

NSCI 197: Keaholoa – Introduction to Natural Sciences

Ron Amundson

Olga Cordero-Braña

Philippe Binder

GRADES for the First Exam.

Score distribution and Curve

27	**	A
26	*	A
25	****	A
24	*	A –
23	*	B+
22	**	B
21	*	B
20	**	B
19		
18	***	B –
17		
16	*	C
15	*	C
...		
10	**	F

Individual scores and grades

Secret Code	Raw score	Grade
2452	23	B+
0077	24	A

0033	27	A
Mālama	27	A
Frost	20	B
0182	20	B
#31	10	F
2871	15	C
7471	16	C
3635	18	B –
9284	18	B –
4518	21	B
1279	22	B
7756	25	A
4450	25	A
I LOVE SCIENCE!	25	A
2150	26	A
7435	8	F
0706	25	A
7367	22	B

[Exam with answers.](#)

Here's the [BLACKBOARD FILE](#) page through 9/11.

New feature: After I realized that some people were still having trouble with the moon phase calculations, I decided to try one more time. Here's my new illustration of the [moon-sun relations](#) in different moon phases.

I put the notes to the classes of 9/16 and 9/23 in a separate Blackboard file. My notes on Paul Coleman's lecture are in a separate file.

Here's the [Blackboard file for 9/16 and 9/23](#). It's got the summary of Ptolemaic and Copernican astronomy, and the differences between Aristotelean and Newtonian views of physics.

Here are Amundson's Notes on [Paul Coleman's Lecture](#) of 9/18. Paul's comments on the comparison of Ptolemy and Copernicus, on Kepler and Newton are all important, and we will be discussing them on Tuesday 9/23.

Reminder: Readings for Tuesday 9/23: Handout on Newton (p. 54-57), Coursepack 32-33 (Ancient and Newtonian "paradigms"). Don't bother about the "20th Century paradigm." Here's some stuff to prepare for the [first exam](#) on 9/25.

One of the [sky charts](#) from the Navigator's Manual.

Some navigation/astronomy links:

The [Zodiac](#).

Table of [Planetary Motions](#).

Some [Astronomy Links](#).

Announcement and Invitation:

On Monday, September 22nd, Dr. Peter Vitousek will give a presentation on ancient Hawaiian agricultural practices in UCB 100 from 5-6 pm. He will discuss ancient Hawaiian farming lands in leeward Kohala and the legacies of the past land use practices that can still be seen today. For more details, click [here](#).

The Keaholoa Program will host a reception BEFORE Dr. Vitousek's talk, in Kanaka'ole Hall 274, 4-4:45pm.

Students in NSCI 197 are especially invited to this reception.

This is the Web Page for NSCI 197 (at least for the first third of the semester).

The [Syllabus](#).

The course is a part of the [Keaholoa program](#) at UH-Hilo. Here's a [Star Bulletin](#) story about the program.

A press release about UH-Hilo's [Hoku Alaka'i](#) project. Chad Kalepa Baybayan (the Project Director of Hoku Alakai'i) will meet with us on Tuesday Sept. 2 in UCB 127 (during our regular class period).

The [Polynesian Voyaging Society](#) (and Mr. Baybayan's trip starting next week to the Northwest Islands – oops, trip was canceled due to the hurricane.)

_NSCI 197

Keaholoa – Introduction to Natural Science

Fall 2003

Text: The Coursepack is available in the Bookstore. A second Coursepack is being constructed, and some additional handouts will be provided.

Instructors: This is a team taught course. The team consists of the following three instructors. Each of the three instructors will take responsibility for one of the three segments of the course. Other guest lecturers will join us.

<p>Prof. Ron Amundson Office: K-249 Email: ronald@hawaii.edu www.uhh.hawaii.edu/~ronald</p> <p style="text-align: center;">=====</p>	<p>Phones: 974-7366 (office) 961-3862 (home) 974-7479 (messages) Office hrs. MWF 8:30-9:00 MWF 10:00-11:00 TTh 9:00-9:30</p> <p style="text-align: center;">====</p>
<p>Prof. Olga Cordero-Braña Office: CH 4C Email: olgacb@hawaii.edu</p> <p style="text-align: center;">=====</p>	<p>Phone: 974-7453 (office) Office hrs Wed. 10:00-12:00 Wed. 2:00-3:00 and by appointment</p> <p style="text-align: center;">====</p>
<p>Prof. Philippe Binder Office: CH-107C Email: pbinder@hawaii.edu</p>	<p>Phone: 974-7650 (office) Office hrs MWF 9:00-10:00 TR 1:15-2:15</p>

Grading: Grades will be given for each of the three segments. They will be weighted equally for the final grade, with some possible adjustments for class participation (e.g. attendance). Each segment will end with an exam. Segments 1 and 3 will be graded on the exams alone. Segment 2 may have other assignments in addition to the exam. Exam 1 will be given in class on September 25. Exam 2 will be given in class on October 30. Exam 3 is a take home exam, and will be due at the final exam time of 9:40 AM, December 18.

Topics: A number of Natural Science topics will be covered in the course. Unlike most Natural Science courses, we will also discuss some aspects of Native Hawaiian culture, and make a serious attempt to relate each of our scientific topics to the islands of Hawaii. Specific topics are listed in the Course Calendar below.

Segment 1: Navigation and Astronomy

DATE	TOPIC	READING
8/26	Introduction to the Course	Relax.
8/28	Observing the sky, and Aristotelean Physics.	Navigation Manual 270, 272-276, 310-316. Kuhn, 1-4. Also p. 32, “Ancient”.
9/2	Navigation (Starlab Meeting in UCB 127 with Navigator Baybayan)	Navigation Manual, ALL.
9/4	Navigation (Starlab Meeting in UCB 127 with Prof. Crowe)	
9/9	Planetary motions and Ptolemaic Astronomy	Kuhn, 5-24. Handout p. 38-39.
9/11	Copernican Astronomy	Kuhn, 25-31. Handout p. 40-43.
9/16	Review the two systems of motion.	
9/18	Kepler’s Laws (with Paul Coleman).	Handout, p. 46-49.
9/23	Newton’s Laws, and review.	Handout, p. 54-57.
9/25	EXAM	

Segment 2: Statistics with applications in Water Quality, Volcanology, and Health Sciences.

DATE	TOPIC	READING
9/30	Making Decisions with Statistics	Cordero-Brana's Notes
10/2		
10/7	Cholesterol and Blood Pressure	Prof. Dan Brown's Proposal and papers.
10/9		
10/14	Water Quality	Prof. Jene Michaud's handouts
10/16		
10/21	Monitoring Volcanoes	Prof. Ken Hon's handouts
10/23		
10/28	Review	
10/30	EXAM	

Segment 3: Ecology and Ethnobotany

DATE	TOPICS	READING
11/4	Introduction, overview	TBA
11/6	Climate and ecosystems	
11/13	Hawaiian ecosystems	
11/15	Food webs	
11/18	Genetic arms races	
11/20	Ethnobotany: overview	
11/25	Hawaiian ethnobotany	
12/2	Case study	
12/4	Case study	
12/9	Recapitulation	
12/11	(All together) Reflection on the semester.	

Generic Coursework Policies

- • **Regular attendance is expected.** The individual instructors will discuss the ways in which they will deal with poor attendance. It could hurt your course grade and will certainly hurt your education.
- • **Participation.** We hope that the class will involve quite a lot of discussion of both cultural and scientific issues. We will make a point of having participants introduce themselves, so that you can get to know each other. Please talk to your classmates about the course material, and bring questions to our attention.
- • **Honesty and plagiarism:** Roughly speaking, plagiarism is presenting the writing of someone else as if it is your own. It is a form of cheating, and it will earn you an F in the course. It is plagiarizing to copy a paper from another student and hand it in as your own. It is also plagiarism to copy sentences out of a Library book and hand them in as part of a written assignment without indicating the source of those sentences.
- • **Disabilities:** Any student with a documented disability who would like to request accommodations should contact the University Disability Services Office - Campus Center Rm 311, 933-0816 (V), 933-3334 (TTY) - as early in the semester as possible.
- • **Taping:** Feel free to tape the lectures.
- • **Advising:** Advising is a very important resource designed to help students complete the requirements of the University and their individual majors. Students should consult with their advisor at least once a semester to decide on courses, check progress towards graduation, and discuss career options and other educational opportunities provided by UH-Hilo. Advising is a shared responsibility, but students have final responsibility for meeting degree requirements.