

# MATH 3005 ENVIRONMENTAL INFORMATICS

**Credit Points** 10

**Legacy Code** 301035

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

**Description** Today, the environment is becoming more and more in the public eye. Methods of environmental monitoring and data analysis are an important source of information for science, business and government regulation. This subject aims to give students a good introduction to environmental informatics and the analysis of spatio-temporal data.

**School** Computer, Data & Math Sciences

**Discipline** Statistics

**Student Contribution Band** HECS Band 1 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)** MATH 1028 OR  
MATH 1003 OR  
MATH 1030

## Learning Outcomes

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

1. Design an environmental sampling program
2. Use and interpret control charts
3. Estimate and interpret Tolerance and Prediction Intervals
4. Use statistical software to conduct time series analyses
5. Use statistical software to analyse spatial data

## Subject Content

1. Environmental Sampling
2. Prediction and Tolerance Intervals
3. Control Charts
4. Time Series - Trend and Autocorrelation
5. Autoregressive and Moving Average Process
6. Models for Spatial Data
7. Modelling Spatial Correlation

## 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
Numerical Problem Solving	15 mins for each of 10 weeks	24	N	Individual
Quiz	3 quizzes of 30 minutes each	12	N	Individual

Applied Project	To consist of 10 or so pages of text and computer output, equivalent to approx. 2000 words	14	N	Group
Final Exam	One exam of 2 hours	50	N	Individual

Teaching Periods

## Spring (2023)

### Campbelltown

#### On-site

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

View timetable ([https://classregistration.westernsydney.edu.au/odd/timetable/?subject\\_code=MATH3005\\_23-SPR\\_CA\\_1#subjects](https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=MATH3005_23-SPR_CA_1#subjects))

### Parramatta - Victoria Rd

#### On-site

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## Spring (2024)

### Parramatta - Victoria Rd

#### On-site

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