

# LIFE IN THE UNIVERSE — ASTRONOMY 07

## COURSE SYLLABUS

**Description:** Three unit lecture course. A study of the emerging field of astrobiology, designed for both science and non-science majors. Explores relevant aspects of biology, earth science, and astronomy. Includes discussions of cultural, philosophical, and practical ramifications of life occurring elsewhere in the universe. (*Advisory: English 50 or equivalent*)

**Meeting times:** Tue/Thu from 2:00 PM to 3:20 PM; Sewell Hall Planetarium (S202).

**Textbook:** *Life in the Universe*, 4<sup>th</sup> Ed., J. Bennett & S. Shostak, ISBN 9780134089089.

**Instructor:** Prof. Barry Rice  
916-660-7942; x7942; brice@sierracollege.edu

**Office:** Sewell 204

**Office/hours:** Office hours are announced in class; other visits are by appointment.

### Drops, Adds, and Attendance

This high-demand class always fills early; students that miss the first day of class are at peril of being dropped. I may or may not drop students who stop attending class—see the Sierra College catalog for the definition of excessive absences.

It is your responsibility to add or drop classes. Check your *Schedule of Classes* for the drop date deadline.

### My Expectations

All students are expected to give their best effort in class participation and in accomplishing assigned tasks. I expect enthusiastic discussions in class about topics with powerful scientific, philosophical, and even religious implications. Even though these discussions may become heated, I expect they will be respectful of diverse opinions and perspectives.

### Your Expectations

You can expect me to lead you through a review of the astonishing, new field of astrobiology, a science that even a decade ago would have consisted of blind guesses and science fiction. Some questions we will consider include: What is life? Why does our planet support life? Did terrestrial life evolve on Earth or on other planets? Where else in our solar system might life exist, and what might it look like? What are the prospects of life beyond our solar system? Should we be worried?

There are very few astrobiology courses being offered anywhere in the world, so I am receptive to your comments on course content and/or presentation!

If you are experiencing severe difficulty with me as an instructor, and are unable to reconcile the situation with me, bring your concerns to the attention of the Science and Math Division Dean.

### Student Safety

All students should be aware of the proper procedures under emergency conditions in the classroom or building. This awareness includes how and where to meet during an evacuation, and location and use of the building first aid kit, fire extinguishers, and phones. These procedures will be reviewed during the first day of class.

## Astronomy Department Web Support

As the semester progresses I will post class materials such as lecture notes, class handouts, and other materials at <http://astronomy.sierracollege.edu/Courses/Astronomy07/Astronomy07.htm>. Please check your assignment scores for accuracy; report any errors to me.

There is a bulletin board area dedicated to this class, just outside the planetarium. General announcements, handouts, and grade sheets will be posted in this area. You should check this area on a regular basis.

## Grading

The final grade in this class is based on total assigned points (350):

A = 90% or more of total points assigned (= 315)

B = 80% or more, but less than 90%, of total points assigned (=280)

C = 70% or more, but less than 80%, of total points assigned (=245)

D = 60% or more, but less than 70%, of total points assigned (= 210)

1. A short, take-home multiple choice miniquiz will be given shortly before the first exam.  
[Total: 10 points]
2. Three trinary exams (60 points each) will be given on the dates shown on the *General Schedule of Activities*.  
[Total: 180 points]
3. A final exam will be given during the last day of class. This exam will be based upon the homework and in-class assignments assigned during the semester.  
[Total: 60 points]
4. Special activities and quizzes will be conducted during class sessions, and you must be in attendance to participate.  
[Total: 30 points]
5. Homework sets based upon the reading will be assigned. Handwritten homeworks will not be accepted for credit. Late homework sets are not accepted.  
[Total: 70 points]
6. A variety of extra credit projects are available. See the *Extra Credit Opportunities* document for possibilities and more details. All extra credit projects must be handed in to me in class, by the deadline indicated on the *General Schedule*. Note that some extra credit projects may have earlier deadline dates, but these will be described with the extra credit project.  
[Total: a maximum of 15 extra credit points can be earned]
7. You may opt to present an *Opinion Piece* to the class, and must be ready to discuss and defend your opinion. An *Opinion Piece* is a verbal presentation. I will assess how many points you earn for your *Opinion Piece*. See the *In My Humble Opinion* handout for more details.  
[Total: a maximum of 20 opinion piece points can be earned]
8. Additional bonus points may be awarded for various events that may arise during the semester. Bonus points do not contribute to the 15-pt extra credit limit.  
[Total: varies per semester]

## **Policies and Procedures**

1. Exams and in-class exercises cannot be made up. If a time conflict exists, notify me before the test/quiz date. However, even with prior notification, I am not obliged to extend any test/quiz deadline. In addition, I reserve the right to refuse student admission to a test/quiz for excessive tardiness (defined as more than 5 minutes after the test/quiz begins).
2. Homework assignments are due at the beginning of class. Students entering late may hand in the assignment upon arrival, but no more than 5 minutes after class begins. Late exercises of any kind are not accepted, unless arranged for prior to the assignment due date. All homeworks must be presented as hardcopy (i.e., no emailed submissions); handwritten homeworks are not accepted.
3. Students are expected to check the grading accuracy of their exams/quizzes, exercises, and bonus/extra credit, as reflected on their posted grades. Students are given seven days after a given deadline to bring any errors to my attention. Grade accuracy will not be discussed after the final grade-reporting deadline established by the Sierra College Admissions and Records office. This deadline is usually set in the week after the last class.
4. Students will adhere to the ethical behavior as detailed in the *Sierra College Student Handbook*. Cheating, plagiarism, or any other forms of dishonesty are considered grounds for an immediate course grade of F (with academic dishonesty) and possible dismissal from Sierra College. For complete clarification, I provide a few examples of academic dishonesty:
  - a) The use of answer keys from previous semesters;
  - b) Exchanging answers with other students during exams/quizzes;
  - c) The use or visible proximity of any electronic or related device during exams/quizzes;
  - d) The use of “crib sheets” written on anything, including your skin, rubber bands, etc.;
  - e) The unattributed copying of materials created by other people (i.e., plagiarism).

## **COMPLETE THE INFORMATION CARD**

Give your completed information card to the instructor before leaving class on the first day. Make a note of the ID number on the card and write it down in your text or notebook. This is your Ast 07 course ID number and will be used to record and post your scores throughout the course session.

## **Course Student Learning Outcomes**

1. Students analyze basic science and core physics, to discover how they apply to astronomy.
2. Students will investigate astrobiology, and relate concepts of life, evolution, and the universe to what can be observed.
3. Students will relate core concepts in basic science to stellar astronomy, assessing the various factors that are important to stellar evolution.
4. Students will use concepts from planetary astronomy to investigate the types of different planetary classes and other objects in the solar system.

*Thank you for electing to take Astronomy 07. I hope you will enhance your knowledge and appreciation of astrobiology and enjoy the subject as much as I do. It should be a wild ride!*