

# CIVL 3018 HYDROGEOLOGY

**Credit Points** 10

**Legacy Code** 301397

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

**Description** This subject covers principles of hydrogeology. It contains concepts related to 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 concept of groundwater and apply the learnt concepts in solving groundwater problems in engineering practice.

**School** Eng, Design & Built Env

**Discipline** Water and Sanitary Engineering

**Student Contribution Band** HECS Band 2 10cp

Check your fees 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 3 subject

**Pre-requisite(s)** CIVL 2003

**Equivalent Subjects** EART 3004 - Hydrogeology

## Learning Outcomes

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

1. Apply fundamental 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
Quiz	30 minutes each	20	N	Individual
Report	2,500 words	25	N	Group
Final Exam	2 hours	55	N	Individual

Teaching Periods

## Sydney City Campus - Term 3 (2023)

### Sydney City

**On-site**

**Subject Contact** Ankit Agarwal ([https://directory.westernsydney.edu.au/search/name/Ankit Agarwal/](https://directory.westernsydney.edu.au/search/name/Ankit%20Agarwal/))

View timetable ([https://classregistration.westernsydney.edu.au/odd/timetable/?subject\\_code=CIVL3018\\_23-SC3\\_SC\\_1#subjects](https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=CIVL3018_23-SC3_SC_1#subjects))

## Sydney City Campus - Term 2 (2024)

### Sydney City

**On-site**

**Subject Contact** Ataur Rahman ([https://directory.westernsydney.edu.au/search/name/Ataur Rahman/](https://directory.westernsydney.edu.au/search/name/Ataur%20Rahman/))

View timetable ([https://classregistration.westernsydney.edu.au/even/timetable/?subject\\_code=CIVL3018\\_24-SC2\\_SC\\_1#subjects](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=CIVL3018_24-SC2_SC_1#subjects))

## Spring (2024)

### Penrith (Kingswood)

**On-site**

**Subject Contact** Ataur Rahman ([https://directory.westernsydney.edu.au/search/name/Ataur Rahman/](https://directory.westernsydney.edu.au/search/name/Ataur%20Rahman/))

View timetable ([https://classregistration.westernsydney.edu.au/even/timetable/?subject\\_code=CIVL3018\\_24-SPR\\_KW\\_1#subjects](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=CIVL3018_24-SPR_KW_1#subjects))

### Parramatta - Victoria Rd

**On-site**

**Subject Contact** Ataur Rahman ([https://directory.westernsydney.edu.au/search/name/Ataur Rahman/](https://directory.westernsydney.edu.au/search/name/Ataur%20Rahman/))

View timetable ([https://classregistration.westernsydney.edu.au/even/timetable/?subject\\_code=CIVL3018\\_24-SPR\\_PS\\_1#subjects](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=CIVL3018_24-SPR_PS_1#subjects))