

The five subject outcomes for Mathematics in Practice are:

1. **Clarify a problem**
2. **Choose a model to solve a problem**
3. **Use a model to solve a problem**
4. **Interpret and check the solution to a problem**
5. **Communicate an obtained result**

During the year, we will cover four topics with each topic lasting about 8 weeks.
For each topic, there will be two projects and one test.
Projects assess outcomes 1 to 5 and tests assess outcomes 1 to 4.

Rating Procedure for each outcome:

Outcomes 1-4

- V** A **V** on 6 or more tasks and at least half the remaining tasks are at **H**.
H An **H** on 6 or more tasks and at least half the remaining tasks are at **S**.
S An **S** on 6 or more tasks.
N If 7 or more tasks are **N**.

Outcome 5

- V** A **V** on 4 or more tasks and at least half the remaining tasks are at **H**.
H An **H** on 4 or more tasks and at least half the remaining tasks are at **S**.
S An **S** on 4 or more tasks.
N If 5 or more tasks are **N**.

Also students must demonstrate at least one **S** rating for each outcome in each of the three topics, otherwise an **N** will be awarded for that outcome. Students who have not achieved an **S** may be offered a supplementary assessment task in order to have another opportunity to demonstrate the outcome, provided they have submitted *all* assessment tasks.

The ratings for each outcome are then used to determine a student's grade.

Performance Criteria

- U grade** will be awarded if a student does not finish the course, or if insufficient assessment tasks have been submitted to be able to award a grade.
- E grade** will be awarded if a student gets a **Not demonstrated** in 3 or more of the outcomes.
- D grade** Satisfactory or better in 3 of the outcomes.
- C grade** Satisfactory or better in **ALL** outcomes
- B grade** High in 3 of the outcomes, and **Satisfactory** or better in the remainder.
- A grade** Very high in 3 of the outcomes, **High** or better in at least one other outcome and **no Not demonstrated** outcomes.

Policy on late submission of work

The relevant section at the rear of the Student Work Record states:

A task in a Wholly School Assessed/Common Assessment Framework subject received up to three school days after due date will achieve a maximum of an "S" (Satisfactory) Performance Rating. After three days the task will not be assessed and the student will receive an "ND" (Not Demonstrated) Performance Rating. The weekend will count as one day.

Sometimes students believe that they can submit projects at any time up to the end of the year. This it is not the case in Modelling with Mathematics. Each project has a due date and students' work must be submitted by this date. In exceptional circumstances an extension may be granted, but this must be negotiated with the teacher prior to the due date.

Students who fail to submit *all* the assessment tasks risk receiving a "U" grade for the course. This can have implications for secondary graduation.

Year 11 Mathematics in Practice

Teachers: Mr Weaver and Miss Key

This programme is intended as a broad guide of the planned delivery of Mathematics in Practice. Actual timing may vary depending on the demands of the course and the time available to individual classes.

Term 1

Week	Content	Assessments	Notes
0 (Fri 1 Feb) 1 4 – 8 Feb	Introduction to the course. - Outline expected organisational skills - Distribute and go through Curriculum Council documentation, program, etc. - Explain assessment regime, grading scheme, homework expectation - Orientation Activities		- Evacuation & Lock Down this week. - Sec. Awards Assembly on Monday - School photos Tuesday - TAFE begins on Wednesday
2 11 – 15 Feb	Begin topic 1: Outdoor Maths (Measurement) - Lesson 1 (p.4): Metric Units. - Lesson 2 (p.8): Estimation. - Lesson 3 (p.12): Direct Measurement. - Lesson 4 (p.15): Volume and Capacity		
3 18 – 22 Feb	- Lesson 5 (p.18): Mass and Weight. - Lesson 6 (p.21): Scale Diagrams - Lesson 7 (p.25): Solving problems using scale diagrams. - Lesson 8 (p.29): Bearings.		Secondary house swimming carnival Monday
4 25 Feb - 1 Mar	- Lesson 9 (p.33): Mapping - Lesson 10: (p.33ff) Mapping (cont.) - Lesson 11 (p.37): Pythagorean Theorem 1 - Lesson 12 (p.42): Pythagorean Theorem 2	Issue structured project 1: The Meeting Place Project work	- Wet Trades - Swimming camp Thursday and Friday

Week	Content	Assessments	Notes
5 4 – 8 Mar		Project work	Monday: Labour Day holiday
6 11 – 15 Mar	- Lesson 13 (p.46): Surveying a rectangle - Lesson 14 (p.50): Length of the hypotenuse - Lesson 15 (p.55): Surveying a right-angled triangle	Completed Project 1 due	ACC Secondary Interschool Swimming Carnival Friday
7 18 – 22 Mar	- Lesson 16 (p.60): Trigonometry: the tangent ratio. - Lesson 17 (p.63): Finding a side length - Lesson 18 (p.68) Finding an angle size - Lesson 19 (p.73) Sine and cosine ratios - Lesson 20 (p.77): Finding the hypotenuse	Issue structured project 2: Window Cleaning	
8 25 – 29 Mar		- Project work Test 1 part 1	
9 1 – 5 Apr		- Project work Test 1 part 2 Completed project 2 due	- Year 11 parent interviews - Easter Service Wednesday - Good Friday

Term 2

Week	Content	Assessments	Notes
1 22 – 26 Apr	Begin topic 2: Budgeting and Credit - Lesson 1 (p.81): Origins of money - Lesson 2 (p.83): Earning money - Lesson 3 (p.87): Piecework, Fees		- Monday is pupil free - ANZAC Day service Tuesday - ANZAC Day Wednesday
2 29 Apr – 3 May	- Lesson 4 (p.90): Commission - Lesson 5 (p.91): Comparing pays - Lesson 6 (p.95): Personal Budgets - Lesson 7 (p.98): Spending	Issue structured project 3: Leaving Home	Wet Trades
3 6 – 10 May		Project work	
4 13 – 17 May	- Lesson 8 (p.102): Discounts - Lesson 9 (p.105): Best buys	- Project work Completed project 3 due	Secondary State Schools Cross Country
5 20 – 24 May	- Lesson 10 (p.109): Money and Cars - Lesson 11 (p.113): Credit cards, lay-by - Lesson 12 (p.119): Borrowing - Lesson 13 (p.123): Reducible interest	Issue structured project 4: Which Bank? Which Credit Card?	
6 27 May – 31 May		Project work	Exams
7 3 – 7 Jun		Project work	- Foundation Day Monday - Staff Retreat Tuesday, Wednesday - Exams
8 10 – 14 Jun	- Lesson 14 (p.125): Hire Purchase - Lesson 15 (p. 128): Saving Money - Lesson 16 (p.134): Compound interest - Lesson 17 (p.137): Currency exchange	Completed project 4 due	

Week	Content	Assessments	Notes
9 <i>17 – 21 Jun</i>	- Lesson 18 (p.141): Travel - Lesson 19 (p.146): Income tax	Test 2 part 1 Test 2 part 2	
10 24 – 28 Jun	Begin topic 3: Chance & Data - Lesson 1 (p.151): Probability - Lesson 2 (p.154): How fair is that? - Lesson 3 (p.156): Equally likely - Lesson 4 (p.158): Experimental probability		
11 1 – 7 Jul	- Lesson 5 (p.160): Probability models - Lesson 6(p.162) Theoretical probability - Lesson 7 (p.165) Relative Frequency - Lesson 8 (p.167) Expectation	Structured Project 5 issued: Is it fair?	No TAFE on Wednesday

Term 3

Week	Content	Assessments	Notes
1 22 – 26 Jul	- Lesson 9 (p.169): Complementary Events and Compound Probability - Lesson 10 (p.172): Odds	Project work	- Monday, Tuesday are pupil free - Evacuation & Lock Down Exercises This Week
2 29 Jul – 2 Aug	Collect - Lesson 11 (p.174): Using Random Numbers - Lesson 12 (p.176): Join the queue - Lesson 13: Simulation of the TAB - Lesson 14: Further simulation	Completed Structured Project 5 due	House Athletics Carnival on Friday
3 5 – 9 Aug	- Lesson 15 (p.184): Sampling - Lesson 16 (p.187): Capture – recapture - Lesson 17 (p.190): Simulated Sampling - Lesson 18 (p.192): Reliability		
4 12 – 16 Aug	Lesson 19 (p.195): More queues	Structured Project 6 issued: The Interview Project work	
5 19 – 23 Aug		Project work	
6 26 – 30 Aug	Begin topic 4: In Two Dimensions - Lesson 1 (p.197): Topology - Lesson 2 (p.199): Network Theory	Completed Project 6 due Test 3	Wet trades
7 2 – 6 Sep	- Lesson 3 (P.203): Interpreting Networks - Lesson 4 (P.209): Drawing Networks - Lesson 5 (p.213): Traversability - Lesson 10 (p.223): Travelling networks (I)		Athletics excursion Thursday

Week	Content	Assessments	Notes
8 9 – 13 Sep	- Lesson 11 (p.226): Travelling networks (II) - Lesson 12 (p.229): Shortest path problem - Lesson 13 (p.231): Shortest path exercises - Lesson 14 (p.234): The Round Trip	Structured project 7 issued: Jamie's Gardening Service	
9 16 – 20 Sep		Project work	Interschool athletics Friday
10 23 – 27 Sept	Lesson 6 (p.216): Delivery problem	- Project work Completed Project 7 due	

Term 4

Week	Content	Assessments	Notes
1 14 – 18 Oct	Lesson 7 (p.220): Small business problem 1		- Monday is pupil free - Year 11 retreat Wednesday–Friday
2 21 – 25 Oct	- Lesson 8 (p.221): Small business problem 2 - Lesson 9 (p.222): Small business problem 3	Structured Project 8 Issued: A Small Business Decision	House farewell to Year 12s on Wednesday
3 28 Oct – 1 Nov		Project work	
4 4 – 8 Nov	- Lesson 15 (p.237): Shortest connection problem - Lesson 16 (p.240): Shortest connection exercises Lesson 17 (P.242): Reticulation	Structured Project 8 due Test 4	

* Some students will be at TAFE on Wednesdays

Student:

Mathematics in Practice: Record of Performance

Task	Outcome 1 Clarifies a problem	Outcome 2 Chooses a model to solve a problem	Outcome 3 Uses a model to solve a problem	Outcome 4 Interprets and checks the solution to a problem	Outcome 5 Communicates an obtained result
Topic 1: Outdoor Mathematics (Measurement)					
Project: The Meeting Place					
Project: Window Cleaning					
Test 1					
Topic 2: Budgeting and Credit (Number)					
Project: Leaving Home					
Project: Which Bank? Which Credit Card?					
Test 2					
Topic 3: Chance and Data					
Project: Is it Fair?					
Project: The Interview					
Test 3					
Topic 4: In Two Dimensions (Space)					
Project: Jamie's Gardening Service					
Project: A Small Business Decision					
Test 4					
Overall					
Grade:					