

**Astrobiology MCB5705**  
**Spring 2022 – 3 credits**

All course work will be completed online and there are no live lectures only pre-recorded lectures.

**Instructor:**

Dr. Jamie Foster, Professor, Microbiology and Cell Science

**Course Website:**

Login available through Canvas <https://elearning.ufl.edu/>

**Contact Information:**

I am located off-campus at the UF Space Life Sciences Lab, Kennedy Space Center

My contact information is: **Tel:** 321-525-1047; **Email:** [jfoster@ufl.edu](mailto:jfoster@ufl.edu);

**Zoom:** <https://ufl.zoom.us/j/7465070513>

**Office Hours:**

**Virtual Office Hours:** Zoom meeting by appointment

**Course Description for Astrobiology:**

Astrobiology examines the origin, evolution, and future of life in our solar system. Topics will include: planet and star formation, biosphere formation, evolutionary processes biogeochemistry, microbial adaptation to extreme environments, planetary habitability, and microbiology on the International Space Station.

**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.

**Suggested Texts:**

1. Life in the Universe, Jeffrey Bennett and Seth Shostak, 4<sup>th</sup> edition

[https://www.amazon.com/Life-Universe-Jeffrey-Bennett-ebook-dp-B01C8JRW1A/dp/B01C8JRW1A/ref=mt\\_other?\\_encoding=UTF8&me=&qid=1609176402](https://www.amazon.com/Life-Universe-Jeffrey-Bennett-ebook-dp-B01C8JRW1A/dp/B01C8JRW1A/ref=mt_other?_encoding=UTF8&me=&qid=1609176402)

2. Reading Primary Literature: a practical guide to evaluating research articles in Biology

Available on Amazon and on Pearson for about \$16.

<https://www.pearson.com/store/p/reading-primary-literature-a-practical-guide-to-evaluating-research-articles-in-biology/P100001373371>

### **Grades and Grade Points (1000 total):**

**1. Group Essay Collaborations** (12.5% of your final grade; 125 points) – In several of the modules you will be asked to participate in a group activity where you will work with others in the class to discuss in depth an astrobiology-related concept that was covered in one of the lectures. You will be evaluated on your level of engagement and participation, the depth of understanding you convey on the topic material and the quality of scientific writing (this is a writing class after all). All feedback will be provided to you via Canvas. The goal of these activities is to prepare you for the written exams.

**2. Weekly quizzes** (18% of your final grade; 180 points) – For each module there will be a quiz that needs to be completed online. The quizzes will include all material covered that week including podcasts and designed to reinforce key concepts of the weeks learning materials. The quizzes will be untimed and open book

**3. Astrobiology Communication and Art Project** (10% of your final grade; 100 points) This assignment builds off the idea that there is a fundamental link between art and science: creativity and communicating ideas. Additionally, I think there is a growing public distrust of science and I think as science ambassadors we all have to continually work on improving our abilities to communicate the scientific world to the average layman. Therefore, the overall objective of this assignment is for you to work on your communication skills and also foster your creativity to think of new ways to communicate complex science to the public. **Your assignment** will be to pick a topic in Astrobiology and generate some form of presentation of that material, in which someone with a non-science background could learn and understand. This can be any format: rap video, podcast, interview with researcher, dance, painting, animation, comic book (I have seen them all).

**4. Scientific Inquiry Activity** (2.5% of grade; 25 points) This assignment works on your ability to ask scientific questions about various research topics. You will be asked to listen to a mock scientific seminar and ask potential questions regarding the content of the seminar.

**5. Scientific Writing Activity** (2% of grade; 20 points) This assignment works will provide you some of the rules of the road with writing in science. The activity will include tips and suggestions on how to improve your scientific writing quality.

**6. Written Exams** (55% of your final grade; 550 points) - Questions on the exams will take the form of multiple choice and short answer and build off of your collaborative discussions and essays. These exams will allow you to demonstrate your familiarity with the concepts, terminology, and methodologies covered in the course. Each exam will be worth 175 points and given online using Honorlock. The final exam will be worth 200 points and there will be approximately 25-30 points of materials from previous exams.

**For more information on current UF policies for assigning grade points see:**  
<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

**Attendance and Make-Up Work:** For planned excused absences, such as interviews, you must contact the instructor 48 h in advance of the missed exam and provide adequate documentation.

Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at:  
<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

**Grading:** Straight Scale

For more details of the University of Florida grading policy please visit:  
<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

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

**Online Course Evaluation Process For All Students**

Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. These evaluations are conducted online at <https://evaluations.ufl.edu>. Evaluations are typically open for students to complete during the last two or three weeks of the semester; students will be notified of the specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results>.

**Academic Honesty**

As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: *“We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.”* You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the

University of Florida, the following pledge is either required or implied: *"On my honor, I have neither given nor received unauthorized aid in doing this assignment."*

It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: <http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code>.

A warning about GroupMe discussion groups outside of Canvas. You are still bound by the UF Honor Code. If you share assessment/exam material outside of class that is considered an Honor Code violation and it will be reported. These GroupMe portals are often monitored by the faculty and TAs.

#### **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.

#### **Services for 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. Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation

0001 Reid Hall, 352-392-8565, [www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/)

#### **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. The Counseling & Wellness Center provides 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.

- **University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575,**  
[www.counseling.ufl.edu](http://www.counseling.ufl.edu)  
Counseling Services  
Groups and Workshops  
Outreach and Consultation  
Self-Help Library  
Wellness Coaching
- **U Matter We Care, [www.umatter.ufl.edu/](http://www.umatter.ufl.edu/)**
- **Career Connections Center, First Floor JWRU, 392-1601,**  
<https://career.ufl.edu/>.

**Student Complaints:**

- Residential Course: <https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>.

Online Course: <http://www.distance.ufl.edu/student-complaint-process>