

Life in the Universe / ASTR1420

Spring 2022

Instructor Contact

Instructor: Prof. Inseok Song

Office Hours: by an email appointment

E-Mail Address: song@uga.edu

Meeting Time and Room

TuTh 12:45PM-2:00PM, Room 254 in the Physics Building

Course Description

This course is for you to understand the Life in the Universe and to scientifically estimate the likelihood of life in the Universe. As a formal course, it is inevitable for me to ask you to memorize a few important concepts, terms, facts, etc. However, I try to minimize the need to ask you memorize minuscule details. By the end of this semester, I hope that you can place the human being in the cosmological context and appreciate the precious nature of human civilization in the vast Universe. If this course can provide you a chance to ponder on what we need to do to preserve our precious "Blue Dot", I will take that as a success!

Course Goals

- Know the difference b/w science and pseudo-science and perceive astrobiology as a genuine science field
- Understand chemical and biological origin of life
- Understand the history of life on the Earth
- Can describe various exoplanet detection methods

- Apply Drake's equation to estimate the number of intelligent alien civilizations in our Galaxy
- Understand the Fermi Paradox and explain possible solutions to the paradox
- Can critically assess various claims of alien phenomena (e.g., UFOs, ancient astronauts, etc.)
- Understand the intrinsic limits for space travel and the need for space colonization

Textbook

Not necessary because ALL lecture notes will be provided through eLC. About 60% of course material are based on the following textbook.

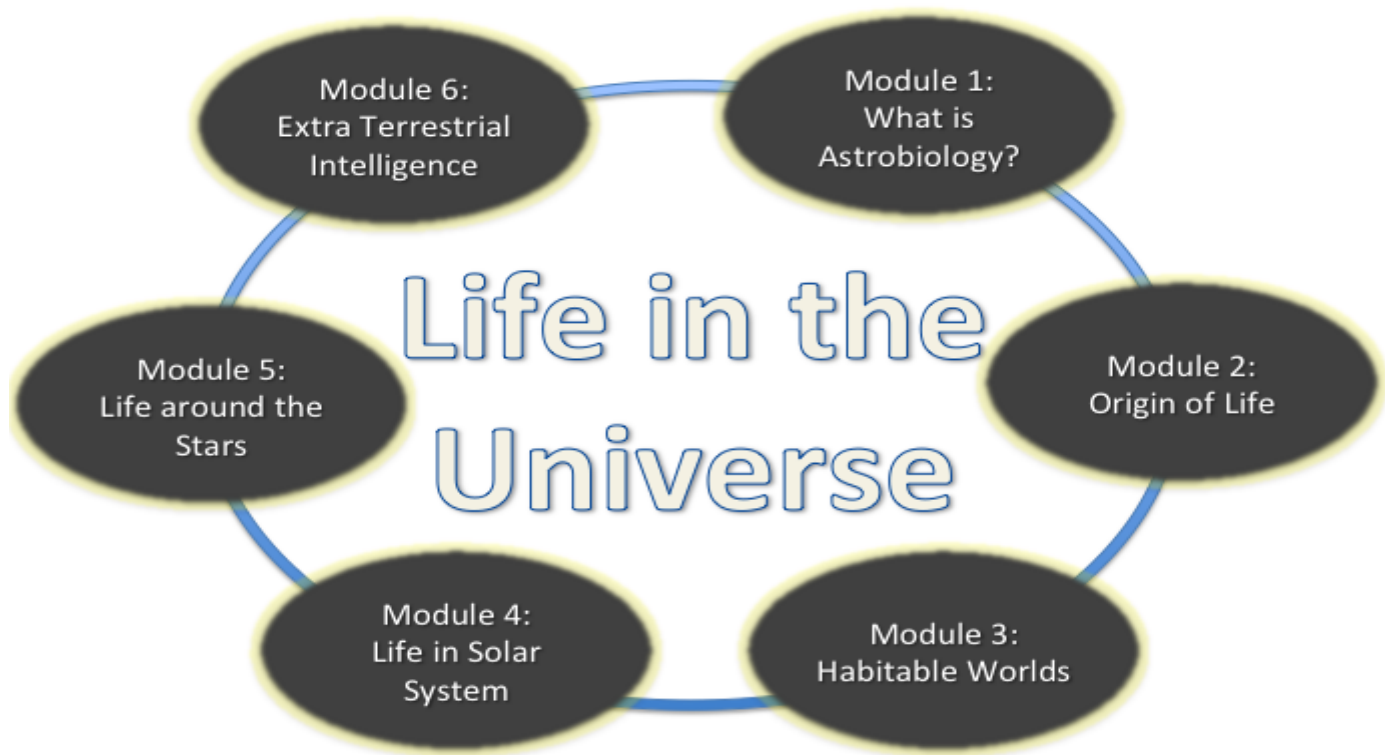
"Life in the Universe", 2nd Ed or later. by Bennett & Shostak

Prerequisite

None

Course Outline

28 topics in six modules



Missed Assignments/Make-Ups/Extra Credit

1. Quizzes are due one week from the assignment date and there will be a limit on the number of trials ($N=5$). Only the highest score out of 5 (max) trials is used. More than 50% of quiz questions will be repeated in exams.
2. There is **no make-up test!** If you have a special circumstance, discuss with me **well in advance**.
3. The course is structured so that any student who keeps up with the work and participates actively will do well.
4. Homework will be assigned throughout the semester, and there will be occasional bonus credit works as well. These need to be submitted through eLC.

Evaluation and Grading

1. Four (or three) in-class exams (non-accumulative) – 80% total
2. Quizzes (through eLC) and a possible online group debate on SETI : 20 %
3. Bonus credit work : up to +5%

With the final score scientifically rounded (i.e., 89.5 --> 90, 89.4 --> 89), based on the final rounded score, letter grades with +/- are assigned as follows.

	$87 \leq B+ < 90$	$77 \leq C+ < 80$	$60 \leq D < 70$	$F < 60$
$A \geq 90$	$83 \leq B0 < 87$	$73 \leq C0 < 77$		
	$80 \leq B- < 83$	$70 \leq C- < 73$		

Attendance Policy/Expectations of Participation

Attendance will not be tracked, however, bonus credit works are "secretly" given only during the class. Also, I have a habit of "hinting" exam questions when the class attendance is low. :-)

Disability Statement

UGA is committed to the success of all learners, and we strive to create an inclusive and accessible online environment. In collaboration with the Disability Resource Center (<http://drc.uga.edu/>), we work with students who have documented disabilities to access reasonable accommodations and academic supports.

For more information or to speak with a Disability coordinator, please call the Disability Resource Center at (706)542-8719, TTY only phone (706) 542-8778.

Copyright

This course may contain copyright protected materials such as audio or video clips, images, text materials, etc. These items are being used with regard to the Fair Use doctrine in order to enhance the learning environment. Please do not copy, duplicate, download or distribute these items. The use of these materials is strictly reserved for this online classroom environment and your use only. All copyright materials are credited to the copyright holder.

Technical Issues

For TECHNICAL PROBLEMS with eLC or other issues, contact: UGA's Enterprise Information Technology Services (EITS) Help Desk at 706-542-3106, or email at helpdesk@uga.edu. You can also submit a helpdesk request online at <https://eits.uga.edu/support/request>.

Additionally, there will be a forum in the online course for students to post any issues or concerns. *(Including a forum for technical issues can be a great way to help your students and encourage them to help each other.)*