203 Astronomy Fall 2024

A survey of the physical nature of the universe for the student with some background in physics and mathematics. May not be taken for credit in addition to AST 101. Optional evening observing sessions with be held during the semester. *Prerequisite:* PHY 125/133 or PHY 131/133 or PHY 141/133 *4 credits.*

Instructor: Prof. Alan Calder
alan.calder@stonybrook.edu
ESS 438

T.A.: Pubasha Shome
pubasha.shome@stonybrook.edu
ESS 451

Meeting: Class: Tuesday and Thursday 8:00 AM – 9:20 PM, Melville Lib W4550 .
Recitation 01 Friday 2:40 PM – 3:35 PM, Melville Lib N4072.
Recitation 01 Friday 1:00 PM – 1:55 PM, Melville Lib N4072.

Office Hours: Calder: Mon. 10:30 AM–12:00 PM, Thu. 2:30–4:00 PM, and by appointment.
TBA: Day. and Day. X:00–Y:00 PM, ESS 451 and questions by email.

Text: The text for the course is *Astronomy: A Physical Perspective* (2nd edition) by Marc L. Kutner. Students to obtain a general astronomy text to provide a complimentary discussion of the course topics. The recommended text is "Cosmic Perspective: Stars, Galaxies, Universe" by Bennett et al. (Addison-Wesley). Any of the 6th, 7th, or 8th editions will work. As these are older editions, copies should be very reasonably priced.

Evaluation: 45% Hour exams, 25% Homework, and 30% Final exam. Grades will be posted on Brightspace. The instructor will discuss grades during office hours but for privacy reasons will not report or discuss grades via email.

Homework: Homework will be assigned most weeks and will be typically due the following week. At present, there are plans for 9 homework assignments throughout the semester (tentative due dates are on the course schedule below). Each homework assignment will have the approximately the same weight in the total grade, and will apply to a total of homework points earned during the semester. Students sometimes discuss the homework as part of the learning process, but the solutions turned in should be worked out by the student alone. Discussions should be limited to the qualitative aspects of the problem (i.e., what is it asking? how does one approach the problem?). All calculations and writing up of the problem solution must be done alone. Copying will not be tolerated. Please see the section on academic integrity below.

Late homework will not be accepted without prior permission and a valid excuse (described below under Exams). Homework grades will be posted to the Blackboard grade book approximately 1 week after the due date, and the graded assignments will be returned in class. Students should report any errors/missing grades promptly. Problems reported more than two weeks after the assignment was returned will not be corrected.

Exams: Two hour exams and one final exam. The midterms will cover the material since the previous exam. The final is cumulative. Questions on the exams will be drawn from the lectures, material presented in recitations, homework assignments, and the assigned chapters of the text. Students are expected to arrive on-time for exams, and any students arriving late may be denied the opportunity to take the exam. Missed exams may not be made up! With advance notice and/or careful documentation of extenuating circumstances, an exam may be excused or accommodations made.

In the event of a missed exam, excuses will be judged on a case-by-case basis. Valid excuses include but are not limited to being an athlete in University-related sporting event, jury duty, and a medical emergency. If such a situation arises, students should notify the instructor in advance and be prepared to provide documentation. Issues with missed exams must be resolved within one week of the exam date.

Final Exam: Dec. 19, 8:00 – 10:45 AM as scheduled by the University Registrar. Nota Bene: The ultimate authority on the date and time of the final is the University Registrar. Students should monitor the exam schedule on the Registrar's web page (https://www.stonybrook.edu/commcms/registrar/registration/exams.php) during the semester as changes have happened in past semesters. Please also note the student responsibility statement on the Registrar's exam schedule page.

All students must take the exam at the scheduled time.

Observing: There may be several optional observing sessions throughout the semester depending on weather and availability of the telescopes. The times and dates for these will be announced in class. Students are also encouraged to attend the Astronomy Open Nights http://astro.sunysb.edu/openight/opennite.html.

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. Any suspected instance of academic dishonesty will be reported to the Academic Judiciary. 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 University Police and the Office of University Community Standards any serious disruptive behavior that interrupts teaching, compromises the safety of the learning environment, and/or inhibits students' ability to learn. See more here: http://www.stonybrook.edu/sb/behavior.shtml.

Electronic Communication: Email to University email accounts is an important way of communicating for this course. For most students the email address is 'firstname.lastname@stonybrook.edu', and the account can be accessed here: http://www.stonybrook.edu/mycloud. ***It is your responsibility to read your email received at this account.*** For instructions about how to verify a University email address see this: http://it.stonybrook.edu/help/kb/checking-or-changing-your-mail-forwarding-address-in-the-epo. You can set up email forwarding using instructions here: http://it.stonybrook.edu/help/kb/setting-up-mail-forwarding-in-google-mail. If you choose to forward your University email to another account, the University is not responsible for any undeliverable messages.

Religious Observances: See the University policy statement regarding religious holidays at http://www.stonybrook.edu/registrar/forms/RelHolPol%20081612%20cr.pdf. Students are expected to notify the course professors by email of their intention to take time out for religious observance. This should be done as soon as possible but definitely before the end of the 'add/drop' period. At that time they can discuss with the instructor(s) how they will be able to make up the work covered.

Disabilities: If you have a physical, psychiatric/emotional, medical or learning disability that may impact on your ability to carry out assigned course work, you should contact the staff in the Disability Support Services office [DSS], 632-6748/9. DSS will review your concerns and determine, with you, what accommodations are necessary and appropriate. All information and documentation of disability is confidential.

Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and Disability Support Services. For procedures and information go to the website http://www.sunysb.edu/ehs/fire/disabilities.shtml.

Note that the lecture topics are subject to some change depending on progress of the class. Exam dates will not change except in the event of university-wide class cancellation.

class #	month	day	chapter	topic	HW due	
1	Aug.	27	1	Introduction	-	
2	Aug.	29	2	Radiation	-	
	Aug.	30		Recitation 1		
3	Sept.	3	2	Radiation	-	
4	Sept.	5	3	Spectral Lines	-	
	Sept.	6		Recitation 2		
5	Sept.	10	3	Spectra, H-R Diagram	HW 1	
6	Sept.	11	4	Telescopes	-	
	Sept.	12		Recitation 3		
7	Sept.	17	5	Binary Stars	HW 2	
8	Sept.	19	5	Binary Stars	-	
	Sept.	20		Recitation 4		-
9	Sept.	24	6	The Sun	HW 3	
10	Sept.	26	1–5	**Exam # 1**	-	
	Sept.	27		Recitation 5		
11	Oct.	1	6,9	The Sun	-	
12	Oct.	3	9	Main Sequence	-	
	Oct.	4		Recitation 6		
13	Oct.	8	9	Stellar Structure, Old Age	-	
14	Oct.	10	10	Stellar Old Age	HW 4	
	Oct.	11		Recitation 7		
				Oct. 14-15 Fall Break		
15	Oct.	17	10	White Dwarfs	-	
	Oct.	24		Recitation 8		
16	Oct.	22	11	Supernovae and Neutron Stars	HW 5	
17	Oct.	24	11	Pulsars, Black Holes	-	
	Oct.	25		Recitation 9		
18	Oct.	29	12	Closer Binaries, SNe Ia	-	
19	Oct.	31	13	Clusters of Stars	HW 6	
	Nov.	1		Recitation 10		
20	Nov.	5		**Exam # 2**	-	
21	Nov.	7	13,14	Star Clusters/ISM	-	
	Nov.	8		Recitation 11		
22	Nov.	12	14	ISM	-	
23	Nov.	14	15	Star Formation	-	
	Nov.	15		Recitation 12		
24	Nov.	19	16	The Milky Way	HW 7	
25	Nov.	21	17	Galaxies	-	
	Nov.	22		Recitation 13		
26	Nov.	26	18,19	Galaxy Clusters/AGN	HW 8	
				Nov. 21-23 Thanksgiving		
27	Dec.	3	20,21	Cosmology	-	
28	Dec.	5	20,21	Cosmology	HW 9	
	Dec.	6		Recitation 14		
Final	Dec.	19		**Final Exam** 8:00 – 10:45 AM		