



Natural Sciences and Mathematics

Forensic Sciences

**Forensic Biology**

**FS 444**

Eiben Hall, Room 201 | Fridays 2:30-5:20PM

Credits: 3    Term: Fall 2025

### Instructor Info

**Instructor:** Kari Inda

**Email:** kari.inda@chaminade.edu

**Phone:** (808) 739-7451

**Office Location:** Eiben 207A

**Office Hours:** Friday 7:30A-9:20A or by appointment

**Communication:** The instructor will typically respond within 24 hours (business days).

### Course Description & Materials

#### Catalog Course Description

A scientific examination of biological evidence. Includes examining the scientific basis of many types of biological evidence, applying scientific methods and interpretation of biological evidence.

Prerequisites: EN-102, COM-101, CH-204, FS-340, and BC/BI-307. - Must be taken either prior to or at the same time as this course.

#### Time Allocation

This is a three-credit hour course requiring 135 clock hours of student engagement, per the official CUH Credit Hour Policy. Students enrolled in this course are anticipated to spend 40 hours in class or engaged in online lecture/exercises, 2 hours each week contributing to assignments (30 hours). Ten hours will be allocated to studying for the midterm; 10 hours will be allocated to studying for the final exam. The remaining 45 hours will be allocated to reading the assigned material, researching topics, and performing other ancillary obligations, averaging to ~3 hours/week.

#### Required Materials

Required Book: **Forensic Biology** by Richard Li

## Canvas

This class requires the use of several learning materials, both electronic and physical. This class will be managed electronically through Canvas and Google.

## Learning Outcomes

### Program Learning Outcomes (PLOs)

Upon completion of the degree program in Forensic Sciences, students will be able to:

1. Apply the scientific method in an adaptive and mindful manner
2. Use techniques for recognition, documentation, analysis, and interpretation of physical evidence
3. Implement quality assurance programs, incorporating ethics and professional practice, to act as stewards of justice and peace throughout the broader community
4. Communicate disciplinary knowledge to diverse audiences

### Course Learning Outcomes (CLOs)

Course Learning Outcomes	PLO 1	PLO 2	PLO 3	PLO 4
1. Explain fundamental concepts of forensic biology	X	X	X	X
2. Discuss theory and limitations of forensic biology analyses		X	X	X
3. Communicate possible conclusions drawn from forensic biological (DNA) analyses	X	X	X	X
4. Understand the importance of quality assurance and quality control within the field of forensic biology			X	

### 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 'Ōlelo No'eau (Hawaiian proverbs) and Marianist core beliefs:

1. Educate for Formation in Faith (Mana) E ola au i ke akua ('Ōlelo 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 ('Ōlelo 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 ('Ōlelo 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 ('Ōlelo 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 ('Ōlelo No'eau 203) All knowledge is not taught in the same school

## Alignment of Course Learning Outcomes

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 *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.

### Technical Assistance for Canvas Users:

- Search for help on specific topics or get tips in [Canvas Students](#)
- [Live chat with Canvas Support for students](#)
- Canvas Support Hotline for students: +1-833-209-6111
- Watch this [video to get you started](#)
- [Online tutorials](#): click on “Students” role to access tutorials
- Contact the Chaminade IT Helpdesk for technical issues: [helpdesk@chaminade.edu](mailto:helpdesk@chaminade.edu) or (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 TutorMe. Tutor Me can be accessed 24/7 from your Canvas account. Simply click Account – Notifications – TutorMe. For more information, please contact Kōkua ‘Ike at [tutoring@chaminade.edu](mailto:tutoring@chaminade.edu) or 808-739-8305.

## Course Policies

### Attendance Policy

Please refer to the [Chaminade attendance policy](#). Repeated absences put students at risk of failing grades. If you miss 4+ lectures throughout the semester (excused or unexcused), you will need to retake the course.

If you are tardy, leave class early or leave for an extended period of time, it will be considered an absence.

## **Missed Quizzes and/or Exams**

Quizzes will be given during the class period. The two lowest quiz grades will be dropped. There will be no make-up quizzes.

Students who miss an exam will need to provide documentation (e.g. doctor's note, obituary, etc) for the absence to be deemed excused. If excused, the make-up exam may be in the form of an oral exam. The following will **not** excuse you from an exam:

- Work
- Travel
- Office hour appointments
- Extra-curricular school activities
- etc

Students with disabilities who have obtained accommodation from the Chaminade University of Honolulu Tutor Coordinator may be considered as 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.

## **Cell phones, tablets, and laptops**

Electronic devices are allowed for notetaking purposes only. No recording or photography is allowed during class unless permission is granted.

## **Late Work Policy**

Work submitted after the specified due date/time will be deducted *20% of the final grade* per day thereafter. If Canvas is experiencing technical difficulties, work must be submitted via email to [kari.indu@chaminade.edu](mailto:kari.indu@chaminade.edu) as an attachment.

## **Changes to the Syllabus**

While the provisions of this syllabus are as accurate and complete as possible, your instructor reserves the right to change any provision herein at any time. Every effort will be made to keep you advised of such changes, and information about such changes will be available from your instructor.

## **Grades of "Incomplete"**

For information on an *Incomplete* grade, see page 138 of the current Academic Catalog (2022-23).

## Final Grades

Final grades are submitted to Self Service. Letter grades are given in all courses except those conducted on a credit/no credit basis. Grades can be calculated from the student's daily work, class participation, tests, term papers, reports and the final examination. For this class, grades are interpreted as follows:

You are required to complete all quizzes and exams. Plan your life accordingly.

Activity	Percentage
Weekly Quizzes	30%
Midterm (Fri, 10/3 @ 2:30pm)	30%
Final Exam (Wed, 12/10 @ 8:30am)	40%
<b>Total</b>	<b>100%</b>

### Letter Grade Scale

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

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

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

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

≤ 59%        F – Failed to grasp the minimum subject matter; no credit earned.

## Important Information

### Academic Honesty

Academic honesty is an essential aspect of all learning, scholarship, and research. It is one of the values regarded most highly by academic communities throughout the world. Violations of the principle of academic honesty are extremely serious and will not be tolerated.

Students are responsible for promoting academic honesty at Chaminade by not participating in any act of dishonesty and by reporting any incidence of academic dishonesty to an instructor or

to a University official. Academic dishonesty may include theft of records or examinations, alteration of grades, and plagiarism, in addition to more obvious dishonesty.

Questions of academic dishonesty in a particular class are first reviewed by the instructor, who must make a report with recommendations to the Dean of the Academic Division. Punishment for academic dishonesty will be determined by the instructor and the Dean of Academic Division and may include an “F” grade for the work in question, an “F” grade for the course, suspension, or dismissal from the University.

For the most up to date information, please refer to the [Academic Honesty Policy](#) on the Chaminade University Catalog website.

### **Title IX**

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, Roxana Jimenez at (808) 739-8530, [titleix@chaminade.edu](mailto:titleix@chaminade.edu), or [compliance@chaminade.edu](mailto:compliance@chaminade.edu). 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.

### **CUH Alert Emergency Notification**

To get the latest emergency communication from Chaminade University, students’ cell numbers will be connected to Chaminade’s emergency notification text system. When you log in to the Chaminade portal, you will be asked to provide some emergency contact information. If you provide a cellphone number, you will receive a text from our emergency notification system asking you to confirm your number. You must respond to that message to complete your registration and get emergency notifications on your phone.

### **Assessment for Student Work**

With the goal of continuing to improve the quality of educational services offered to students, Chaminade University conducts assessments of student achievement of course, program, and institutional learning outcomes. Student work is used anonymously as the basis of these assessments, and the work you do in this course may be used in these assessment efforts.

### **Student with Disabilities Statement**

Chaminade University of Honolulu offers accommodations for all actively enrolled students with disabilities in compliance with Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act (ADA) of 1990, and the ADA Amendments Act (2008).

Students are responsible for contacting Kokua Ike: Center for Student Learning to schedule an appointment. Verification of their disability will be requested through appropriate documentation and once received it will take up to approximately 2–3 weeks to review them. Appropriate paperwork will be completed by the student before notification will be sent out to their instructors. Accommodation paperwork will not be automatically sent out to instructors each semester, as the student is responsible to notify Kokua Ike via email at [ada@chaminade.edu](mailto:ada@chaminade.edu) each semester if changes or notifications are needed.


### **Kōkua 'Ike: Tutoring & Learning 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 for the latest times, list of drop-in hours, and information on scheduling an appointment. Free online tutoring is also available via TutorMe. Tutor Me can be accessed 24/7 from your Canvas account. Simply click on Account > TutorMe. For more information, please contact Kōkua 'Ike at [tutoring@chaminade.edu](mailto:tutoring@chaminade.edu) or 808-739-8305.



## Tentative Schedule

DATE	WEEK	TOPIC	READING
8/29	1	SYLLABUS AND INTRODUCTION TO FORENSIC BIO	CH 1-2
9/5	2	OVERVIEW OF FORENSIC BIOLOGY DISCIPLINE	CH 3-4
9/12	3	IDENTIFICATION OF BIOLOGICAL EVIDENCE PT 1	CH 10-17
9/19	4	IDENTIFICATION OF BIOLOGICAL EVIDENCE PT 2	CH 10-17
9/26	5	DISCUSSION AND REVIEW SESSION	
10/3	6	<b>IN-CLASS MIDTERM (30%)</b>	
10/10	7	DNA EXTRACTION AND QUANTITATION	CH 5-6
10/17	8	DNA AMPLIFICATION AND ELECTROPHORESIS	CH 7-8
10/24	9	DETECTION METHODS AND STRs	CH 8-9, 20
10/31	10	DNA PROFILING, STATISTICS	CH 20, 25
11/7	11	PRACTICUM/REVIEW SESSION	

<b>11/14</b>	12	DATABASES; QUALITY ASSURANCE AND DNA CHALLENGES	CH 24, 25, 26
<b>11/21</b>	13	SNPS, MITOCHONDRIAL AND Y-STR PROFILING	CH 21, 22, 23
<b>11/28</b>	14	THANKSGIVING HOLIDAY	
<b>12/5</b>	15	REVIEW SESSION/STUDY PERIOD	
<b>WED 12/10</b>	8:30AM	<a href="#"><u>FINAL EXAM (40%) cumulative</u></a>	