# MATH 3005 ENVIRONMENTAL INFORMATICS

**Credit Points** 10

**Legacy Code** 301035

**Coordinator** Than Pe (https://directory.westernsydney.edu.au/search/name/Than Pe/)

**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/) 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 | Mandatory |
|---|---|---|---|---|---|
| Numerical Problem Solving | 15 mins for each of 10 weeks | 24 | N | Individual | N |
| Quiz | 3 quizzes of 30 minutes each | 12 | N | Individual | N |
| Applied Project | To consist of 10 or so pages of text and computer output, equivalent to approx. 2000 words | 14 | N | Group | N |
| Final Exam | One exam of 2 hours | 50 | N | Individual | N |