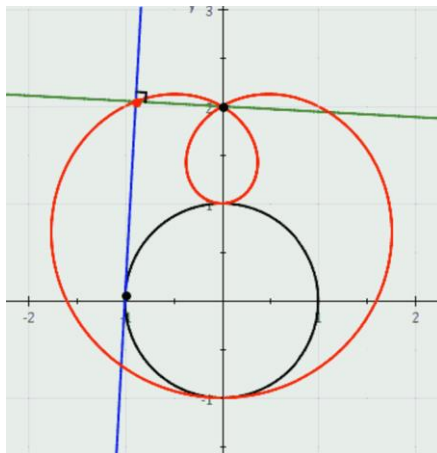


015 TCE Points

$$\sum_{n=1}^{\infty} \frac{1}{n^2} = \frac{\pi^2}{6}$$

$$i^2 = -1$$

$$e^{i\pi} = -1$$



$$\left[\begin{array}{ccc|c} 1 & 0 & 3 & 4 \\ 0 & 1 & 2 & -1 \\ 0 & 0 & c & b \end{array} \right]$$

$$\int_0^1 \frac{1}{1+x^2} = \frac{\pi}{4}$$

You will work through the following units as part of Mathematics Specialised.

- **Sequences and Series**
- **Complex Numbers**
- **Matrices and Linear Transformations.**
- **Differential Calculus**
- **Integral Calculus**

How you'll be assessed:

Common types of internal assessments are:

- Assignments (used to give feedback also known as formative assessment).
- End of unit criteria tests
- A midyear exam.
- A short in class exam on the calculus criteria.

To be successful in this subject students will

- Retain a solid understanding of concepts from mathematical methods.
- Work consistently and proactively to maintain progress.

The external assessment for this subject is a 3 hour exam. The dates for external exams in November are non-negotiable.

COMPLETION OF WORK POLICY

Assessment due dates are provided in the Program of Learning and on Canvas. Work must be submitted by the due date unless an approved extension has been granted. Unapproved late submissions will incur penalties as outlined in the *Completion of Work Policy*. Students needing extensions should contact their subject teacher before the due date with valid reasons, such as illness or unforeseen circumstances.

For more details refer to the Launceston College: [Completion of Work Policy](#).

ACADEMIC INTEGRITY

All senior secondary students in Tasmania are expected to uphold academic integrity, meaning they complete their work honestly and fairly. This includes properly referencing any ideas, images, or information borrowed from others, allowing teachers to distinguish between original and sourced content.

Assignments will be submitted through Canvas, email, hard copy as directed in the task sheet.

For more details, refer to the Launceston College: [Academic Integrity Policy](#).

REFERENCING

Referencing is not required for this subject. But students are reminded that fully working is expected for solutions (as was the case in mathematical methods).

COURSE DOCUMENT

The TASC website provides considerable information about the course. [Mathematics Specialised - TASC](#)

OTHER COURSE REQUIREMENTS

The texts are written by Steve Watson and cost slightly less than \$100. Purchase will be arranged for those who need a set in early term 1 (keep in mind previous students may wish to sell their copies 2nd hand).

A CAS calculator whilst not essential will be extremely useful.

Week	Date	Program of Learning 2025	Notes / Assessments
1	6 Feb	C4 Patterns, Arithmetic, Geometric sequences E1	Yr 11s and 12's return February 8
2	10 Feb	C4 Sequences Notation, $\sum r, r^2, r^3$, E2	
3	17 Feb	C4 $\sum AP$, $\frac{1}{AP}$ E8, E6	
4	24 Feb	C4 Proof by induction. E7	Wed 26 Feb – Launceston Cup
5	3 Mar	C4 Geometric sequence convergence E3	1 st C4 Assignment. Minor Assessment. C1, C2, C3 E1, E2, E6, E8
6	10 Mar	C4 Sequences Convergence, Divergence, Rigging Method E4, E5	Mon 10 Mar – Public Holiday
7	17 Mar	C4 Maclaurin Series E9 C4 Sequences E6 revision	2 nd C4 Assignment. Minor Assessment C1, C2, C3 E3, E4, E5, E7, E8
8	24 Mar	Revision	Test. Major Assessment. C2, C4
9	31 Mar	C8 Complex Arithmetic, Conjugate E1	
10	7 Apr	C8 Complex Quadratics, nth roots, Polynomials E4	
Term 1 break – Saturday 12 April – Sunday 27 April			
1	28 Apr	C8 Complex Numbers Polar Coordinates, Euler E2	
2	5 May	C8 Complex Equation solving. E5, E6	1 st C8 Assignment. Minor Assessment C1, C2, C3 E1, E4, E6
3	12 May	C8 Regions of Argand Plane E3	2 nd C8 Assignment. Minor Assessment C1, C2, C3 E1, E2, E3, E4, E5, E6
4	19 May	revision	Complex Numbers Test. Major Assessment C2, C8 Elements: E1, E2, E3, E4, E5, E6
5	26 May	C5 Matrix Arithmetic, Inverses E1, E2	
6	2 June	C5 Linear Transformations E6, E7	
7	9 June	C5 Linear Transformations, Areas, Gauss Jordan Method E8, E3	
8	16 June	C5 Gauss Jordan Method & Lines and planes E4, E5	
9	23 June		Mid-Year Assessments Level 3 & 4
10	30 June		Mid-Year Assessments Level 3 & 4
Term 2 break – Saturday 5 July – Sunday 20 July			
1	21 July	Revision	Matrices Test, Major assessment C2, C5 Elements: E1, E2, E3, E4, E5, E6, E8
2	28 July	C6 Differentiation Review, implicit differentiation, E1, E2	
3	4 Aug	C6 Differentiation of Inv Trig Functions, Graph Sketching E3, E5	1 st C6 Assignment Diff. Minor Assessment C1, C2, C3 E2, E3, E5
4	11 Aug	C6 Areas and Volumes, E4	
5	18 Aug	C6 Review and C7 (mtm4) Integration review and techniques E3, E4, E1, E2	2 nd C6 Assignment Diff Minor Assessment C1, C2, C3 E3, E4
6	25 Aug	Revision	Differentiation Test. Major Assessment C2, C6 E2, E3, E4, E5
7	1 Sep	C7 Integration techniques E1, E2	
8	8 Sep	C7 Differential equations E5, E6	1st Assignment Minor Assignment C1, C2, C3 E1, E2, E3, E5
9	15 Sep	C7 Differential equations E5, E6	2nd Assignment. Minor Assessment C1, C2, C3 E1, E3, E5, E6
10	22 Sep	C7 revision	Integration Test. Major Assessment C2, C7 E1, E2, E3, E4, E5, E6
Term 3 break – Saturday 27 September – Sunday 12 October			
1	13 Oct	revision and retests	Calculus mini exam
2/3/4	20 Oct	revision and retests	

ASSESSMENT

Criterion-based assessment helps students see how well they're meeting course outcomes at the end of their study. While there is continuous feedback to guide learning, final assessments focus on showing what students have achieved by the end. Ratings are given as 'A', 'B', or 'C', based on course standards. A 't' indicates partial achievement below a 'C', and a 'z' means no evidence provided.

Schools follow TASC's quality assurance to keep standards consistent. More details are on the [TASC website](#). Final awards are based on both internal and TASC-supervised external assessments.

Criteria

1. communicate mathematical ideas and information
2. apply mathematical reasoning and strategies in problem solving situations
3. use resources and organisational strategies
4. solve problems and use techniques involving finite and infinite sequences and series*
5. solve problems and use techniques involving matrices and linear algebra*
6. use differential calculus and apply integral calculus to areas and volumes*
7. use techniques of integration and solve differential equations*
8. solve problems and use techniques involving complex numbers*

Note: * denotes criteria that are both internally and externally assessed

Award Requirements

The minimum requirements for an award in *Mathematics Specialised* Level 4 are as follows:

EXCEPTIONAL ACHIEVEMENT (EA)

11 'A' ratings, 2 'B' ratings (4 'A' ratings and 1 'B' rating in the external assessment)

HIGH ACHIEVEMENT (HA)

5 'A' ratings, 5 'B' ratings, 3 'C' ratings (2 'A' ratings, 2 'B' ratings and 1 'C' rating in the external assessment)

COMMENDABLE ACHIEVEMENT (CA)

7 'B' ratings, 5 'C' ratings (2 'B' ratings and 2 'C' ratings in the external assessment)

SATISFACTORY ACHIEVEMENT (SA)

11 'C' ratings (3 'C' ratings in the external assessment)

PRELIMINARY ACHIEVEMENT (PA)

6 'C' ratings

A learner who otherwise achieves the ratings for a CA (Commendable Achievement) or SA (Satisfactory Achievement) award but who fails to show any evidence of achievement in one or more criteria ('z' notation) will be issued with a PA (Preliminary Achievement) award.