

Summary of changes to Years 11 and 12 Mathematics Applications ATAR

Overall

The Mathematics Applications ATAR course was originally adopted in 2015 with minimal modifications from the ACARA General Mathematics course.

The course has been updated to remove content that is in the Years 7–10 curriculum and to ensure it remains relevant, contemporary and aligned with what students need to know as they progress into further study of mathematics. Syllabus points have been refined to strengthen the intent of the course and to ensure alignment and continuity between the revised Western Australian Curriculum: Mathematics in Year 10 and the Mathematics Applications course.

General

- Repetition of content from the Years 7–10 Mathematics curriculum has been removed.
- Content has been reworded to emphasise the application of the mathematics and to include contexts suitable to the age group.
- Content has been reorganised to provide a developmental progression from Year 10 and between Year 11 and Year 12.
- Content has been included to enhance understanding of concepts from Years 7–10 and strengthen the applications in context.
- The notional time requirements for each topic within the units have been removed to allow flexibility in the time planned by teachers to deliver content, based on the prior learning of their student cohort.
- The assessment types have been renamed to include descriptions that reflect the intentions of the course as an application of mathematics.
- The Examination design brief – Year 12 has been modified to consist of only one section. It is assumed that candidates sitting the examination have a calculator with CAS capabilities for the examination.

Organisation of content

Mathematics Application ATAR course content		
Unit	Current	Proposed
Unit 1	• Consumer arithmetic • Algebra and matrices • Shape and measurement	• Graphs, networks and matrices • Functions and formulas • Financial mathematics
Unit 2	• Univariate data analysis and the statistical investigation process • Applications of trigonometry • Linear equations and their graphs	• Univariate data analysis • Measurement and scale • Graphical applications

Mathematics Application ATAR course content		
Unit	Current	Proposed
Unit 3	- Bivariate data analysis - Growth and decay in sequences - Graphs and networks	- Bivariate data analysis - Growth and decay in sequences - Pythagoras and trigonometry in two dimensions - Graphs and networks in action
Unit 4	- Time series analysis - Loans, investments and annuities - Networks and decision mathematics.	- Time series analysis - Loans and investments - Decision mathematics

Unit content changes

Key content changes have been identified below. Teachers **must** consult the curriculum for a comprehensive understanding of changes.

- Content has been removed from matrices and reorganised along with graphs and networks to include non-weighted graphs in Year 11 and weighted graphs in Year 12.
- Applications of exponential and quadratic functions, and simultaneous linear inequalities have been included as a natural progression of Year 10 core content.
- Measurement has been reorganised and distributed over the Year 11 and Year 12 syllabuses.
- Financial mathematics has been updated to include content relevant to this phase of schooling.

Types of assessment

- The assessment types have been renamed to include descriptions that reflect the intentions of the course as an application of mathematics.

Mathematics Applications ATAR School based assessment			
Year 11			
Current		Proposed	
Type	Weighting	Type	Weighting
Response	40	Response	40
Investigation	20	Modelling task/Statistical investigation	20
Examination	40	Examination	40
Year 12			
Current		Proposed	
Type	Weighting	Type	Weighting
Response	40	Response	40
Investigation	20	Modelling task	10
		Statistical investigation	10
Examination	40	Examination	40

Examination design brief

- The examination has been modified from a Calculator-free section and a Calculator-assumed section to one Calculator-assumed section consisting of two parts.

Mathematics Applications ATAR Year 12 Examination design brief	
Current	Proposed
Section One: Calculator-free 35% of the total examination 5 - 10 questions Working time: 50 minutes	Part A: Practical problems 35% of the total examination 5 - 10 short answer questions Suggested working time: 50 minutes
Section Two: Calculator-assumed 65% of the total examination 8 - 13 questions Working time: 100 minutes	Part B: Extended application problems 65% of the total examination 8 - 13 extended questions Suggested working time: 100 minutes