

Astronomy 2037: Life in the Universe

Course Dates for 2022 Fall:

August 24 – December 15

Lecture Times and Locations:

Tuesdays 1:55PM – 2:45PM (7), Thursdays 1:55PM – 2:45PM (7), 3:00PM – 3:50PM (8) in Florida Gym (FLG) 230

Instructor: Dr. Paul Sell
Office: Bryant Space Sciences Center 222
Office Hours: Mondays 1PM – 3PM, Tuesdays 3PM – 4PM, Fridays 1PM – 2PM, and by appointment
Contact Information: psell@ufl.edu
Office Phone: (352) 294-1867

Course Website: Canvas/E-Learning

Textbook: You must purchase the required text: *Life in the Universe*, 5th edition, by Bennet, Shostak, Schneider, and MacGregor. I strongly recommend your purchase the e-text through UFALLACCESS.

Other references may be used for supplemental information throughout the course.

Brief Description: The origin of life on Earth and the possibility of life elsewhere. A multidisciplinary approach is followed. Conditions for life to form and the likelihood that such conditions may exist elsewhere in the universe are discussed. Also considered are schemes proposed for the search for extraterrestrial intelligence (SETI).

General Education Course Description

This is a GenEd physical science (P) course.

Physical Science: The physical and biological sciences provide instruction in the basic concepts, theories, and terms of science and the scientific method. Courses focus on major scientific developments and their impacts on society and the environment. You will formulate empirically-testable hypotheses derived from the study of physical processes and living things and you will apply logical reasoning skills through scientific criticism and argument.

Student learning outcomes for a GenEd physical science course in astronomy are as follows:

I. Content

- Know the basic concepts, theories, and terminology of natural science and the scientific method in astronomy.
- Know the major scientific developments in astronomy and the impacts on society and the environment.
- Know relevant processes that govern physical systems in astronomy.

II. Critical Thinking

- Formulate empirically-testable hypotheses derived from the study of physical processes in astronomy.
- Apply logical reasoning skills effectively through scientific criticism and argument in astronomy.
- Apply techniques of discovery and critical thinking effectively to solve experiments and to evaluate outcomes.

III. Communication

- Communicate scientific findings clearly and effectively using oral, written, and/or graphic forms.
- Write effectively in several forms, such as in research papers and laboratory reports.

Detailed Description of the Graded Course Structure

Class Participation: This part of the grade is designed to credit you for preparing for and participating in class.

Worksheets will be assigned during most classes to give you an opportunity to review the material and give the instructor the opportunity to check your comprehension of the material. Worksheets typically will be due at the end of the class they are assigned and are not accepted late. Class participation is expected and will greatly help you complete this work.

The number and frequency of these assignments is at the discretion of the instructor, but will be approximately 20-25 in total. The lowest few (depending on the total number given) will be dropped or counted as extra credit for your final grade. Given this lenient policy, please do not contact the instructor to make up this work unless you have a serious ongoing problem, which should be an excused absence consistent with university policy: <https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/>.

Pre-class and pre-tests from the Codon Learning platform will also be assigned to this section of the grade.

Homework (and Study Path): One homework per chapter will be assigned through the Codon Learning platform. The assignment with the lowest grade will be dropped. Importantly note that I will only be manually copying these grades to Canvas every once in awhile.

Exams: There will be one midterm exam and a final exam. The midterm exam will cover material from approximately the first half of the class (outline of topics/chapters will be provided when appropriate) and the final exam will primarily cover material after the midterm exam; both will include material from lecture and the book. The Midterm Exam is scheduled for 10/20/2022 during normal class time. The Final Exam is scheduled for 12/15/2022 at 10:00 AM – 12:00 PM.

Project: Since this is a course about Life in the Universe, there will be a design-your-own-alien project. A handout and discussion to explain the project fully will be provided early in the semester. All guidelines including due dates will be provided in the handout.

Extra Credit: A handout and discussion to explain the extra credit options will be provided early in the semester. All guidelines including due dates will be provided in the handout.

Course Grade Summary Breakdown: Each of the components of class described above will be assigned the following weights to determine your final score:

- Project: 20%
- Homework: 20%
- Class Participation: 20%
- Midterm Exam: 20%
- Final Exam: 20%

Grading Scale: (<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>)

<u>Score</u>	<u>Grade</u>	<u>Score</u>	<u>Grade</u>	<u>Score</u>	<u>Grade</u>
90% – 100%	A	77% – 79%	B–	64% – 66%	D+
87% – 89%	A–	74% – 76%	C+	60% – 63%	D
84% – 86%	B+	70% – 73%	C	57% – 59%	D–
80% – 83%	B	67% – 69%	C–	< 57%	E

Class/University Policies

- Please put your phones and, unless you are taking notes, your laptops away during class: no Facebook, Twitter, texting, etc.
- You may need to make calculations, so you should always have available a scientific calculator in addition to your usual materials for taking notes.
- Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center by visiting disability.ufl.edu/students/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. Classroom accommodations can only be provided after appropriate verification.

- Responsible citizenship among college students includes honesty and integrity in classwork; regard for the rights of others; and respect for local, state, and federal laws as well as campus standards. Students are responsible for understanding the standards of the “Code of Student Conduct” and the Student Handbook. From the Academic Honesty Guidelines and Student Conduct Code in the University of Florida Undergraduate Catalog: “Academic Honesty: The university requires all members of its community to be honest in all endeavors. A fundamental principle is that the whole process of learning and pursuit of knowledge are diminished by cheating, plagiarism, and other acts of academic dishonesty. In addition, every dishonest act in the academic environment affects other students adversely, from the skewing of the grading curve to giving unfair advantage for honors or for professional or graduate school admission. Therefore, the university will take severe action against dishonest students. Similarly, measures will be taken against faculty, staff, and administrators who practice dishonest or demeaning behavior.” Any student caught cheating will be referred to the Honor Code Chancellor.
- 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/>.

Campus Resources

Health and Wellness

- *U Matter, We Care*: If you or someone you know is in distress, please contact 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](#).

Academic Resources

- *E-learning technical support:* Contact the [UF Computing Help Desk](#) at 352-392-4357 or via e-mail at 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.](#)
- *On-Line Students Complaints:* [View the Distance Learning Student Complaint Process.](#)

Tentative Class Schedule

(43 total classes, 13 chapters)

Week Starting (Number of Classes)	Topics Covered	Week Starting (Number of Classes)	Topics Covered
08/22 (2)	Course Introduction, Chapter 1	10/17 (3)	Chapters 7 – 8, Midterm Exam
08/29 (3)	Chapter 2	10/24 (3)	Chapters 8 – 9
09/05 (3)	Chapter 2	10/31 (3)	Chapter 10
09/12 (3)	Chapter 3	11/07 (3)	Chapter 11
09/19 (3)	Chapters 3 – 4	11/14 (3)	Chapter 11
09/26 (3)	Chapter 4 – 5	11/21 (1)	Chapter 11
10/03 (3)	Chapters 5 – 6	11/28 (3)	Chapters 12-13
10/10 (3)	Chapters 6 – 7	12/05 (1)	Chapter 13
		12/12	Final Exam

The midterm exam is Thursday, October 20 during normal class time.

The final exam is Thursday, December 15 at 10:00 AM – 12:00 PM.