



School of Natural Sciences and Mathematics

Forensic Sciences Department

FS 230, Forensic Sciences

Henry Hall 107, MWF 1:30P-2:20P

Credits: 3 Section: 01 Term: Fall semester 2025

Instructor Information



Instructor: Carlos A. Gutiérrez Ayala, Ph.D.

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Phone: (808) 739 8352

Office Location: 207A Eiben Hall

Office Hours: Tuesdays 12:30P – 3:30P

Thursdays 11:30A – 12:30P

Schedule your meetings during Office Hours:

<https://calendar.app.google/2Jfj1t1Mzs4XtLgf9>



Communication

You can also request a meeting outside of Office Hours. To do so, send an email to carlos.gutierrez@chaminade.edu. Include multiple dates and times that you are available to meet. (Will respond in 24hrs/48hrs)

School & Department Information

School of Natural Sciences and Mathematics

Office Location: Wesselkamper, Room 116 [Building name and number can be found on each [Academic Schools' website](#).] Phone: (808) 440 4204 [Academic School's phone number can be found on School's website.]

If you have questions regarding the Forensic Sciences Department name, reach out to your Instructor or the School of Natural Sciences and Mathematics.

Course Description & Materials

Catalog Course Description

FS 230 Forensic Sciences (3) Survey of scientific methods applied to the collection, analysis, and preservation of physical evidence as it is used from the crime scene to the courtroom; quality assurance, ethics, **and** professional practice.

Co-requisites/Pre-Requisites: No need for this course.

Time Allocation

This is a three-credit-hour course requiring 135 clock hours of students' engagement per the official CUH Credit Hour Policy. Students enrolled in this course are anticipated to spend 37.5 hours in class, 28 hours researching and writing the two to five page essay (Ownership document and silver's words), 16 hours studying for the midterm exams, and 10.5 hours studying for and taking the final exam. There will be an additional 43 hours of work required beyond what is listed here (course reading, homework assignments, etc.), averaging 2.9 hours each week.

Required Materials

[This class requires a textbook that will be complemented by lectures. The lectures are based on the textbook chapters, with some additional material that is not included in the book. My advice is to read the chapters and listen to the lectures.]

Textbook

Saferstein R (2019) Forensic Science: From the Crime Scene to the Crime Lab. 4th Edition.
Pearson. Hoboken, NJ, USA.

Canvas

Canvas will be used to store class materials, submit assignments, and access your grade. Canvas will also be used for email communication but you can also email me directly at carlos.gutierrez@chaminade.edu

Google Drive

This drive will be used to house larger files, if necessary.

Learning Outcomes

Program Learning Outcomes (PLOs)

Forensic science is the natural science branch of the justice system. It is concerned with interpreting physical evidence. Investigations proceed by using physical evidence and testimonial evidence to reconstruct past events. Not surprisingly, forensic science comprises

several disparate fields of study and the aim of this course is to introduce the use of physical evidence in the justice system.

Upon completion of the B.S. in Forensic Sciences, the student 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)

Forensic science is the natural science branch of the justice system. It is concerned with interpreting physical evidence. Investigations proceed by using physical evidence and testimonial evidence to reconstruct past events. Not surprisingly, forensic science comprises several disparate fields of study and the aim of this course is to introduce the use of physical evidence in the justice system.

Upon completion of the FS 230 course, the student will be able to:

1. Define the role of forensic science in criminal investigation.
2. Identify physical evidence and the information it can provide.
3. Describe quality assurance strategies in the forensic sciences, including the legal system, accreditation, and certification.
4. Describe acceptable professional conduct in the forensic sciences.

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, and integrity of creation.
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 Course Learning Outcomes

	CLO 1	CLO 2	CLO 3	CLO 4
Marianist Values	x	x	x	x
PLOs	x	x	x	X
Native Hawaiian Values	x	x	x	x
Gen Ed Learning Outcomes (if applicable)				

Course Activities

Evaluation of Student Performance

All grades will be posted in Canvas within one week of assignment/exam submission. Attendance grades will be posted to Canvas every week. Your grade will be kept current all semester. You are encouraged to contact me at carlos.gutierrez@chaminade.edu at any time to discuss your grades. I strongly encourage you to check your grades regularly. All assignments have firm due dates, and your score will be penalized 10 points for each day late.

Evaluations (1,430 Total points)**-Attendance:** (430 points)

Classes are scheduled to meet in person every Monday, Wednesday, and Friday unless indicated otherwise. You will earn ten points per class attended starting Monday, 25 August. Please be aware that the total attendance points will change if a class period is cancelled due to illness, weather, or another reason.

- Exams: (400 Total)

You are required to complete four exams (one for each module), which are modelled after forensic science certification and accreditation exams, which means they are in multiple-choice format, including true/false. Each exam is worth 100 points. Unexcused missed exams will be penalized 10 points per day late.

- Final Exam: (200 Total)

The final oral exam, which will be individually answered, will consist of one question based on the previous midterm exam and the knowledge you have gained during this course. The final exam is worth 200 points.

- Team oral Quizzes: (250 Total)

The class will be divided into teams. During each module (five), each team will be called, and they need to answer a question related to the module; the team can discuss before answering. Every correct answer is worth 50 points for all team members.

- Ownership Document and Silvers Words: (100 Total)

You are also required to complete an Ownership Document that is designed to encourage you to think about your future and the reason why you are pursuing a career in forensic science. You are required to complete one Ownership Document and Silvers words worth 100 points. Download this document from Canvas, answer the questions, and email them to me at carlos.gutierrez@chaminade.edu before 4:30 PM on Wednesday, September 3rd, 2025. Assignments are submitted via Canvas in .docx or .pages format. Late submissions will be penalized 10 points per day late.

- Silvers Words: (50 Total)

Words are important. They are at least worth their weight in silver. You will introduce yourself to your classmates and instructor and answer the following questions:

1. What is your name?
2. Where are you from?
3. What is your major? Do you have a minor?
4. Why do you think forensic science is fascinating?
5. What type of career would you like to establish?

The Silvers words are worth 50 points.

Course Policies

Extra Credit

If any student needs an extra credit assignment, they should approach the instructor at least one month before finals week (December 8th to the 11th) to discuss possible options. It won't be an extra credit assignment for unexcused absences or other situations where students have shown a lack of interest in the course.

Lateness:

Students should be in class on time. If a student is late by 2-10 minutes, they will lose 5 points from their attendance. If they are more than 10 minutes late, they will lose all 10 attendance points assigned for that lecture.

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

This is a very unique situation for this class. The only circumstances in which some students might find themselves in this situation are if they have an extra credit assignment pending for evaluation or submission. This will be discussed between the instructor and the student.

Final Grades

Final grades are submitted to [Self-Service](#):

Activity	Points
Ownership Document	100
Silvers Words	50
Team oral quizzes	250
1 st Exam	100
2 nd Exam	100
3 rd Exam	100
4 th Exam	100
Final Exam	200
Attendance	430 (10 points per day)
Total	1,430

Points	%	Letter Grade
1,430 – 1,287	100 – 90	A
1,286 – 1,028	89 – 80	B
1,027 – 719	79 – 70	C*
718 – 431	69 – 60	D**
430 – 0	59 – 0	F

***This class is a prerequisite for FS 233L. The student should get a minimum C grade to be enrolled in the next FS course.**

*** A student who receives a D as a final grade in this course is considered to have passed but cannot use this grade if they need to take the next FS course.**

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 AND NONDISCRIMINATION STATEMENT:

Chaminade University of Honolulu is committed to providing a learning, working and living environment that promotes the dignity of all people, inclusivity and mutual respect and is free of all forms of sex discrimination and gender-based violence, including sexual assault, sexual harassment, gender-based harassment, domestic violence, dating violence, and stalking. As a member of the University faculty, I am required to immediately report any incident of sex discrimination or gender-based violence to the campus Title IX Coordinator. For pregnant and parenting students, I am also obligated to provide you with similar resources for support and protections available to you. My goal is to make sure that you are aware of the range of options available to you and have access to the resources and support you need.

Nondiscrimination Policy & Notice of Nondiscrimination

The university is committed to comply with all State and Federal statutes, rules, and regulations which prohibit discrimination. The university is committed to a policy of nondiscrimination on the basis of race, sex, gender identity and expression, age, religion, color, national origin (including shared ancestry and ethnic characteristics), ancestry, citizenship, disability, genetic information, marital status, breastfeeding, arrest and court record (except as permissible under State law), sexual orientation, or status as a covered veteran. Inquiries about Title IX or general Civil Rights concerns may be referred to the University's Title IX Coordinator, the U.S. Department of Education's Office for Civil Rights, or both and contact information may be found [HERE](#). *On-campus Confidential Resources may also be found here at [CAMPUS CONFIDENTIAL RESOURCES](#).*

The University's Nondiscrimination Policy and Grievance Procedures can be located on the University webpage at: <https://chaminade.edu/compliance/title-ix-nondiscrimination-policies-procedures/>.

To report information about conduct that may constitute sex discrimination or make a complaint of sex discrimination under Title IX, please refer to the [Campus Incident Report form](#). Chaminade University of Honolulu prohibits sex discrimination in any education program or activity that it operates.

The NOTICE of NONDISCRIMINATION can be found here: [Notice of Nondiscrimination](#).

Hazing Prevention Resources and Athlete Helpline:

Assists athletes, parents, coaches, and any allies interested in ensuring physical and mental safety for sports communities by offering confidential emotional support, crisis intervention, informational athlete-focused resources, and guidance related to concerns about any type of abuse—including hazing.

Chaminade University's Hazing Policy:

<https://catalog.chaminade.edu/studenthandbook/codeofconduct>

<https://hazingpreventionnetwork.org/athlete-helpline/>
<https://hazingpreventionnetwork.org/how-to-report-hazing/>

Basic Needs Resources: <https://chaminade.edu/basic-needs/>

Campus Safety/ SafeSwords

A program for students, faculty and staff, who may feel uncomfortable or unsafe walking alone on campus, at any time of the day. Call security, and a security professional will meet you at your location on campus. The security professional will escort you to your residence hall, car, etc. Students may utilize this when walking to and from night classes around campus or after late night events. [SafeSwords Webpage](#)

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 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 or 808-739-8305.

Instructor and Student Communication

Questions for this course can be emailed to the instructor at carlos.gutierrez@chaminade.edu. Online, in-person and phone conferences can also be arranged.

Use of IA Tools

During this course, students are allowed to use any type of AI tools, such as ChatGPT, Bing AI, Grammarly, among others, only for study purposes. Using AI tools to answer or write midterm or final exams, extra credit papers, or other kinds of evaluations is strictly prohibited.

United Nations Sustainable Development Goals "SDG"



This course covers the UN *SDG 16: "Peace, Justice and Strong Institutions"*, Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.

Technical Assistance for Canvas Users

- Get started and find help on specific topics at the [Canvas Community](#)
- 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.

Cell phones, tablets, and laptops

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.

Readings & Due Dates

TENTATIVE SCHEDULE

Week	Days	Chapter	Subject	Notes
<u>Science and Investigation</u>				
1	25,27,29 Aug	1	Syllabus Review Orientation & Roster Review, Introduction	Welcome!
2	1 Sep		Holiday	- Labor Day, no classes - <i>Add/drop period for Fall Semester (2025FA) Due date Sep 2nd</i>
2	3,5 Sep	1	Evidence & Admissibility	<i>Ownership Document Due: September 3th.</i>
3	8, Sep	1	Evidence & Admissibility Quality	
3	10 Sep	1	Team oral quizzes	
3	12 Sep		<i>Exam 1 Science and Investigation</i>	
<u>Scene Investigation</u>				
4	15,17,19 Sep	2, 3	Securing & Searching the Scene, Recording the Scene	
5	22,24,26 Sep	3	Recording the Scene and technology	<i>Withdraw without Record Deadline (26 Sep)</i>
6	29 Sep, 1,3 Oct	4	Collection of Physical Evidence	
7	6 Oct	4	Collection of Physical Evidence	

7	8 Oct		Team oral quizzes	
7	10 Oct		Exam 2 Scene Investigation	
8	13 Oct		Holiday	Indigenous People's Day, No classes.
			<u>Pattern Evidence</u>	
8	15,17 Oct	5 7	Physical Evidence Scene Reconstruction	
9	20,22,24 Oct	7 8	Scene Reconstruction Fingerprints	
10	27,29,31 Oct	9 10	Firearms, Toolmarks & Other Impressions Bloodstain Pattern Analysis	-Open Registration Spring Semester October 27. -Halloween!
11	3 Nov	1	Team oral quizzes	
11	5 Nov		Exam 3 Pattern Evidence	-Withdraw (W) Deadline (5 Nov)
			<u>Biological Evidence</u>	
11	7 Nov	15 6	Biological Stain Analysis: DNA Death Investigation	
12	10, 12, 14 Nov	6	Death Investigation Forensic Taphonomy, Entomology & Anthropology	
13	17 Nov		Team oral quizzes	
13	19 Nov		Exam 4 Biological Evidence Investigation	
			<u>Chemical Evidence</u>	
13	21 Nov	11 & 12	Drugs and Forensic Toxicology	
14	24-26 Nov	13 14	Trace Evidence: Hairs & fiber Trace Evidence: Paint, Glass & Soil	
14	28 Nov		Holiday	Thanksgiving, No classes.
15	1,3,5 Dec		Team oral quizzes	
16	8 Dec		FINAL EXAM. Monday, December 8 3:30 pm - 5:30 pm	