Mathematics Specialist ATAR

Year 11 Course Code	AEMAS – **Delivered off-campus**
Year 12 Course Code	ATMAS – **Delivered off-campus**
Pre-requisite	**Year 11:** OLNA Category 3 Band 8 or above in NAPLAN A or B grade in Year 10A course **Recommendation by Head of Learning Area**
	Year 12: An A, B or high C grade in Year 11 Maths Specialist ATAR
Cost	$60.00 (cost is approximate – subject to change)

Year 11 and Year 12 Course Overview

This course provides opportunities, beyond those presented in the Mathematics Methods ATAR course, to develop rigorous mathematical arguments and proofs, and to use mathematical models more extensively. Mathematics Specialist contains topics in functions and calculus that build on and deepen the ideas presented in the Mathematics Methods course, as well as demonstrate their application in many areas. The Mathematics Specialist course extends understanding and knowledge of statistics and introduces the topics of vectors, complex numbers and matrices. Mathematics Specialist is the only ATAR mathematics course that should not be taken as a stand-alone course, and it is recommended to be studied in conjunction with the Mathematics Methods ATAR course as preparation for entry to specialised university courses such as engineering, physical sciences and mathematics.

Year 11 Course Structure

Unit 1:
- Combinatorics
- Vectors in the plane
- Geometry

Unit 2:
- Trigonometry
- Matrices
- Real and complex numbers

Year 12 Course Structure

Unit 3:
- Complex numbers
- Functions and sketching graphs
- Vectors in three dimensions

Unit 4:
- Integration and applications of integration
- Rates of change and differential equations
- Statistical inference