

Spring 2020

## **PHYS 202-004: Introductory Astronomy and Cosmology (Revised for Remote Learning)**

George Georgiou

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## Introductory Astronomy and Cosmology, Section

Phys 202–004 Spring 2020

MW 1-2:20 Kupfrian 104 –

**NJIT is cancelling face-to face classes for the remainder of the Spring semester**

**All classes are online. We will use WEBEX (details at [IST.NJIT.EDU/WEBEX/](http://IST.NJIT.EDU/WEBEX/))**

**Slides will be sent by email before class Tuesdays 6PM. I will send out a conference email before class.**

**Exams will probably be sponsored by PROCTORU.**

**before class M or W. I will send out a conference email before class.**

### Instructor

Dr. George E. Georgiou

Microelectronics Research Center, Room 207 (in bridge between FMH and ECE)

[george.e.georgiou@njit.edu](mailto:george.e.georgiou@njit.edu) (preferred contact method)

OFFICE HOURS: 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>

Paper textbook: (For those who do not like reading e-books; ANY EDITION will work)

Jeffrey Bennett, Megan Donahue, Nicholas Schneider, and Mark Voit. *The Cosmic Perspective Fundamentals*, Second Edition. Pearson Education, Inc., United States of America, 2015.

### 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%), **three examinations (20% each)**, and one Final Examination (30%). The examinations will be administered on the following dates.

First Examination	Monday, February 10, 2020	(20%)
Second Examination	Monday, March 2, 2020	(20%)
<b>Third Examination</b>	<b>Monday, April 6, 2020</b>	<b>Cancelled</b>
<b>Fourth Examination</b>	<b>Monday, April 27, 2020</b>	<b>(20%)</b>
Final Examination	Finals Week (May 8-14)	(30%)

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
<b>60% to 69%</b>	<b>C+</b>
<b>50% to 59%</b>	<b>C</b>
40% to 49%	D
0% to 39%	F

The examination grades will not be curved. In-class exams (closed book) will cover material including the week before. The Final Examination will cover the entire course’s material.

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)**

W, M	22, 27 - Jan	Observing the Sky (Chapters 1 & 2) Orbits and Gravity (Chapter 3)
W, M	29-Jan+3-Feb	Earth, Moon, and Sky (Chapter 4) Radiation and Spectra (Chapter 5)
W	5 - Feb	Astronomical Instruments (Chapter 6)
M	10 - Feb	First Examination (Ch 1-5)
W, M	12, 17 - Feb	Introduction to the Solar System (Chapter 7) Earth and Other Cratered Worlds (Chapters 8 & 9)
W, M	19, 24-Feb	Venus and Mars (Chapter 10) Giant Planets, Rings, Moons (Chapters 11 & 12)
W	26 - Feb	Comets, Asteroids, Samples (Chapters 13 & 14)
M	2 - March	Second Examination (Ch. 6-12)
W, M	4, 9 - March	The Sun (Chapters 15 and 16) Starlight and Stars (Chapters 17 and 18)
W, M	11,23 -March	Distances. Gas & Dust in Space (Chapters 19 & 20)
W, M	16, 18-March	Spring Recess – NO CLASS
W, M	25, 30-March	NO CLASS
W, M	1, 6-April	Star & Planet Formation (Chapter 21) Stars' Adolescence to Old Age (Chapter 22) Death of Stars (Chapter 23)
W, M	8, 13 – April	Black Holes, Curved Spacetime (Chapter 24) The Milky Way Galaxy (Chapter 25)
W, M	15, 20 - April	Galaxies (Chapter Twenty-six) QSOs, Black holes, Galaxy Evolution (Chs. 27 & 28)
W	22 - April	The Big Bang (Chapter Twenty-nine)
M	27 - April	Fourth Examination (Ch 22-28)
W, M	29Apr+4May	Review Chapters 1-29
W,R	6,7 May	Reading Days
		Final (Cumulative) date to be announced (week May 8-14)