

General Astronomy ASTR 2110

Instructor Info —


 Prof. Diana Dragomir


 PAIS 3226


 exoplanets.unm.edu

 dragomir@unm.edu

Course Info —


 Math 1230 or 1250. Physics 1200 or higher. 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


 Regener 114

Office Hours —

 By appointment (or after class, time permitting).

 PAIS 3226

TA Info —

 Dominic Oddo

 doddo@unm.edu

Course Overview

Astronomy 2110 is a general astronomy course at a greater level of detail than is covered in Astronomy 101. ASTR 2110 and 2115 are also the first required ASTR classes for BS Astrophysics majors. This spring course will begin with a review of positional astronomy, celestial motion, and the electromagnetic spectrum. We will then explore the Solar System from its inner to its outer regions, what we know so far about planets around other stars (exoplanets), and life elsewhere. We will use math and physics as we explore the Universe.

This is a three credit-hour course. Class meets for two 75-minute sessions of direct instruction for fifteen weeks during the Spring 2023 semester.

About Me

I am an observational astronomer whose focus is on exoplanets. I aim to measure the properties of exoplanets (particularly, but not exclusively, sub-Jovian exoplanets), and how these properties correlate to the planets' formation and evolution. Therefore I also have a keen interest in planetary science, 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.

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 (5% for in-class questions based on readings and lectures; and 20% for in-class activities)
25%	Homework Assignments
25%	Mid-term Project
25%	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, and will count for 5% of the participation grade. You do not need to answer correctly in order to obtain the participation points, but you do need to answer the questions in *at least 20 classes* for full credit. If you answer correctly, you will obtain extra credit that will allow you to increase your final grade by up to 5%.

The remaining portion of the participation grade (20%) will come from your participation in in-class activities and worksheets. There will be activities/worksheets approximately once a week. I will not record grades for these activities and worksheets, so for your grade, it doesn't matter how you do. But I encourage you to do your best because it will help you (and I) determine how you are doing in the course so far. You must be present in class and participate in these problem solving sessions in order to get the participation points.

Homework Assignments

There will be ten homework assignments spread out over the course of the semester. They will be due every 1 - 1.5 weeks. They will be posted on the course webpage/UNM Canvas. Homeworks are to be submitted either in class or online on UNM Canvas using the appropriate link provided there. Credit for late homeworks will drop by 15% for every day late within a week, and no credit thereafter.

Mid-term Project

The mid-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 or second week of class.

Learning Goals

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

- Learn and construct physical models of astronomical objects to explain observations.
- Understand properties of (exo)planets, and their moons.
- Demonstrate an understanding of the modern theories about the origins, structure and evolution of the solar system.
- Apply the "scientific method" to the study of the Solar System and exoplanets.
- Synthesize material from multiple sources, critically assess it and present it clearly and concisely in written or oral form.

Academic Integrity

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 C09). These are in the Student Pathfinder (<https://pathfinder.unm.edu>) and the Faculty Handbook (<https://handbook.unm.edu>).

Land Acknowledgment 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.

Diversity and Inclusivity Statement

I consider this classroom to be a place where you will be treated with respect, and I welcome individuals of all ages, backgrounds, beliefs, ethnicities, genders, gender identities, gender expressions, national origins, religious affiliations, sexual orientations, ability - and other visible and non-visible differences. All members of this class are expected to contribute to a respectful, welcoming and inclusive environment for every other member of the class.

Citizenship and/or Immigration Status: All students are welcome in this class regardless of citizenship, residency, or immigration status. Your professor will respect your privacy if you choose to disclose your status. As for all students in the class, family emergency-related absences are normally excused with reasonable notice to the professor, as noted in the attendance guidelines above. UNM as an institution has made a core commitment to the success of all our students, including members of our undocumented community. The Administration's welcome is found on our [website](#).

Title IX

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: .

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 by phone at 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.

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 ; 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 me, an advisor, or another UNM staff member know that you need support so that we can connect you to the right resources. Please be aware that UNM will publish information on websites and email about any changes to our public health status and community response.