

NATS 2023 INTEGRATED SCIENCE

Credit Points 10

Legacy Code 300931

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

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 and political and ethical factors. Students will critically examine such perspectives in a series of contemporary 'real-life' case studies such as climate change, 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.

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/) page.

Level Undergraduate Level 2 subject

Equivalent Subjects NATS 1011 - Integrated Science AGEN 2001 - Science in Society NATS 2024 - Integrated Science (WSTC)

Learning Outcomes

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

1. Explain the nature of Science, the scientific process and the contemporary issues/mega problems of society and the role of science
2. List and explain the main fallacies used in arguments and distinguish between expert and novice understandings
3. Identify and describe a scientifically controversial topic and logically argue solutions from multiple perspectives (including ethical and social, 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 and communicate 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. Experts and knowledge ? the role of science in planning and decision making processes
3. Arguments and fallacies
4. Understanding of the contemporary issues/mega problems of society
5. Historical and policy context of science in society
6. Relationships between science and society including cultural, economic, political perspectives
7. 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
Case Study Report	1,500 words	40	N	Individual
Case Study Electronic Presentation	Various dependent on media selected: Video – 5 minutes, Written text (blog/ website etc.) - 1000 words, Social media page – 15 posts	30	N	Group
Final exam	2 hours	30	N	Individual

Teaching Periods