

Course Syllabus

[Jump to Today](#)

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BI312 Epidemiology and Public Health

Department of Biology, Division of Natural Sciences & Mathematics

Meeting times & location:

Tuesday & Thursday, 10 - 11:20 AM

Location: Henry Hall Room 202

Instructor: Michael Dohm PhD, Associate Professor of Biology

Office: WSC 108

Office phone: 739-8543

E-mail: mdohm@chaminade.edu

Office Hours: By appointment only, via CANVAS

University Course Catalog Description

Population based analysis of health and disease focusing on an understanding cause, risk and health determinants in populations and communities. This course covers epidemiologic concepts (including measures of association, bias, confounding, interaction and determination of risk). Epidemiological methodology, including study design and study types, will be covered. Link to [Biology courses, Chaminade University Undergraduate catalog \(https://catalog.chaminade.edu/course/biology\)](https://catalog.chaminade.edu/course/biology).

Course Overview

This course is the second semester of the biostatistics sequence for Biology, Biochemistry and Forensic Science majors at Chaminade University. It addresses population health and critical thinking elements of the "Critical Analysis and Reasoning Skills" sections of the MCAT15. In general terms it responds to the strong statistics emphasis and public health orientation of the Scientific Foundations for Future Physicians. The course will cover epidemiological concepts and methods concepts. Students will learn how these are central to measuring the health of a population, improving health of a population and reducing health inequities. Central epidemiological concepts such as association, bias and confounding will be addressed, as well as examples of epidemiological study designs

Course Prerequisites

Previous enrollment in BI216/L required.

Required Learning Materials

Merrill, RM, *Introduction to Epidemiology*, Eighth Edition, 2021, Jones & Bartlett. [Click here to view table of contents.](#)

Technical Assistance for Canvas Users:

- Search for help on specific topics at help.instructure.com
- Chat live with Canvas Support 24/7/365
- Contact the Chaminade IT Helpdesk for technical issues: helpdesk@chaminade.edu, or call (808) 735-4855

Tutoring and Writing Services

Chaminade is proud to offer free, one-on-one tutoring and writing assistance to all students. Tutoring and writing help is available on campus at Kōkua `Ike: Center for Student Learning in a variety of subjects (including, but are not limited to: biology, chemistry, math, nursing, English, etc.) from trained Peer and Professional Tutors. Please check Kōkua `Ike's website (<https://chaminade.edu/advising/kokua-ike/>) for the latest times, list of drop-in hours, and information on scheduling an appointment. Free online tutoring is also available via Smarthinking. Smarthinking can be accessed 24/7 from your Canvas account. Simply click Account – Notifications – Smarthinking. For more information, please contact Kōkua `Ike at tutoring@chaminade.edu or 808-739-8305.

Assessment

	Points	Weight
Quizzes	40	10%
Midterm exam	80	20%
Final exam	120	30%
Projects	160	40%
		100%

Quizzes & Exams

The purpose of quizzes is to check your understanding of the course material. Quizzes account for only 10% of your final grade; thus, each quiz should be taken with the intent of an honest assessment of your understanding, not as an effort to collect points. Quizzes include multiple choice, True/False, and

short answer questions drawn from your assigned textbook readings. Each quiz will be administered via CANVAS; you are allowed 30 minutes to complete the quiz and up to three times to take the quiz. The highest score will be taken as your grade for the quiz.

Two exams are scheduled for BI312. The second and final exam is not cumulative. Thus, midterm

exams covers material from the start of the semester while the final exam covers material since the midterm exam. Exams will consist primarily of material from readings and your quizzes, but may also include additional assigned material per instructions from the instructor.

Projects

Up to five projects are scheduled for BI312. These range from public health to applied epidemiological statistics to evaluating case studies. Students can expect to turn in short papers an/or worksheets to fulfill project requirements.

Attendance

Employers emphasize showing up for work, on time; reliability is a key characteristic of successful employment. Therefore, and in keeping with your Biology program, attendance is expected. For REMOTE students, attendance is recorded based on CANVAS activity -- the minimum expectation for REMOTE attendance is 3 hours logged on to BI308 CANVAS and a minimum of two page views. In-person attendance will be taken at random during the semester (i.e., the instructor won't take daily roll call). If you miss more than one lecture for any unexcused absence this will be included as a note in my grade book. Continued absence puts the student at risk of administrative withdrawal from the course (see Student Handbook). If you know you will miss class, please contact Dr Dohm via CANVAS messaging in advance.

Grades

grades are calculated from the student's daily work, class participation, quizzes, tests, term papers, reports and the final examination. They are interpreted as follows:

A 90-100% Outstanding scholarship and an unusual degree of intellectual initiative

B 80-89% Superior work done in a consistent and intellectual manner

C 70-79% Average grade indicating a competent grasp of subject matter

D 60-69% Inferior work of the lowest passing grade, not satisfactory for fulfillment of prerequisite course work.

F <60% Failed to grasp the minimum subject matter; no credit given

BI312 Schedule

View schedule at [BI312 Schedule](#)

Learning Outcomes Program

Course Learning Outcomes Biology

Program Learning Outcomes

1. Define epidemiology as a discipline, and compare and contrast the concepts of public health, population health and global health

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| 2. Describe and apply the principles in the measurement of disease frequency and disease association | 1, 6 |
| 3. Derive Koch-like postulates for establishing causality using epidemiological data | 1, 2, 3, 6 |
| 4. Apply the common types of epidemiological study design appropriately to example data sets or hypotheses | 1, 2, 6 |
| 5. Engage in a comprehensive case study of a health inequity which is revealed by analysis of epidemiological studies and primary data sets | 2, 6, 7 |
| 6. Perform an analysis of a commonly understood health 'risk' and understand communication plans for both professional and lay audiences | 2, 6, 7 |

Biology Program Learning Outcomes (PLO)

1. Apply the scientific method in the design and testing of hypotheses
2. Transform and display, statistically evaluate, validate, and interpret scientific data and communicate the results of such analyses effectively both orally and in writing.
3. Acquire and comprehend information from published scientific literature, databases and bioinformatics software to extract and interpret biological data.
4. Recognize the chemical and physical principles that underlie all life forms, and the biological organization at the molecular, cellular, tissue, organ, organism, and system levels that emerge from these principles
5. 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. Evaluate the etiology of major human disease burden in terms of, pathophysiological mechanisms, epidemiology within populations and possible therapeutic approaches.
7. Integrate an awareness of bioethical issues to positively influence the application of science to service, justice and peace in the solution of societal problems

University outcomes

Marianist Values

This class represents one component of your education at Chaminade University of Honolulu. An education in the Marianist Tradition is marked by five principles and you should take every opportunity possible to reflect upon the role of these characteristics in your education and development:

1. Education for formation in faith
2. Provide an integral, quality education
3. Educate in family spirit
4. Educate for service, justice and peace
5. Educate for adaptation and change

Native Hawaiian Values

Education is an integral value in both Marianist and Native Hawaiian culture. Both recognize the transformative effect of a well-rounded, value-centered education on society, particularly in seeking justice for the marginalized, the forgotten, and the oppressed, always with an eye toward God (Ke Akua). This is reflected in the 'Olelo No'eau (Hawaiian proverbs) and Marianist core beliefs:

1. Educate for Formation in Faith (Mana) E ola au i ke akua ('Olelo No'eau 364) May I live by God
2. Provide an Integral, Quality Education (Na'auao) Lawe i ka ma'alea a kū'ono'ono ('Olelo No'eau 1957) Acquire skill and make it deep
3. Educate in Family Spirit ('Ohana) 'Ike aku, 'ike mai, kōkua aku kōkua mai; pela iho la ka nohana 'ohana ('Olelo No'eau 1200) Recognize others, be recognized, help others, be helped; such is a family relationship
4. Educate for Service, Justice and Peace (Aloha) Ka lama kū o ka no'eau ('Olelo No'eau 1430) Education is the standing torch of wisdom
5. Educate for Adaptation and Change (Aina) 'A'ohe pau ka 'ike i ka hālau ho'okahi ('Olelo No'eau 203) All knowledge is not taught in the same school

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.

1. We educate in the 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.
2. 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.
3. 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.
4. 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 Maiau, be neat, prepared, careful in all we do; Makawalu, demonstrate foresight and planning; `Ai, sustain mind and body; Pa`a Na`au, learn deeply.

Course and University Policy, Reminders, and Notices:

1. Chaminda University abides by all aspects of the [Family Educational Rights and Privacy Act](#)










1. Chaminade University abides by all aspects of the [Family Educational Rights and Privacy Act \(FERPA\)](http://ed.gov/policy/gen/guid/fpco/ferpa/students.html) (<http://ed.gov/policy/gen/guid/fpco/ferpa/students.html>). Details of Chaminade's implementation of FERPA are available in your [Student Handbook](http://www.chaminade.edu/student_life/handbook.php) (http://www.chaminade.edu/student_life/handbook.php) (SH).
2. You are also expected to have read and to abide by the "Student Rules of Conduct" which are available in your copy of Chaminade University's Student Handbook (SH).
3. Success in this class is in your control. The more you do, the better the results will be for you. You are expected to attend class and to come prepared: read your text before the material is to be presented in class; preview the lecture slides available on the course web site; use the web site forum to ask questions and to discuss concepts; ask questions in class if you are unsure of material. I will suggest problems or questions from each chapter in your text or from the publisher's website for you to consider. If you have purchased access to Pearson's online content that accompanies your text book, please do take advantage of this marvelous resource. Neither the suggested problem sets nor the work on Pearson's supplemental material will be graded, nor are they required. However, the more you do, the more practice and exposure you get to the material, the better you will do on my exams. Exams are based on the same concepts and problems that the text questions address.
4. Class begins and ends each time exactly on the scheduled start time. Regular attendance is expected and essential for your progress in this class. The goal of lecture and discussion will be to provide the needed context to remove barriers to your understanding of the material – going it alone is not recommended.
5. It is university policy that any student who stops attending a course without officially withdrawing may receive a failing grade (SH, p. 34). Unexcused absences equivalent to more than a week of classes will lead to a grade reduction for the course.
6. No make up quiz, exam, or presentation time will be granted for unexcused absences. For excused absences, if a student cannot attend a class in which an exam or quiz has been scheduled, the student must provide written verification of the need to miss class at least one day prior to the scheduled due date. This includes any activities sponsored by Chaminade (athletics, etc.) – it is the responsibility of the student to adhere to this policy. In the event of illness, a Doctor's note will be expected.
7. Please utilize my official office hours or make an appointment via the course website. You are encouraged to use the Ask Dr Dohm forum – if you have a question, there is an excellent chance that others in the class have similar questions – use of Ask Dr Dohm forum counts as participation.
8. Return of graded paper material will be within ten business days after you take the graded assignment.
9. Use of music devices and cell phones is prohibited during all Natural Science and Mathematics classes at Chaminade, *unless specifically permitted by your instructor* (see item 10 and 11). Use of cellphones and music devices in laboratories is a safety issue. In addition, use of cellphones and music devices in any class is discourteous and may lead to suspicion of academic misconduct. Students who cannot comply with this rule will be asked to leave class and may be subject to

Students who cannot comply with this rule will be asked to leave class and may be subject to laboratory safety violation fines. Please refer any questions to the Dean of Natural Sciences and Mathematics.

10. You are encouraged to bring and use your laptops or tablets to genetics lecture and workshops. However, on exam days, calculators will be provided for your use; you may not use your smartphones, tablets, or laptops during exams.
11. You may not record audio, images, or video in the classroom without expressed permission of the instructor.
12. The University provides a Chaminade email address for all students. Official Chaminade communications will be sent to the students' Chaminade email address and instructors will use only this email to communicate with students. It is the responsibility of the student to check their email frequently. Report email-related problems to the Helpdesk at 808-735-4855 or helpdesk@chaminade.edu.
13. You are encouraged to work together; however, all graded material must be your own. Cheating in the form of plagiarism (offering of work of another as one's own, SH, p. 33), collusion, and deception will not be tolerated and will negatively affect your grade. Because the university is an academic community with high professional standards, its teaching function is seriously disrupted and subverted by academic dishonesty. Such dishonesty includes, but is not limited to, cheating, which includes giving/receiving unauthorized assistance during an examination; obtaining information about an examination before it is given, using inappropriate/prohibited sources of information during an examination; altering answers after an examination has been submitted; and altering the records on any grade. (Refer to the CUH catalog for further information).
14. Title IX Declaration: 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. Should you want to speak to a confidential source you may contact the following:
 - Chaminade Counseling Center 808 735-4845.
 - Any priest serving as a sacramental confessor or any ordained religious leader serving in the sacred confidence role.
15. Pursuant to several federal and state laws, including the Americans with Disabilities Act of 1990, as amended by the ADA Amendments Act of 2008, and Section 504 of the Rehabilitation Act of 1973, all qualified students with disabilities are protected from discrimination on basis of disability and are eligible for reasonable accommodations or modifications in the academic environment to enable them to enjoy equal access to academic programs, services, or activities. 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. 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 CUH Counseling Center (735-4845) by the end of the third week of classes. Failure to provide written documentation will prevent your instructor from making necessary

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Course Summary:

Date	Details
Mon Feb 8, 2021	 Rubric comments (https://chaminade.instructure.com/courses/14436/assignments/163305) due by 11:59pm
Thu Feb 11, 2021	 Pilot covid-19 rubric (https://chaminade.instructure.com/courses/14436/assignments/164177) due by 11:59pm
Mon Feb 15, 2021	 BONUS - Additional pilot work on rubric (https://chaminade.instructure.com/courses/14436/assignments/164291) due by 11:59pm
	 Rank states (https://chaminade.instructure.com/courses/14436/assignments/163306) due by 10am
Tue Feb 16, 2021	 Quiz01: Chapter01 (https://chaminade.instructure.com/courses/14436/assignments/164266) due by 11:59pm
	 Best and Worst (https://chaminade.instructure.com/courses/14436/assignments/164290) due by 11:59pm
Tue Feb 23, 2021	 BONUS - Random order Project01 (https://chaminade.instructure.com/courses/14436/assignments/164288) due by 11:59pm
Sun Feb 28, 2021	 Project01 -- State covid-19 websites (https://chaminade.instructure.com/courses/14436/assignments/161425) due by 11:59pm
Thu Mar 4, 2021	 BI312 Exam01 (https://chaminade.instructure.com/courses/14436/assignments/161393) due by 11:59pm
Tue Mar 23, 2021	 Project02 (https://chaminade.instructure.com/courses/14436/assignments/161426) due by 11:59pm
	 Project04 - First case study (https://chaminade.instructure.com/courses/14436/assignments/161427) due by 11:59pm
Tue Apr 13, 2021	 Project05 - Second case study (https://chaminade.instructure.com/courses/14436/assignments/161429) due by 11:59pm

Date**Details**

Mon May 3, 2021

**BI312 Exam02**<https://chaminade.instructure.com/courses/14436/assignments/161396>due by 11:59pm

**Project03 - Epiville**<https://chaminade.instructure.com/courses/14436/assignments/163303>
