

EART 7001 ADVANCED HYDROGEOLOGY

Credit Points 10

Legacy Code 301014

Coordinator Md Abdul Alim ([https://directory.westernsydney.edu.au/search/name/Md Abdul Alim/](https://directory.westernsydney.edu.au/search/name/Md%20Abdul%20Alim/))

Description This subject covers occurrence of groundwater, groundwater movement, groundwater hydraulics, water wells, quality of groundwater, groundwater modelling and groundwater management. The objectives of this subject are to enable students to learn the associated concept of groundwater and apply the learnt concepts in solving groundwater problems in advanced engineering practice.

School Eng, Design & Built Env

Discipline Hydrology

Student Contribution Band HECS Band 2 10cp

Level Postgraduate Coursework Level 7 subject

Restrictions

Students must be enrolled in a postgraduate program

Learning Outcomes

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

1. Apply knowledge of groundwater movement, groundwater hydraulics and water wells to solve hydrogeological problems.
2. Apply groundwater quality modelling techniques.
3. Evaluate groundwater pollution and management problems.
4. Analyse groundwater modelling and exploration techniques.
5. Evaluate current Australian codes and software to solve groundwater problems.
6. Critically evaluate current literature to benchmark recent problems and developments in groundwater engineering practice.
7. Design sustainable groundwater engineering projects.

Subject Content

1. Occurrence of groundwater
2. Groundwater movement
3. Groundwater and well hydraulics
4. Water wells
5. Groundwater levels and environmental influences
6. Quality of groundwater
7. Pollution of groundwater
8. Management of groundwater
9. Groundwater modelling
10. Groundwater investigation

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 |
|--------------------|-------------|---------|-----------|-----------------------|
| Intra-session Exam | 1 hour | 25 | N | Individual |
| Report | 5,000 words | 30 | N | Group |
| Final Exam | 2 hours | 45 | N | Individual |

Teaching Periods

Spring (2022)

Parramatta City - Macquarie St

Day

Subject Contact Md Abdul Alim ([https://directory.westernsydney.edu.au/search/name/Md Abdul Alim/](https://directory.westernsydney.edu.au/search/name/Md%20Abdul%20Alim/))

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=EART7001_22-SPR_PC_D#subjects)

Spring (2023)

Parramatta City - Macquarie St

On-site

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View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=EART7001_23-SPR_PC_1#subjects)