Course Syllabus

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ASTR 1115L-501, CRN 81180, Fall 2025

Faculty Contact Information

Name: Dr. Amanda Truitt (she/her)

Campus Email: **artruitt@unm.edu**

Virtual Office Hours (JOIN ZOOM (https://us05web.zoom.us/j/82654104297?pwd=dg1bOhB9hB3HBoZlKr79C81JnAcl1x.1) passcode ASTRO): Thurs 11-11:30 am or by appointment

BOOK A MEETING WITH ME

https://cal.com/amanda-truitt-st4rryid/ (https://cal.com/amanda-truitt-st4rryid/) 10min (https://cal.com/amanda-truitt-st4rryid/10min)

https://cal.com/amanda-truitt-st4rryid/ (https://cal.com/amanda-truitt-st4rryid/) 30min (https://cal.com/amanda-truitt-st4rryid/30min)

Welcome to Astronomy 1115L, Introduction to Astronomy Lab!

My name is Dr. Amanda Truitt, and I will be the instructor/professor for this course. I have a Ph.D. in Astrophysics from Arizona State University, with a background in modeling stellar evolution based on the diverse chemical composition of stars and simulating the evolution of exoplanet habitable zones.

My preferred contact method is by email or messages through Canvas.

Sometimes things get buried in my inbox, so it's generally helpful if you follow up with another message if you don't receive a response from me **within 24 hours** during the regular work week or **within 48 hours** if it's a weekend/holiday. Please feel free to contact me at any time with questions or concerns about the coursework or content! Although we will not be meeting at a set time for the class, I would be happy to accommodate personal appointments as needed.

Required Textbook & Technology

No textbook is required for this lab course, but you may find the textbook information below helpful, if you'd like extra resources or support. All other course materials (including the lab assignments and any supplemental material) will be available directly through the Canvas shell.

Textbook Title: Astronomy (2e) (https://openstax.org/details/books/astronomy-2e)

The second edition of the textbook has been updated according to recent discoveries and includes a significant amount of new art and images. The 1st edition of the textbook is only available to view online (as a webpage), the 2nd edition is available to download as a free PDF. You can use either first or second edition.

Authors: Andrew Fraknoi, David Morrison, Sidney C. Wolff

Publisher: OpenStax (View for Free Online or Download a PDF)

Publication Date: October 13, 2016 (first edition) / March 9, 2022 (second edition/update)

You will need a computer with internet access to participate in this course, including the ability to submit assignments and access online activities. You will need to be able to open and edit word documents and/or PDF documents.

Course Description

This course will include hands-on (virtual) lab exercises that will reinforce concepts covered in the lecture and may include additional components that introduce students to the night sky. Math will be required for most of the lab assignments. Lab assignments are designed to solidify and expand your quantitative and general understanding of astronomy.

Pre-requisite (or co-requisite): ASTR 1115

This course meets New Mexico General Education Curriculum Area 3: Physical and Natural Sciences.

Credit-hour statement: This is a 1 credit-hour lab course delivered in an asynchronous/online modality over 16 weeks during the Fall 2025 semester. The expectation is that each credit hour should correspond to a minimum of 3 hours of student engagement per week. Therefore, please plan to spend AT LEAST **3 hours per week** on lab assignments!

Major Topics & Student Learning Outcomes

Upon successful completion of the course, students will:

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

Additional Course Information

PLEASE BE AWARE: This course is online and asynchronous; we do NOT have a designated meeting time or place for this class. I am available for individual student meetings by request.

Because this course is asynchronous, the expectation for responses from me is that I will always try to respond as soon as possible to any student messages, BUT questions that come in late at night, over a weekend, or otherwise outside of “normal” working hours are not guaranteed an immediate

response.

Please note that you will still have required deadlines for assignments. I will post reminders via Canvas announcements, as well as relevant content and supplemental resources in the **Pages** (https://canvas.unm.edu/courses/55248/pages) section. You will NOT be responsible for reviewing all material provided but the information may provide context for your labs.

Modules (https://canvas.unm.edu/courses/55248/modules) will also be assigned to help you keep track of due dates.

Tips for Success in Online Astronomy

My goal in grading is to reward two things: (1) the effort you put into this class, and (2) your understanding and demonstrated knowledge of course content. For those students who simply need to pass this class, I have good news: *my goal* is to pass every student who stays engaged with the course material through the end of the semester, and the course structure is designed to achieve this.

But what about those who want to get an A or a B in this class? Here's what I recommend:

- First, realize that this *online* class requires more self-discipline, integrity, and a level of comfort with technology, than face-to-face classes do. Set aside a time to regularly work on assignments and be proactive in contacting me if you have problems with Canvas, etc.
- Second, you should make sure your line of communication is open! Course announcements are made directly through Canvas. Please check your notification settings to make sure you receive course announcements.
- Finally, make sure to use of all course/Canvas resources. I am also available to help and answer questions!

Course Grading

The grade you receive in this course will be based on your individual mastery of the material, not on your standing relative to your peers (I do not curve the course grades). You may always respectfully ask me to reconsider your grade on any individual assignment, as it's always possible I've overlooked something.

An “A” represents excellent work that exceeds basic requirements. A “B” is good work that meets basic requirements. A “C” represents work that is below the basic requirements, but passing. A "D" represents insufficient mastery to satisfy core degree requirements or prerequisites. An “F” is failing and does not meet the minimum requirements.

Please do not ask me to round your grade up! **End of semester grade bumps are a violation of academic integrity**. I will not respond to such requests, and I do not offer any extra credit in this course.

COURSE GRADING SCHEME

A (90% or higher)	B (80-89.99%)	C (70-79.99%)	D (60-69.99%)	F (59.99% or lower)

Course Evaluation

Grading in this course will be based ONLY on points you earn from **Lab Assignments.**

Virtual Lab Activities (14 x 25 pts) _____ 350 points (100% of total grade)

Grades are calculated out of maximum possible points and converted to a %.

Coursework Expectations

LABS: These are data-based exercises that incorporate basic mathematics to align with concepts discussed in the *Astronomy* textbook. There will be 14 lab assignments, and you will have a week to work on each of them. I am available to help with these assignments if you are struggling with the concepts or math There is UNM tutoring available for math and astronomy (**Tutoring information** is available at the end of this syllabus).

For these quantitative assignments, you are encouraged to use a scientific calculator, though Google calculator should be sufficient for the level of mathematics presented. Astronomy is fundamentally based on physics and mathematics, so you will need to be able to convert units, perform multiplication/division, rearrange equations to solve for a variable, consider exponents in equations, and use scientific notation. If you don’t feel comfortable with basic algebra and manipulating equations and units for different quantities, please reach out to me.

Additionally, I don't mind if students work with each other or with a tutor on the labs, but if I notice any identical lab submissions (where it is clear you have copied each other directly without showing your work or putting your answers in your own words) I reserve the right to give each of you a zero. Please be aware that you will also receive a zero if it is obvious that you have stolen your lab answers from an online "resource" such as Chegg, Course Hero, etc.

Late Work Policy

Extension requests for course content should be **clearly communicated** to me ahead of time, whenever possible. Requests that come in after the assignment due date are not automatically guaranteed an extension.

Extension requests should be made at least 2 days before a deadline.

LABS: I will almost always grant an extension on lab assignments with no point penalty if you request accommodations **ahead of time**. I understand that there is a lot going on in the world and coursework will not always be your priority! However, if communication with me has not been established about an extension IN ADVANCE, I do reserve the right to decline the request. Because assignments will remain OPEN for you to submit throughout the entire semester, I will only allow for extensions that are requested ahead of time, or for documented emergencies that are communicated to me ***as soon as possible*** after the due date passes. For late lab submissions that are not otherwise granted an extension, **there will be an automatic PER DAY late penalty of 1% off from the total assignment score applied**.

IN THIS CLASS

You have the RIGHT to be treated with respect and professionalism

- *You have the RESPONSIBILITY to interact in a respectful and constructive manner.*

You have the RIGHT to clarity about course objectives, assignments, and grades

- *You have the RESPONSIBILITY to read the syllabus, comply with course guidelines, ask questions if anything is unclear. Please keep up with email & announcements.*

You have the RIGHT to consistent grading of work, applied to all students

- *You have the RESPONSIBILITY to complete assignments, use available resources to improve the quality of your work as necessary, and respond civilly to evaluation or feedback of your work.*

You have the RIGHT to flexibility during times of crisis, which you have communicated to me

- *You have the RESPONSIBILITY to participate, complete assignments, and contact me if you will miss work or need accommodations. Please keep me informed about emergency circumstances.*

You have the RIGHT to my availability for meetings and timely responses to messages

- *You have the RESPONSIBILITY to keep scheduled appointments or cancel as soon as you know you can't make it. Please include your preferred contact information in your messages.*

***We use the Canvas Discussion feature to facilitate class conversations, guided by* Netiquette (https://www.britannica.com/topic/netiquette) .**

- Show respect and be courteous. Refrain from inappropriate language.
- Learn about, understand, and support your classmates.
- Do not make sexist, racist, homophobic, or other insensitive comments.
- Value the diversity among your classmates.
- Encourage others to develop and share their ideas.
- Challenge others constructively with the intent of expanding discussion.
- Be open to being challenged on your ideas.
- Do not demean or embarrass others.
- Consider your comments before you post them.

Course Calendar

The course is divided into **Modules** which are listed in the course calendar outline, below.

Modules will be made available at the beginning of each week (Mondays), with lab assignments due at the end of the week (Sundays). **Due dates are implemented for uniform pacing that will ensure you move through all the material in a timely manner by the end of the course**. Topic/Textbook chapters are provided as a guide for supporting conceptual understanding. For those who are concurrently enrolled in ASTR 1115, these topics/chapters will align weekly.

Please visit the **UNM Registrar Page (https://registrar.unm.edu/semester-deadline-dates/index.html)** for details on important **Semester Deadline Dates**. This affects fees, refunds, timelines for registration changes, withdraw records, and grades. Finals Week, break periods, and holidays are also noted.

Course Calendar (Fall 2025 Semester)

Date	Topic/Textbook Chapters	Assignments/Due Dates
Week 1 August 18-24	Getting Started Module & Syllabus Quiz Related Content: Chapter 1 (Science & The Universe, A Brief Tour)	**Module 1 (Introduction):** Lab 1 due on Sun. August 24th
Week 2	Related Content: Chapter 2	**Module 2 (Astronomy Basics):**

Aug. 25-31	(The Birth of Astronomy)	Lab 2 due Sunday, August 31st
Week 3 September 1-7	Related Content: Chapters 3 and 4 (Orbits; Earth, Moon and Sky)	**Module 3 (Earth, Moon & Sky):** Lab 3 due Sunday, September 7th
Week 4 Sept. 8-14	Related Content: Chapters 5 and 6 (Radiation, Spectra; Astronomical Tools)	**Module 4 (The Study of Light):** Lab 4 due Sunday, September 14th
Week 5 Sept. 15-21	Related Content: Chapters 7 and 8 (Intro to Solar System; Earth as a Planet)	**Module 5 (The Solar System):** Lab 5 due Sunday, September 21st
Week 6 Sept. 22-28	Related Content: Chapters 9 and 10 (Cratered Worlds; Earth-like Planets)	**Module 6 (Terrestrials):** Lab 6 due Sunday, September 28th
Week 7 Sept. 29-Oct. 5	Related Content: Chapters 11 and 12 (Giant Planets; Moons and Rings)	**Module 7 (Giants & Moons):** Lab 7 due Sunday, October 5th
Week 8 October 6-12	**Midterm in ASTR-1115 Lecture**	**No Lab Due**
Week 9 Oct. 13-19	Related Content: Chapters 15 and 16 (The Sun and Nuclear Fusion)	**Module 8 (The Sun & Other Stars):** Lab 8 due Sunday, October 19th

Week 10 Oct. 20-26	Related Content: Chapters 17, 18, 19 (Stellar Characteristics; Distances)	**Module 9 (Stellar Classification):** Lab 9 due Sunday, October 26th
Week 11 Oct. 27-Nov. 2	Related Content: Chapter 21 (The Birth of Stars and Exoplanets)	**Module 10 (Exoplanets):** Lab 10 due Sunday, November 2nd
Week 12 November 3-9	Related Content: Chapters 22, 23, 24 (Star Death, Black Holes, Spacetime)	**Module 11 (Dead & Dying Stars):** Lab 11 due Sunday, November 9th
Week 13 Nov. 10-16	Related Content: Chapters 25 and 26 (The Milky Way; Galaxies)	**Module 12 (Galaxies, Part 1):** Lab 12 due Sunday, November 16th
Week 14 Nov. 17-23	Related Content: Chapters 27 and 28 (The Distribution & Evolution of Galaxies)	**Module 13 (Galaxies, Part 2):** Lab 13 due Sunday, November 23rd
Week 15 Nov. 24-30	**Thanksgiving Break**	**No Lab Due**
Week 16 December 1-7	Related Content: Chapters 29 and 30 (Big Bang; Astrobiology, Life in Universe)	**Module 14 (Cosmology & Life):** Lab 14 due Sunday, December 7th

Week 17 Dec. 8-13	**Final Exam in ASTR-1115 Lecture**	**No Lab Due** (Final chance to turn in any missing assignments)

General Course Policies

The remainder of the course policies are outlined below. I will always remind you of anything that is of particular importance, either in course announcements or in assignment instructions.

Generative Artificial Intelligence (GAI) Policy: Moderately Permissive Use

The use of GAI tools/programs (ChatGPT, Grammarly, etc.) to complete work for this course is generally permitted for early work-phase activities such as brainstorming, narrowing a topic, refining a research question, drafting an outline, and checking grammar. However, you may not use it to compose or generate wholesale something I have asked you to produce, such as, but not limited to a draft (rough or final) of a paper, a discussion post or response, or sources of information. Any use of GAI must be explicitly disclosed.

Attendance: This is an online and asynchronous class and face-to-face class attendance is not required. However, please be aware that students who miss assignments due in the few weeks of class may be dropped from class as "no show." Instructor also reserves the right to drop a student they miss an excessive number of assignments without communication.

Schedule/Assignments/Rubrics Subject to Change: Any changes will be announced through Canvas, and all efforts will be made to accommodate students. Instructor reserves the right to deduct additional points beyond what is outlined in grading rubrics if an assignment is clearly plagiarized, written with AI, or contains inappropriate language/images, etc.

Honor Code Pledge: You must complete the honor code pledge to participate in this class. Students who do not maintain their honor code pledge may be removed from the course entirely.

Responsible Learning and Academic Honesty: Cheating and plagiarism are often driven by lack of time, desperation, or lack of knowledge about how to identify a source. Please communicate with me and ask for help, even at the last minute, rather than risk 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 (https://pathfinder.unm.edu/code-of-conduct.html)** violation that can lead to a disciplinary procedure.

When you use a resource in ALL work submitted for this class, document and distinguish clearly between your original work and the material taken from the resource. If you use any sources other than those provided in the course, please clearly cite them. Allowing another student to copy your own work also constitutes academic dishonesty.

Student Accessibility

Confidentiality: I will never discuss a student's disability status with, or in front of, others. I will always be mindful of engaging a student about accommodations or disability to avoid revealing the student as someone with a disability. I will always speak with students privately about accommodation needs.

Preferred Name and Pronouns: Class rosters are provided to the instructor with a student's legal name. I will gladly honor your request to address you by your claimed name and/or (a)gender pronoun. Please advise me of this preference early so that I may make changes to my records. You may also edit your Canvas user profile to **indicate preferred pronouns (https://community.canvaslms.com/t5/Student-Guide/How-do-I-select-personal-pronouns-in-my-user-account-as-a/ta-p/456)** .

Accommodations: UNM is committed to providing equitable access to learning opportunities for students with documented disabilities. 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 to request reasonable accommodations for this class, please contact the **UNM-Valencia Equal Access Services (https://valencia.unm.edu/students/advisement/equal-access-services.html)** (Sarah Clawson) at (505) 925-8840 or by **email (mailto:sjclawson@unm.edu)** . The **UNM-Albuquerque Accessibility Resource Center (https://arc.unm.edu/)** can also be contacted by phone at (505) 277-3506 or by **email (mailto:arcsrvs@unm.edu)** .

Title IX: Our classroom and university should always be spaces of mutual respect, kindness, and support, without fear of discrimination, harassment, or violence. If you ever need assistance or have concerns about incidents that violate this principle, please access campus support resources. These include confidential services at **Lobo RESPECT Advocacy Center (https://loborespect.unm.edu/)** , the **Women's Resource Center (https://women.unm.edu/)** , and the **LGBTQ Resource Center (http://lgbtqrc.unm.edu/)** . The University of New Mexico prohibits discrimination on the basis of sex (including gender, sex stereotyping, gender expression, and gender identity). UNM faculty and graduate teaching assistants are considered "responsible employees." "Responsible employees" must **communicate reports (https://ceeo.unm.edu/reporting/how-do-i-report.html)** of sexual harassment, sexual misconduct and sexual violence to **Compliance, Ethics and Equal Opportunity**

(https://ceeo.unm.edu/reporting/how-do-i-report.html) . For more information on the campus policy regarding sexual misconduct, reporting, and reporting for "responsible employees," please see **UAP 2720** (https://policy.unm.edu/university-policies/2000/2720.html) and **UAP 2740** (https://policy.unm.edu/university-policies/2000/2740.html) .

If you are pregnant or experiencing a pregnancy-related condition, you may contact UNM's Office of Compliance, Ethics, and Equal Opportunity at **ceeo@unm.edu** (mailto:ceeo@unm.edu) . CEEO staff will provide you with access to available resources and supportive measures and assist you in understanding your rights. UNM **Pregnancy and Parenting Support information** (https://ceeo.unm.edu/programs/pregnancy-and-parenting-support/index.html) is available. The **Women's Resource Center** (https://women.unm.edu/) supports all students, including those who are pregnant or are parents. UNM-Valencia has lactation stations located in LRC 112 (Tomé campus) and in the Workforce Training Center.

Citizenship and/or Immigration Status: All students are welcome in this class regardless of citizenship, residency, or immigration status. I will respect your privacy if you choose to disclose your status. UNM as an institution has made a core commitment to the success of all our students, including members of our undocumented community.

Additional Student Support

Student Health and Counseling (http://shac.unm.edu/) (SHAC) at (505) 277-3136

LoboRESPECT Advocacy Center (https://loborespect.unm.edu/) (505) 277-2911: help with managing challenges that impact your UNM experience.

PASOS Resource Center (mailto:PASOS%20Resource%20Center) (505) 925-8546, or email **pasos@unm.edu** (mailto:pasos@unm.edu-) : on-campus center that serves as a "one-stop" for all non-academic needs of UNM-Valencia students.

Tutoring: **UNM-Valencia Learning Commons** (http://valencia.unm.edu/campus-resources/learning-commons/index.html) 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. Making use of tutoring is a fantastic way to use your resources and set yourself up to learn deeply and well in your courses. Schedule an appointment: **Learning Commons Bookings**
(https://outlook.office365.com/owa/calendar/TESTLearningCommons@unmm.onmicrosoft.com/bookings/)

If you are making an email appointment with the Writing Center, email your draft to **tutor@unm.edu**

(mailto:tutor@unm.edu) after you fill out the form above. 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** (mailto:tutor@unm.edu) . You'll get answers during business hours Monday through Friday. Resources to support study skills and time management are available through **Student Learning Assistance** at the Center for Teaching and Learning in Zimmerman Library or online.

Course Summary:

Date	Details	Due
Sun Aug 24, 2025	LAB 1: Stellarium (https://canvas.unm.edu/courses/55248/assignments/1146928)	due by 11:59pm
Sun Aug 31, 2025	LAB 2: Scale of the Universe (https://canvas.unm.edu/courses/55248/assignments/1146929)	due by 11:59pm
Sun Sep 7, 2025	LAB 3: Moon + Orbits (https://canvas.unm.edu/courses/55248/assignments/1146930)	due by 11:59pm
Sun Sep 14, 2025	LAB 4: Electromagnetism + Waves (https://canvas.unm.edu/courses/55248/assignments/1146931)	due by 11:59pm
Sun Sep 21, 2025	LAB 5: Plate Tectonics (https://canvas.unm.edu/courses/55248/assignments/1146932)	due by 11:59pm
Sun Sep 28, 2025	LAB 6: Planetary Atmospheres & Temperature (https://canvas.unm.edu/courses/55248/assignments/1146933)	due by 11:59pm
Sun Oct 5, 2025	Lab 7: Jupiter's Galilean Moons (https://canvas.unm.edu/courses/55248/assignments/1146936)	due by 11:59pm
Sun Oct 19, 2025	LAB 8: Nuclear Fusion (https://canvas.unm.edu/courses/55248/assignments/1146934)	due by 11:59pm
Sun Oct 26, 2025	LAB 9: HR Diagrams (https://canvas.unm.edu/courses/55248/assignments/1146935)	due by 11:59pm

Sun Nov 2, 2025	LAB 10: Exoplanets (https://canvas.unm.edu/courses/55248/assignments/1146923)	due by 11:59pm
Sun Nov 9, 2025	LAB 11: Black Holes and Revelations (https://canvas.unm.edu/courses/55248/assignments/1146924)	due by 11:59pm
Sun Nov 16, 2025	LAB 12: Hubble Constant & Universe Age (https://canvas.unm.edu/courses/55248/assignments/1146925)	due by 11:59pm
Sun Nov 23, 2025	LAB 13: Galaxies & Dark Matter (https://canvas.unm.edu/courses/55248/assignments/1146926)	due by 11:59pm
Sun Dec 7, 2025	LAB 14: Astrobiology (https://canvas.unm.edu/courses/55248/assignments/1146927)	due by 11:59pm