



Chaminade University OF HONOLULU

Course Syllabus

Course Number: BI-100-01

Course Title: First Year Science Seminar: Science, Society, and the Biosphere

School Name: Natural Sciences and Mathematics

College Name: Chaminade University of Honolulu

Term: Fall 2022

Course Credits: 1.0

Class Meeting Days: Monday

Class Meeting Hours: 8:30 – 9:20 AM

Class Location: Ching 254

Instructor Name: Dr. Hank Trapido-Rosenthal

Email: henry.trapido-rosenthal@chaminade.edu

Phone: 808-735-4908 (CUH) and 808-551-3625 (Cell)

Office Location: WSC 101

Office Hours: When the office door is open, or by appointment

Instructor Website: <https://chaminade.edu/academics/nsm/henry-trapido-rosenthal/>

1. University Course Catalog Description

Introductory course required for incoming first year students who are planning to major in biology or biochemistry. This course engages the “big questions” in biomedicine, biotechnology, ecology and environmental biology that drive today’s scientists and health practitioners. The course illustrates the diverse areas of professional practice in biomedical practice, research and industry for which the biology and biochemistry majors are preparative. *Concurrent registration in BI 215L is recommended.*

2. Course Overview

This course is designed to provide a broad introduction to our planet’s biosphere. This will be done by critical reading of review literature, importantly from Nick Lane’s book *Life Ascending*, but also including some articles from the primary literature.

3. Program Learning Outcomes

Upon completion the program in Biology, a graduating student will demonstrate the following competencies:

1. An understanding of the scientific method and the ability to design and test a hypothesis
2. The ability to visualize, statistically evaluate, validate and interpret scientific data, and to communicate science effectively both orally and in writing
3. The ability to acquire and comprehend information from published scientific literature and to employ computational resources in the resolution of biological problems
4. An understanding of the chemical and physical principles that unite all life forms, and of biological organization at the molecular, cellular, tissue, organ, organism and system levels
5. The ability to define the components and processes of genetic and epigenetic information transmission, and their determinant effects on the adaptive and evolutionary processes that they drive
6. An understanding of the etiology of major human disease burdens in terms of pathophysiological mechanisms, epidemiology within populations and possible therapeutic approaches
7. An understanding of the entry requirements, career pathways and progression for the major post-graduate fields of research, education and the health professions

4. Course Learning Outcomes and Linkage to Program Learning Outcomes

Students who successfully complete this course will be able to:

Course Learning Outcomes	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7
1. Understand the way the scientific method is used to gain knowledge.	X	X	X				
2. Gain some basic knowledge of the processes of our natural environment.	X		X	X	X	X	
3. Increase awareness of the complex relationships among all living things and their non-living environment.	X		X	X	X	X	
4. Examine man’s past and present relationship with his environment and the possible effects of these relationships on our future.	X		X	X	X	X	
5. Increase awareness of the environmental problems facing us today and to present some solutions to these problems.	X		X	X	X	X	X
6. Enhance your knowledge and awareness of our environmental problems to enable	X		X	X	X	X	X

more informed political and economic decisions.							
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5. Course Prerequisites

There are no prerequisites for this course.

6. Required Learning Materials

Many readings for this course will come from Nick Lane's *Life Ascending: The Ten Great Inventions of Evolution* (W.W. Norton, 2009). Other reading materials will be made available on the course Canvas website.

7. Course Website:

<https://chaminade.instructure.com/courses/9867>

8. Technical Assistance for Canvas Users:

- Search for help on specific topics at help.instructure.com
- [Chat live with Canvas Support 24/7/365](#)
- Watch this [video to get you started](#) with online guides and tutorials
- Contact the Chaminade IT Helpdesk for technical issues: helpdesk@chaminade.edu, or call (808) 735-4855

9. Assessment

All exams & quizzes will consist of multiple choice, true-false, and short essay questions. You will be graded on your ability not only to answer the question (some can be answered in several ways), but also in how effectively you can defend your answer/position using your knowledge of the subject & applying what you learned through the use of appropriate facts/examples. Thus all questions asking for your opinion or position, whether stated or not have an implied "Why?" or "How?" question attached. One short reflection paper will be required.

Exams	80%
Paper	10%
Attendance and Enthusiasm	10%

10. Grading Scale

Letter grades are given in all courses except those conducted on a credit/no credit basis. They are interpreted as follows:

- A 90-100%
- B 80-89%
- C 70-79%
- D 60-69%
- F <60%

A Outstanding scholarship and an unusual degree of intellectual initiative

B Superior work done in a consistent and intellectual manner

C Average grade indicating a competent grasp of subject matter

D Inferior work of the lowest passing grade, not satisfactory for fulfillment of prerequisite course work

F Failed to grasp the minimum subject matter; no credit given

11. Course Schedule

Week	Lecture Topic	Readings
1	August 22 Course Introductions My past and present, your present and future Entry Exam (doesn't contribute to grade)	
2	August 29 Introduction to Science Papal Encyclical, <i>On Care for Our Common Home</i>	Lucas Clark, What to Tell Students About Science Pope Francis, 2015. <i>Laudato Si</i> (summary)
3	No Class, Labor Day September 5 Earth History Background Meteorology and Oceanography The Oceanic Origin of Life	Lane, Chapter 1 <i>The Origin of Life</i>
4	September 12 Hurricanes	Overview of Atlantic Basin Hurricanes (Keim & Muller in <i>Oceans and Human Health</i>)
5	September 19 Risks and Benefits of Seafood Consumption.	Cunane and Crawford, <i>Survival of the Fattest: Fat Babies were the key to evolution of the large human brain.</i>
6	September 26 What can we learn from whales?	Palumbi Articles, Roman et al., 2014
7	October 3 The Tragedy of the Commons & A Tragedy of the Commons Averted	Hardin: Tragedy of the Commons Butler: Bermuda Fisheries
8	No Class, Discoverers Day October 10 Why Value Marine Biodiversity?	Various Readings, To be determined
9	October 17 Oil from Algae	
10	October 24 Why Sex?	Lane, Chapter 5 <i>Sex</i>
11	October 31 Why Do We Age?	Lane, Chapter 10 <i>Death</i>
12	November 7 Domestication and Evolution	Diamond, <i>Domestication and Evolution</i>
13	November 14 Why are there health disparities between Pacific Islanders and Europeans, Asians, and Americans? (1)	Various Readings, To be determined
14	November 21 Why are there health disparities between Pacific Islanders and Europeans, Asians, and Americans? (2)	

12. Alignment of Natural Sciences Courses with Marianist and Hawaiian values of the University.

The Natural Sciences Division provides an *integral, quality education*: sophisticated integrative course content taught by experienced, dedicated, and well-educated instructors.

- We *educate in family spirit* – every classroom is an *Ohana* and you can expect to be respected yet challenged in an environment that is supportive, inclusively by instructors who take the time to personally get to know and care for you.
- We *educate for service, justice and peace*, since many of the most pressing global issues (climate change, health inequity, poverty, justice) are those which science and technology investigate, establish ethical parameters for, and offer solutions to.
- We *educate for adaptation and change*. In science and technology, the only constant is change. Data, techniques, technologies, questions, interpretations and ethical landscapes are constantly evolving, and we teach students to thrive on this dynamic uncertainty.

The study of science and technology can be formative, exploring human creativity and potential in the development of technologies and scientific solutions, the opportunity to engage in the stewardship of the natural world, and the opportunity to promote social justice. We provide opportunities to engage with the problems that face Hawai‘i and the Pacific region through the Natural Sciences curriculum, in particular, those centered around severe challenges in health, poverty, environmental resilience, and erosion of traditional culture. The Marianist Educational Values relate to Native Hawaiian ideas of *mana*, *na‘auao*, *ohana*, *aloha* and *aina*. We intend for our Natural Sciences programs to be culturally-sustaining, rooted in our Hawaiian place, and centered on core values of *Maiiau*, be neat, prepared, careful in all we do; *Makawalu*, demonstrate foresight and planning; *‘Ai*, sustain mind and body; *Pa‘a Na‘au*, learn deeply.

13.1. Late Work Policy

If you are absent it is your responsibility to inform the instructor and to inquire about missed assignments, tests, etc. & to make these up on the day of your return to class.

13.2. Grades of "Incomplete"

Students and instructors may negotiate an incomplete grade when there are specific justifying circumstances. When submitting a grade the “I” will be accompanied by the alternative grade that will automatically be assigned after 90 days. These include IB, IC, ID, and IF. If only an “I” is submitted the default grade is F. The completion of the work, evaluation, and reporting of the final grade is due within 90 days after the end of the semester or term. This limit may not be extended.

13.3. Writing Policy

Students will be referring to works by other writers from this point forward in their academic career. They need to keep two things in mind:

1. Unacknowledged use of the words or ideas of others is plagiarism. Plagiarism is an academic sin; when detected, punishment in the form of reduction in grade will be administered.
2. Therefore, it is crucial that words or ideas of others be acknowledged. This is done by an in-text citation, at the point in the text where idea is mentioned, and then by inclusion of full bibliographic information in a reference section that follows the narrative. In the sciences, the citation and reference style developed by the American Psychological Association (APA) is used. An excellent description of the APA style can be found at the web site of the University of Pittsburgh Library System:
<https://pitt.libguides.com/c.php?g=12108&p=64730>

13.4. Instructor and Student Communication

Questions for this course can be emailed to the instructor at henry.trapido-rosenthal@chaminade.edu. Responses will be made as soon as possible. Online, in-person and phone conferences can be arranged.

13.5. Cell phones, tablets, laptops, and whatever other devices are invented this semester

Music Devices and Cellular Phones: Unless specifically permitted by your instructor, use of music devices and cell phones is prohibited during all Natural Science and Mathematics classes, as it is discourteous and may lead to suspicion of academic misconduct. Students unable to comply will be asked to leave class.

Out of consideration for your classmates, please set your cell phone to silent mode during class. Students are encouraged to bring laptops or tablets to class as the instructor will assign online activities and readings that will require the use of a laptop or tablet. Laptops and tablets should not be misused, such as checking distracting websites. Use your best judgment and respect your classmates and instructor.

13.6. Disability Access

If you need individual accommodations to meet course outcomes because of a documented disability, please speak with me to discuss your needs as soon as possible so that we can ensure your full participation in class and fair assessment of your work. Students with special needs who meet criteria for the Americans with Disabilities Act (ADA) provisions must provide written documentation of the need for accommodations from the Counseling Center by the end of week three of the class, in order for instructors to plan accordingly. If a student would like to determine if they meet the criteria for accommodations, they should contact the Counseling Center at (808) 735-4845 for further information (counselingcenter@chaminade.edu).

13.7. Title IX Compliance

Chaminade University of Honolulu recognizes the inherent dignity of all individuals and promotes respect for all people. Sexual misconduct, physical and/or psychological abuse will NOT be tolerated at CUH. If you have been the victim of sexual misconduct, physical and/or psychological abuse, we encourage you to report this matter promptly. As a faculty member, I am interested in promoting a safe and healthy environment, and should I learn of any sexual misconduct, physical and/or psychological abuse, I must report the matter to the Title IX Coordinator. If you or someone you know has been harassed or assaulted, you can find the appropriate resources by visiting Campus Ministry, the Dean of Students Office, the Counseling Center, or the Office for Compliance and Personnel Services.

13.8. Attendance Policy

The following attendance policy is from the 2018-2019 Academic Catalog (p. 57-58): Students are expected to attend regularly all courses for which they are registered. Student should notify their instructors when illness or other extenuating circumstances prevents them from attending class and make arrangements to complete missed assignments. Notification may be done by emailing the instructor's Chaminade email address, calling the instructor's campus extension, or by leaving a message with the instructor's division office. It is the instructor's prerogative to modify deadlines of course requirements accordingly. Any student who stops attending a course without officially withdrawing may receive a failing grade. Unexcused absences equivalent to more than a week of classes may lead to a grade reduction for the course. Any unexcused absence of two consecutive weeks or more may result in being withdrawn from the course by the instructor, although the instructor is not required to withdraw students in that scenario. Repeated absences put students at risk of failing grades. Students with disabilities who have obtained accommodations from the Chaminade University of Honolulu ADA Coordinator may be considered for an exception when the accommodation does not materially alter the attainment of the learning outcomes. Federal regulations require continued attendance for continuing payment of financial aid. When illness or personal reasons necessitate continued absence, the student should communicate first with the instructor to review the options. Anyone who stops attending a course without official withdrawal may receive a failing grade or be withdrawn by the instructor at the instructor's discretion.

13.9. Academic Conduct Policy

From the 2018-2019 Undergraduate Academic Catalog (p. 42):

Any community must have a set of rules and standards of conduct by which it operates. At Chaminade, these standards are outlined so as to reflect both the Catholic, Marianist values of the institution and to honor and respect students as responsible adults. All alleged violations of the community standards are handled through an established student conduct process, outlined in the Student Handbook, and operated within the guidelines set to honor both students' rights and campus values. Students should conduct themselves in a manner that reflects the ideals of the University. This includes knowing and respecting the intent of rules, regulations, and/or policies presented in the Student Handbook, and realizing that students are subject to the University's jurisdiction from the time of their admission until their enrollment has been formally terminated. Please refer to the Student Handbook for more details. A copy of the Student Handbook is available on the Chaminade website. For further information, please refer to the Student Handbook: <https://studentaffairs.chaminade.edu/wp-content/uploads/sites/28/2018-19-NEW-STUDENT-HANDBOOK.pdf>