

Subject to Modification

PHYSICS 1062 (Section 001) – STARS AND THE UNIVERSE
Syllabus Spring 2024

Dr. David Shiner (shiner@unt.edu)

Lecture: MWF 12:00-12:50 , Wooten Hall 122

Office: Physics 326 Phone: 565-3874.

Office Hours: Tu 11:00-12:00 or by appointment

Lab: Must enroll in Physics 1062 Section 501

<u>Textbook</u>	Required: “The Essential Cosmic Perspective, with MasteringAstronomy Access”, by Bennett, Donohue, Schneider, and Voit (Pearson Education Inc., 9 th edition). ISBN:9780135795798 (\$137.49 Digital Purchase). The required text may be purchased as an eText via the UNT bookstore. This includes the eText and 24 month access to the eText and Mastering Astronomy. The eText contains the chapters for both PHYS 1052 and PHYS 1062.
<u>Homework</u>	Homework assignments are posted on Canvas and must be completed on the Modified Mastering Astronomy website accessed through Canvas. Access to the website can be purchased bundled with the eText at the UNT bookstore or from the Pearson Website.
<u>Laboratory</u>	The Laboratory component of this course is described in a separate syllabus. Information on this component will be given by the instructor Rebekah Purvis, on Friday. The Lab component will count 20% of your overall course grade.
<u>Content:</u>	This is an introductory astronomy course that provides a brief history of astronomy, gives an overview of the techniques and principles important in astronomy, and examines the life cycle of stars and galaxies in the known universe.
<u>Core:</u>	This course is a part of the Life and Physical Sciences core. Courses in this category focus on describing, explaining and predicting natural phenomena using the scientific method. Courses involve the understanding of interactions among natural phenomena and the implications of scientific principles on the physical world and on human experiences.
<u>Core Objectives:</u>	Critical Thinking Skills, including creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information. Communication Skills, including effective development, interpretation and expression of ideas through written, oral and visual communication. Empirical and Quantitative Skills, including the manipulation and analysis of numerical data or observable facts resulting in informed conclusions. Teamwork, including the ability to consider different points of view and to work effectively with others to support a shared purpose or goal.
<u>Office Hours</u>	My office is on the third floor of the physics building (rooms 324/326/328), phone number is 565-3874, email is shiner@unt.edu . Office hour is Tu 11:00 – 12:00 or by appointment.
<u>Grading</u>	No extra credit is available. Pop quizzes will be given during the semester, lab grading detailed in lab.
<u>Course Grade</u>	Exams: 30% Labs: 20% Quizzes: 10% Discussion: 10% Final Exam: 30%
<u>Final Thought:</u>	<i>We want to create a welcoming classroom and lab for all. If you ever feel like this is not the case, please stop by my office and let's talk about how things could be improved.</i>

You are responsible for modifications to this syllabus and any other information presented in class.

Student absences (including tardiness) will be treated in accordance with UNT policy, [Student Attendance and Authorized Absences](#)

The University of North Texas makes reasonable academic accommodation for students with disabilities. Students seeking reasonable accommodation must first register with the Office of Disability Access (ODA) to verify their eligibility. If a disability is verified, the ODA will provide you with a reasonable accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request reasonable accommodations at any time; however, ODA notices of reasonable accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of reasonable accommodation for every semester and must meet with each faculty member prior to implementation in each class. Students are strongly encouraged to deliver letters of reasonable accommodation during faculty office hours or by appointment. Faculty members have the authority to ask students to discuss such letters during their designated office hours to protect the privacy of the student. For additional information, refer to the [Office of Disability Access](#) website (<http://www.unt.edu/oda>). You may also contact ODA by phone at (940) 565-4323.

UNT's policy on Academic Dishonesty can be found at: <http://www.vpaa.unt.edu/academic-integrity.htm>

Drop information is available in the schedule of classes at: <http://essc.unt.edu/registrar/schedule/scheduleclass.html>

The Student Perceptions of Teaching (SPOT) is a requirement for all organized classes at UNT. This short survey will be made available to you on-line at the end of the semester and will provide you with an opportunity to provide feedback to your course instructor. SPOT is considered to be an important part of your participation in this class.

<u>Date</u>	<u>Day</u>	<u>Subject (Chapter)</u>
Jan. 17	W	Course Syllabus and Intro to Mastering
19	F	A Modern View of the Universe - Scale (Ch. 1.1)
22	M	A Modern View of the Universe – History and Motion (Ch. 1.2, 1.3)
24	W	Discovering the Universe – Patterns in the Sky (Ch. 2.1)
26	F	Discovering the Universe – The Reasons for the Seasons (Ch. 2.2)
29	M	Discovering the Universe – The Moon and Planetary Motion (Ch. 2.3, 2.4)
31	W	The Science of Astronomy – Ancient Roots and Greek Science (Ch. 3.1, 3.2)
Feb. 2	F	The Science of Astronomy – The Copernican Revolution (Ch. 3.3)
5	M	The Science of Astronomy – The Nature of Science (Ch. 3.4)
7	W	Understanding Motion, Energy and Gravity – Motion and Newton (Ch. 4.1, 4.2)
9	F	Understanding Motion, Energy and Gravity – Conservation Laws (Ch. 4.3)
12	M	Understanding Motion, Energy and Gravity – Gravity (Ch. 4.4)
12	M	Light – Basics (Ch. 5.1)
14	W	Light – Information (Ch. 5.2)
16	F	Light – Telescopes (Ch. 5.2)
19	M	Exam 1: Chapters 1-4
21	W	The Sun – a closer look (Ch. 11.1)
23	F	The Sun – Nuclear Fusion (Ch. 11.2)
26	M	The Sun – Earth connection (Ch. 11.3)
28	W	Surveying the Stars – Properties (Ch. 12.1)
Mar. 1	F	Surveying the Stars – Patterns (Ch. 12.2)
4	M	Surveying the Stars – Clusters (Ch. 12.3)
6	W	Star Stuff – Star Birth (Ch. 13.1)
8	F	Star Stuff – Low and High Mass Stars (Ch. 13.2, 13.3)
11	M	Spring Break
13	W	Spring Break
15	F	Spring Break
18	M	Star Stuff – Binaries (Ch. 13.4)
20	W	Stellar Endlife – White Dwarfs (Ch. 14.1)
22	F	Stellar Endlife – Neutron Stars and Black Holes (Ch. 14.2, 14.3)
25	M	Exam 2: Chapters 5, 11-13
27	W	Stellar Endlife – Extreme Events (Ch. 14.4)
29	F	Our Galaxy – Structure (Ch. 15.1)
Apr. 1	M	Our Galaxy – Star Recycling (Ch. 15.2)
3	W	Our Galaxy – History and the Galactic Center (Ch. 15.3, 15.4)
5	F	Galaxies – Observations and Classifications (Ch. 16.1, 16.2, 16.3)
8	M	Solar Eclipse ... No Class
10	W	Galaxies – Evolution (Ch. 16.4)
12	F	The Birth of the Universe – The Big Bang (Ch. 17.1)
15	M	The Birth of the Universe – Evidence (Ch. 17.2, 17.3)
17	W	The Birth of the Universe – Observations (Ch. 17.4)
19	F	Dark Matter (Ch. 18.1, 18.2)
22	M	Dark Matter and Dark Energy (Ch. 18.3, 18.4)
24	W	Life in the Universe – Life in various places (Ch. 19.1, 19.2, 19.3)
26	F	Life in the Universe – Intelligence and Interstellar Travel (Ch. 19.4, 19.5)
29	M	Exam 3: Chapters 14-18
May 1	W	Review
3	F	No Class

Comprehensive Final Exam: Wed. May 8, 2024, 10:30 a.m. - 12:30 p.m.