



Mathematical Methods Units 3 & 4

In Unit 3, students will learn about functions (including power, logarithmic, exponential, trigonometric) and their transformations. Students will learn about the relationship between functions and their inverses. Students will also study calculus (including differentiation, antidifferentiation, area between curves).

SEMESTER ONE UNIT 3

Outcome	SAC/SAT
Outcome 1 Define and explain key concepts as specified in the content from the areas of study, and apply a range of related mathematical routines and procedures.	SAC 1 – Application task A function and calculus-based mathematical investigation. Approximately one week in duration. CAS and notes allowed.
2. Apply mathematical processes in non-routine contexts, and analyse and discuss these applications of mathematics.	SAC 1 – Application task A function and calculus-based mathematical investigation. Approximately one week in duration. CAS and notes allowed.
3. Select and appropriately use a computer algebra system to develop mathematical ideas, produce results and carry out analysis in situations requiring problem-solving, modelling or investigative techniques or approaches.	SAC 1 – Application task A function and calculus-based mathematical investigation. Approximately one week in duration. CAS and notes allowed.
For all SACs allowed material include <ul style="list-style-type: none">• 2xA4 double sided notes• One CAS calculator allowed• One Scientific calculator allowed	

SEMESTER TWO UNIT 4

The main focus of Unit 4 is probability, including discrete random variables and continuous random variables. Students will work with the mean, median, variance and standard deviation. Additionally, in Unit 4, students will learn about statistical inference and confidence intervals.

Outcome	SAC/SAT
<p>Outcome 1 Define and explain key concepts as specified in the content from the areas of study, and apply a range of related mathematical routines and procedures.</p>	<p>SAC 2 – Modelling/Problem solving Consists of topics from Units 3 & 4. Approximately 2 to 3 periods in duration. CAS and notes allowed.</p> <p>SAC 3 - Modelling/Problem solving Focused on probability and statistics. Approximately 2 to 3 periods in duration. CAS and notes allowed.</p>
<p>2. Apply mathematical processes in non-routine contexts, and analyse and discuss these applications of mathematics.</p>	<p>SAC 2 – Modelling/Problem solving Consists of topics from Units 3 & 4. Approximately 2 to 3 periods in duration. CAS and notes allowed.</p> <p>SAC 3 - Modelling/Problem solving Focused on probability and statistics. Approximately 2 to 3 periods in duration. CAS and notes allowed.</p>
<p>3. Select and appropriately use a computer algebra system to develop mathematical ideas, produce results and carry out analysis in situations requiring problem-solving, modelling or investigative techniques or approaches.</p>	<p>SAC 2 – Modelling/Problem solving Consists of topics from Units 3 & 4. Approximately 2 to 3 periods in duration. CAS and notes allowed.</p> <p>SAC 3 - Modelling/Problem solving Focused on probability and statistics. Approximately 2 to 3 periods in duration. CAS and notes allowed.</p>
<p>For all SACs allowed material include</p> <ul style="list-style-type: none"> • 2xA4 double sided notes • One CAS calculator allowed • One Scientific calculator allowed 	