

# The Solar System

PHYS 1052 (401)

Spring 2026

March 16, 2026 -

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## Instructor Information

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## Communication Expectations

All course materials and announcements are available in Canvas. For questions or concerns, email me and include "PHYS 1052" in the subject line.

## Office Hours

Office hours are available in person or on Microsoft Teams.

### In-person:

Tuesday 12:00 pm to 2:00 pm

Wednesday 2:30 pm to 4:00 pm, or by appointment

### Teams:

Monday 2:30 pm to 3:30 pm

Tuesday 2:00 pm to 3:30 pm

Find the Teams link on Canvas Modules under Office Hours

## Core Objectives

- Critical Thinking Skills: creative thinking, innovation, inquiry, analysis, evaluation, and synthesis of information
- Communication Skills: effective development, interpretation, and expression of ideas through written, oral, and visual communication
- Empirical and Quantitative Skills: analyze numerical data and observable facts to draw informed conclusions
- Teamwork: consider diverse perspectives and work effectively with others toward a shared goal

## Course Description

This introductory astronomy course explores how the sky works and why it looks the way it does. We study celestial motions, Moon phases and eclipses, the history of astronomy, gravity, light and spectra, telescopes, the bodies of the Solar System (the Sun, planets, asteroids, meteoroids, and comets), the discovery of extrasolar planets, and the search for life in the universe. The course is organized into three units:

### Unit 1: The Night Sky and Basic Astronomy

We explore motion and gravity, the reasons for seasons, Moon phases, and eclipses. You learn to navigate the night sky, understand light and spectroscopy, and see how telescopes reveal the universe. We also imagine everyday life in another world, what about everyday experiences on Mars?

### Unit 2: The Solar System

We survey the planets, Earth's Moon, major moons of other planets, and smaller bodies. We also study planetary motion and the formation of the Solar System.

### Unit 3: Stars, Galaxies, and the Search for Life

We follow the lives of stars from birth to their endings as white dwarfs, neutron stars, or black holes. We also explore extrasolar planets and astrobiology—could life exist beyond Earth?

This course satisfies the Life and Physical Sciences core requirement. You practice describing, explaining, and predicting natural phenomena using the scientific method, and you learn how scientific principles shape our physical world and our experience of it.

## Course Learning Objectives

- Describe Earth's place in the universe, from its orbit around the Sun to its role in the Milky Way and beyond
- Explain why the Sun shines, why stars have different colors, and outline the history of the Solar System
- Connect human life to the universe as an intricate, ordered system
- Use scientific principles to make sense of everyday phenomena and recognize science as a process of discovery
- Develop critical thinking and problem-solving strategies to tackle scientific questions with confidence
- Communicate scientific ideas clearly and logically
- Assess scientific claims and cultivate a lifelong interest in learning about the universe
- Engage with astronomy in the news and media and understand its relevance to the world around you

## Course Structure

This is a fully online, asynchronous course with set deadlines. You will learn through an interactive video game, a robotic telescope platform, and an open educational resource. Labs and lectures are delivered online so you can learn at your own pace while staying on schedule.

**The video game costs \$40, and the telescope platform costs \$25.** To install the game, you need a computer with permission to download. These tools are chosen to make astronomy engaging and hands-on.

## How to Succeed in the Course

- Navigate Canvas to access materials and submit work
- Download and upload files for assignments and projects
- Use email for timely communication
- Use the University of Mars platform for course activities
- Operate the robotic telescope platform for lab work (Slooh)

Mastering these skills will help you get the most from our interactive approach.

## Required Materials

This course has digital components. You need internet access for Canvas, the University of Mars video game, and the robotic telescope platform. You also need a laptop or desktop to download the University of Mars game.

There is no official textbook. As a helpful secondary resource, consider OpenStax Astronomy 2e: <https://openstax.org/details/books/astronomy-2e>

If circumstances change, I will inform you of any other technical needs. For tips on succeeding in a digital learning environment, visit Learn Anywhere: <https://online.unt.edu/learn>

Canvas hosts course materials and grades. Log in here: <https://unt.instructure.com/login/ldap>

## Tutoring

Astronomy tutoring is available in Hickory Hall, Room 266. The schedule will be posted on Canvas during the first week of class.

## Technical Support

- UNT IT Helpdesk (Canvas and computing issues): 940-565-2324 or [helpdesk@unt.edu](mailto:helpdesk@unt.edu)
- University of Mars: join the Astro Venture team's Zoom room (link on Canvas) from 10:00 am to 11:00 pm or email [info@theastroventure.com](mailto:info@theastroventure.com)
- Robotic Telescope Platform (Slooh) support: <https://support.slooh.com/technical-support>

## Additional Resources

Enrollment and financial questions: <https://scrappysays.unt.edu/s/>

## F-1 Visa Students

Only three fully online semester credit hours count toward full-time status. Full-time is twelve hours for undergraduates and nine hours for graduate students.

## Student Responsibility

- Complete all course requirements on time
- Stay engaged and interact with classmates
- Help maintain a positive learning environment

## Course Schedule Overview

- Start with the University of Mars video game. Download it from the AstroVenture website using the links in Canvas, then play through to learn core concepts
- Deadlines: check Canvas for due dates and reminders
- Reflection Assignments: submit brief reflections on game material; you will also share and rank posts with classmates
- Tests: three-unit tests (Units 1, 2, and 3) with deadlines in Canvas
- Lab Activities: Use the robotic telescope service for guided investigations; request images early to avoid delays
- Upload your weekly NASA Astronomy Picture of the Day assignment on Canvas and briefly discuss your chosen image.

## Time Management

- Each part of the game typically takes about one to two hours to complete thoroughly
- In-game lessons build concepts in a logical order, using previous lessons.
- Replay sections for extra practice and to improve your Game Progress score; use the "Repeat a Lesson" menu and the in-game robot "Copper" for practice quizzes

## Grade Assessment

- University of Mars video game: 25%
- Reflection posts: 10%
- Slooh platform work: 30%
- NASA Picture of the Day: 5%
- Unit tests: 30%

## Grade Scale

A: 89.5% or higher

B: 79.5% to 89.4%

C: 69.5% to 79.4%

D: 59.5% to 69.4%

F: below 59.5%

## Late Policy

Complete assignments by the posted due dates unless you have a documented emergency or an authorized absence. Contact the Dean of Students if you need assistance.

## Attendance and Participation

- Progress is measured through your work in the University of Mars game (see Canvas for the schedule)
- Set aside focused time to play and reflect
- Use the in-game lessons and quizzes to reinforce learning; replay as needed

## Tests

Test 1 covers Unit 1 of the University of Mars game, Test 2 covers Unit 2, and Test 3 covers Unit 3. Some questions come directly from in-game quizzes, while others are variations. You may identify objects in images or select points on plots, similar to the mini-games in the course.

## Reflections

Submit three reflections on the game material. Use these to synthesize what you learned, consider its relevance, and exercise creativity.

## Lab Component

Complete lab activities using Slooh. Work ahead when possible and complete summary activities in Canvas.

## Course Evaluation (SPOT)

Student Perceptions of Teaching (SPOT) is required for all UNT-organized classes. Near the end of the semester, you will receive an email from "UNT SPOT Course Evaluations" (no-reply@iasystem.org) with your survey link. You will have separate evaluations for lecture, recitation, and lab. In fall and spring, SPOT opens two weeks before final exams.

## UNT Policies

**Academic Integrity Standards and Consequences:** According to UNT Policy 06.003 (Student Academic Integrity), academic dishonesty includes cheating, fabrication, facilitating dishonesty, forgery, plagiarism, and sabotage. Sanctions range from admonition to expulsion.

**ADA Accommodation:** UNT makes reasonable academic accommodations for students with disabilities. Register with the Office of Disability Accommodation (ODA) to verify eligibility and receive an accommodation letter to share with faculty. For details, visit: <https://studentaffairs.unt.edu/office-disability-access/>

**Emergency Notification and Procedures:** UNT uses Eagle Alert to provide critical information in emergencies. For campus closures and procedures, see the Campus Closures Policy here and the official policy page: [Campus Closures Policy](#) and <https://policy.unt.edu/policy/15-006>

**Sexual Assault Prevention:** UNT prohibits sexual misconduct and is committed to a safe learning environment. Survivor Advocates can assist with protective orders, crime victim's compensation, faculty notifications, and referrals. Contact the Dean of Students at 940-565-2648 or email the Survivor Advocates: [SurvivorAdvocate@unt.edu](mailto:SurvivorAdvocate@unt.edu)

Alleged sexual misconduct can also be reported to the Title IX Coordinator: [oeo@unt.edu](mailto:oeo@unt.edu) or (940) 565-2759.

**Prohibition of Discrimination, Harassment, and Retaliation (Policy 16.004):** UNT prohibits discrimination and harassment based on protected characteristics in all programs and activities. The University takes active measures to prevent such conduct and investigates and takes remedial action when appropriate.

**Retention of Student Records:** Course records are maintained by the instructor for at least one calendar year after course completion. Canvas records, including grades and comments, are securely stored for 1 year. Students may view their individual records, but information is not shared without proper written consent.

**Acceptable Student Behavior:** Behavior that interferes with instruction or other students' learning is unacceptable. Students may be asked to leave and may be referred to the Dean of Students. Expectations

apply to all instructional forums. See the Code of Student Conduct:

<https://deanofstudents.unt.edu/conduct>

### **TAMS Students**

Class participation is required. Students must be attentive and respectful. The Academy does not authorize absences from class. Report absences to the Academic Office within thirty-six hours by completing a form in the Academic Office. Five disciplinary points are assessed for each class absence unless justified. Fifteen points are assessed for failure to report an absence that is reported by a faculty member.

### **Student Support Services**

#### **Mental Health**

- [Student Health and Wellness Center](#)
- [Counseling and Testing Services](#)
- [UNT Care Team](#)
- [UNT Psychiatric Services](#)

#### **Chosen Names and Pronouns**

If you use a name other than your legal name, please let me know. You can also add pronouns to your Canvas profile so they appear with your name.

#### **Additional Student Support Services**

- [Registrar](#)
- [Financial Aid](#)
- [Student Legal Services](#)
- [Career Center](#)
- [Multicultural Center](#)
- [Counseling and Testing Services](#)
- [Pride Alliance](#)
- [UNT Food Pantry](#)

#### **Academic Support Services**

- [Academic Resource Center](#)
- [Academic Success Center](#)
- [UNT Libraries](#)
- [Writing Lab](#)