

NATS 3012 ENVIRONMENTAL FORENSIC INVESTIGATIONS

Credit Points 10

Legacy Code 300981

Coordinator Val Spikmans ([https://directory.westernsydney.edu.au/search/name/Val Spikmans/](https://directory.westernsydney.edu.au/search/name/Val%20Spikmans/))

Description This subject examines the forensic processes required to conduct investigations into environmental crime and incidents. The subject extends the student's knowledge and understanding of forensic science concepts to environmental scenarios, including illegal dumping, spills and water pollution incidents. The subject will discuss how scenes are investigated, what methods and techniques are used to analyse environmental samples, and how the results are interpreted and presented in the NSW Land and Environment Court. Factors effecting the collection, analysis and interpretation of evidence, such as weathering, are also discussed, as these are crucial to understand the scenes and to correctly present evidence in court.

School Science

Discipline Forensic Science

Student Contribution Band HECS Band 2 10cp

Check your fees via the Fees (https://www.westernsydney.edu.au/currentstudents/current_students/fees/) page.

Level Undergraduate Level 3 subject

Pre-requisite(s) NATS 2019 - Forensic and Environmental Analysis

Restrictions

Successful completion of 120 credit points

Learning Outcomes

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

1. Determine what is considered evidence in an environmental incident or crime scene.
2. Conduct environmental forensic investigations whilst maintaining evidence integrity and continuity.
3. Describe the quality management procedures necessary to collect and preserve environmental samples from the site of its recovery through to the laboratory and its presentation in court.
4. Explain the concepts of dilution effects, weathering effects and matrix effects and how to take these effects into account when collecting, analysing and interpreting environmental forensic evidence.
5. Apply theoretical and practical knowledge of a range of forensic science procedures and the associated equipment to forensically examine a range of evidence from environmental scenes.
6. Apply concepts of forensic identification and pattern matching to determine the source of evidence collected from an environmental case.
7. Communicate the results correctly in written form using appropriate language style, placing the findings in context of the forensic investigation.
8. Explain the appropriate acts, regulations and the expert witness code of conduct as it relates to the presentation of evidence in the NSW Land and Environment Court as an expert witness.

Subject Content

1. Explanation of what are environmental forensic investigations and the types of cases commonly encountered.
2. Theories and principles of conducting environmental forensic investigations, including evidence integrity and continuity and sampling protocols.
3. Theoretical and practical knowledge of a range of forensic science procedures and the associated equipment needed to forensically examine a range of evidence related to environmental incidents or crime scenes.
4. Issues of dilution effects, weathering effects and matrix effects for the collection, examination and interpretation of evidence.
5. Concepts of forensic identification and pattern matching for source determination of evidence collected from environmental crime scenes or incidents.
6. The presentation of results in the NSW Land and Environment Court, including the expression of results, appropriate acts and regulations, and the expert witness code of conduct.
7. Quality management procedures necessary to preserve evidence from the site of its recovery through to the laboratory and its presentation in court, including NATA accreditation.
8. Various case studies relevant to the unit content.

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.

Type	Length	Percent	Threshold	Individual/ Group Task	Mandatory
Report	maximum 2000 words	40	N	Individual	N
Short Answer	1 hour for each assessment Each assessment is equally weighted	30	N	Individual	N
Simulation	4 hours	30	N	Group	N

Teaching Periods

Autumn (2025)

Hawkesbury

On-site

Subject Contact Val Spikmans ([https://directory.westernsydney.edu.au/search/name/Val Spikmans/](https://directory.westernsydney.edu.au/search/name/Val%20Spikmans/))

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=NATS3012_25-AUT_HW_1#subjects)