Course Change Request

Date Submitted: 11/12/24 3:38 pm

Viewing: FRSC 404 : Advanced Instrumentation in Forensic Chemistry

Last approved: 01/28/21 5:01 am

Last edit: 11/12/24 3:39 pm

Changes proposed by: kcarisi

Catalog Pages referencing this course

Forensic Science (FRSC)

Forensic Science Program

Select modification type:

In Workflow

1. **FRSC Representative**
2. **SC Curriculum Committee**
3. SC Curriculum Committee
4. SC Assistant Dean
5. Assoc Provost-Undergraduate
6. Registrar-Courses
7. Banner

Approval Path

1. 11/04/24 8:25 pm Kimberly Rule (kcarisi): Rollback to Initiator
2. 11/04/24 8:27 pm Kimberly Rule (kcarisi): Approved for FRSC Representative
3. 11/12/24 9:21 am Gregory Craft (gcraft): Rollback to Initiator
4. 11/12/24 3:40 pm Kimberly Rule (kcarisi): Approved for FRSC Representative

History

1. Jan 28, 2021 by Kimberly Rule (kcarisi)

Substantial

Are you completing this form on someone else's behalf?

No ~~Yes~~

Effective Term: Spring 2025

Subject Code: FRSC - Forensic Science **Course Number:** 404

Bundled Courses:

Is this course replacing another course? No

Equivalent Courses:

Catalog Title: Advanced Instrumentation in Forensic Chemistry

Banner Title: Adv Instru in Forensic Chem

Will section titles vary by semester? No

Credits: 4

Schedule Type: Lecture w/Lab

Hours of Lecture or Seminar per week: 3

Hours of Lab or Studio per week: 3

Repeatable: May be only taken once for credit, limited to 3 attempts (N3)

Max Allowable Credits: 12

Default Grade Mode: Undergraduate Regular

Recommended Prerequisite(s):
FRSC 303 or Permission of Instructor

Recommended Corequisite(s):

Required Prerequisite(s) /

Corequisite(s) (Updates only):

CHEM 314 or CHEM L314, 318 or L318, ~~314, 318,~~ 321, ~~MATH 114,~~ STAT 250 or BIOL 214, FRSC 304, and FRSC 305. ~~304~~

Registrar's Office Use Only - Required Prerequisite(s)/Corequisite(s):

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
	(	CHEM 314	C	UG		
Or		CHEM 314	XS	UG	)	
And	(	CHEM 318	C	UG		
Or		CHEM 318	XS	UG	)	
And	(	CHEM 321	C	UG		
Or		CHEM 321	XS	UG	)	
And	(	MATH 114	C	UG		
Or		MATH 114	XS	UG	)	
And	(	STAT 250	C	UG		
Or		STAT 250	XS	UG		
Or		BIOL 214	C	UG		
Or		BIOL 214	XS	UG	)	
And	(	FRSC 304	C	UG		
Or		FRSC 304	XS	UG	)	

Registration Restrictions (Updates only):

Registrar's Office Use Only - Registration Restrictions:

Field(s) of Study:

Class(es):

Level(s):

Degree(s):

School(s):

Catalog Description:

This course will introduce advanced themes of forensic science and the application of analytical chemistry using state-of-the-art instrumentation hardware and software platforms. Students will perform hands-on experiments using instruments that are commonly found at the federal level and in more advanced state crime laboratories. The students will be exposed to widely used concepts in the advanced forensic analysis of drugs of abuse, toxicology, arson, inks, paints, polymers, and explosives. In addition, the operational concepts of commonly used analytical instrumentation such as GC-MS, FTIR, and TQMS will be taught, demonstrated, and used by the students. More advanced instrumentation will also be introduced in the course that may include: LC/MS, LC-MS/MS, QE+ with ESI and API front ends, high resolution mass measurements, MALDI-TOF, and advanced portable instruments.

Justification:

What: Adding lower-level equivalent pre-requisite of CHEM 314 and 318 (CHEM L314 and CHEM L318) and FRSC 305 Forensic Chemistry Lab. And, removing MATH 114 as a pre-requisite.

Why: To eliminate the need of registration overrides for the lower-level equivalent courses of CHEM 314 and 318. Adding FRSC 305 Forensic Chemistry Lab to better prepare students for this advanced courses' laboratory techniques and equipment. Removing MATH 114 as a pre-requisite since CHEM 321 no longer requires this as a pre-requisite.

Does this course cover material which crosses into another department? No

Learning Outcomes:

Students will understand the advanced themes of the application of analytical chemistry to forensic science.
Students will be able to use instruments that are commonly found at crime laboratories.
Students will understand the concepts in the advanced forensic analysis of drugs of abuse, toxicology, arson, inks, paints, polymers, and explosives.
Students will understand the operational concepts of commonly used analytical instrumentation such as GC-MS, FTIR, and TQMS.
Students will understand the practical application of more advanced instrumentation such as, LC/MS, LC-MS/MS, QE+ with ESI and API front ends, high resolution mass measurements, MALDI-TOF, and advanced portable instruments.

Will this course be scheduled as a cross-level cross listed section?

Attach Syllabus

FRSC 404 Advanced Instrumentation in Forensic Chemistry Syllabus.pdf

Additional Attachments

Specialized Course Categories:

Additional Comments:

Reviewer Comments

Kimberly Rule (kcarisi) (11/04/24 8:25 pm): Rollback: fix semester

Gregory Craft (gcraft) (11/12/24 9:21 am): Rollback: Per email

Key: 17046