Astronomy 141 – Life in the Universe
Winter Quarter 2012

Lectures: MTWRF, 12:30-1:18pm, 0020 Page Hall (PA0020)

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Textbook: Bennett & Shostak *Life in the Universe* 3rd Edition.
Course Web Page: www.astronomy.ohio-state.edu/~pogge/Ast141/, and pages on Carmen.

Course Objectives

Astronomy 141 is an introduction to Astrobiology, the study of life in the universe. The topics that we will cover in this course lie at the interfaces of astronomy, chemistry, biology, geology, and the earth and planetary sciences. We will learn about scientists' ongoing quest for answers to some of the most fundamental human questions: How did life originate on Earth? Is there life on other planets? Are we alone in the universe? What is the long-term future of life in the universe?

We will spend roughly equal time on three topics: (1) the emergence and nature of life on the Earth, (2) the potential for life on other planets in our Solar System, and (3) the search for habitable worlds and life around other stars in our Galaxy. The course will begin with a brief introduction to modern science and astronomy, and end with a brief discussion of the long-term future of life on Earth and in the Universe in general.

Homework Assignments

There will be five (5) homework assignments, each consisting of short-answer questions turned in on worksheets provided. Homework counts for 25% of your grade, 5% per assignment equally weighted. **No late homework will be accepted,** except for legitimate, documented emergencies.

In-Class Quizzes

There will be four (4) in-class quizzes, scheduled for the following Fridays:

In-Class Quiz 1: Friday, January 20
In-Class Quiz 2: Friday, February 3
In-Class Quiz 3: Friday, February 17
In-Class Quiz 4: Friday, March 2

Please mark your calendars with these dates. The quizzes will be held at the normal class time. Quizzes cover the material in the lectures since the last quiz. All quizzes are **closed-book, closed-notes, multiple-choice** tests.

Makeup quizzes are only offered by advance arrangement with the professor, except for legitimate, documented emergencies. If you are away on official University-sponsored activities (sports, band, etc.), please get a letter from your coach, director, etc. **in advance** of the quiz. Quizzes must be made up before the Wednesday following the missed quiz.

Final Exam

The Final Exam is **Tuesday, March 13 from 11:30-1:18 in 0020 Page Hall**. Attendance is mandatory. The final is **comprehensive** and worth **30%** of your grade.

No makeup final will be offered. Persons who miss the final exam will be given an incomplete (I) with an alternative grade equal to getting a zero on the final, and have to make it up during Spring Quarter 2012 to avoid the alternative grade. Early finals will **not** be available for those persons who wish to depart early for the winter break.

Grading Policy

- The 5 homework collectively account for **25%** of the grade (5% per assignment).
- I drop the lowest of the 4 in-class quizzes to compute the grade, for **45%** total (15% per quiz).
- The final exam accounts for **30%** of the grade (equivalent to 2 in-class quizzes)
- All grading, homework and exams, is done on a standard curve.

Lectures

Lectures are daily, 12:30-1:18pm, in Room 0020 Page Hall. Attendance is required. These lectures are your primary source of course content, and exams are based on the lectures. The textbook is used only as a supplementary reference for those who feel they need a second source of information.

Students with Disabilities

Any student who feels that he or she may need an accommodation based on the impact of a disability should contact the professor to discuss their specific needs. We work with the Office for Disability Services to verify the need for accommodation and develop appropriate strategies. Students who have not contacted ODS should visit www.ods.ohio-state.edu and request an appointment.

Academic Misconduct

All OSU professors are required to report suspected cases of academic misconduct to the Committee on Academic Misconduct. See the University's Code of Student Conduct for details. All cases will be investigated following University guidelines.

Classroom Etiquette

To help establish and maintain a courteous, respectful, and distraction-free learning environment in our classroom, I ask that everyone please observe these basic rules of classroom etiquette:

Use of cell phones and other wireless 2-way communication devices is prohibited.
During class, all cell phones and wireless 2-way communications devices must be **turned off and put away** (i.e., not in "silent ring" mode).

Use of Wireless Laptops, tablets, smart phones, or other networked devices is prohibited.
During class, all laptops, tablet computers (iPads, Kindles, etc.), and all other wireless networked devices must be **turned off and put away**. Exceptions will be made for assistive technologies for the hearing or vision impaired.

Please do not start packing up until class is completely over
I'll be clear when we're done, and I work very hard to stay on time, please wait until I finish.

No conversing during lectures.
Please respect the wishes of your fellow students to listen to the lecture, and do not carry on conversations during class.

GEC Goals and Objectives

Astronomy 141 is a General Education Curriculum (GEC) Physical Science course in the Natural Science category. The goals for this course include:

- Understanding the basic principles and central facts of astrophysics, and their relation to other ideas in the physical and biological sciences.
- Understanding how we discovered the important principles and facts of astrophysics, thus understanding key events in the history of science both as events in human history and as case studies in the methods of science.
- Investigating the relationship between science and technology,
- Understanding the social and philosophical implications of major scientific discoveries.

In Astronomy 141, the specific learning objectives to achieve these course goals are:

- To investigate the basic facts, principles, theories, and methods of modern science as practiced in astrophysics and the various disciplines that make up the emerging subfield of astrobiology.
- To learn the basic observations of the natural world in astronomy, chemistry, geology, and biology that informs our inquiry into the nature of life in the universe.
- To learn important events in the history of astronomy, geology, and biology that have discovered the physical laws that govern the Universe and have led to the development of life on the Earth.
- To explain the role of modern technology in the investigation of astrophysical phenomena, and explore the crucial role played by technological advances in extending our knowledge of the Universe.
- To explore how discoveries in astrophysics have implications for how we have come to view our place in the Universe, and how we compare the Earth to the other planets in our Solar System and around other stars in order to establish a physical framework for understanding the conditions under which life may arise elsewhere in the Universe.