



RUTGERS
UNIVERSITY | CAMDEN

Forensic chemistry lab 56:160:582 (1)

Staff information

Dr Michelle Carlin

Email: michelle.g.carlin@rutgers.edu

Tel: +1(856)-225-6158

What and How you will learn

This course is entitled Forensic Chemistry lab; the course will cover a number of different evidence types that fall under the description of forensic chemistry, for example, paint, fibres, glass, fire, drugs, toxicology. You will attend in-person lab classes that will take place in room 329 of the Science Building of the Camden Campus of Rutgers University. The lab classes will take place from on a Thursday 5.45 – 8.45 pm (17.45-20.45), however the beginning or part of the session may take place in SCI 204 (small classroom on the 2nd floor of the science building). Classes will be practical in nature, with discussion around findings and data, where appropriate. There is one week where the class will take place on a Tuesday evening.

What you will be expected to achieve

- **Knowledge & understanding**
You will be expected to demonstrate a broad knowledge of forensic chemistry analytical and lab techniques used to analyse a variety of forensic chemistry evidence types, e.g. illicit/pharmaceutical drugs, firearms discharge residue, paint, etc
- **Intellectual/professional skills & abilities**
Show the ability to demonstrate and explain analytical data, as well as critically evaluate these findings with respect to case scenarios containing forensic chemistry evidence types.
- **Personal values & attributes**
Demonstrate an awareness of the professional, ethical and legal implications pertaining to the analysis and interpretation of forensic chemistry evidence types

Required Course Materials:

There is no required textbook for this course. All necessary information will be disseminated via Canvas. It is critical that students frequently check their Rutgers e-mail address for course announcements with regards to assignments and reading materials.

Required safety equipment:

- Cloth, long-sleeved lab coat
- Safety goggles
- Disposable nitrile gloves
- Calculator

Laboratory Rules

- Safe lab practices must be carried out at all times in the lab

- There is to be NO food or drink in the lab
- There should be no cell phones out on the lab tables during lab
- No open toed shoes or flip flops are allowed
- Long trousers/pants should be worn in the lab sessions
- Latex gloves are available at all times for your use

Assessment

- Proformae - 70%
After each lab session, you will have one week to submit your completed proforma from the lab session. There will be 10 lab sessions in total with a proforma: these will be combined to provide a grade that will be worth 70% of your course grade.
- Report – 30%
You will be provided with information pertaining to a case scenario that includes forensic chemistry evidence. You will write a MAXIMUM of 1500 words evaluating the importance of the forensic chemistry evidence. This will be fully explained HALF WAY through this course with examples provided. The final report should be submitted to Canvas on, or before 7 pm on Friday 6th December 2024.

Grading

Please note, I use a slightly different grading system however the grade will be the same but the number range is different to what you are used to:

Grade	% Range
A	70 – 100
B	60 – 69
C	50 – 59
D	40 – 49
F	<39

Schedule of classes

Week	Date	Description	Submit/Assessment
1	09/12	Quality – accuracy & precision	Proforma by 5.45pm on 20 th September
2	09/19	Drug analysis – microscopy/presumptive tests	Proforma by 5.45pm on 26 st September
3	09/26	Extraction techniques (SPE, LLE, PP)	Proforma by 5.45pm on 3 rd October
4	10/03	Toxicology	Proforma by 5.45pm on 10 th October
5	10/10	Chromatography/mass spectrometry workshop (Dry lab)	Proforma by 5.45pm on 17 th October
6	10/17	No class (Please complete reading on Canvas)	
7	10/24	Fire	Proforma by 5.45pm on 31 st October
8	10/31	Accelerant analysis SEM-EDS and FTIR	

9	11/07	SEM-EDS and FTIR	Proforma by 5.45pm on 14 th November
10	11/14	Cross section preparation/fluorescence microscopy	Proforma by 5.45pm on 21 st November
11	11/21	FTIR of binders/pigments/paints	Proforma by 5.45pm on 28 th November
12	11/28	Thanksgiving – no class	
13	12/05	Clothing and fibre collection/transfer and persistence - microscopy	Proforma by 5.45pm on 9 th December