

INSTRUCTOR

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Office: 2 Henry Hall

Office Hours: Monday 1:30 PM – 3:30 PM,
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COURSE DESCRIPTION

FS 430 Forensic Chemistry (3)

This course introduces the application of analytical chemistry to forensic science. A focus will be placed on obtaining analytical results through sample preparation, instrumental analysis, data quality, and data interpretation in various forensic chemistry applications. *Concurrent registration in FS 480L required. Prerequisites: CH 324/L, CH 334/L*

LEARNING OBJECTIVES

Upon completion of this class students will understand the role of a forensic chemist in the judicial system and have the ability to:

- Demonstrate the knowledge, skills and traits required of a forensic chemist
- Discuss the theory and limitations of forensic chemistry analyses
- Communicate verbally about a wide range of forensic chemistry evidence
- Explain the importance of quality assurance, quality control, ethics, accreditation and certification
- Critically evaluate the content and design of research in the field of forensic chemistry

REQUIRED TEXT

Bell S (2013) Forensic Chemistry. 2nd Edition. Pearson: Boston, MA.

EVALUATION OF STUDENT PERFORMANCE*Oral Examinations*

Each student will complete 3 exams. The first two oral examinations will be administered during class periods. The third exam will be during finals week. Oral examinations will not be cumulative.

Presentation

Each student will be required to give one oral presentation on a peer-reviewed study that demonstrates novel forensic chemistry research. Articles will be pre-approved by the instructor.

Critical Review

Each student will provide a written review on the article chosen for their oral presentation including a summary, point-by-point analysis, and perspective.

Class Participation Marks (CPM)

Discussion-based activities will be performed in each class on lecture content and assigned readings. Students will be awarded participation marks for these discussions. Students may request a written version of this task only for valid absences.

Activity	Weight
Oral Examination 1	15%
Oral Examination 2	15%
Oral Examination 3	20%
Presentation	20%
Critical Review	20%
Class Participation	10%

The grading scale is:

100% - 90%	A
89% - 80%	B
79% - 70%	C
69% - 60%	D
≤ 59%	F

TENTATIVE SCHEDULE (Subject to change, changes announced on Canvas)

Week	Date	Subject	Notes
1	21 Aug	Course Overview & Intro	
	23 Aug	Metrology	
2	28 Aug	Chemical Microscopy	
	30 Aug	Spectroscopy and MS	
3	4 Sept	Sample Preparation	
	6 Sept	Gas Chromatography	
4	11 Sept	Liquid Chromatography	
	13 Sept	Capillary Electrophoresis	
5	18 Sept	Exam Review	
	20 Sept	Oral Examination 1	
6	25 Sept	Combustion & Arson	
	27 Sept	Explosives	
7	2 Oct	Firearms Chemical Evidence	
	4 Oct	Drugs as Physical Evidence	
8	9 Oct	Drug Analysis	
	11 Oct	Toxicology	
9	16 Oct	DNA Analysis	
	18 Oct	Exam Review	
10	23 Oct	Oral Examination 2	
	25 Oct	Microtraces	
11	30 Oct	Colorants	Presentation Instructions
	1 Nov	Soil Analysis	
12	6 Nov	Decomposition Chemistry	Article choice deadline
	8 Nov	Research	
13	13 Nov	Statistics	
	15 Nov	No Class - Thanksgiving	
14	20 Nov	Oral Presentations	
	22 Nov	Oral Presentations	
15	27 Nov	GC×GC	Critical Review due
	29 Nov	Review	
Finals	TBA	Oral Examination 3	

ADDITIONAL POLICES*Academic Integrity*

You are required to sign and follow the Forensic Sciences Code of Conduct. Violation of the Code of Conduct will result in a hearing in front of the Forensic Sciences Ethics Committee. In addition, students are expected to read and abide by the Student Rules of Conduct which are available in your copy of the Student Handbook. Cheating in the form of plagiarism, collusion, deception and will not be tolerated.

Absences

Each unexcused absence will result in:

- 0 points for Class Participation Marks
- 0 points for a missed Examination or Presentation

Unexcused absences for two consecutive weeks may result in being withdrawn from the course by the instructor.

A planned, excused absence must be communicated to the instructor at least one week prior to the class. Necessary arrangements will be made to meet student learning objectives.

An unplanned, excused absence must be communicated to the instructor within one week of the missed class. Necessary arrangements will be made to meet student learning objectives.

Determination of valid excuses for missed classes is at the sole discretion of the instructor.

Student Handbook

The Division of Natural Sciences and Mathematics (NSM), along with the University Environmental Safety Office are responsible for enforcing the regulations set forth in the current [Student Handbook](#). Queries should be addressed to: Dean of Natural Sciences and Mathematics (808) 440-4204; Environmental Safety Officer (808) 739-4811

ADAA Statement

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 Counselling Center at 808-735-4845 for further information.

Policy on Communication

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 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.

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 Chaminade Counselling Center at (808) 735-4845 or by email at counselingcenter@chaminade.edu. Please also be aware that the Chaminade Counselling Center also oversees the "De-Stress Zone", a resource center for all students, located in Henry Hall, Room 209, which is open from 10am to 1pm, Monday-Friday.

Electronic Devices

Use of music devices is prohibited during all Natural Science and Mathematics classes at Chaminade, unless specifically permitted by your instructor. Use of mobile devices in laboratories is a safety issue. In addition, use of mobile 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 laboratory safety violation fines. You will be asked to leave class and marked absent if you do not comply. This will negatively affect your grade. Please refer any questions to the Dean of Natural Sciences and Mathematics.

The instructor may modify elements of this syllabus according to the operational needs of the class.