Government of **Western Australia**
School Curriculum and Standards Authority

MATHEMATICS METHODS

ATAR course

Year 12 syllabus – What's changing: Rationale and Aims

For teaching in 2027

Acknowledgement of Country

Kaya. The School Curriculum and Standards Authority (the Authority) acknowledges that our offices are on Whadjuk Noongar boodjar and that we deliver our services on the country of many traditional custodians and language groups throughout Western Australia. The Authority acknowledges the traditional custodians throughout Western Australia and their continuing connection to land, waters and community. We offer our respect to Elders past and present.

Background

As part of the Western Australian Certificate of Education (WACE) Refreshment for reviewing the nomenclature of courses, the Authority has updated the rationale and aims of each syllabus.

The revised rationale and aims are aligned with the mapping of the general capabilities to provide clear connections between the rationale, aims and syllabus content. The rationale outlines what the subject is about and why it is important. It describes what students can expect to study in the course, along with the knowledge, skills and understandings they will develop throughout the course. It also explains how these can be applied in everyday life and references potential future pathways, outlining how students might connect what they learn in the course to further education, training and employment opportunities.

Important information

WACE Refreshment: Reviewing the nomenclature of courses

This document contains information that will be included in the syllabus effective from 1 January 2027.

Users of the syllabus are responsible for checking its currency.

Syllabuses are formally reviewed by the Authority on a cyclical basis, typically every five years.

Rationale

The Mathematics Methods ATAR course is the study of calculus and statistical analysis in applied and theoretical contexts. It focuses on developing students' ability to use mathematical concepts and techniques to solve problems, analyse data and model real-world phenomena.

The course focuses on exploring differentiation and integration techniques to solve practical problems, including those involving logarithmic functions. The course furthers the application of statistics through probability distributions in applied and theoretical contexts and statistical inference.

By studying this course, students develop a strong foundation in mathematical reasoning, critical thinking and analytical problem-solving. They gain fluency in manipulating algebraic expressions, interpreting mathematical models and using statistical methods and probability techniques to draw meaningful conclusions from data. The course fosters students' ability to communicate mathematical arguments clearly and logically.

The mathematical skills and concepts covered in the course have broad applications in daily life and various professional fields. Students apply their knowledge of calculus to analyse and optimise real-world situations, such as understanding growth rates, motion and measurement calculations. Their understanding of probability and statistical inference allows students to make informed decisions by estimating outcomes and assessing risks in various contexts.

The Mathematics Methods ATAR course provides a strong foundation for students intending to pursue tertiary studies in engineering, computer science, physics, economics, health sciences and data analytics. Careers in areas such as actuarial science, medicine, finance and research heavily depend on mathematical reasoning and statistical analysis, making the study of Mathematics Methods highly beneficial.

Aims

The Mathematics Methods ATAR course aims to develop students':

- understanding of concepts and techniques drawn from algebra, functions, calculus, probability and statistics
- ability to apply mathematical knowledge to solve applied and theoretical problems
- proficiency in reasoning and interpretation within mathematical and statistical contexts
- capacity to communicate findings clearly and systematically, using precise and appropriate mathematical and statistical language
- confidence to select and use digital tools appropriately and efficiently to support problem-solving and data analysis.