

Course Change Request

Date Submitted: 11/09/20 11:00 pm

Viewing: **FRSC 305 : Forensic Chemistry**

Laboratory

Last approved: 12/03/19 4:42 am

Last edit: 11/09/20 11:00 pm

Changes proposed by: kcarisi

Catalog Pages referencing this course

[Forensic Science \(FRSC\)](#)

[Forensic Science Program](#)

Select modification type:

Substantial

In Workflow

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

Approval Path

1. 11/09/20 11:03 pm
Kimberly Rule
(kcarisi): Approved
for FRSC
Representative

History

1. Dec 3, 2019 by
Anthony Falsetti
(afalsett)

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

Yes

Requestor:

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Effective Term: Fall 2021

Subject Code: FRSC - Forensic Science**Course Number:** 305**Bundled Courses:****Is this course replacing another course?** No**Equivalent Courses:****Catalog Title:** Forensic Chemistry Laboratory**Banner Title:** Forensic Chemistry Laboratory**Will section titles vary by semester?** No**Credits:** 1**Schedule Type:** Laboratory**Hours of Lab or Studio per week:** 3**Repeatable:** May be only taken once for credit, limited to 3 attempts (N3) **Max Allowable Credits:** 3**Default Grade Mode:** Undergraduate Regular**Recommended Prerequisite(s):****Recommended Corequisite(s):****Required Prerequisite(s) / Corequisite(s) (Updates only):**

Minimum grade of C or higher in FRSC 200, 201, 304*, CHEM 211, 212, 213, and 214.

*FRSC 304 may be taken concurrently

Minimum grade of C or higher in CHEM 313, CHEM 315**Registrar's Office Use Only - Required Prerequisite(s)/Corequisite(s):**

And/Or	(Course/Test Code	Min Grade/Score	Academic Level)	Concurrency?
		FRSC 200	C	UG		
And		FRSC 201	C	UG		
And		FRSC 304	C	UG		Yes
And		CHEM 211	C	UG		

And/Or	(Course/Test Code	Min Grade/Score	Academic Level)	Concurrency?
And		CHEM 212	C	UG		
And		CHEM 213	C	UG		
And		CHEM 214	C	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 correlate laboratory exercises to the theoretical and investigative principles of forensic chemistry. The laboratory experiments and activities have been designed to expand on and support the material taught in the lecture section of the Forensic Chemistry course (FRSC 304). Students will have hands-on experience with basic forensic chemistry procedures and commonly used laboratory instrumentation. This laboratory course will enable students to explore the use of presumptive testing, controlled substance analysis, blood alcohol measurements, explosive residue analysis, ignitable liquid residue analysis, and chemical enhancement techniques used at crime scenes and in investigative procedures. The students will have hands-on experience using TLC, GC, GC/MS, and FTIR instrumentation and they will learn the fundamentals of how they operate and how to interpret the data generated by these systems.

Justification:

Justification (What is the proposed modification?): The Forensic Science Program is proposing the addition of two pre-requisites to FRSC 305 Forensic Chemistry Laboratory to include CHEM 313 and CHEM 315 Organic Chemistry I lecture and laboratory, these will be in addition to the current pre-requisites.

Justification (Why is this modification necessary?): The Forensic Chemistry FRSC 305 laboratory is designed for juniors or seniors as part of the Bachelor of Science in Forensic Science degree. This laboratory is a co-requisite to the lecture component FRSC 304 Forensic Chemistry and therefore the knowledge base from the lecture component is required to conduct the laboratory exercises. In this course, many of the analytes targeted for measurement and analysis are organic compounds. The course content assumes that students

have a background in organic chemistry and have completed the introductory coursework (CHEM 313) as well as an associated laboratory (CHEM 315). In addition, the student is introduced to aspects of the instrumentation required to accomplish a forensics chemical analysis that rely on a basic understanding of the chemistry involved including organic chemical sub-structures and functional groups. In the analytical technique of mass spectrometry taught in FRSC 304, for example, the student is introduced to ionization, bond breaking, and selected ion reaction monitoring for chemical specificity required in forensic chemical analysis and an understanding of the chemistry fundamentals provided in an introductory organic chemistry course is necessary.

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

Learning Outcomes:

- ☑ Development of basic chemistry laboratory skills relevant to forensics, including proficient use of alternate light sources, micropipettes, microscopes, capillary gas chromatography (GC), mass spectrometry (MS), and Fourier Transform Infrared (FTIR) spectroscopy.
- ☑ Ability to understand and perform forensic chemical analysis procedures, draw logical conclusions based on data obtained, and present information in a scientific format.
- ☑ An understanding of evidence handling, laboratory health and safety, and quality control measures.

Attach Syllabus

~~[FRSC 305 Syllabus--Laboratory .pdf](#)~~

[FRSC 305 Forensic Chemistry Laboratory Syllabus.pdf](#)

Additional Attachments

Specialized Course Categories:

Additional Comments:

Reviewer Comments