

Version 1 – there may be slight changes of schedule (exam dates are fixed)

AST 101 (Fall 2017): Introduction to Astronomy (3 credits)

Time & Location: TuTh (10:00-11:20AM); Harriman Hall 112

Instructor: Prof. Jin Koda

Office: Room 455, Earth and Space Sciences Building

Email: jin.koda@stonybrook.edu

Office Hours: To be announced

TA: To be announced

Office:

Email:

Office

Course Description:

This course provides an introduction to **astrophysics (astronomy & physics)**. We will learn about various astronomical objects such as stars, galaxies, black holes as well as taking a look at our current understanding of the Universe as a whole.

This course will not cover planetary astronomy (which will be covered in AST105). Note that credits do not count for astronomy major (AST203 is a similar course with more emphasis on physics and math and for astronomy major), though astronomy major students are welcome to take this course.

Learning Objectives:

1. Students will demonstrate mastery of physics concepts of velocity, acceleration, force, energy, momentum, and angular momentum.
2. Students will be able to think critically and apply appropriate physics concepts in analyzing qualitative problems in astronomical objects, including stars, galaxies, and the Universe.
3. Students will demonstrate awareness of the observational tools used to study astronomical sources.
4. Students will demonstrate an understanding of a broad picture of the cosmos, including stars, galaxies, and the Universe.

Required texts & Materials:

1. Cosmic Perspective: Stars, Galaxies and Cosmology, 8th Edition by Bennett, Donahue, Schneider, and Voit. Copyright 2017. ISBN13: 978-0134073828 (5th, 6th & 7th editions are fine, too).
2. Turning Technologies Response pad (a.k.a. a “clicker”) available through the campus bookstore

Course Grading: The grading for the course will be based on quizzes (10%), two midterm examinations (30% each) and the final examination (30%). *No additional point will be offered.*

Midterm exams will be held in the regular classroom at the regular class time. **Date and Time of Final exam** are determined by the Registrars, not by the instructor. In accordance with University policies, *it is the students responsibility to schedule classes so as to avoid final examination conflicts. Check the final examination schedule at the beginning of the semester in order to avoid possible conflicts!*

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.

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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.

Additional Course Policies:

- **Missed quizzes and examinations:** No makeup quizzes. Makeup midterm exams will be given *only on the basis of* valid medical absence that can be verified by the instructor or because of Jury Duty or military service.
- **Challenges to grades:** Challenges of any grade for an exam or quiz must be made within 5 business days of the posting of the grade. No changes will be made to a grade after that time regardless of cause.
- **Student Responsibilities:** You will be expected to abide by all University regulations, procedures, requirements, and deadlines as described in the *Undergraduate Student Bulletin*.
- **Attendance:** As per the University policy outlined in the *Undergraduate Student Bulletin*, students are expected to regularly attend all classes and to participate in the classroom experience.
- **Classroom Behavior and Conduct:** You are expected to conduct yourself in accordance with the minimal undergraduate student responsibilities described in the *Undergraduate Student Bulletin* including:
 - o You are expected to arrive for class promptly.
 - o Avoid behavior that is disruptive to the classroom especially the use of cell phones.
 - o Avoid conversations during class
 - o Be familiar with material presented in previous lectures.

Exams & Quizzes: The examinations will cover material presented in class and contained within reading assignments. Quizzes will be administered at random times via electronic response pads, which you may purchase directly from the Turning Technologies store. It is the students' responsibility to bring their response pad to each class in order to complete quizzes. *A forgotten or nonfunctional response pad will not be an acceptable excuse for missing a quiz. No makeup quizzes will be given under any circumstances including schedule conflicts.* However, the lowest three-week quiz scores will be dropped to accommodate unforeseen circumstances that students do not have any control of. The final will be held at the time assigned by the Office of the Registrar.

Blackboard: All students must regularly monitor Blackboard for notices and changes to course information including the syllabus. Grades for quizzes, and exams will also be posted on blackboard.

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AST101 (Fall 2017): Lecture and Exam Schedule & Reading Assignments			
Lecture	Date	Chapter	Subject
1	Aug 29	1	A Modern View of the Universe
2	31	3	The Science of Astronomy
	Sep 5		<i>No Class: Labor Day</i>
3	7	6	Telescopes
4	12	4	Understanding Motion, Energy, and Gravity
5	14	4	Understanding Motion, Energy, and Gravity
6	19	5	Light & Matter
7	21	5	Light & Matter
8	26	S2	Space & Time
9	28	S3	Spacetime & Gravity
	Oct 3		Midterm 1
10	5	S4	Building blocks of the Universe/Journy to the Star
11	10	14	Our star: the Sun
12	12	14	Our star: the Sun
13	17	15	Surveying the Stars
14	19	15	Surveying the Stars
15	24	17	Star Stuff
16	26	17	Star Stuff
17	31	16	Star Birth
18	Nov 2	18	The Stellar Graveyard
	7		Midterm 2
19	9	19	Our Galaxy
20	14	20	Galaxies
21	16	20,21	Galaxies/Galaxy Evolution
22	21	21	Galaxy Evolution
	23		<i>No Class: Thanksgiving</i>
23	28	23	Dark Matter, Dark Energy, and the Fate of the Universe
24	30	23	Dark Matter, Dark Energy, and the Fate of the Universe
25	Dec 5	22	The Birth of the Universe
26	7	22,24	The Birth of the Universe
	15		Final Exam (11:15-12:30)