Introduction

This course will focus on astrobiology, the study of life in the universe. Although a particularly active area of contemporary astronomy, so far all of our experience with life has been confined to Earth. We will review what we know about the origin and evolution of life on Earth, how we can apply that knowledge to the possibility of life beyond Earth, current strategies in the search for intelligent and non-intelligent life in the universe, and discuss the possibility of interstellar communication and travel. If you have an interest in learning about a particular topic please let us know and we will try to accommodate you. Please feel free to ask questions in class.

Plagiarism will not be tolerated in this course. We expect students to adhere to the academic integrity policy which is presented in the Student Handbook.

Lecture

Lecture meets Monday, Wednesday, and Friday from 9:05 to 10:03 am. Attendance is not mandatory, however you are responsible for everything we discuss in lecture. Some of this material will not be included in the text. If you need to miss lecture for any reason it is your responsibility to arrange for someone to take notes for you. Cellular telephones should be silenced at the beginning of class and should only be used in emergencies.

Course Goals

The goal of this course is to give you an appreciation and understanding of the current avenues of research in Astrobiology. This course should provide a snapshot of recent advances in our understanding of the life in the Universe, as well as topic in which our understanding is still limited, but ripe for further study. You will learn of the difficulties astronomers face in trying to learn about objects which are so distant that we cannot touch or manipulate them; processes that are so long that we cannot expect to witness them in one, ten, or even one hundred lifetimes.
Reading, Homework, and Quizzes

You will be expected to read passages from the textbook as well as supplemental reading material regularly. You should be prepared to discuss these readings in class. There will be occasional quizzes on this material in class. Supplemental reading material will either be distributed in class or via the web. If you do not have a computer at home you should make arrangements to download readings at one of the campus computer labs when the need arises. Homework will be distributed via the web Friday morning and will be due a week later at the beginning of Friday lecture.

Exams

There will be two midterm exams and a comprehensive final exam. You are responsible for bringing a Scantron form 882-E to each exam. Students are expected to take the exam on the day it is scheduled. If you anticipate being unable to attend an examination please contact me as soon as possible so we can make appropriate arrangements. In the event of an emergency you must let me know about the emergency prior to the exam if possible and bring a valid written excuse as soon as you return to school. We will make appropriate accommodations for such situations. Calculators, cell phones, other electronic devices, and crib sheets will not be allowed during the exams or quizzes.

Debate

Near the end of the semester you will work in teams to debate several questions related to astrobiology. You will be given one week of in-class time to prepare for the debate and we will have one week devoted to holding the debates. More information about the debates will be given during the semester. You should plan on meeting with your debate team outside of class as well.

Grading

Final grades will be determined from a curve of the cumulative totals at the end of the semester. Grades will be assigned with +/- grading. Points will be assigned according to the following:

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Homework:</td>
<td>20%</td>
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<tr>
<td>Debate:</td>
<td>20%</td>
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<tr>
<td>Quizzes:</td>
<td>10%</td>
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<tr>
<td>Midterms:</td>
<td>30% (15% each)</td>
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<td>Final:</td>
<td>20%</td>
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Course Schedule

This schedule is tentative, the topics for each week of the course are outlines below.

February 13:  Introduction and the possibility of life beyond Earth.
February 19:  Understanding modern science, scientific evidence.
February 26:  Introduction to the Universe, formation of solar systems, and radiation.
March 5:      What makes Earth such a great place for life?
March 12:     The state of life on Earth.
March 26:     Searching for life in the Solar System
April 2:      What's so special about Mars? What about the moons of Jupiter?
April 9:      Spring Break
April 16:     What we know (or think we know) about habitability.
April 23:     Life outside the solar system, looking for good planets.
April 30:     The search for extraterrestrial intelligence.
May 7:       Debate Preparation Week
May 14:      Debate Week
May 21:      Interstellar Travel