EART 3006 SCIENCE OF THE ANTHROPOCENE

Credit Points 10

Legacy Code 301212

Coordinator Jason Reynolds (https://directory.westernsydney.edu.au/search/name/Jason Reynolds/)

Description The subject explores how the earth has been irreversibly altered through human activities. Topics include-the composition of the ocean, land, and atmosphere, and the impacts humans have had on these systems. The subject looks at the detection and control of modern pollutants with a focus on field sampling and modelling of selected environmental systems. These topics will be brought to life in a two-day field trip to sites of significant anthropogenic impact.

School Science

Discipline Geochemistry

Student Contribution Band HECS Band 2 10cp

Check your fees via the Fees (https://www.westernsydney.edu.au/currentstudents/current_students/fees/) page.

Level Undergraduate Level 3 subject

Equivalent Subjects EART 3002 Environmental Geochemistry
EART 3003 Environmental Geochemistry

Restrictions

Successful completion of 120 credit points

Assumed Knowledge

A basic understanding of scientific enquiry including the periodic table, equilibria, and pH. Introductory statistics including mean, standard deviation, and distributions.

Learning Outcomes

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

1. Describe the chemistry of the surface of the Earth, and how it is modified by human activity.
2. Construct and detail the geochemical cycles of various elements
3. Studying the effects of equilibrium for acidity and alkalinity
4. Explain current environmental issues with a focus on the anthropocene
5. Discuss environmental quality criteria in terms of their significance and monitoring, remediation, and rehabilitation of various human-impacted environments.
6. Develop skills used to monitor environmental materials, including the design, construction, testing, and evaluation of a pollutant removal device.
7. Synthesise information on the impacts of the anthropocene for presentation to peers and an academic audience.

Subject Content

The formation of the solar system and Earth
The geological principles relating to elemental mobility
The impacts of humans cycling of elements
The artefacts of the Anthropocene on Earth
Current environmental issues and remediation
Field visits to sites having significant anthropogenic impact
The design and testing of devices to remove anthropogenic pollutants

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
Report	8 x 5%	40	N	Individual
Presentation	1 x 10 minutes	20	N	Individual
Practical	1x10 minutes	20	N	Group
Essay	2,000 words	20	N	Individual

Prescribed Texts

- Ellis, E. (2018) Anthropocene A Very Short Introduction. Oxford University Press. ISBN-13: 978-0198792987

Teaching Periods

Spring (2023)

Hawkesbury

On-site

Subject Contact Jason Reynolds (https://directory.westernsydney.edu.au/search/name/Jason Reynolds/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=EART3006_23-SPR_HW_1#subjects)

Spring (2024)

Hawkesbury

On-site

Subject Contact Jason Reynolds (https://directory.westernsydney.edu.au/search/name/Jason Reynolds/)

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=EART3006_24-SPR_HW_1#subjects)