Year 11 Mathematical Methods

Work rate calendar (WRC) 2024 — Term 1

All students are expected to participate in all online lessons and complete all assessment as outlined in this **Work rate calendar**.
Teachers may adjust topics, class work, assessment and submission dates. Adjustments will be communicated via QLearn or during lessons.

Assessment	
Supervised assessment	Summative exams are to be supervised by the student's official exam supervisor.
Non-supervised assessment	Students must sign declaration of academic integrity.

Week	Dates	Unit	Topic	Class work / Assessment to be submitted
1	22 Jan – 26 Jan	Unit 1	Monday 22 January — Welcome calls for students: Prep – Year 12 Wednesday 24 January — Learning for success: Prep – Year 12 Friday 26 January — Australia Day Holiday **Topic 2 Functions and graphs** Lesson 1 Solving quadratics — factorising	
2	29 Jan – 2 Feb		Lesson 1 Solving quadratics — completing the square and quadratic formula Lesson 2 Sketching quadratic functions Lesson 3 Determining the quadratic function from a graph	**Pre-requisite Test:** Due Monday 29 January
3	5 Feb – 9 Feb		Friday 9 February — Senior orientation day: Years 10–12 Lesson 1 Quadratic functions — modelling Lesson 2 Functions Lesson 3 Catch-up/Tutorial if available	
4	12 Feb – 16 Feb		Lesson 1 Function notation, domain and range Lessons 2 and 3 Transformations	
5	19 Feb – 23 Feb		Lesson 1 Powers and polynomials Lesson 2 Factor theorem Lesson 3 The cubic function	
6	26 Feb – 1 Mar		Lesson 1 Piece-wise functions and applications **FA1 – Assignment** Lesson 2 Assignment intro Lesson 3 Graphs of relations (circle and sideways parabola)	**FA1 released:** Monday 26 February
7	4 Mar – 8 Mar		Lesson 1 The quartic function Lessons 2 and 3 Work on assignment	**FA1 Checkpoint 1:** To be submitted to QLearn by Monday 4 March
8	11 Mar – 15 Mar		Lesson 1 Applications of cubic functions Lesson 2 Hyperbolas and inverse proportion Lesson 3 Assignment draft feedback	**FA1 Checkpoint 2: Draft** To be submitted to QLearn by 5 pm Monday 11 March
9	18 Mar – 22 Mar		**Exams: Year 11** Monday 18 March – Friday 22 March	
10	25 Mar – 29 Mar		Thursday 28 March — Cross country / Fun run: Prep – Year 12 Friday 29 March — Good Friday **Topic 3 Counting and probability** Lesson 1 Probability review, relative frequencies Lesson 2 Conditional probability Lesson 3 Catch-up/Tutorial if available	**FA1 Checkpoint 3: Final** To be submitted to QLearn by 5 pm Monday 25 March

LEGEND | Class work — send-in | Summative assessment | Exam block | School events | Public holidays | Student free day

Year 11 Mathematical Methods

Work rate calendar (WRC) 2024 — Term 2

All students are expected to participate in all online lessons and complete all assessment as outlined in this **Work rate calendar**.
Teachers may adjust topics, class work, assessment and submission dates. Adjustments will be communicated via QLearn or during lessons.

Assessment	
Supervised assessment	Summative exams are to be supervised by the student's official exam supervisor.
Non-supervised assessment	Students must sign declaration of academic integrity.

Week	Dates	Unit	Topic	Class work / Assessment to be submitted
1	15 Apr – 19 Apr	Unit 1	**Topic 3 Counting and probability** Lesson 1 Independent events, combinations Lessons 2 and 3 Binomial expansion — Pascal's triangle	
2	22 Apr – 26 Apr		Thursday 25 April — Anzac Day **Topic 4 Exponential functions 1** Lesson 1 Indices and the index laws **Topic 1 Arithmetic and geometric sequences and series 1** Lesson 2 Arithmetic sequences and applications Lesson 3 Catch-up/Tutorial (if available)	
3	29 Apr – 3 May		Lesson 1 Arithmetic series **Topic 5 Arithmetic and geometric sequences and series 2** Lesson 2 Geometric sequences and applications Lesson 3 Geometric series	
4	6 May – 10 May		Monday 6 May — Labour Day **Revision** Lessons 1–3 Revision	
5	13 May – 17 May		**Revision and exam** Lessons 1–3 Revision	**FA2 Exam** To be received at BrisbaneSDE by 5 pm Friday 17 May
6	20 May – 24 May	Unit 2	**Topic 3 Trigonometric functions 1** Lesson 1 Exact values and radian measure Lesson 2 Unit circle, boundary angles Lesson 3 Unit circle, periodicity, exact values in radians	
7	27 May – 31 May		Lesson 1 Unit circle, periodicity, exact values in radians Lessons 2 and 3 Trigonometric graphs and transformations	
8	3 Jun – 7 Jun		Lesson 1 and 2 Solving equations involving trigonometric functions Lesson 3 Modelling trigonometric functions	
9	10 Jun – 14 Jun		Monday 10 June – Thursday 13 June — School camp: Year 11 Lesson 1 (if available) Modelling trigonometric functions	
10	17 Jun – 21 Jun		Friday 21 June — Athletics carnival / Sports day: Prep – Year 12 Lesson 1 (if available) Modelling trigonometric functions (if not completed in W9 L1) **Topic 1 Exponential functions 2** Lesson 2 Features of exponential functions and their graphs **Topic 2 The logarithmic function 1** Lesson 3 Logarithms	

LEGEND: Class work — send-in | Summative assessment | Exam block | School events | Public holidays | Student free day

Year 11 Mathematical Methods

Work rate calendar (WRC) 2024 — Term 3

All students are expected to participate in all online lessons and complete all assessment as outlined in this **Work rate calendar**.
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Assessment	
Supervised assessment	Summative exams are to be supervised by the student's official exam supervisor.
Non-supervised assessment	Students must sign declaration of academic integrity.

Week	Dates	Unit	Topic	Class work / Assessment to be submitted
1	8 Jul – 12 Jul	Unit 2	**Topic 1 Exponential functions 2** Lesson 1 Modelling exponential functions Lesson 2 Solving equations involving exponential functions **Topic 4 Introduction to differential calculus** Lesson 3 Rates of change and the concept of derivatives	
2	15 Jul – 19 Jul		Lesson 1 Rates of change – first principles Lesson 2 Derivative rule for power and polynomial functions Lesson 3 Properties and computations of derivatives	
3	22 Jul – 26 Jul		Lesson 1 Instantaneous rate of change, equation of the tangent Lesson 2 Instantaneous rate of change, equation of the normal Lesson 3 Displacement-time graphs	
4	29 Jul – 2 Aug		Lesson 1 Stationary points Lesson 2 Sketching polynomials Lesson 3 Optimisation function given	
5	5 Aug – 9 Aug		Lesson 1 Optimisation function not given **Topic 5 Further differentiation and applications 1** Lesson 2 Differentiation rules — product, quotient rules Lesson 3 Differentiation rules — composite functions, chain rule	
6	12 Aug – 16 Aug		Wednesday 14 August — Royal Queensland (Ekka) Show Holiday Lesson 1 Differentiation rules — combinations of the three rules **Topic 6 Discrete random variables 1** Lesson 2 Discrete random variables and applications Lesson 3 Catch-up/Tutorial if available	
7	19 Aug – 23 Aug		Lesson 1 Discrete random variables and applications Lesson 2 Non-uniform discrete random variables, mean, variance and standard deviation **Revision** Lesson 3 Revision	
8	26 Aug – 30 Aug		Friday 30 August — Student free day **Revision** Lessons 1–3 Revision	
9	2 Sept – 6 Sept		**Revision** Lessons 1–3 Revision	**FA3 Exam** To be received at BrisbaneSDE by 5 pm Thursday 5 September
10	9 Sept – 13 Sept		**Exams: Year 11** Monday 9 September – Thursday 12 September Friday 13 September — Connect excursion: Years 10–12	

Disclaimer: Information contained in this document is correct at time of publishing.

LEGEND | Class work — send-in | Summative assessment | Exam block | School events | Public holidays | Student free day

Year 11 Mathematical Methods

Work rate calendar (WRC) 2024 — Term 4

All students are expected to participate in all online lessons and complete all assessment as outlined in this **Work rate calendar**.
Teachers may adjust topics, class work, assessment and submission dates. Adjustments will be communicated via QLearn or during lessons.

Assessment	
Supervised assessment	Summative exams are to be supervised by the student's official exam supervisor.
Non-supervised assessment	Students must sign declaration of academic integrity.

Week	Dates	Unit	Topic	Class work / Assessment to be submitted
1	30 Sept – 4 Oct	Unit 3	**Topic 1 The logarithmic function 2** Lesson 1 Unit 3 overview, Logarithmic laws and definitions Lesson 2 Logarithmic scales Lesson 3 Solving equations involving indices	
2	7 Oct – 11 Oct		Monday 7 October — King's Birthday Holiday **Topic 1 The logarithmic function 2** Lesson 1 Features of the logarithmic function Lesson 2 Solving logarithmic equations and modelling Lesson 3 Catch-up/Tutorial if available	
3	14 Oct – 18 Oct		**Topic 2 Further differentiation and applications 2** Lesson 1 The exponential function, Euler's constant, limits Lesson 2 Natural logarithms Lesson 3 Derivative of exponential and natural logarithmic functions	
4	21 Oct – 25 Oct		Lesson 1 Assignment Introduction and walkthrough Lessons 2 and 3 Work on assignment	**IA1 released:** Monday 21 October
5	28 Oct – 1 Nov		Lesson 1 Modelling by exponential functions and their derivatives Lesson 2 Practical problems involving logarithmic functions Lesson 3 Review of trigonometric functions	**IA1 Checkpoint 1:** To be submitted to QLearn by Monday 28 October
6	4 Nov – 8 Nov		Lesson 1 Derivatives of trigonometric functions Lesson 2 Modelling practical problems involving trigonometric functions and their derivatives Lesson 3 Assignment draft feedback	**IA1 Checkpoint 2: Draft** To be submitted to QLearn by 5 pm Monday 4 November
7	11 Nov – 15 Nov		Lesson 1 Assignment draft feedback Lessons 2 and 3 Differentiation rules	
8	18 Nov – 22 Nov		**Exams: Year 11** Monday 18 November – Friday 22 November Friday 22 November — Aquatic carnival: Prep – Year 11 Friday 22 November — Final day: Years 10–11	**IA1 Checkpoint 3: Final** To be submitted to QLearn 5 pm Monday 18 November
9	25 Nov – 29 Nov			
10	3 Dec – 6 Dec			
11	9 Dec – 13 Dec			

LEGEND: Class work — send-in | Summative assessment | Exam block | School events | Public holidays | Student free day