



General Astronomy ASTR 2115

Instructor Info —



Prof. Diana Dragomir



PAIS 3226



exoplanets.unm.edu



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Course Info —



Math 1240 or 1512. Physics 1230 or higher. ASTR 2110. We will learn some physics concepts and make use of high-school level algebra and trigonometry, but will not use calculus.



Tue & Thu



11:00am - 12:15pm



PAIS 2540

Office Hours —



By appointment (or after class).



PAIS 3226

TA Info —



Mallory Harris



Mon: 2-4pm



PAIS 1500 (tutoring center)



malharris19@unm.edu

Course Overview

Astronomy 2115 is a general astronomy course at a greater level of detail than is covered in Astronomy 1115. ASTR 2110 and 2115 are also the first required ASTR classes for BS Astrophysics majors. ASTR 2115 is also required for the BA in Physics and Astrophysics. This course will describe the nature of the Universe starting with stars and working up through star clusters, galaxies, clusters of galaxies and superclusters. Black holes, pulsars, supernovae, dark matter, the expanding Universe and other fascinating astronomical topics will also be explored. We will use math and physics as we explore the Universe.

About Me

I am an observational astronomer whose focus is on exoplanets. I aim to measure the properties of exoplanets, and how these properties correlate to the planets' formation and evolution. It turns out that a fuller understanding of exoplanets requires also an understanding of the history and properties of their host *stars*, and even of the details of their galactic environment. Therefore I have a keen interest in astronomy at all scales, and I look forward to sharing that with you.

Material

Required Text

Universe, Freedman, Geller and Kaufmann, 11th edition. University Science Books. 2019. (ISBN: 9781319039448, eBook ISBN: 9781319227975)

Required Other Material

Zoom app.

Credit-hour statement

This is a three credit-hour course. Class meets for two 75-minute sessions of direct instruction for sixteen weeks during the Fall 2025 semester. Please plan for a minimum of six hours of out-of-class work (or homework, study, assignment completion, and class preparation) each week.

Grading Scheme

The details of the grading scheme and grading components could be subject to minor changes, but if so I will inform the class ahead of time during lectures and via email, and ensure that all students agree with the changes.

25%	Class Participation (10% for in-class Zoom questions; and 15% for in-class activities)
30%	Homework Assignments
20%	Term Project
10%	Midterm Exam
15%	Final Exam

Note: If you take this class "Credit/No Credit", according to university policy, your final grade must be a "C" or better in order to receive credit.

Class Participation

Every class there will be one or more multiple choice questions that you will answer through Zoom. These questions are for both you and I to gauge how well specific concepts taught in that class were understood. If you answer the questions in at least 20 classes (correctly or not), you will get 5% toward your final grade. Answering those questions correctly will earn you up to the remaining 5%, for a total of 10% of the final grade for the in-class Zoom questions.

The second part of class participation (15%) will consist of short calculations or problems to solve (usually as worksheets), JWST image interpretation (more on this during the first class), or discussions related to the course material, either individually or in groups. At the end of these activities, I will often ask a student to briefly present their (or their group's) answers or conclusions. Evidently you must be present in class and participate in these sessions in order to get the participation points, but "getting the right answer" is not necessary to earn these participation points.

Homework Assignments

There will be ten homework assignments spread out over the course of the semester. They will be due every 1 - 2 weeks. They will be posted on the course webpage/UNM Canvas. Homework is to be submitted in person or online on UNM Learn using the appropriate link provided there. Credit for late homework will drop by 15% for every day late within a week, and no credit thereafter.

Term Project

The term project for the class will be a report or a presentation on a scientific paper (your choice). The presentations will take place near the end of the semester (sometime in the last two weeks) and can be performed in powerpoint, keynote, google slides, or a similar presentation software. The reports will be due at around the same time. A choice of papers and detailed instructions will be provided in the first few weeks of class.

Learning Goals

Upon successful completion of this course, students will be able to:

- Estimate the distance to stars, galaxies, and other astrophysical objects.
- Demonstrate basic understanding of the evolution of stars and galaxies.
- Explain the standard big-bang cosmological model.
- Synthesize material from multiple sources, critically assess it and present it clearly and concisely in written and oral form.

Course Materials Access

Your digital course materials are directly available now on the My Shelf link in Canvas. Your physical course materials, such as books and required lab/studio course kits, are available at the UNM Bookstore, and you will receive an email about how to pick them up. To simplify your course materials access, you are automatically enrolled in a Complete option at a flat rate of \$279 per semester. This will show up on your bursar bill. The Complete option covers all your required course materials for all your Albuquerque campus courses, including any graduate courses you may be taking (branch campus course materials are billed and available separately). If you are interested in course materials access for only selected courses, or if you want to opt out entirely, you will need to select the option you want in the My Shelf link in Canvas. You can change your selected option in the My Shelf link in Canvas until the registrar's "Last Day to Drop Without a 'W' Grade and 100% Tuition Refund". Make sure that you review the [video](#) and [information](#) here to understand cost and the options for Complete (automatic enrollment), Select (take action), and Opt-out (take action).

Accommodations

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. To engage in a confidential conversation about the process for requesting reasonable accommodations for this class and/or program, please contact [Accessibility Resource Center](#) at arcsrvs@unm.edu or 505-277-3506.

If you need an accommodation based on how course requirements interact with the impact of a disability, you should contact me to arrange an appointment as soon as possible. At the appointment we can discuss the course format and requirements, anticipate the need for adjustments and explore potential accommodations. I rely on the [Accessibility Resource Center](#) for assistance in developing strategies and verifying accommodation needs.

UAP 2720 and 2740: Our classroom and university should foster mutual respect, kindness, and support. If you have concerns about discrimination, harassment, or violence, please seek support and report incidents. Find confidential services at LoboRESPECT Advocacy Center, the Women's Resource Center, and the LGBTQ Resource Center. UNM prohibits discrimination on the basis of sex (including gender, sex stereotyping, gender expression, and gender identity). All instructors are "responsible employees" who must communicate reports of sexual harassment, sexual misconduct and sexual violence to Compliance, Ethics and Equal Opportunity. For more information, please see UAP 2720 and UAP 2740.

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 behavior and absences

Respectful Conduct Expectations: I am committed to building with you a positive classroom environment in which everyone can learn. I reserve the right to intervene and enforce standards of respectful behavior when classroom conduct is inconsistent with University expectations and classroom community agreements. Interventions and enforcement may include but are not limited to required meetings to discuss classroom expectations, written notification of expectations, and/or removal from a class meeting. Removal from a class meeting will result in an unexcused absence. The University of New Mexico ensures freedom of academic inquiry, free expression and open debate, and a respectful campus through adherence to the following policies: D75: Classroom Conduct, Student Code of Conduct, University Policy 2240 - Respectful Campus, University Policy 2210 - Campus Violence.

Academic honesty and AI use

Responsible Learning and Academic Honesty: Cheating and plagiarism (academic dishonesty) are often driven by lack of time, desperation, or lack of knowledge about how to identify a source. Communicate with me and ask for help, even at the last minute, rather than risking your academic career by committing academic dishonesty. Academic dishonesty involves claiming that work created by another source is your own original work. It is a [Student Code of Conduct](#) violation that can lead to a disciplinary procedure. When you use a resource in work submitted for this class, document how you used it and distinguish clearly between your original work and the material taken from the resource.

COVID-19 Health and Awareness

UNM is a mask friendly, but not a mask required, community. To be registered or employed at UNM, Students, faculty, and staff must all meet UNM's Administrative Mandate on Required COVID-19 vaccination.

COVID-19 Symptoms and Positive Test Results

If you are experiencing COVID-19 symptoms, please do not come to class. If you have a positive COVID-19 test, please stay home for five days and isolate yourself from others, per the Centers for Disease Control (CDC) guidelines. If you do need to stay home, please communicate with me at dragomir@unm.edu; I can work with you to provide alternatives for course participation and completion. UNM faculty and staff know that these are challenging times. Please let us know that you need support so that we can connect you to the right resources and please be aware that UNM will publish information on websites and email about any changes to our public health status and community response.