

Fall 2021

## PHYS 202-003: Introductory Astronomy and Cosmology

George Georgiou

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**Introductory Astronomy and Cosmology**  
**Phys 202–003 Fall 2021**  
**Monday + Thursday 11:30-12:50 Kupf 108**

**Slides and reinforcing videos, are posted before class on [canvas.njit.edu](https://canvas.njit.edu).**

**Instructor**

Dr. George E. Georgiou  
Microelectronics Research Center, Room 207 (in bridge between FMH and ECE)  
[georgiou@njit.edu](mailto:georgiou@njit.edu) (preferred contact method)

OFFICE HOURS: MR 1-2:30 or after class or by appointment (send email)

**Textbook**

**Primary on which class is based:**

“Astronomy” by A.Fraknoi, D.Morrison, S.Wolf ...

Downloadable Open Stax text: <https://openstax.org/details/books/astronomy>

**Optional paper textbook: (if do not like reading e-books)**

Jeffrey Bennett, Megan Donahue, Nicholas Schneider, and Mark Voit. *The Cosmic Perspective Fundamentals*, 2<sup>nd</sup> Ed. Pearson Education, Inc., United States of America, 2015. – but ANY EDITION will work for reading material

**Additional Reading (optional but may be interesting):**

Neil deGrasse Tyson, J. Richard Gott and Michael A. Strauss, *Welcome to the Universe, an Astrophysical Tour*, Princeton University Press (2016)

**Grade**

Your final grade will be based upon class participation (10%), two in-class exams (20% each), paper (20%) and one Final Examination (30%). The schedule is as follows:

First Examination	(20%)	10/7
Second Examination	(20%)	11/4
PAPER on a topic of your choosing	(20%)	DUE 11/29
Final Examination	(30%)	All-inclusive, probably 12/16

There are no make-up examinations without a valid reason. The following table will determine your final grade.

80% to 100%	A
75% to 79%	B+
70% to 74%	B
60% to 69%	C+
50% to 59%	C
40% to 49%	D
0% to 39%	F

Introductory Astronomy and Cosmology (Phys 202) and Introductory Astronomy and Cosmology Laboratory (Phys 202A) are two separate courses. You can be registered for either one of these courses without being registered for the other course.

**Academic Integrity**

Any student who is disruptive in the classroom or cheats during an examination, will be in violation of the Academic Honor Code and will be reported to the Dean of Student Services.

## Syllabus (Chapters for reading refer to OpenStax Download text)

Thurs. + Wed.	9/2 + 9/8	Observing the Sky (Chapters One & Two) Orbits and Gravity (Chapter Three) <b>Wed. 9/8 follows Monday schedule</b>
RM	9/9	Earth, Moon, and Sky (Chapter Four) Radiation and Spectra (Chapter Five)
RM	9/16	Astronomical Instruments (Chapter Six) Introduction to the Solar System (Chapter Seven)
RM	9/23	Earth and Other Cratered Worlds (Chs. 8 and 9) Venus and Mars (Chapter Ten)
RM	9/30	Giant Planets, Rings, Moons (Chapters 11 and 12) Comets, Asteroids, Samples (Chapters 13 and 14)
RM	10/7	The Sun (Chapters 15 and 16) EXAM 1
RM	10/14	Starlight and Stars (Chapters 17 and 18) Distances. Gas & Dust in Space (Ch. 19 and 20)
RM	10/21	Star & Planet Formation (Chapter 21) Stars' Adolescence to Old Age (Chapter 22)
RM	10/28	Death of Stars (Chapter 23) Black Holes, Curved Space-Time (Chapter 24)
RM	11/4	The Milky Way Galaxy (Chapter 25) EXAM 2
		<b>PAPER DUE 11/29</b>
RM	11/11	Galaxies (Chapter 26) QSOs, Black holes, Galaxy Evolution (Chs. 27 & 28)
RM	11/18	The Big Bang (Chapter Twenty-nine) Review of Chapters 1-29
R	11/25	<b>Thanksgiving Recess</b>
RM	12/2	???? + Review
R	12/9	Review continued– LAST DAY OF CLASS
R	12/16	PROBABLE DATE of Final Exam (All-Inclusive but ~ ½ after Exam 2 )

## Fall 2021 Academic Calendar

September 1	Wednesday	First Day of Classes
September 6	Monday	Labor Day
September 8	Wednesday	Monday Classes Meet
September 8	Wednesday	Last Day to Add/Drop a Class
September 8	Wednesday	Last Day for 100% Refund, Full or Partial Withdrawal
September 9	Thursday	W Grades Posted for Course Withdrawals
September 15	Wednesday	Last Day for 90% Refund, Full or Partial Withdrawal - No Refund for Partial Withdrawal after this date
September 29	Wednesday	Last Day for 50% Refund, Full Withdrawal
October 20	Wednesday	Last Day for 25% Refund, Full Withdrawal
November 10	Wednesday	Last Day to Withdraw from Classes
November 25	Thursday	Thanksgiving Recess Begins
November 28	Sunday	Thanksgiving Recess Ends
December 10	Friday	Last Day of Classes
December 13	Monday	Reading Day 1
December 14	Tuesday	Reading Day 2
December 15	Wednesday	Final Exams Begin
December 21	Tuesday	Final Exams End
December 23	Thursday	Final Grades Due