

# CHEM 3010 FORENSIC CHEMISTRY

**Credit Points** 10

**Legacy Code** 300868

**Coordinator** Brenden Riley (<https://directory.westernsydney.edu.au/search/name/Brenden Riley/>)

**Description** This unit extends the student's knowledge and understanding of chemical topics that are relevant to forensic investigations, and provides a deeper understanding of the underlying chemical and physical principles. Topics are taught in the context of the correct principles and procedures for collecting and conserving evidence, and the safe handling of chemical substances. Topics include an extended range of modern chemical instrumentation; the chemistry and analysis of various classes of drugs; clandestine drug laboratories; fire, arson and accelerants; explosions and explosives; and various forms of trace evidence (including textile fibres, glass and paint).

**School** Science

**Discipline** Forensic Science

**Student Contribution Band** HECS Band 2 10cp

Check your HECS Band contribution amount via the Fees ([https://www.westernsydney.edu.au/currentstudents/current\\_students/fees/](https://www.westernsydney.edu.au/currentstudents/current_students/fees/)) page.

**Level** Undergraduate Level 3 subject

**Pre-requisite(s)** NATS 2019 OR CHEM 2001

**Equivalent Subjects** CHEM 3009 - Forensic Chemistry

**Assumed Knowledge**

Knowledge of general and analytical chemistry equivalent to satisfactory completion of Chemistry 1, Chemistry 2, Essentials of Chemistry 1, Essentials of Chemistry 2 and a second year analytical chemistry subject.

## Learning Outcomes

On successful completion of this subject, students should be able to:

1. Apply advanced knowledge of a range of chemical topics that are relevant to forensic investigations, and give evidence of an understanding of the underlying chemical and physical principles.
2. Use modern chemical instrumentation for analysing forensic samples, and explain the underlying chemistry and physical principles of the analytical methods.
3. Collect and analyse chemical data, demonstrating appropriate laboratory skills, and incorporating relevant Quality Assurance and Work Health and Safety principles.
4. Handle chemical substances safely, and critically evaluate the risks associated with forensic casework, in the context of Work Health and Safety practices and legislation.
5. Write scientific laboratory reports and critically evaluate the relevance of forensic chemistry to professional forensic practice.
6. Understand the role of a forensic chemist in the investigation of criminal and terrorist incidents.

## Subject Content

- advanced instrumental methods for Analysing forensic samples.

- applications of Chemical instrumentation in real-time policing.
- Chemistry and analysis of illicit drugs.
- trace evidence such as textile fibres, glass and paint.
- Fire, arson and accelerants.
- Explosions and explosives.
- application of forensic Chemistry for The investigation of criminal and terrorist incidents.
- principles and practice of work health and safety and quality assurance in The recovery and analysis of Chemical residues.

## Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

Item	Length	Percent	Threshold	Individual/ Group Task
Case Study	No set length	30	N	Group
Report	2,000 words	30	N	Individual
Quiz	Assessment 1 (10%) Assessment 2 (15%) Assessment 3 (15%) 1 hours for each assessment	40	Y	Individual

Teaching Periods

## Autumn Hawkesbury

**Day**

**Subject Contact** Val Spikmans (<https://directory.westernsydney.edu.au/search/name/Val Spikmans/>)

View timetable ([https://classregistration.westernsydney.edu.au/even/timetable/?subject\\_code=CHEM3010\\_22-AUT\\_HW\\_D#subjects](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=CHEM3010_22-AUT_HW_D#subjects))