

# NATS 2024 INTEGRATED SCIENCE (WSTC)

**Credit Points** 10

**Legacy Code** 700096

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

**Description** Science and the scientific process of discovery have been successful in offering explanations for the world we live in. Due to scientific advances, we have eradicated some disease, explored the moon and the deepest parts of our oceans and created communication across distances on the planet previously unimaginable. We now face the major challenge of creating a future world which is sustainable for life on Earth. Solving our contemporary complex human and environmental issues to create a sustainable future, however, requires integrative and multidisciplinary research frameworks, an understanding of the relationship between science and society including cultural, social, economic, political and ethical factors. Students will critically examine such perspectives in a series of contemporary 'real-life' case studies such as climate change, indigenous health, medical breakthroughs, biodiversity loss, environmental sustainability and human-animal interactions. They will undertake research into the relationship of science integrated with society, and the uncertainty and bias of evidence in decision making. They will demonstrate their understanding by analysis of a contemporary issue by producing a scientific report and a powerpoint or video.

**School** Science

**Discipline** Natural and Physical Sciences, Not Elsewhere Classified.

**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 2 subject

**Equivalent Subjects** NATS 1011 - Integrated Science 1 AGEN 2001 - Science in Society NATS 2023 - Integrated Science

**Restrictions** Students must be enrolled at Western Sydney University, The College. Students enrolled in Extended Diplomas must pass 40 credit points from the preparatory subjects listed in the program structure prior to enrolling in this University level subject. Students enrolled in the combined Diploma/Bachelor programs listed below must pass all College Preparatory subjects listed in the program structure before progressing to the Year 2 subjects.

**Assumed Knowledge**

Oral and written communication skills.

## Learning Outcomes

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

1. Explain the nature of Science, the scientific process and discuss the role of science in society.
2. Discuss how different disciplines and perspectives integrate to seek sustainable solutions to human and environmental issues.
3. Identify and research a scientifically controversial topic and logically argue solutions from multiple perspectives (including ethical, social and political) to present a considered opinion.

4. Describe the ways in which scientists interact with each other, policy makers, managers and the wider community in contemporary 'real-life' issues.
5. Describe the cultural, social, economic and political factors underlying important scientific breakthroughs.
6. Critically analyse a complex contemporary issue integrating scientific ideas and express the findings for a non-scientific audience in the media.

## Subject Content

1. Nature of science and scientific research including bias, complexity and uncertainty.
2. Understanding complexity theory ? e.g. cynefin framework
3. Historical and policy context of science in society
4. Contemporary issues in modern science
5. Integrated and multidisciplinary framework required for sustainable solutions
6. Relationships between science and society including cultural, economic, political perspectives
7. Experts and knowledge ? the role of science in planning and decision making processes
8. Communication of science to the wider community

## 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
Quiz	45 minutes	15	N	Individual
Critique	500 – 600 words	20	N	Individual
Scientific Report	800-1000 words	30	N	Individual
Powerpoint presentation or video	10 minutes presentation	35	N	Individual

Teaching Periods