

Fall 2021

PHYS 320-001: Astronomy and Astrophysics I

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Course Syllabus

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Phys 320: Astronomy & Astrophysics I (Fall 2021)

This course is a quantitative introduction to the astronomy of the Sun, Earth, and solar system, with an emphasis on the physical principles involved. Includes celestial mechanics, planetary atmospheres and the physics of comets, asteroids and meteorites. We utilize the Canvas Learning Management System (see [this link for a student orientation](#)) to distribute the lecture slides, assignments, and lecture recordings. To access Canvas, log on at [canvas.njit.edu \(http://canvas.njit.edu/\)](http://canvas.njit.edu) using your NJIT UCID and password.

The course will be held fully in person. As of Sept 1, 2021, all students **are required to wear a mask** in the classroom. Students failing to observe the mask mandate will be asked to leave the classroom. Because of the current situation, **eating is not permitted in the classroom (drinking is permitted)**. Please refer to NJIT's [Pandemic Recovery website \(https://www.njit.edu/pandemicrecovery/\)](https://www.njit.edu/pandemicrecovery/) for the most up-to-date guidelines and rules relevant to COVID-19.

Course Information

Time and Location: 11:30 am - 12:50 pm M, W; Faculty Memorial Hall Room 106

Instructor: Prof. Bin Chen. Email: [bin.chen@njit.edu \(mailto:bin.chen@njit.edu\)](mailto:bin.chen@njit.edu). Web: <https://web.njit.edu/~binchen> [_\(https://web.njit.edu/~binchen\)](https://web.njit.edu/~binchen)

Office Hour and Location: Wednesdays 2–3 pm or by appointment; Tiernan Hall Room 101.

Textbook: **Introduction to Modern Astrophysics (2nd Edition) by Carroll & Ostlie, ISBN: 9780805304022** ([NJIT Bookstore \(https://www.bkstr.com/njitstore/follett-discover-view/booklook?shopBy=discoverViewCourseRefId&bookstoreId=584&courseRefId=95072&termId=2021%20Fall\)](https://www.bkstr.com/njitstore/follett-discover-view/booklook?shopBy=discoverViewCourseRefId&bookstoreId=584&courseRefId=95072&termId=2021%20Fall)). This is the same textbook used by Phys 321 (Astronomy & Astrophysics II) in the next semester. For this course, we will be covering **Chapters 1, 2, 3, 6, 11, 12, 19, 20, 21, 22, and 23 in the textbook**. The majority of the remaining chapters will be covered in the companion course Phys 321.

Pre-requisites: [Phys 121 \(https://catalog.njit.edu/search/?P=PHYS%20121\)](https://catalog.njit.edu/search/?P=PHYS%20121), with grade of **C** or better.

Reading Assignments

The reading assignments accompany each lecture, and generally will have some short response questions worth 1 point, to encourage you to keep up with the reading. The reading assignments should show up in the list of modules, the list of assignments, and your To-Do list. It is recommended to

complete the readings before the corresponding lectures, but certainly by the time of the following lecture (the due date).

Homework Assignments

The homework assignments will be posted each week via Canvas. They are **typically** due each Wednesday by the time of the lecture (11:30 am), but **pay attention to the specific due dates posted with each assignment**. They may require you to submit a text response or upload a file (preferably in pdf, but doc, docx, or pages also accepted), so check the assignment early and be prepared. **All the homework submissions must be done on Canvas.**

Late submissions for homework assignments are allowed. But they **will only receive 50% of the original points**. All the **late submissions need to be submitted prior to the end of the reading day (Dec 14) to receive any credits.**

Exams

There will be **two in-class exams** during the semester, and **one final exam** during the exam week. All the exams will be carried out **in person**. **Makeup exams** will only be allowed **under extenuating circumstances** such as severe illness. Students with such requests must contact the **Dean of Students** [_\(https://www.njit.edu/dos/\)_](https://www.njit.edu/dos/) for approval. They will be making the determination of whether extenuating circumstances exist or not and will be notifying the instructor (me) accordingly. Note I will never request or accept medical or other documents from students; such documents need to be submitted by the student to the **Dean of Students** [_\(http://njit.edu/dos/\)_](http://njit.edu/dos/).

Grades

Your grade will be based on your homework+reading assignment scores (30%), two in-class common exams (15% each), attendance and class participation (10%), and final exam (30%).

Here are the approximate weights to be used for calculating the final grade and the final grade scale:

30% for the two in-class exams (15% each)	85% and more	A
30% for the final exam	80% - 84%	B+
30% for the total homework/assignment grade	70% - 79%	B
10% for attendance/class participation	65% - 69%	C+
	55% - 64%	C
	50% - 54%	D
	49% and less	F

Grades are not negotiable. A score of 84.99999% is a B+, not an A

Statement on academic integrity

Academic Integrity is the cornerstone of higher education and is central to the ideals of this course and the university. Cheating is strictly prohibited and devalues the degree that you are working on. As a member of the NJIT community, it is your responsibility to protect your educational investment by knowing and following the academic code of integrity policy that is found at: <http://www5.njit.edu/policies/sites/policies/files/academic-integrity-code.pdf> (<https://t.e2ma.net/click/7xcjqfb/rxllloovf/vc0hkjx>) .

*Please note that it is my professional obligation and responsibility to report any academic misconduct to the Dean of Students Office. **Any student found in violation of the code by cheating, plagiarizing or using any online software inappropriately will result in disciplinary action. This may include a failing grade of F, and/or suspension or dismissal from the university.** If you have any questions about the code of Academic Integrity, please contact the Dean of Students Office at dos@njit.edu (<mailto:dos@njit.edu>)*