

Astrobiology MCB3703

Spring 2011 – 3 credits

Class Schedule: M 5th and 6th period 11:45 am – 1:40 pm; mandatory
Weekly Online Podcasting Lecture – 50 min; mandatory
W 5th period 11:45 – 12:35 pm – Polycom discussions; optional

Class Location: Microbiology Cell Science Building Computer Lab Room 1011

Instructor:

Dr. Jamie Foster, Assistant Professor, Microbiology and Cell Science

Course Website:

Login available through Sakai (<http://lss.at.ufl.edu/>).

Contact Information:

I am located off-campus at the UF Space Life Sciences Lab, Kennedy Space Center
My contact information is: **Tel:** 321-861-2900; **Email:** jfoster@ufl.edu; **iChat:**
jamief94086.

Office Hours: Monday 2:00 pm – 4:00 pm in the Microbiology and Cell Science
Building room 1011

Course Description for Astrobiology:

Astrobiology examines the origin, evolution, and future of life in our solar system. Topics will include: planetary habitability, astrobiogeochemistry, microbial life, and human space flight.

Learning Objectives for Astrobiology:

By the end of this course students should be able to:

- 1) Describe and comprehend the fundamental concepts of astrobiology
- 2) Analyze primary literature articles in the field of astrobiology in order to develop critical thinking skills
- 3) Develop essential writing and verbal communication skills through essays and oral presentations that target the field of astrobiology

Prerequisites: Since astrobiology is a multidisciplinary field incorporating microbiology, astronomy, chemistry, physics, and geology, students should have taken at least one introductory science class in any of the previously mentioned fields prior to taking Astrobiology.

Required Texts:

1. *Reading Primary Literature* by Christopher Gillen ISBN 978-08053-4599-5
2. *Life in the Universe* 2nd edition by Jeffrey Bennet and Seth Shostak ISBN 0805347534
3. Headset microphone; www.rosettastone.com

Grading:

1. One Topical Astrobiology Report (5% of your final grade; 50 points) -

You will be expected to give a seven-minute PowerPoint presentation with five additional minutes for questions. In class I will discuss the appropriate elements to structuring and developing an oral presentation. You **MUST** consult with me before starting work on this presentation to ensure your selected topic is appropriate. The presentation will be graded using a combination of peer review and instructor evaluation. Your fellow classmates will anonymously evaluate your slides, presentation skills, and information content. Their comments and perceptions of your presentation will account for 10 points of your presentation grade. Another 10 points will be dependent on your evaluation of other students. The objective is for you to develop your critical evaluation skills and ability to constructively critique your peers. The remaining 30 points will be assessed by myself, and will be dependent on your presentation skills, accuracy of the scientific content, and knowledge of the presented material.

2. Podcasting Assignment (5% of your final grade; 50 points) – You will generate an educational podcast based on your oral presentation. A hands-on tutorial for the podcasting software will be provided in class. The five best podcasts will be featured on my website www.jamiefosterscience.com.

3. Discussion and class participation (10% of your final grade; 100 points) - It is important that you each take an active role in your own education. Just showing up isn't enough. I expect each of you to be prepared for class and involve yourself in the lectures by asking questions and participating in the group discussions. Be prepared to discuss the merits (if any) of the experimental approach and results.

4. Astrobiology Primary Literature Paper Analyses (20% of your final grade; 50 points each; total of 150 points) - You will receive three peer-reviewed literature articles on one or more aspects of Astrobiology. You will be expected to write a 1000-word critical summary and analysis for each research article. Write your summaries in 12 font Ariel, Helvetica, or Times New Roman. You must not plagiarize text from the papers given to you, nor should you cut and paste text from websites. Plagiarizing will result in an automatic zero on the assignment. The rationale behind this assignment is that as a future scientist or doctor you are often required to write abstracts (i.e., summaries) or reviews of large pieces of work into succinct accounts for colleagues, publication, or professors. Your objective is to evaluate and summarize the objectives and conclusions of the paper. The assignment will be graded based on your understanding of the scientific content, ability to analyze the author's conclusions, and quality of writing. You will have two weeks to complete the first assignment and one week for each subsequent assignment. You will also have the opportunity to turn in your first assignment early and have a preliminary evaluation and grade. I will provide you with feedback on your first assignment via E-learning and you will have the opportunity to address any potential problems and resubmit for a final grade.

5. Personal Statement Assignment (5% of your grade; 50 points) – As each of you graduates and moves into the real world you will need to generate cover letters or

personal statements for either your job applications or graduate/medical school applications. This assignment is designed to jump start that process by helping you develop and polish your own personal objectives and statements. You are required to write a 1000-word statement that would be consistent with an application to a post-graduate school. Since this is an important assignment for your future careers you will have as many opportunities as you wish to revise the statement and improve your grade. I will provide feedback to you within one week of your submission. You may correct or revise your statement and resubmit for a new evaluation.

6. Podcast quizzes (7% of your final grade; 70 points) – Approximately, one third of all lectures will be administered via podcasting. There will be an online quiz after each podcast. (5 points each; 70 points)

7. Pop quizzes (3% of your final grade; 30 points). There will be three pop quizzes throughout the semester that will be worth 10 points. These will occur on Mondays in class.

8. Written Exams (50% of your final grade; 500 points) - Questions on the exams will take the form of short answers and essays. These exams will allow you to demonstrate your familiarity with the concepts, terminology, and methodologies covered in the course. The first and second exam will be worth 150 points; and the final will be worth 200 points. For the final the majority of the exam will be on the material from the last third of the class, however 50 points of the final will be based on questions from the first two thirds of the class.

Make-Up policy – There will be no make up exams unless the following:

- For planned excused absences such as interviews, you must contact the instructor 48 hr in advance of the missed exam and provide adequate documentation.
- For absences due to catastrophic events such as serious illness, accident, jury duty or death in the immediate family, proper documented justification is required.

I will require documentation for any missed assignments or exams!

Grading: Straight Scale

930 – 1000	points 93% - 100%	A
900 – 929	points 90% - 92.9%	A-
870 – 899	points 87% - 89.9%	B+
830 – 869	points 83% - 86.9%	B
800 – 829	points 80% - 82.9%	B-
770 – 799	points 77% - 79.9%	C+
730 – 769	points 73% - 76.9%	C
700 – 729	points 70% - 72.9%	C-

670 – 699	points 67% - 69.9%	D+
630 – 669	points 63% - 66.9%	D
600 – 629	points 60% - 62.9%	D-
Less than 600 points	<60%	E

Please note that your final grade will include two components: 1) a letter grade for the course; and 2) approved completion of the writing portion of this course.

Gordon Rule Statement – As this course is considered for Gordon Rule Writing Credit (E4) your writing assignments will be assessed for the following criteria:

In addition to the science component to the writing assignments your literature assessments will be evaluated with respect to grammar, punctuation, and usage of standard written English, as well as clarity, coherence, and organization.

Your writing assignments will be graded using a rubric that will be specific to each writing assignment. Briefly the rubric will include an assessment about the comprehension of the scientific content, your ability to critically evaluate the experimental design and results, your participation in the group discussion, your ability to develop pertinent scientific questions, and the quality of your writing ability (see previous comment). Each component will account for 20% of your grade on the writing assignments.

All critical feedback will be provided to you via track changes in Microsoft Word and E-learning within two weeks of the final due date or prior to the last class meeting. Unless otherwise noted all writing assignments are due one week after the assignment is given. All assignments are limited to 1000-words.

Academic Honesty, Software Use, UF Counseling Services, Services for Students with Disabilities: In 1995 the UF student body enacted a new honor code and voluntarily committed itself to the highest standards of honesty and integrity. When students enroll at the university, they commit themselves to the standard drafted and enacted by students.

In adopting this honor code, the students of the University of Florida recognize that academic honesty and integrity are fundamental values of the university community. Students who enroll at the university commit to holding themselves and their peers to the high standard of honor required by the honor code. Any individual who becomes aware of a violation of the honor code is bound by honor to take corrective action. The quality of a University of Florida education is dependent upon community acceptance and enforcement of the honor code.

The Honor Code: We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.

On all work submitted for credit by students at the university, the following pledge is either required or implied: **“On my honor, I have neither given nor received unauthorized aid in doing this assignment.”**

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 is 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.

Students should report any condition that facilitates dishonesty to the instructor, department chair, college dean or Student Honor Court.

(Source: 2007-2008 Undergraduate Catalog)

It is assumed all work will be completed independently unless the assignment is defined as a group project, in writing by the instructor.

This policy will be vigorously upheld at all times in this course.

Software Use:

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

Campus Helping Resources:

Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize the university's counseling resources. Both the Counseling Center and Student Mental Health Services provide confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance. The Counseling Center is located at 301 Peabody Hall (next to Criser Hall). Student Mental Health Services is located on the second floor of the Student Health Care Center in the Infirmary.

- *University Counseling Center*, 301 Peabody Hall, 392-1575, www.counsel.ufl.edu
- *Career Resource Center*, CR-100 JWRU, 392-1602, www.crc.ufl.edu

- *Student Mental Health Services*, Rm. 245 Student Health Care Center, 392-1171, www.shcc.ufl.edu/smhs/

Alcohol and Substance Abuse Program (ASAP)

Center for Sexual Assault / Abuse Recovery & Education (CARE)

Eating Disorders Program

Employee Assistance Program

Suicide Prevention Program

Students with Disabilities:

The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues.

0001 Reid Hall, 392-8565, www.dso.ufl.edu/drc/