ROTOTUNA SENIOR HIGH SCHOOL COURSE OUTLINE



COURSE INFORMATION

MASTERY CALCULUS

MCAL

2026

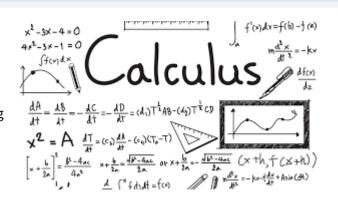
MATHEMATICS

HE AHA TE WHAKAMAARAMATANGA O TEENEI MARAU? - WHAT IS THIS COURSE ABOUT?

"Do not worry about your difficulties in mathematics. I can assure you mine are still greater"

Albert Einstein

Extend your knowledge of calculus as we dive into the mathematical study of change. In this course we will explore the relationships between variables at a fundamental level. We will wield infinity as a tool to make verifiable claims about the finite world. Imaginary numbers will come to life and so too will your understanding of mathematics.



HE AHA TAAKU E AKO AI? - WHAT TYPES OF LEARNING ACTIVITIES WILL I DO?

This course will develop your algebra and calculus skills as you engage in a range of different learning activities such as:

- How to graph conic sections and animate them using parametric equations.
- How to find solutions to equations involving complex numbers.
- How to differentiate and integrate functions in a range of different applications.

EOTC OPPORTUNITIES & COMMUNITY CONNECTION	PATHWAYS	COURSE REQUIREMENTS (IF APPLICABLE)			
None planned at present	PREFERRED PRIOR LEARNING: SALGC	Maths bookGraphics/Scientific Calculator			
	LEADS ON TO (FURTHER STUDY): STEM fields (Science, Technology, Engineering & Maths)	(Graphics calculator preferred)			

ASSESSMENT OPPORTUNITIES

STANDARD(S)												
ESTIMATED DUE DATE	STANDARD & VERSION	NCEA SUBJECT	LEVEL	STANDARD TITLE	CREDIT	Ш	NUM	<u>UE R</u>	<u>UE W</u>	I/E	ASSESSMENT MODE	FURTHER ASSESSMENT OPPORTUNITY
LATE TERM 1	AS91573 Version 2	CALCULUS	3	Apply the geometry of conic sections in solving problems	3	NO	Υ	NO	NO	1	TEST	N
TERM 4 EXAMS	<u>AS91577</u> Version 2	CALCULUS	3	Apply the algebra of complex numbers in solving problems	5	NO	Υ	NO	NO	Е	EXAM	N
TERM 4 EXAMS	<u>AS91578</u> Version 2	CALCULUS	3	Apply differentiation methods in solving problems	6	NO	Y	NO	NO	Е	EXAM	N
TERM 4 EXAMS	<u>AS91579</u> Version 2	CALCULUS	3	Apply integration methods in solving problems	6	NO	Υ	NO	NO	Е	EXAM	N
SUBJ	SUBJECT ENDORSEMENT AVAILABLE			SUBJECT CREDIT TOTAL	20	<u>UE APPROVED</u> IN CALCULUS						

FREQUENTLY ASKED QUESTIONS

- What happens if I am struggling to meet a deadline?
 - o If you have a legitimate reason, you can apply for an extension. More information and the extension form can be found <u>here</u>.
- Can I use AI in my assignments?
 - Usually not for assessed work, but on occasion yes, depending on what stage of the assignment you are at. Using AI can often result in a <u>breach of NCEA rules</u>. Please read <u>the Authenticity section</u> on Te Hinaki carefully and ask your teacher for guidance before you use AI.
- Can I get a resubmission on assessments?
 - Resubmissions may be offered if, in the opinion of the teacher assessing it, you are close to the Achieved grade boundary. More information about this can be found here.
 - o If you think there has been a mistake with how your assignment has been graded, there is an appeals process you can follow. Go here for more information.
- What's the difference between a RESUBMISSION and a FURTHER ASSESSMENT OPPORTUNITY?
 - A **resubmission** may be offered by your teacher after an assessment has been marked if, at the teacher's discretion, your work was given NOT ACHIEVED but is close to the ACHIEVED boundary. A resubmission will allow you to do extra work for a short period of time (usually about an hour), without any further teaching, to bring the grade from a NOT ACHIEVED to an ACHIEVED. No higher grade than this is possible for a resubmission.
 - A further assessment opportunity is a brand new assessment task for a Standard that is offered to students after further teaching has occurred. This is offered to all students in the course, although not everyone is obliged to take it up. The higher of the two grades will be reported to NZQA. Because further assessment opportunities require extra teaching time and extra time to complete the assessment it is often not feasible for further assessment opportunities to be offered.