



Subject:	Mathematics (MA) - Core
Subject Outline:	This subject is designed to introduce and develop all mathematical knowledge and skills required for entry to undergraduate studies.
Objectives:	On successful completion of this subject, students will be able to: <ol style="list-style-type: none"> 1. Apply mathematical concepts to solve mathematical problems (GA 2, 4, 5); 2. Apply mathematical concepts to real life/simulated situations (GA 2, 4, 5); 3. Draw and interpret graphs of mathematical functions (GA 2, 4, 5); 4. Apply mathematical concepts to solve a practical problem/s in a team situation (GA 2, 4, 5, 6); 5. Deliver a presentation to a group, identifying and evaluating a mathematics problem (GA 1, 4, 5, 6).
Graduate Attributes (GA):	On completion of the Foundation Program, students will be able to: <ol style="list-style-type: none"> 1. Communicate effectively in English in a variety of contexts, circumstances and modes 2. Demonstrate relevant, practical and theoretical knowledge in a subject area 3. Apply relevant academic literacy skills in a subject area 4. Apply relevant numeric literacy skills in a subject area 5. Apply critical, analytical thinking, and problem solving skills for academic contexts 6. Work independently and collaboratively in a cross-cultural context 7. Demonstrate academic integrity
Contact Time:	<ul style="list-style-type: none"> ➤ Standard Students – Four (4) hours per week including one (1) hour tutorial ➤ Express Students – Six (6) hours per week. ➤ Extended Students – As for standard students, but with an additional 7-week intensive introduction comprising of 7 hours a week including a minimum of 2 hrs tutorial per week.
Attendance:	Students are expected to attend all classes and tutorials. Attendance is highly valued as there is a high correlation between attendance and academic success. Attendance is monitored as described in the attendance policy.
Tutorials:	Once per week the classes are taken by tutors who work on a program that is designed to assist with questions of a problem solving nature. The tutors work through different problem solving techniques, with an emphasis on the setting up procedures that assist students navigate their way through challenging questions.
Student Textbook:	The students are given a textbook which has been specifically designed for this course and is constantly being updated to suit the needs of the students.
Content:	<ul style="list-style-type: none"> ● Arithmetic and geometric sequences and series ● Logarithms ● Linear equations, inequalities and linear programming ● Graphs ● Quadratic functions and equations ● Binomial theorem ● Geometry ● Rates of Change ● Integration ● Probability ● Statistics ● Inferential Statistics



Students in the Standard Program are assessed through the following assessment activities:

Assessment Activity	Description	Weighting
Progress Test 1 & 2	Students will complete two tests (90 minutes in length) throughout the course. Each test has two sections: Section A contains content/skill questions and Section B contains problem solving questions. Each test is worth 20%. The sections are weighted at 80% and 20% respectively.	40%
Mid Course Exam	Students will sit an exam (up to 2 hours in length) which covers all topics covered in the first half of the course. The exam has two sections: Section A contains content/skill questions and Section B contains problem solving questions. The sections are weighted at 80% and 20% respectively.	20%
Project	Students are required to conduct a statistics research project.	10%
Seminar	Students are required to lead a brief seminar which involves presenting to the class the results of the completed project work.	5%
Self Assessment Tests (SATs)	These are online homework tasks set throughout the course that are based on the chapters in the student textbook.	5%
Final Exam	Students will sit an exam (up to 2 hours in length) which covers all topics covered in the second half of the course. The exam has two sections: Section A contains content/skill questions and Section B contains problem solving questions. The sections are weighted at 80% and 20% respectively.	20%

Students in the Express Program are assessed through the following assessment activities:

Assessment Activity	Description	Weighting
End of Trimester Exams	Students will complete three tests (up to 2 hours in length) throughout the course. Each test has two sections: Section A contains content/skill questions and Section B contains problem solving questions. Each test is worth 20%. The sections are weighted at 80% and 20% respectively.	60%
Project	Students are required to conduct a statistics research project.	20%
Seminar	Students are required to lead a brief seminar which involves presenting to the class the results of the completed project work.	10%
Self Assessment Tests (SATs)	These are online homework tasks set throughout the course that are based on the chapters in the student textbook.	10%