

Fall 2023

## PHYS 320 - 001: Astronomy and Astrophysics I

Jeongwoo Lee

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# Course Syllabus

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Time 1:30 am - 12:50 pm M, W

Location: FMH 108

Textbook: Introduction to Modern Astrophysics (2nd Edition) by Carroll & Ostlie

Instructor: Prof. Jeongwoo Lee

Office: 403 Tiernan

Office Hours: M, W 3-4pm

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## Phys 320: Solar System Astronomy (Fall 2023)

This course will use the Canvas Learning Management System. Log on at [canvas.njit.edu](https://canvas.njit.edu).

**Readings:** The reading assignments accompany each lecture, and generally will have some short response 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 in your To-Do list. For this course, we will be covering Chapters 1, 2, 3, 6, 11, 12, 19, 20, 21, 22 and 23. The remaining chapters are covered in the companion course Phys 321 (Astronomy & Astrophysics II). You should complete the readings before the corresponding lectures, but certainly by the time of the following lecture (the due date).

**Homework:** The homework assignments will be due each Wednesday. They may require you to submit a text response, a file, or hand in a written paper, so check the assignment early and be prepared.

**Exams:** There will be two in-class exams during the semester, and the final exam during exam week.

**Grades:** Your grade will be based on your homework+reading assignment scores (20%), in-class exams (30%), attendance and class participation (20%), 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 common exams (15% each) 85% and more A

30% for the final exam 80% - 84% B+

20% for the total homework grade 70% - 79% B

20% for total 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.









(<http://www5.njit.edu/policies/sites/policies/files/academic-integrity-code.pdf>)

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)

## Course Summary:

Date	Details	Due
Mon Sep 11, 2023	 <a href="https://njit.instructure.com/courses/29757/assignments/356436">Lecture 1 Reading and Resources</a> <a href="https://njit.instructure.com/courses/29757/assignments/356436">(https://njit.instructure.com/courses/29757/assignments/356436)</a>	due by 11:30am
Wed Sep 13, 2023	 <a href="https://njit.instructure.com/courses/29757/assignments/356435">Lecture 1 Assignment: Thousand Yard Model for Trappist 1</a> <a href="https://njit.instructure.com/courses/29757/assignments/356435">(https://njit.instructure.com/courses/29757/assignments/356435)</a>	due by 11:30am
	 <a href="https://njit.instructure.com/courses/29757/assignments/357737">Lecture 2 Reading and Resources</a> <a href="https://njit.instructure.com/courses/29757/assignments/357737">(https://njit.instructure.com/courses/29757/assignments/357737)</a>	due by 11:30am
Mon Sep 18, 2023	 <a href="https://njit.instructure.com/courses/29757/assignments/357797">Lecture 3 Reading and Resources</a> <a href="https://njit.instructure.com/courses/29757/assignments/357797">(https://njit.instructure.com/courses/29757/assignments/357797)</a>	due by 11:30am
Wed Sep 20, 2023	 <a href="https://njit.instructure.com/courses/29757/assignments/357736">Lecture 2 Assignment: Homework Problems</a> <a href="https://njit.instructure.com/courses/29757/assignments/357736">(https://njit.instructure.com/courses/29757/assignments/357736)</a>	due by 11:30am
	 <a href="https://njit.instructure.com/courses/29757/assignments/357798">Lecture 3: Homework Problems</a> <a href="https://njit.instructure.com/courses/29757/assignments/357798">(https://njit.instructure.com/courses/29757/assignments/357798)</a>	due by 11:30am
	 <a href="https://njit.instructure.com/courses/29757/assignments/357800">Lecture 4: Reading and Resources</a> <a href="https://njit.instructure.com/courses/29757/assignments/357800">(https://njit.instructure.com/courses/29757/assignments/357800)</a>	due by 11:30am
Wed Sep 27, 2023	 <a href="https://njit.instructure.com/courses/29757/assignments/357799">Lecture 4: Homework Problems</a> <a href="https://njit.instructure.com/courses/29757/assignments/357799">(https://njit.instructure.com/courses/29757/assignments/357799)</a>	due by 11:30am
	 <a href="https://njit.instructure.com/courses/29757/assignments/357802">Lecture 5: Reading and Resources</a> <a href="https://njit.instructure.com/courses/29757/assignments/357802">(https://njit.instructure.com/courses/29757/assignments/357802)</a>	due by 11:30am
	 <a href="https://njit.instructure.com/courses/29757/assignments/357801">Lecture 5: Homework Problems</a> <a href="https://njit.instructure.com/courses/29757/assignments/357801">(https://njit.instructure.com/courses/29757/assignments/357801)</a>	due by 11:30am
Wed Oct 4, 2023	 <a href="https://njit.instructure.com/courses/29757/assignments/357803">Lecture 6 Reading and Resources</a> <a href="https://njit.instructure.com/courses/29757/assignments/357803">(https://njit.instructure.com/courses/29757/assignments/357803)</a>	due by 11:30am
	 <a href="https://njit.instructure.com/courses/29757/assignments/357804">Lecture 6: Homework Problems</a> <a href="https://njit.instructure.com/courses/29757/assignments/357804">(https://njit.instructure.com/courses/29757/assignments/357804)</a>	due by 11:30am
	 <a href="https://njit.instructure.com/courses/29757/assignments/357806">Lecture 7: Reading and Resources</a> <a href="https://njit.instructure.com/courses/29757/assignments/357806">(https://njit.instructure.com/courses/29757/assignments/357806)</a>	due by 11:30am
Mon Oct 9, 2023	 <a href="https://njit.instructure.com/courses/29757/assignments/357807">Exam 1</a> <a href="https://njit.instructure.com/courses/29757/assignments/357807">(https://njit.instructure.com/courses/29757/assignments/357807)</a>	due by 11:59pm
Wed Oct 11, 2023	 <a href="https://njit.instructure.com/courses/29757/assignments/357805">Lecture 7: Homework Problems</a> <a href="https://njit.instructure.com/courses/29757/assignments/357805">(https://njit.instructure.com/courses/29757/assignments/357805)</a>	due by 11:30am
Mon Oct 16, 2023	 <a href="https://njit.instructure.com/courses/29757/assignments/357808">Lecture 8 Reading and Resources</a> <a href="https://njit.instructure.com/courses/29757/assignments/357808">(https://njit.instructure.com/courses/29757/assignments/357808)</a>	due by 11:30am
Wed Oct 18, 2023	 <a href="https://njit.instructure.com/courses/29757/assignments/357809">Lecture 8: Homework Problems</a> <a href="https://njit.instructure.com/courses/29757/assignments/357809">(https://njit.instructure.com/courses/29757/assignments/357809)</a>	due by 11:30am

Date	Details	Due
	 <a href="https://njit.instructure.com/courses/29757/assignments/357810">Lecture 9 Reading and Resources</a> <a href="https://njit.instructure.com/courses/29757/assignments/357810">https://njit.instructure.com/courses/29757/assignments/357810</a>	due by 11:30am
Mon Oct 23, 2023	 <a href="https://njit.instructure.com/courses/29757/assignments/357812">Lecture 10 Reading and Resources</a> <a href="https://njit.instructure.com/courses/29757/assignments/357812">https://njit.instructure.com/courses/29757/assignments/357812</a>	due by 11:30am
	 <a href="https://njit.instructure.com/courses/29757/assignments/357813">Lecture 10: Homework Problems</a> <a href="https://njit.instructure.com/courses/29757/assignments/357813">https://njit.instructure.com/courses/29757/assignments/357813</a>	due by 11:30am
Wed Oct 25, 2023	 <a href="https://njit.instructure.com/courses/29757/assignments/357814">Lecture 11 Reading and Resources</a> <a href="https://njit.instructure.com/courses/29757/assignments/357814">https://njit.instructure.com/courses/29757/assignments/357814</a>	due by 11:30am
	 <a href="https://njit.instructure.com/courses/29757/assignments/357811">Lecture 9: Homework Problems</a> <a href="https://njit.instructure.com/courses/29757/assignments/357811">https://njit.instructure.com/courses/29757/assignments/357811</a>	due by 11:30am
Mon Oct 30, 2023	 <a href="https://njit.instructure.com/courses/29757/assignments/357816">Lecture 12 Reading and Resources</a> <a href="https://njit.instructure.com/courses/29757/assignments/357816">https://njit.instructure.com/courses/29757/assignments/357816</a>	due by 11:30am
	 <a href="https://njit.instructure.com/courses/29757/assignments/357815">Lecture 11: Homework Problems</a> <a href="https://njit.instructure.com/courses/29757/assignments/357815">https://njit.instructure.com/courses/29757/assignments/357815</a>	due by 11:30am
Wed Nov 1, 2023	 <a href="https://njit.instructure.com/courses/29757/assignments/357819">Lecture 13: Reading and Resources</a> <a href="https://njit.instructure.com/courses/29757/assignments/357819">https://njit.instructure.com/courses/29757/assignments/357819</a>	due by 11:30am
	 <a href="https://njit.instructure.com/courses/29757/assignments/357817">Lecture 12: Homework Problems</a> <a href="https://njit.instructure.com/courses/29757/assignments/357817">https://njit.instructure.com/courses/29757/assignments/357817</a>	due by 11:59pm
	 <a href="https://njit.instructure.com/courses/29757/assignments/357820">Lecture 14 Homework Problems</a> <a href="https://njit.instructure.com/courses/29757/assignments/357820">https://njit.instructure.com/courses/29757/assignments/357820</a>	due by 11:30am
Wed Nov 8, 2023	 <a href="https://njit.instructure.com/courses/29757/assignments/357821">Lecture 14: Reading and Resources</a> <a href="https://njit.instructure.com/courses/29757/assignments/357821">https://njit.instructure.com/courses/29757/assignments/357821</a>	due by 11:30am
	 <a href="https://njit.instructure.com/courses/29757/assignments/357822">Exam 2</a> <a href="https://njit.instructure.com/courses/29757/assignments/357822">https://njit.instructure.com/courses/29757/assignments/357822</a>	due by 12:50pm
Mon Nov 13, 2023	 <a href="https://njit.instructure.com/courses/29757/assignments/357818">Lecture 13 Homework Problems</a> <a href="https://njit.instructure.com/courses/29757/assignments/357818">https://njit.instructure.com/courses/29757/assignments/357818</a>	due by 11:30pm
	 <a href="https://njit.instructure.com/courses/29757/assignments/357824">Lecture 15: Reading and Resources</a> <a href="https://njit.instructure.com/courses/29757/assignments/357824">https://njit.instructure.com/courses/29757/assignments/357824</a>	due by 11:30am
Mon Nov 20, 2023	 <a href="https://njit.instructure.com/courses/29757/assignments/357823">Lecture 15 Homework Problems</a> <a href="https://njit.instructure.com/courses/29757/assignments/357823">https://njit.instructure.com/courses/29757/assignments/357823</a>	due by 11:30am
	 <a href="https://njit.instructure.com/courses/29757/assignments/357825">Lecture 16 Reading and Resources</a> <a href="https://njit.instructure.com/courses/29757/assignments/357825">https://njit.instructure.com/courses/29757/assignments/357825</a>	due by 11:30am
	 <a href="https://njit.instructure.com/courses/29757/assignments/357826">Lecture 16: Homework Problems</a> <a href="https://njit.instructure.com/courses/29757/assignments/357826">https://njit.instructure.com/courses/29757/assignments/357826</a>	due by 11:30am
	 <a href="https://njit.instructure.com/courses/29757/assignments/357826">Lecture 17: Reading and Resources</a>	due by 11:30am

Date	Details	Due
	<a href="https://njit.instructure.com/courses/29757/assignments/357828">https://njit.instructure.com/courses/29757/assignments/357828</a>	
Wed Nov 22, 2023	 <a href="https://njit.instructure.com/courses/29757/assignments/357827">Lecture 17: Homework Problems</a> ( <a href="https://njit.instructure.com/courses/29757/assignments/357827">https://njit.instructure.com/courses/29757/assignments/357827</a> )	due by 11:30am
Mon Nov 27, 2023	 <a href="https://njit.instructure.com/courses/29757/assignments/357829">Lecture 19 Reading and Resources</a> ( <a href="https://njit.instructure.com/courses/29757/assignments/357829">https://njit.instructure.com/courses/29757/assignments/357829</a> )	due by 11:30am
Mon Dec 4, 2023	 <a href="https://njit.instructure.com/courses/29757/assignments/357831">Lecture 20 Reading and Resources</a> ( <a href="https://njit.instructure.com/courses/29757/assignments/357831">https://njit.instructure.com/courses/29757/assignments/357831</a> )	due by 11:30am
	 <a href="https://njit.instructure.com/courses/29757/assignments/357830">Lecture 19: Homework Problems</a> ( <a href="https://njit.instructure.com/courses/29757/assignments/357830">https://njit.instructure.com/courses/29757/assignments/357830</a> )	due by 11:30am
Wed Dec 6, 2023	 <a href="https://njit.instructure.com/courses/29757/assignments/357832">Lecture 20: Homework Problem</a> ( <a href="https://njit.instructure.com/courses/29757/assignments/357832">https://njit.instructure.com/courses/29757/assignments/357832</a> )	due by 11:30am
	 <a href="https://njit.instructure.com/courses/29757/assignments/357833">Lecture 21 Reading and Resources</a> ( <a href="https://njit.instructure.com/courses/29757/assignments/357833">https://njit.instructure.com/courses/29757/assignments/357833</a> )	due by 11:30am
	 <a href="https://njit.instructure.com/courses/29757/assignments/357834">Lecture 21: Homework Problems</a> ( <a href="https://njit.instructure.com/courses/29757/assignments/357834">https://njit.instructure.com/courses/29757/assignments/357834</a> )	due by 11:30am
Wed Dec 13, 2023	 <a href="https://njit.instructure.com/courses/29757/assignments/357835">Lecture 22: Homework Problem</a> ( <a href="https://njit.instructure.com/courses/29757/assignments/357835">https://njit.instructure.com/courses/29757/assignments/357835</a> )	due by 11:30am