

AST 248 (Spring 2018): Search for Life in the Universe (3 credits)

Time & Location: MW (14:30-15:50); Javits Lecture Hall 102

Instructor: Prof. Jin Koda

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Office Hours: TBA

TA: To be announced (TBA)

Office: TBA

Email: TBA

Office: TBA

Course Description:

A study of the role of science in modern society through investigation of the question: Does/can life exist elsewhere in the universe? Topics include a review of the astronomical and biological settings; the origin of life on the earth and possibly elsewhere; the evolution of life and the development of intelligence and technology. Also discussed are the ramifications of the development of life and intelligence for the atmosphere and the biosphere.

Required texts & Materials:

1. Life in the Universe, 4th Edition by Bennett & Shostak. Copyright 2016. ISBN13: 978-0134089089 (3th edition is fine if you find it cheaper).
2. Turning Technologies Response pad (a.k.a. a “clicker”) – for purchase instruction, see <https://it.stonybrook.edu/help/kb/buying-clickers>

Course Grading: The grading for the course will be based on quiz (10%), two midterm examinations (30% each) and final examination (30%). *No additional point will be offered.*

Exams & Quizzes:

- **Midterm exams** will be held in the regular classroom at the regular class time.
- **Final exam date and time** are determined by the University’s registrars. In accordance with University policies, *it is the students’ responsibility to schedule classes so as to avoid final examination conflicts. Check the final examination schedule at the beginning of the semester!*
- The exams will cover material presented in class and contained within reading assignments.
- **Missed examinations:** Makeup exams will be given only on the basis of valid medical absence that can be verified by the instructor or because of Jury Duty or military service.
- **Quizzes** will be administered at random times via clickers, which you may find instruction on purchase at “<https://it.stonybrook.edu/help/kb/buying-clickers>”. It is the students’ responsibility to bring their clickers to each class. *A forgotten or nonfunctional clicker will not be an acceptable excuse for missing quiz.*
- **No makeup quiz will be given under any circumstances. However, lowest three-week quiz scores will be dropped to accommodate unforeseen circumstances.**
- **Challenges to grades:** Challenges of any grade for an exam or quiz must be made within 5 business days of the posting of the grade. No changes will be made to a grade after that time regardless of cause.

Blackboard: All students must regularly monitor Blackboard for notices and changes to course information including the syllabus. Quiz and exam scores will also be posted on blackboard.

Additional Course Policies:

- **Student Responsibilities:** You will be expected to abide by all University regulations, procedures, requirements, and deadlines as described in the *Undergraduate Student Bulletin*.
- **Attendance:** As per the University policy outlined in the *Undergraduate Student Bulletin*, students are expected to regularly attend all classes and to participate in the classroom experience.
- **Classroom Behavior and Conduct:** You are expected to conduct yourself in accordance with the minimal undergraduate student responsibilities described in the *Undergraduate Student Bulletin* including:
 - o You are expected to arrive for class promptly.
 - o Avoid behavior that is disruptive to the classroom especially the use of cell phones.
 - o Avoid conversations during class
 - o Be familiar with material presented in previous lectures.

Important University Policies:

Americans with Disabilities Act: If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Disability Support Services, ECC (Educational Communications Center) Building, room 128, (631) 632-6748. They will determine with you what accommodations, if any, are necessary and appropriate. All information and documentation is confidential.

Academic Integrity: Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty are required to report any suspected instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (School of Health Technology & Management, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school-specific procedures. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at <http://www.stonybrook.edu/uaa/academicjudiciary/>

Critical Incident Management: Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Faculty in the HSC Schools and the School of Medicine are required to follow their school-specific procedures.

SPECIAL NOTE REGARDING PLAGIARISM AND DISHONESTY: All instances of plagiarized work or academic dishonesty will be brought before the Academic Judiciary Committee. All parties involved (both the copier and the person who produced the original work) will be held accountable for any instance of plagiarism or dishonesty.

Tentative schedule

AST248 (Spring 2018): Lecture and Exam Schedule & Reading Assignments			
Lecture	Date	Chapter	Subject
1	Jan 22	1	A Universe of Life?
2	24	1	A Universe of Life?
	29	2	The Science of Life in the Universe
3	31	2	The Science of Life in the Universe
4	Feb 5	3	The Universal Context of Life
5	7	3	The Universal Context of Life
6	12	4	The Habitability of Earth
7	14	4	The Habitability of Earth
8	19	5	The Nature of Life on Earth
9	21		Midterm 1
	26	5	The Nature of Life on Earth
10	28	6	The Origin and Evolution of Life on Earth
11	Mar 5	6	The Origin and Evolution of Life on Earth
12	7	7	Searching for Life in Our Solar System
13	12		<i>Spring Break</i>
14	14		<i>Spring Break</i>
15	19	7	Searching for Life in Our Solar System
16	21	8	Mars
17	26	8	Mars
18	28	9	Life on Jovian Moons
	Apr 2	9	Life on Jovian Moons
19	4		Midterm 2
20	9	10	The Nature and Evolution of Habitability
21	11	10	The Nature and Evolution of Habitability
22	16	11	Extrasolar Planets: Their Nature and Potential Habitability
	18	11	Extrasolar Planets: Their Nature and Potential Habitability
23	23	12	The Search for Extraterrestrial Intelligence
24	25	12	The Search for Extraterrestrial Intelligence
25	30	13	Interstellar Travel and the Fermi Paradox
26	May 2	13	Interstellar Travel and the Fermi Paradox
	8		Final Exam (17:30-18:30)