

# DISCOVER THE UNIVERSE

AST1002, SECTION 4B27, 3 CREDIT HOURS, SUMMER B 2022

**INSTRUCTOR:** *Zachary Slepian*

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**MEETING TIMES:** *MTWRF, 4<sup>th</sup> Period (12:30 pm to 1:45 pm)*

**CLASSROOM:**

**OFFICE HOURS:** *Tuesdays 11:00 am to noon beginning on July 9<sup>th</sup>, or by appointment*

**COURSE WEBSITE:** <https://ufl.instructure.com/>

**REQUIRED TEXT:** The Essential Cosmic Perspective by Bennett, Donahue, Schneider, and Voit, **Eighth Edition**, *Publisher: Pearson/Addison-Wesley, San Francisco*. You will also need to purchase access to Mastering Astronomy online as the homework will primarily be there.

**OTHER REQUIRED MATERIALS:**

1. *Access to and on-going use of a computer OR iPad is required for all students since part of the material will be online.*

**COURSE DESCRIPTION:** This course offers a broad overview of modern astronomy. We will examine how observation, experimentation and exploration have led to our present day understanding of the Earth environment and the Universe we live in. Our goal is to help you gain a physical understanding and an appreciation of the cosmos, and more generally, of the scientific method and how scientific discoveries impact society. Along the way, we will use and practice critical thinking skills and learn how to formulate empirically testable hypotheses. (P)

The topics we will cover include:

- Observing the sky
- Tools of Astronomy
- Our solar system
- The nature and lives of stars
- The nature of our Milky Way Galaxy

- Properties of other galaxies
- The origin and fate of the Universe

**GENERAL EDUCATION:** AST 1002, Discover the Universe, is a GenEd physical science (P) course. As the list of topics above demonstrates, the course covers not only the Universe and the bodies in it—planets, moons, stars, galaxies, etc.—but also how we know about those things, making use of our understanding of the underlying physics of orbits and radiation. The course will focus on major scientific developments in astronomy & astrophysics and their impacts on society and the environment.

**PREREQUISITE KNOWLEDGE AND SKILLS:** Although this is essentially a non-mathematical science course, a basic knowledge of mathematics is required. Middle School arithmetic and pre-algebra is sufficient.

**COURSE AND GEN ED STUDENT LEARNING OBJECTIVES AND OUTCOMES:**

- To provide you with a broad overview of modern astronomy. This will be accomplished through lectures, videos, reading assignments, and interactive animations. By the end of the term you will be able to define common astronomical terms and explain basic concepts and theories for a range of astrophysical phenomena.
- To review the major scientific developments in astronomy and summarize their impacts on society and our environment such as recognizing our place in the Universe, comparing energy sources, and how atmospheric effects influence climate change. You will evaluate the difference between good science and bad science and discuss the impact on society.
- To improve scientific literacy. Literacy in the basic concepts and terminology of science is necessary if you wish to follow science stories in the news or make informed decisions (such as voting) on issues that pertain to science. This will be accomplished through discussions about current news topics in astronomy and as part of the projects.
- To teach the scientific process, scientific reasoning, and how creativity is also a fundamental part of science. This will be accomplished through weekly in-class group projects and activities. These projects will guide you through the process of doing scientific research, instead of passively learning about science, while exercising critical thinking and problem solving skills.
- To learn team collaboration. Collaboration is an essential part of doing science. You will debate projects with each other and interact to solve problems. You will learn that working in groups can significantly increase your understanding of the material and contribute to your success in class.
- To help you learn to communicate scientific ideas clearly and effectively using written or graphic forms. This will be done through discussions and as the written component of the projects.

**COURSE POLICIES:**

This is a 6-week course. Each week students will be required to complete a set of assignments. Class attendance is required.

**REQUIREMENTS:** *Students are expected to:*

- *Attend all classes and actively participate in discussions.*
- *Complete all reading assignments and online assignments in a timely fashion.*
- *Complete all projects.*
- *Complete all exams.*

**COURSE TECHNOLOGY:** *Competency in the basic use of a computer is required. Course work will require use of a computer. For additional information on UF College of Liberal Arts and Sciences policy regarding computer requirements you can visit: <http://it.clas.ufl.edu/policies/student-computer-requirement>.*

## GRADING POLICIES:

See <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx> for general UF grading policies. Grades for the course will be based on the following:

Assignment	Points or percentage
Weekly Graded Quizzes + Participation	10 %
Homework	30 %
In-class Exams (2 exams)	40 %
Project	20%

## GRADING SCALE:

Grade	% Points	GPA	Grade	% Points	GPA	Grade	% Points	GPA
A	> 90	4.0	B-	77 – 79	2.67	D+	64 – 66	1.33
A-	87 – 89	3.67	C+	74 – 76	2.33	D	60 – 63	1.0
B+	84 – 86	3.33	C	70 – 73	2.0	D-	57 – 59	0.67
B	80 – 83	3.0	C-	67 – 69	1.67	E	< 56	0

**QUIZZES+CLASS PARTICIPATION (10 %):** A major responsibility for this class will be to come to class ready to learn with your full attention. We will have weekly quizzes given in class.

**To account for any technical or personal circumstances that might hinder the performance on a quiz, TWO quizzes will be dropped at the end of the semester.** Therefore, there will be NO MAKE-UP QUIZZES. The schedule for the quizzes can be found on the class website.

**HOMEWORK (30 %):** These will primarily be via Mastering Astronomy online though there may be assignments outside Mastering from time to time.

**INDIVIDUAL IN-CLASS EXAMS (40 %):** Two in-class exams will be assigned during the semester. Students should present their UF ID's to the exam proctors at the end of the exam. **Without an ID, your exam will not be graded.**

**PROJECT (20 %):** A project to develop critical thinking skills—details will be posted before the first day of class.

**MAKE-UP POLICY:** Because of the fast pace of summer classes, make-ups will be used only for individual exams. If a student misses an exam due to an excused absence as specified in the undergraduate catalog and provides the instructor with **timely notification (before exam date if possible)**, they will be allowed a reasonable time to make up the missed exam. *The format of a make-up test/exam will be at the discretion of the instructor; these exams will not be exclusively multiple-choice questions.* Birthdays and trips out of town are not excuses for taking a make up exam.

**COURSE EVALUATION BY STUDENTS:** Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

## UF POLICIES:

**UNIVERSITY POLICY ON ACCOMMODATING STUDENTS WITH DISABILITIES:** Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center. Go here to get started with the Disability Resource Center: <https://disability.ufl.edu/get-started/>. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

**UNIVERSITY POLICY ON ACADEMIC MISCONDUCT:** UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Conduct Code specifies a number of behaviors that are in violation of this code and the possible sanctions. Go here to read the Conduct Code: <https://sccr.dso.ufl.edu/process/student-conduct-code/>. If you have any questions or concerns, please consult with the instructor or TAs in this class.

**IN-CLASS RECORDING:** Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor. A “class lecture” is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes,

tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session. Publication without permission of the instructor is prohibited. To “publish” means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

**ETIQUETTE—COMMUNICATION COURTESY:** In this class students can use in person interactions, office hours, e-mail and Canvas to communicate with the instructor, teaching assistant(s) and other students. All members of the class are expected to follow rules of common courtesy in all interactions.

<http://teach.ufl.edu/docs/NetiquetteGuideforOnlineCourses.pdf>

**HEALTH RESOURCES:** Health and Wellness U Matter, We Care: If you or someone you know is in distress, please contact [umatter@ufl.edu](mailto:umatter@ufl.edu), 352-392-1575, or visit U Matter, We Care website to refer or report a concern and a team member will reach out to the student in distress.

Counseling and Wellness Center: Visit the Counseling and Wellness Center website or call 352-392-1575 for information on crisis services as well as non-crisis services. Student Health Care Center: Call 352-392-1161 for 24/7 information to help you find the care you need, or visit the Student Health Care Center website.

University Police Department: Visit UF Police Department website or call 352-392-1111 (or 9-1-1 for emergencies).

UF Health Shands Emergency Room / Trauma Center: For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; Visit the UF Health Emergency Room and Trauma Center website.

GatorWell Health Promotion Services: For prevention services focused on optimal wellbeing, including Wellness Coaching for Academic Success, visit the GatorWell website or call 352-273-4450.

**ACADEMIC RESOURCES:** E-learning technical support: Contact the UF Computing Help Desk at 352-392-4357 or via e-mail at [helpdesk@ufl.edu](mailto:helpdesk@ufl.edu).

Career Connections Center: Reitz Union Suite 1300, 352-392-1601. Career assistance and counseling services.

Library Support: Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center: Broward Hall, 352-392-2010 or to make an appointment 352- 392-6420. General study skills and tutoring.

Writing Studio: 2215 Turlington Hall, 352-846-1138. Help brainstorming, formatting, and writing papers.

Student Complaints On-Campus: Visit the Student Honor Code and Student Conduct Code webpage for more information.

## GETTING HELP:

For issues with technical difficulties with the class website, please contact the UF Help Desk at: (352) 392-HELP - select option 2

- <https://lss.at.ufl.edu/help.shtml>

Reporting Concerns: Please report any concerns about this course first to the Instructor. If this does not resolve the concern, please contact the Department of Astronomy Chair ([elada@ufl.edu](mailto:elada@ufl.edu)) and if that doesn't resolve the issue then you should contact the UF Ombudsperson.

## TENTATIVE SCHEDULE:

This is only **tentative** and it can change at any time!

	Website Modules	Textbook Chapters	Exams
Week 1	Naked Eye Astronomy	Chapters 1 and 2	
Week 2	Science of Astronomy	Chapters 3, 4, 5	
Week 3	Solar System	Chapters 6, 7, 8, 9	Exam 1

Week 4	Stars	Chapters 10, 11, 12	
Week 5	Galaxies	Chapters 13, 14	
Week 6	Cosmology	Chapters 15, 16, 17	Exam 2

There will be no classes on Independence Day, Thursday, July 4<sup>th</sup>.