

NATS 3044 COMPLEX CASE STUDIES IN SCIENCE

Credit Points 10

Legacy Code 301261

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

Description Science and the scientific process of discovery have been successful in offering explanations for the world we live in. Even seemingly simple problems can disguise a far greater degree of complexity. Indeed, the more we develop our tools for scientific discovery the greater the degree of complexity that is revealed. Exploring and unravelling the complexity of the world we live in requires integrative and multidisciplinary research frameworks, and it can be complicated further by the relationship between science and society, culturally, socially, economically and politically. In this unit we will begin the life-long journey to develop the enquiring scientific mind by exploring the complexities of seemingly innocuous everyday elements. Students will critically examine such perspectives in a series of contemporary 'real-life' case studies such as foods and food security, medicines and drugs.

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 3 subject

Restrictions Students must have completed 80 credit points of study before commencing this subject.

Learning Outcomes

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

1. Articulate how seemingly simple problems and interactions hide complex information.
2. Analyse the complexity of the problem and develop a process to explore in greater detail the nature of the problem.
3. Apply research tools to pose solutions to the **complex** problem at hand.
4. Critically evaluate the ways in which scientists from different disciplines can work together to solve complex problems.

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. Understanding of the nature of the problem ? using literature to reveal complexity.
4. Developing skills to explore the nature of the problem ? seeing the unseen.
5. Communication of science peers, including the wider society as applicable.

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 |
|-------------------------|-------------|---------|-----------|-----------------------|
| Critical Review | 1,500 Words | 40 | N | Individual |
| Methodology Development | 1,000 words | 30 | N | Individual |
| Report | 500 words | 30 | N | Individual |

Teaching Periods

Spring Campbelltown Day

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

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=NATS3044_22-SPR_CA_D#subjects)

Hawkesbury Day

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View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=NATS3044_22-SPR_HW_D#subjects)

Composite

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View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=NATS3044_22-SPR_HW_C#subjects)

Parramatta - Victoria Rd Day

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View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=NATS3044_22-SPR_PS_D#subjects)