

# NATS 7028 FORENSIC TOXICOLOGY I

**Credit Points** 10

**Legacy Code** 301136

**Coordinator** Ricky Spencer ([https://directory.westernsydney.edu.au/search/name/Ricky Spencer/](https://directory.westernsydney.edu.au/search/name/Ricky%20Spencer/))

**Description** This course has been developed to introduce students to the concepts, procedures, processes and terminology routinely encountered in the execution of applied forensic toxicological analyses. Our objective is to educate students in the theoretical aspects of drug and analytical chemistry applied to forensic toxicology. This subject is taught by the University of Florida as part of a collaborative venture between the University of Florida and Western Sydney University. Note: Further information on this subject is available from the University of Florida.

**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/](https://www.westernsydney.edu.au/currentstudents/current_students/fees/)) page.

**Level** Postgraduate Coursework Level 7 subject

## Restrictions

Students must be enrolled in 3741 Master of Forensic Science, 3742 Graduate Diploma in Forensic Science or 3743 Graduate Certificate in Forensic Science.

## Learning Outcomes

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

1. Be able to comfortably navigate the WWW and know how to locate and use web based resources for their interests and further education
2. Understand the procedures and principles involved in the preparation and analyses of drug and toxicology samples, including sample handling, note taking and storage
3. Understand the principles and theory of drug extraction procedures such as liquid-liquid extraction, solid phase extraction and the rationale behind screening, preliminary and confirmatory drug testing
4. Be familiar with common preliminary tests and understand the chemistry and theory of testing procedures which include thin layer chromatography, microcrystal tests and spot tests
5. Be familiar with common analytical techniques and their working mechanisms, including the chemistry and principles of confirmatory drug testing, the basic science of drug ionization, the elutropic series, normal and reverse phase chromatography, immunoassay techniques, infrared spectroscopy and Gas chromatography/mass spectroscopy
6. Be familiar with the testing procedures for the identification of common drugs of abuse
7. Understand the importance of, and the procedures involved in, quality assurance and quality control in drug testing and have a conceptual understanding of accuracy and precision, standard curves, reproducibility, limit of detection, linearity and stability

8. Be able to develop an analysis procedure for a given drug and to present findings in a report format
9. Be able to apply the presented concepts and procedures in the execution and completion of a virtual case study
10. Be able to use web based tools for communication and for the education of themselves and others

## Subject Content

Module 1 Sample Preparation and Presumptive Tests

Module 2 Sample Extraction and Thin Layer Chromatography

Module 3 Immunoassays

Module 4 Spectrophotometry in Forensic Chemistry

Module 5 Chromatography in Forensic Chemistry

Module 6 Method Development and Quality Control

Module 7 Forensic Identification of Drugs

## 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
Final Exam	Not specified	100	N	Individual	N

Teaching Periods

## Uni of Florida - Term 1 (2025)

### Online

#### Online

**Subject Contact** Ricky Spencer ([https://directory.westernsydney.edu.au/search/name/Ricky Spencer/](https://directory.westernsydney.edu.au/search/name/Ricky%20Spencer/))

View timetable ([https://classregistration.westernsydney.edu.au/odd/timetable/?subject\\_code=NATS7028\\_25-FT1\\_ON\\_2#subjects](https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=NATS7028_25-FT1_ON_2#subjects))

## Uni of Florida - Term 3 (2025)

### Online

#### Online

**Subject Contact** Ricky Spencer ([https://directory.westernsydney.edu.au/search/name/Ricky Spencer/](https://directory.westernsydney.edu.au/search/name/Ricky%20Spencer/))

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