

# COURSE DETAIL

## NUMERICAL METHODS & STATISTICS

**Country**

Australia

**Host Institution**

University of New South Wales

**Program(s)**

University of New South Wales

**UCEAP Course Level**

Upper Division

**UCEAP Subject Area(s)**

Statistics Mathematics

**UCEAP Course Number**

146

**UCEAP Course Suffix****UCEAP Official Title**

NUMERICAL METHODS & STATISTICS

**UCEAP Transcript Title**

NUM METHODS & STATS

**UCEAP Quarter Units**

6.00

**UCEAP Semester Units**

4.00

## Course Description

This course examines numerical methods and statistics essential in a wide range of engineering disciplines. Numerical methods covers computing with real numbers, numerical differentiation, integration, interpolation and curve fitting (regression analysis), solution of linear and nonlinear algebraic equations, matrix operations and applications to solution of systems of linear equations, elimination and tri-diagonal matrix algorithms, and an introduction to numerical solution of ordinary and partial differential equations. Statistics covers exploratory data analysis, probability and distribution theory including the Binomial, Poisson and Normal distributions, large sample theory including the Central Limit Theorem, elements of statistical inference including estimation, confidence intervals and hypothesis testing, one sample and two-sample t-tests and F-tests, simple and multiple linear regression and analysis of variance and statistical quality control.

### Language(s) of Instruction

English

### Host Institution Course Number

MATH2089

### Host Institution Course Title

NUMERICAL METHODS & STATISTICS

### Host Institution Campus

### Host Institution Faculty

### Host Institution Degree

### Host Institution Department

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