

Syllabus

Astronomy 4C, section 1
Tu/Th 1:30 – 2:45

Fall 2017
MND 1015

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Office: 524 Sequoia Hall

Office Hours: M/F 1:00 – 1:50; F 3:00 – 3:50

also by appointment

Week of:

Material Covered:

Aug. 29, 31

Chapter 1: **A Universe of Life?**

Sept. 5, 7

Chapter 2: **The Science of Life in the Universe**

Sept 12, 14

Chapter 3: **The Universal Context of Life**

Sept 19, 21

Chapter 4: **The Habitability of Earth (*Exam*)**

Sept 26, 28

Chapter 4 (continued)

Oct 3, 5

Chapter 5: **The Nature of Life on Earth**

Oct 10, 12

Chapter 5 (continued)

Oct 17, 19

Chapter 6: **The Origin and Evolution of Life on Earth**

Oct 24, 26

Chapter 7: **Searching for Life in Our Solar System (*Exam*)**

Oct. 31, Nov. 2

Chapter 8: **Mars**

Nov. 7, 9

Chapter 9: **Life on Jovian Moons**

Nov. 14, 16

Chapter 10: **The Nature and Evolution of Habitability.**

Nov. 21

Chapter 11: **Habitability Outside the Solar System**

Nov. 28, 30

Chapter 12: **The Search for Extraterrestrial Intelligence (*Exam*)**

Dec. 5, 7

Chapter 13: **Interstellar Travel and the Fermi Paradox**

Final Exam: Thursday, December 14th, 12:45 PM – 2:45 PM

Additional Course Information:

Student Learning Objectives:

- 1) Students will understand the place of life in the physical Universe.
- 2) Students will be able to explain how scientists use knowledge of physics, chemistry and biology to evaluate the likelihood of life evolving in locations outside the Earth.
- 3) Students will be able to describe how the physical conditions of locations in our Solar System make these locations either suitable or unsuitable for life.
- 4) Students will be able to describe how the physical conditions of extra solar planets make them either suitable or unsuitable for life.
- 5) Students will be able to use scientific inquiry and the scientific method to evaluate controversial ideas, e.g. the Search for Extraterrestrial Intelligence, the Drake Equation, the Fermi Paradox.

Required Text:

Life in the Universe (4rd edition) by Bennett and Shostak.

Reading the text is essential. It's best if you read the section of the book we will be covering any given day *before* we discuss that material in class.

Required Equipment:

We will be using the Top Hat (www.tophat.com) classroom response system in class. You will be able to submit answers to in-class questions using Apple or Android smartphones and tablets, laptops, or through text message.

You can visit the Top Hat Overview (<https://success.tophat.com/s/article/Student-Top-Hat-Overview-and-Getting-Started-Guide>) within the Top Hat Success Center which outlines how you will register for a Top Hat account, as well as providing a brief overview to get you up and running on the system.

An email invitation will be sent to you by email, but if don't receive this email, you can register by simply visiting our course website: <https://app.tophat.com/e/700862>

Note: our Course Join Code is: 700862

Top Hat will require a paid subscription, and a full breakdown of all subscription options available can be found here: www.tophat.com/pricing.

Should you require assistance with Top Hat at any time, due to the fact that they require specific user information to troubleshoot these issues, please contact their Support Team directly by way of email (support@tophat.com), the in app support button, or by calling 1-888-663-5491.

Grades:

Your final course grades will be based upon homework, the average of 3 mid-term exams, a cumulative final exam, and class participation during in-class exercises. The lowest of the three mid-term scores will be dropped when determining your grade at the end of the semester.

Homework	15%
Exam 1	20%
Exam 2	20%
Class Participation	15%
Final Exam:	30%

Homework will be assigned on SacCT on Friday, and will be due before the beginning of class on the next Tuesday. You will always have the weekend to work on the homework assignments. ***All homework assignments are done using SacCT!!***

Exams will be multiple choice. You will need to bring a General Purpose Pearson NCS Answer Sheet, form no. 4521 (available from the bookstore), and a number 2 pencil.

You will also have to bring photo ID to all exams!

Letter grades will be assigned as follows:

A	$\geq 95\%$
A-	$\geq 90\%$
B+	$\geq 87\%$
B	$\geq 82\%$
B-	$\geq 77\%$
C+	$\geq 73\%$
C	$\geq 69\%$
C-	$\geq 66\%$
D+	$\geq 62\%$
D	$\geq 58\%$
D-	$\geq 55\%$
F	less than 55%

To avoid a grade of F, you must pass at least one exam. No one who fails all three midterms *and* the final will pass the course.

Contacting Me:

The best way is by e-mail, since I don't check my voice mail very often. Coming to office hours is also good, and any time my office door is open, please come in.

Attendance:

Attendance is not mandatory, but is *highly* encouraged. If you miss an in-class exercise, then you will receive zero points for it, which will be reflected in your grade. Class participation is 15% of your final grade, and you can't earn any class participation points if you aren't here! Each class participation is worth two points: you get one point for being here and answering the question, and an additional point for getting the answer right.

Make-up Exams:

I will announce exam dates at least 2 weeks in advance of the exam. If you have a conflicting activity that cannot be rescheduled, *you must see me at least two days before the exam*. If you don't come see me before the exam, there will be no opportunity to make it up. You must bring me documentation of your conflicting activity (i.e. If you have jury duty, show me the form they sent you, if you have a brain transplant scheduled for that day and can't change it, bring me a note from the surgeon, etc....).

Math:

Algebra is required in this course. I plan the exams so that you cannot get an A if you get all the math problems wrong. However, if you get every math problem wrong, but get everything else right, you can still get a B.

Only calculators are allowed on the exams. Cell phones or any other devices with calculator apps are not allowed.

Cell Phone Policy:

Please turn your cell phone to vibrate before class starts. Cell phones that ring in the middle of class are disrespectful to your fellow students and to me. If your cell phone goes off in class and it is a call that you must take, please go into the hallway to answer it.

Cheating:

The faculty of the Department of Physics and Astronomy do not tolerate academic dishonesty. Falsification of data, copying, unauthorized collaborations, plagiarism, alteration of graded materials or other actions (as described in, but not necessarily limited to the CSUS Policy Manual) *will be promptly reported to the Office of Student Affairs*. The offending student will be penalized on the assignment in question. Serious infractions will result in course failure and a recommendation for administrative sanctions.

Students with disabilities:

Please see me before the end of the first week of class.