

AST 103: First-Year Seminar in Astronomy & Planetary Science



College of the Environment, Forestry, and Natural Sciences

Department of Astronomy and Planetary Science

Semester: Fall 2024

Prerequisites: None

Location: Health and Learning Center (Building 25), Rm. 3101

Meeting Time & Format: Wednesdays 4:30pm - 5:20pm; 1 Credit, Pass/Fail

Instructor: Dr. David Trilling, david.trilling@nau.edu, (928) 523-5505

How to email me: Put "AST103" [no quotes] in the subject line

Office Location: Physical Sciences (Building 19), Rm. 207

Office Hours: Tuesdays 4:00 – 5:00 pm, or by appointment

College of the
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and Natural Sciences

Course Purpose

This course is designed to welcome students into Northern Arizona University and the Department of Astronomy and Planetary Science (APS). The course covers a wide range of topics, including general advice to help students succeed at NAU; discussions regarding mental health issues, harassment, and diversity and inclusion; and the different research, courses, and degree programs offered through APS. Most importantly, the course provides an opportunity for students to interact and engage with each other over topics relevant to their interests. Lastly, the course is graded as Pass/Fail to ensure that students are more focused on learning from the content and discussions rather than worry too much about their specific grade.

Course Description

This first-year seminar is equally split between discussions of scientific content relevant to astronomy, planetary science, and the exploration of space, and discussions related to resources available to you through the Department of Astronomy and Planetary Science and, more broadly, through Northern Arizona University. Students will be evaluated based on demonstrated engagement and maturity during class, in-class discussions and written assignments, and take-home reading and writing prompts.

Course Objectives & Learning Outcomes

This course has several objectives and learning outcomes that will be addressed throughout the semester through both active and passive learning modes. Students will be assessed primarily on participation in class discussions, activities, and departmental events. By the end of the semester, students will be able to:

1. Gain an appreciation for our place in space and the importance of space exploration;
2. Develop important techniques for succeeding in college and setting yourself up for future success;
3. Become familiar with the people, courses, and resources available in the Department of Astronomy and Planetary Science; and
4. Learn about the different resources available to students at NAU.

Assessment

Course assessment will consist of attendance, participation, professionalism, and engagement (50%), in-class activities (25%), and homework assignments (25%). Participation in in-class discussions and group-based activities is a critical aspect of team building and the exchange of ideas, which is why it is the most heavily scored aspect of class. In-class activities and homework assignments will supplement in-class discussions to help students to understand the material.

It is expected that all students will act professionally and will be engaged throughout the semester. This first-year seminar is your introduction to the Department of Astronomy and Planetary Science and

is the best way to immerse yourself in the culture of the department. Failure to act professionally or to engage in class activities and discussions will result in a loss of points throughout the semester.

Grading System: The breakdown of points is as follows, and any changes to the class scoring rubric will be discussed with the class prior to implementation:

| | |
|---|--------------------|
| <i>Attendance, Participation, Professionalism, and Engagement</i> | <i>50%</i> |
| <i>In-Class Activities</i> | <i>25%</i> |
| <i>Homework Assignments</i> | <i>25%</i> |
| <i>Total</i> | <i>100%</i> |

Your course grade will be based on the total points earned, and a letter grade will be assigned using the grading scale below:

Pass: $\geq 60\%$ | **Fail:** $< 60\%$

Required Materials & Technology

REQUIRED: No required course materials. Weekly reading materials will be provided to students via handouts and/or on Canvas.

Class, Departmental, & University Policies

- If you are sick, please stay home and let Dr. Trilling know in advance.
- Please disclose any disabilities or special requirements to the NAU Disabilities Resources Office, who will contact me privately regarding any accommodations. I want to make sure that every student has an equal opportunity to learn and succeed.
- Don't cheat. You're paying good money to learn, and if you don't appreciate the knowledge gained right now, you will in the future. *If you feel like you need to cheat in order to succeed in this class, come talk to the professor to establish a more sustainable plan for succeeding.* We have a zero-tolerance policy. If you are caught cheating, you will fail the class be reported to the Dean's Office.
- While attendance in class is not mandatory, remember that ~33% of your grade is dedicated to Professionalism & Engagement, which is directly reliant upon your attendance and participation.
- Please come to class on time. Students who arrive late and miss assignments will not be given extra time. In-class points missed due to tardiness cannot be made up.
- Please silence all devices during class. Please refrain from any other "electronic distractions" (e.g., text messaging, browsing social media) during class. If you are anticipating cellular disruptions during class for any personal or professional reasons, please notify the professor prior to class.
- Class disruptions are defined as activities that distract the instructor or other students from delivering or learning the course materials. Such activities include talking or whispering during class, habitual tardiness or leaving class early, or "electronic distractions." Disruptive students will be asked to leave the classroom, while repeat offenders may be withdrawn from the class.
- Neither audio nor video recording will be permitted except under special circumstances prescribed by the NAU Disability Resources Office or discussed with the professor prior to class.
- **Additional departmental and university policies can be found at www.physics.nau.edu/SYLLABI/POLICY/policy.html.** This course falls under all departmental and university policies unless otherwise stated in this document.

Career Ready Resources

LinkedIn:

CEFNS Career Development

www.linkedin.com/in/cefns-career-development-072715233

NAU Career Development

<https://www.linkedin.com/company/nau-career-development/>

Handshake:

<https://nau.joinhandshake.com/login>

Udemy: Online courses and career searching advice

<https://in.nau.edu/its/udemy/>

Log in with your NAU email account and search 'NAU Career Steps'

O*net Online: Occupation exploration reports

<https://www.onetonline.org/>

100% Career Ready

One of the primary goals of this course is to provide skills that are in-demand from STEM employers to help NAU CEFNS students pursue careers of confidence and lives of purpose. Below is a list of in-demand skills from the National Association of Colleges and Employers (NACE) that students may be able to practice in this course:

- 1. Career & Self-Development:** Proactively develop oneself and one's career through continual personal and professional learning, awareness of one's strengths and weaknesses, navigation of career opportunities, and networking to build relationships within and without one's organization.
- 2. Communication:** Clearly and effectively exchange information, ideas, facts, and perspectives with persons inside and outside of an organization.
- 3. Critical Thinking:** Identify and respond to needs based upon an understanding of situational context and logical analysis of relevant information.
- 4. Equity & Inclusion:** Demonstrate the awareness, attitude, knowledge, and skills required to equitably engage and include people from different local and global cultures. Engage in anti-racist practices that actively challenge the systems, structures, and policies of racism.
- 5. Leadership:** Recognize and capitalize on personal and team strengths to achieve organizational goals.
- 6. Professionalism:** Knowing work environments differ greatly, understand and demonstrate effective work habits, and act in the interest of the larger community and workplace.
- 7. Teamwork:** Build and maintain collaborative relationships to work effectively toward common goals, while appreciating diverse viewpoints and shared responsibilities.
- 8. Technology:** Understand and leverage technologies ethically to enhance efficiencies, complete tasks, and accomplish goals.

In this course we will specifically help you build skills in the following ways, from the learning outcomes listed above (on page 1):

1. Gain an appreciation for our place in space and the importance of space exploration (#3 above)
2. Develop important techniques for succeeding in college and setting yourself up for future success (#1, #2, #6 above)
3. Become familiar with the people, courses, and resources available in the Department of Astronomy and Planetary Science (#1, #2, #4, #5, #6, #7 above)
4. Learn about the different resources available to students at NAU (#1, #4, #5, #6, #7 above)

Course Schedule (subject in change)

| Week/Date | | Class |
|-----------|-------------|--|
| 1 | Aug. 28 | Course Introduction Introductions, syllabus overview, discussion of professional conduct expectations |
| 2 | Sep. 04 | Something from Nothing A discussion on the origin of the Universe |
| 3 | Sep. 11 | Our Place in Space Identifying our cosmic address and implications for life beyond Earth |
| 4 | Sep. 18 | Attend the Flagstaff Astronomy Symposium! (More details coming shortly). |
| 5 | Sep. 25 | NASA's James Webb Space Telescope The latest results from the most powerful telescope ever built |
| 6 | Oct. 02 | Career Ready and you |
| 7 | Oct. 9 | Faculty and Research in the Department of Astronomy and Planetary Science Drink from the firehose as we dive into the areas of active research in our Department! |
| 8 | Oct. 16 | Mental Health in Academia & Resources at NAU More than one in three students experience significant depression and anxiety. It's normal and manageable, and we'll discuss different strategies and tools that are available! |
| 9 | Oct. 23 | Degree Programs in Astronomy and Planetary Science An overview of the Department's undergraduate degree plans and course offerings |
| 10 | Oct. 30 | Student experience (including astronomy club) |
| 11 | Nov. 06 | How do we learn about the Universe? Telescopes and technology that enable our understanding of the universe |
| 12 | Nov. 13 | Student rights and responsibilities at NAU |
| 13 | Nov. 20 | Undergraduate Research in astronomy at NAU A discussion of NAU-based, national, and international research and internship opportunities in astronomy and planetary science |
| 14 | Nov. 27 | Thanksgiving Break - No Class Cranberry sauce and stuffing. Say no more. |
| 15 | Dec. 04 | Looking Ahead: Moving Beyond Your Freshman Year One semester down, seven(-ish) more to go! What lies ahead, and how to plan? |
| 16 | Finals Week | No Final Exam |

SYLLABUS POLICY STATEMENTS

ACADEMIC INTEGRITY

NAU expects every student to firmly adhere to a strong ethical code of academic integrity in all their scholarly pursuits. The primary attributes of academic integrity are honesty, trustworthiness, fairness, and responsibility. As a student, you are expected to submit original work while giving proper credit to other people's ideas or contributions. Acting with academic integrity means completing your assignments independently while truthfully acknowledging all sources of information, or collaboration with others when appropriate. When you submit your work, you are implicitly declaring that the work is your own. Academic integrity is expected not only during formal coursework, but in all your relationships or interactions that are connected to the educational enterprise. All forms of academic deceit such as plagiarism, cheating, collusion, falsification or fabrication of results or records, permitting your work to be submitted by another, or inappropriately recycling your own work from one class to another, constitute academic misconduct that may result in serious disciplinary consequences. All students and faculty members are responsible for reporting suspected instances of academic misconduct. All students are encouraged to complete NAU's online academic integrity workshop available in the E-Learning Center and should review the full *Academic Integrity* policy available at <https://policy.nau.edu/policy/policy.aspx?num=100601>.

COPYRIGHT INFRINGEMENT

All lectures and course materials, including but not limited to exams, quizzes, study outlines, and similar materials are protected by copyright. These materials may not be shared, uploaded, distributed, reproduced, or publicly displayed without the express written permission of NAU. Sharing materials on websites such as Course Hero, Chegg, or related websites is considered copyright infringement subject to United States Copyright Law and a violation of NAU Student Code of Conduct. For additional information on ABOR policies relating to course materials, please refer to ABOR Policy 6-908 A(2)(5).

COURSE TIME COMMITMENT

Pursuant to Arizona Board of Regents guidance (ABOR Policy 2-224, *Academic Credit*), each unit of credit requires a minimum of 45 hours of work by students, including but not limited to, class time, preparation, homework, and studying. For example, for a 3-credit course a student should expect to work at least 8.5 hours each week in a 16-week session and a minimum of 33 hours per week for a 3-credit course in a 4-week session.

DISRUPTIVE BEHAVIOR

Membership in NAU's academic community entails a special obligation to maintain class environments that are conducive to learning, whether instruction is taking place in the classroom, a laboratory or clinical setting, during course-related fieldwork, or online. Students have the obligation to engage in the educational process in a manner that does not interfere with normal class activities or violate the rights of others. Instructors have the authority and responsibility to address disruptive behavior that interferes with student learning, which can include the involuntary withdrawal of a student from a course with a grade of "W". For additional information, see NAU's *Disruptive Behavior in an Instructional Setting* policy at <https://nau.edu/university-policy-library/disruptive-behavior>.

NONDISCRIMINATION AND ANTI-HARASSMENT

NAU prohibits discrimination and harassment based on sex, gender, gender identity, race, color, age, national origin, religion, sexual orientation, disability, veteran status and genetic information. Certain consensual amorous or sexual relationships between faculty and students are also prohibited as set forth in the *Consensual Romantic and Sexual Relationships* policy. The Equity and Access Office (EAO) responds to complaints regarding discrimination and harassment that fall under NAU's *Nondiscrimination and Anti-Harassment* policy. EAO also assists with religious accommodations. For additional information about nondiscrimination or anti-harassment or to file a complaint, contact EAO located in Old Main (building 10), Room 113, PO Box 4083, Flagstaff, AZ 86011, or by phone at 928-523-3312 (TTY: 928-523-1006), fax at 928-523-9977, email at equityandaccess@nau.edu, or visit the EAO website at <https://nau.edu/equity-and-access>.

TITLE IX

Title IX of the Education Amendments of 1972, as amended, protects individuals from discrimination based on sex in any educational program or activity operated by recipients of federal financial assistance. In accordance with Title IX, Northern Arizona University prohibits discrimination based on sex or gender in all its

programs or activities. Sex discrimination includes sexual harassment, sexual assault, relationship violence, and stalking. NAU does not discriminate on the basis of sex in the education programs or activities that it operates, including in admission and employment. NAU is committed to providing an environment free from discrimination based on sex or gender and provides a number of supportive measures that assist students, faculty, and staff.

One may direct inquiries concerning the application of Title IX to either or both the Title IX Coordinator or the U.S. Department of Education, Assistant Secretary, Office of Civil Rights. You may contact the Title IX Coordinator in the Office for the Resolution of Sexual Misconduct by phone at 928-523-5434, by fax at 928-523-0640, or by email at titleix@nau.edu. In furtherance of its Title IX obligations, NAU promptly will investigate or equitably resolve all reports of sex or gender-based discrimination, harassment, or sexual misconduct and will eliminate any hostile environment as defined by law. The Office for the Resolution of Sexual Misconduct (ORSM): Title IX Institutional Compliance, Prevention & Response addresses matters that fall under the university's Sexual Misconduct policy. Additional important information and related resources, including how to request immediate help or confidential support following an act of sexual violence, is available at <https://in.nau.edu/title-ix>.

ACCESSIBILITY

Professional disability specialists are available at Disability Resources to facilitate a range of academic support services and accommodations for students with disabilities. If you have a documented disability, you can request assistance by contacting Disability Resources at 928-523-8773 (voice), 928-523-8747 (fax), or dr@nau.edu (e-mail). Once eligibility has been determined, students register with Disability Resources every semester to activate their approved accommodations. Although a student may request an accommodation at any time, it is best to initiate the application process at least four weeks before a student wishes to receive an accommodation. Students may begin the accommodation process by submitting a self-identification form online at <https://nau.edu/disability-resources/student-eligibility-process> or by contacting Disability Resources. The Director of Disability Resources, Jamie Axelrod, serves as NAU's Americans with Disabilities Act Coordinator and Section 504 Compliance Officer. He can be reached at jamie.axelrod@nau.edu.

RESPONSIBLE CONDUCT OF RESEARCH

Students who engage in research at NAU must receive appropriate Responsible Conduct of Research (RCR) training. This instruction is designed to help ensure proper awareness and application of well-established professional norms and ethical principles related to the performance of all scientific research activities. More information regarding RCR training is available at <https://nau.edu/research/compliance/research-integrity>.

MISCONDUCT IN RESEARCH

As noted, NAU expects every student to firmly adhere to a strong code of academic integrity in all their scholarly pursuits. This includes avoiding fabrication, falsification, or plagiarism when conducting research or reporting research results. Engaging in research misconduct may result in serious disciplinary consequences. Students must also report any suspected or actual instances of research misconduct of which they become aware. Allegations of research misconduct should be reported to your instructor or the University's Research Integrity Officer, Dr. David Faguy, who can be reached at david.faguy@nau.edu or 928-523-6117. More information about misconduct in research is available at <https://nau.edu/university-policy-library/misconduct-in-research>.

SENSITIVE COURSE MATERIALS

University education aims to expand student understanding and awareness. Thus, it necessarily involves engagement with a wide range of information, ideas, and creative representations. In their college studies, students can expect to encounter and to critically appraise materials that may differ from and perhaps challenge familiar understandings, ideas, and beliefs. Students are encouraged to discuss these matters with faculty.

Last revised August 4, 2022