

# NATS 7048 TOXIC SUBSTANCES

Credit Points 10

Legacy Code 301138

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

**Description** This subject, which is primarily book-based, will comprehensively provide the student with the fundamental concepts of toxicology as they relate to specific organ and tissue systems. We aim to supplement this information with online study guides, detailed module objectives and critical thinking exercises using online journal articles. The objective of this subject is to familiarize students with many of the most important toxic substances, their toxic effects, and ways to treat poisoned patients. Several example toxicants are presented and discussed in detail. There are literally tens of thousands of chemicals in commerce, and nature offers even greater numbers of chemicals to which individuals are exposed. According to the basic tenets of toxicology, any of these substances in sufficient doses is toxic, although some clearly are of greater health concern than others. The objective of this subject is to provide the student with information on the toxic properties of selected chemicals to illustrate principles regarding mechanisms of toxicity, the array of signs and symptoms associated with intoxication, approaches to clinical assessment of poisoning, and methods of treatment. Examples have been selected from several chemical classes and include agents that may be encountered occupationally, environmentally, in medicine, or in the context of substance abuse. 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

**Pre-requisite(s)** NATS 7030

## 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. Comfortably navigate the WWW and know how to locate and use web-based resources for their interest and further education
2. Understand the nature of acute, chronic, immediate and delayed symptoms of poisoning from drugs and chemicals
3. Understand the mechanisms by which the example drugs and chemicals produce toxic effects
4. Understand the use of laboratory tests to assist in the diagnosis and management of poisoned patients

5. Understand the circumstances in which individuals are typically poisoned with these agents
6. Understand the general approach to the treatment of chemical intoxication
7. Understand specific treatments available for the example toxicants and the mechanisms by which these treatments are effective
8. Use web based tools for communication and for the education of themselves and others

## Subject Content

Module 1 Principles of Managing the Poisoned Patient

Module 2 Carbon Monoxide

Module 3 Cyanide and Hydrogen Sulfide

Module 4 Acetaminophen

Module 5 Salicylates

Module 6 Opioids

Module 7 Cocaine

Module 8 Amphetamines

Module 9 Ethanol

Module 10 Arsenic

Module 11 Lead

Module 12 Mercury

Module 13 Organophosphate Pesticides

Module 14 Hydrocarbons

Module 15 Envenomation: Snakes and Other Reptiles

## 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

## Prescribed Texts

- Goldfrank's Toxicologic Emergencies Authors: Robert Hoffman, Mary Ann Howland, Neal Lewin, Lewis Nelson, and Lewis Goldfrank. Publishing: McGraw-Hill Professional; 10th edition (2014) ISBN-10: 0071801847 ISBN-13 978-0071801843

## Teaching Periods

## Uni of Florida - Term 2 (2025)

### Online

#### Online

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

View timetable ([https://classregistration.westernsydney.edu.au/odd/timetable/?subject\\_code=NATS7048\\_25-FT2\\_ON\\_2#subjects](https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=NATS7048_25-FT2_ON_2#subjects))