Course Outline (Higher Education)

School: School of Science, Engineering and Information Technology

Course Title: ANALYTICS PROJECT 1

Course ID: MATHS3002

Credit Points: 15.00

Prerequisite(s): (MATHS2016 or STATS2101)

Co-requisite(s): Nil

Exclusion(s): Nil

ASCED: 010101

Description of the Course :

This course provides students with opportunities to apply the theoretical aspects of their mathematics and analytics studies in a practical application. The student chooses a problem to solve in conjunction with a supervisor from the academic staff.

Grade Scheme: Graded (HD, D, C, etc.)

Work Experience:

No work experience: Student is not undertaking work experience in industry.

Placement Component: No

Program Level:

Level of course in Program	AQF Level of Program					
	5	6	7	8	9	10
Introductory						
Intermediate						
Advanced			✔			

Learning Outcomes:

Knowledge:

K1. Identify the processes and methodologies for problem solving or data analysis.
K2. Recognise how to plan the presentation of technical information to suit an audience.
K3. Define a particular problem and identify appropriate techniques for its analysis or solution.

Skills:

S1. Compile information related to the problem.
S2. Combine techniques or practical analytical skills beyond those acquired in other courses.
S3. Collaborate with a supervisor and team members if applicable.
S4. Translate results of the project in written and oral forms to specialist and general academic audiences.

Application of knowledge and skills:

A1. Justify the analytical techniques selected.
A2. Produce a written report on the results of the analysis or computation.

Course Content:

This course will provide students with an opportunity to undertake a significant work project based on their prior study in mathematics and statistics. The course coordinator may allow a team of students to work collaboratively on a project. Each project will have an allocated supervisor. The main emphasis will be on understanding the problem, being aware of the context of the problem, constructing a strategy for solution and communicating the results. The supervisor and course coordinator will provide guidance in terms of major milestones to help students plan and manage their project. Students may propose their own topic with the agreement of the Course Coordinator, provided the project is appropriate in scope and level of technical difficulty and the student has secured a supervisor.

Values:

V1. Appropriate reporting of the results of the analysis or computation.
V2. Act appropriately within a collaborative research environment.

Learning Task and Assessment:

Students will negotiate and complete a project in an area related to a topic of applied or pure mathematics or statistics covered in their coursework. This task will involve: [1] clear definition of the problem, [2] research and reporting of appropriate techniques, [3] working individually and collaboratively, [4] preparation and delivery of technical presentations, written and oral. The final assessment will be based on student`s performance in application of methods and in communication. The following components of the project will typically be considered when the project is assessed: [1] project plan, research / literature review; [2] meetings with supervisor; [3] oral presentations and [4] an articulated and appropriate methodology for problem solving or data analysis.

Learning Outcomes Assessed	Learning Tasks	Assessment Type	Weighting
K1, K2, S1	Present an initial formulation of the problem.	Oral presentation	5-30%

Learning Outcomes Assessed	Learning Tasks	Assessment Type	Weighting
K1, K3, S1, S2, S3, S4	Preparation of a report detailing the problem and its context, mathematical or statistical techniques used, demonstrating the application of those techniques and communicating the results or solution of the problem within the given context.	Written report	40 - 80%
K2, S4	Give a 15 - 30 minute oral presentation summarising the problem and solution or analysis that has been performed.	Oral presentation	10 - 40%

Adopted Reference Style:

Australian Harvard