

# Course Outline

**Title:** GENETIC ALGORITHMRS

**Code:** ITECH7609

**Formerly:** CP914

**Faculty / Portfolio:** Faculty of Science and Technology

**Level:** Advanced

**Pre-requisites:** Nil

**Co-requisites:** Nil

**Exclusions:** Nil

**Credit Points:** 15

**ASCED Code:** 020109

## Objectives:

After successfully completing this course, students should be able to:

## Content:

Topics may include:

- Design and implementation of various GA based algorithms.
- Relationship of GA modelling with natural evolution.
- Design and implementation of a proper GA model for application specific problems.
- Selection of the appropriate architecture for a GA based model.
- The nature of convergence for GA.
- Schemata theorem.
- Difference between GA and Genetic Programming.
- Design and implementation of parallel GA.

## Assessment:

The assignment task will be divided into 2-3 sub tasks, each focussing on the implementation of a GA based algorithm for different types of application areas.

Students will be engaged in a combination of lectures and tutorials. Lectures will develop and deliver the sets of principles and concepts that are applied in GA. Student's active participation, in both lectures and tutorials, will be required. Hands-on projects will be included in the tutorials so that students will have a feel of GA and its applications.

Assessment Task	Assessment Type	Weighting
Practical demonstration of programming and modelling	Lab Work & Assignments	40 - 50%

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Class attendance and exercises, reading from reference material and lecture notes	Examination	50 - 60%
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### Adopted Reference Style:

APA

### Presentation of Academic Work: