EART 7002 ADVANCED STATISTICAL HYDROLOGY

Credit Points 10

Legacy Code 301013

Coordinator Ataur Rahman (https://directory.westernsydney.edu.au/search/name/Ataur Rahman/)

Description This subject covers at-site flood frequency analysis, regional flood frequency analysis, trend analysis of hydrological data, linear regression analysis and multivariate statistical techniques to solve advanced hydrological problems.

School Eng, Design & Built Env

Discipline Hydrology

Student Contribution Band HECS Band 2 10cp

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

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 at-site flood frequency analysis techniques to estimate design floods from recorded streamflow data.
2. Apply regional flood frequency analysis techniques to estimate design floods when no recorded streamflow data is available.
3. Apply trend analysis to rainfall and streamflow time series data to check the stationarity of the data.
4. Apply linear regression analysis to develop prediction models to estimate streamflow and rainfall indices.
5. Apply multivariate statistical techniques to hydrological problems.
6. Evaluate current Australian codes and software to solve statistical hydrological problems.
7. Critically evaluate current literature to benchmark recent problems and developments in statistical hydrology practice.
8. Design sustainable hydrology projects.

Subject Content

1. At-site flood frequency analysis
2. Regional flood frequency analysis
3. Trend analysis of hydrological data
4. Linear regression analysis as applied to hydrological problems
5. Multivariate statistical techniques as applied to hydrological problems

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 (2023)

Parramatta City - Macquarie St

On-site

Subject Contact Ataur Rahman (https://directory.westernsydney.edu.au/search/name/Ataur Rahman/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=EART7002_23-SPR_PC_1#subjects)