THE UNIVERSITY OF NEW MEXICO – VALENCIA

COURSE SYLLABUS for FALL 2023

Course Number Course Name	**ASTR 1115** **Introduction to Astronomy**
Instructor & Course information	Instructor Name: Lorraine Bowman Email: lbowman3@unm.edu Lecture: Asynchronous Office Hour: Wednesdays 8 - 9 AM on Teams - link below: https://teams.microsoft.com/l/meetup-join/19%3ameeting_NmQ1NGY2YzQtN2EzMy00ODJkLTlmZTAtYzc0NDEwMzM3MjJl%40thread.v2/0?context=%7b%22Tid%22%3a%2225aa9830-e0f9-482b-897e-1a3b3c855e5c%22%2c%22Oid%22%3a%22e503648d-6fc9-40a3-bd8a-270db950fb63%22%7d
Course Description	Introduction to Astronomy is descriptive physical science course that utilizes basic math skills and the scientific method to develop an understanding of the structure and evolution of the universe. After discussing the nature of light and how telescopes work, we will review the Solar System and work our way to stars, galaxies and galaxy clusters. We will also discuss fun things such as dark matter, dark energy, cosmology, general relativity etc. Weekly assignments & reviews will be on the online homework platform **ExpertTA**. Register here: http://goeta.link/USD33NM-4AC271-35E Make sure you can access it on the first week of class, and let me know asap if you have any trouble logging in!

Time Expectation & Support	**Each week you will have one or two lectures to watch, and an ExpertTA review to complete. Please plan for a minimum of 18 hours per week to learn course materials and complete assignments.** **Late work will not be accepted. Don't wait until the last minute before an assignment is due to start working on it!** **Support:** UNM-Valencia Learning Commons (Tutoring) Tutoring is available to you in math, science, writing, and other subjects through the Learning Commons: Learning and STEM Centers and Writing Center. In person tutoring is in these centers in the LRC (the building that also has the library). Tutoring in Zoom and, for writing, through email, is also available. Making use of tutoring is a fantastic way to use your resources and set yourself up to learn deeply and well in your courses. To schedule an appointment, please go to: Learning Commons Bookings If you have difficulty with the scheduling link above, would like an appointment in a subject not listed at that link, or have a question, email tutor@unm.edu. You'll get answers during business hours Monday through Friday. The webpage, with more details about available hours, is here: Learning Commons: Tutoring Services webpage. Center for Academic Program Support (CAPS). Many students have found that time management workshops can help them meet their goals (consult (CAPS) website under "services").
Textbook	Astronomy by Fraknoi et al, Openstax. Free dl of the pdf here: https://openstax.org/details/books/astronomy

Student Learning Outcomes	1. Students will discuss the night sky as seen from Earth, including coordinate systems, the apparent daily and yearly motions of the sun, Moon, and stars, and their resulting astronomical phenomena. 2. Students will list and apply the steps of the scientific method. 3. Students will describe the scale of the Solar System, Galaxy, and the Universe. 4. Students will explain telescope design and how telescopes and spectra are used to extract information about Astronomical objects. 5. Students will describe the formation scenarios and properties of solar system objects. 6. Students will describe gravity, electromagnetism, and other physical processes that determine the appearance of the universe and its constituents. 7. Students will describe methods by which planets are discovered around other stars and current results. 8. Students will describe the structure, energy generation, and activity of the sun. 9. Students will compare our sun to other stars and outline the evolution of stars of different masses and its end products, including black holes. 10. Students will describe the structure of the Milky Way and other galaxies and galaxy clusters. 11. Students will describe the origin, evolution, and expansion of the universe based on the Big Bang Theory and recent Astronomical observations. 12. Students will describe conditions for life, its origins, and possible locations in the universe These outcomes align with the College Wide outcomes of Critical Thinking.

Course Requirements and Grading Policy	COURSE GRADES: A = 90 - 100 points B = 80 - 89 points C = 70 - 79 points D = 60 - 69 points F = 0 - 59 points **Final grade breakdown:** • Viewing the lectures: 35% • Participation in discussion boards: 15% • ExpertTA assignments: 50% **1. Late assignments will not be considered.** **2. End of semester grade bumps are a violation of academic integrity. I will not respond to such requests.**

Student Conduct and Academic Integrity	Each student is expected to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary action, up to and including dismissal, against any student who is found guilty of academic dishonesty or otherwise fails to meet the standards. Any student judged to have engaged in academic dishonesty in course work may receive a reduced or failing grade for the work in question and/or for the course. Academic dishonesty includes, but is not limited to, dishonesty in quizzes, tests, or assignments; claiming credit for work not done or done by others; hindering the academic work of other students; misrepresenting academic or professional qualifications within or without the University; and nondisclosure or misrepresentation in filling out applications or other University records. Respectful and Responsible Learning: We all have shared responsibility for ensuring that learning occurs safely, honestly, and equitably. Submitting material as your own work that has been generated on a website, in a publication, by an artificial intelligence algorithm, by another person, or by breaking the rules of an assignment constitutes academic dishonesty. It is a student code of conduct violation that can lead to a disciplinary procedure. *Please ask me for help in finding the resources you need to be successful in this course. I can help you use study resources responsibly and effectively.* Off-campus paper writing services, problem-checkers and services, websites, and AIs can be incorrect or misleading. Learning the course material depends on completing and submitting your own work. UNM preserves and protects the integrity of the academic community through multiple policies including policies on student grievances (Faculty Handbook D175 and D176), academic dishonesty (FH D100), and respectful campus (FH CO9). These are in the *Student Pathfinder* (https://pathfinder.unm.edu) and the *Faculty Handbook* (https://handbook.unm.edu).

Accomodations	UNM is committed to providing equitable access to learning opportunities for students with documented disabilities. As your instructor, it is my objective to facilitate an inclusive classroom setting, in which students have full access and opportunity to participate. If you have a documented disability, the Equal Access Services office will provide me with a letter outlining your accommodations. I will then discuss the accommodations with you to determine the best learning environment. If you feel that you need accommodations, but have not documented your disability, please contact Sarah Clawson, the coordinator for Equal Access Services at 925-8840 or sjclawson@unm.edu.
Title IX Statement	Our classroom and our university should always be spaces of mutual respect, kindness, and support, without fear of discrimination, harassment, or violence. Should you ever need assistance or have concerns about incidents that violate this principle, please access the resources available to you on campus. Please note that, because UNM faculty, TAs, and GAs are considered "responsible employees" any disclosure of gender discrimination (including sexual harassment, sexual misconduct, and sexual violence) made to a faculty member, TA, or GA must be reported by that faculty member, TA, or GA to the university's Title IX coordinator. For more information on the campus policy regarding sexual misconduct and reporting, please see: https://policy.unm.edu/university-policies/2000/2740.html. Support: LoboRESPECT Advocacy Center, the Women's Resource Center, and the LGBTQ Resource Center all offer confidential services.
Land Acknowledgement	Founded in 1889, the University of New Mexico sits on the traditional homelands of the Pueblo of Sandia. The original peoples of New Mexico Pueblo, Navajo, and Apache since time immemorial, have deep connections to the land and have made significant contributions to the broader community statewide. We honor the land itself and those who remain stewards of this land throughout the generations and also acknowledge our committed relationship to Indigenous peoples. We gratefully recognize our history.

Course Schedule (tentative and subject to changes during the semester)	Week 1 (Aug 21) - Introduction; Units & Scale
	Week 2 (Aug 28) - Celestial Sphere
	Week 3 (Sep 4) - Light
	Week 4 (Sep 11) - Telescopes & Observatories
	Week 5 (Sep 18) - Gravity: Newton & Einstein
	Week 6 (Sep 25) - Solar System: Introduction; Mercury & Venus
	Week 7 (Oct 2) - Earth & Moon; Mars
	Week 8 (Oct 9) - **Fall Break**
	Week 9 (Oct 16) - Asteroid Belt & Near-Earth Objects
	Week 10 (Oct 23) - Outer Planets; Kuiper Belt & Oort Cloud
	Week 11 (Oct 30) - the Sun
	Week 12 (Nov 6) - Stars part 1
	Week 13 (Nov 13) - Stars part 2
	Week 14 (Nov 20) - **Thanksgiving Break**
	Week 15 (Nov 27) - Stars part 3
	Week 16 (Dec 4) - Exoplanets & Astrobiology
	Week 17 (Dec 11) - **Finals Week**