

Astr 3020 COSMOLOGY

Spring Semester 2023

Meeting Times: MW 3:35 – 5:00pm
Meeting Place: Sundquist Science Center E-109
Credit: 3 Credit hours

Instructor: Dr. Spencer L. Buckner
Office: SSC B326 Phone: 221-6241
Email: buckners@apsu.edu
Hours: M – F 10:00am – 11:30am
and M – F 1:30 – 3:00pm or by Appointment

Website: www.apsu.edu/physics/astronomy

Textbooks: Foundations of Modern Cosmology; Second Edition
by John Hawley & Katherine Holcomb
The Five Ages of the Universe by Adams & Laughlin

Course Description: Current theories on the origin and evolution of the universe. Topics to be covered include the Big Bang, cosmological inflation, dark matter, dark energy and the final fate of the universe

Grading:	Observations.....5%	A...≥90
	Project.....15%	B...80 – 89
	Class Participation...10%	C...70 – 79
	Exams.....70%	D...60 – 69
		F...<60

Observations: The Observations Requirement is to attend 70% of the scheduled observing nights and to assisting in the set-up and operation of the various telescopes. First Quarter Nights will be held in the Archwood parking lot if clear or the SSC Atrium is rainy. Dark Sky Nights will be at the APSU Observatory on the APSU Farm. Maps and directions can be found on www.apsu.edu/astronomy/1st-quarter-observing-nights. The schedule is:

First Quarter Nights

Saturday January 28 @ 7:30pm	Monday February 27 @ 7:30pm
Wednesday March 29 @ 7:30pm	

Dark Sky Nights

Thursday January 19 @ 7:30pm	Monday January 23 @ 7:30pm	Wednesday February 15 @ 7:30pm
Tuesday February 21 @ 7:30pm	Tuesday March 14 @ 8:30pm	Saturday March 18 @ 8:30pm
Thursday April 13 @ 8:30pm		

Cancellation notice, if needed, will be posted on www.apsu.edu/physics/astronomy/observations/observations by 5:00pm on the day of the observing

Attendance: Attendance will not be taken in lecture but, with the small class size I will know who is not attending regularly. As round-table discussions of the day's topics will be an important part of the course, failure to attend and participate will be deducted from the Class Participation part of the grade.

Exams: There will be four exams worth 17.5% each during the semester. The last exam will be given during the final exam period Monday May 1 or Wednesday May 3. The regular exams will consist of a number of multiple-choice questions (15 – 25) and several essay questions (3 to 5). The tentative dates for the regular exams and Final Exam are given below.

Exam 1...Wednesday February 1
Exam 2...Wednesday March 1
Exam 3...Wednesday April 5
Exam 4...Monday May 1 or Wednesday May 3

Project: The project will be a term paper of significant length and a 10 to 15 minute oral presentation to the class on the topic of your paper. The topic of the term paper must be approved by the instructor before Spring Break. The subject of the paper is to be a current topic in the area of cosmology, large-scale structure in the universe or the nature and abundance of dark matter or dark energy in the universe.

Disability Policy: Any student that has a condition that may affect his/her academic performance is encouraged to make an appointment with me **and** with Disability Services (telephone 221-6230; voice 221-6278; voice tty) to discuss the matter. This discussion should take place **ASAP!**

Academic & Classroom Misconduct: Students are expected to conduct themselves appropriately at all times. Academic and classroom misconduct will not be tolerated. Students must read the "Code of Student Conduct" in the new Student Handbook for an understanding of what will be expected of them within the academic setting.