PRE-APPROVED LEARNING AND ASSESSMENT PLAN

Stage 1 Mathematics

*This pre-approved learning and assessment plan is aligned with Stage 1 Pre-Mathematical Methods and Specialist Mathematics Program 4 – Semester 3.*

Pre-approved learning and assessment plans are for *school use only*.

* Teachers may make changes to the plan, retaining alignment with the subject outline.
* The principal or delegate endorses the use of the plan, and any changes made to it, including use of an addendum.
* The plan does not need to be submitted to the SACE Board for approval.

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| School |  | Teacher(s) |  |

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| SACESchool Code |  | Year |  | Enrolment Code |  | Program Variant Code (A–W) |
| Stage | Subject Code | No. of Credits (10 or 20) |
|  |  |  |  | **1** | **M** | **A** | **M** | **10** |  |

**Addendum – changes made to the pre-approved learning and assessment plan**

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| Describe any changes made to the pre-approved learning and assessment plan to support students to be successful in meeting the requirements of the subject. In your description, please explain:* what changes have been made to the plan
* the rationale for making the changes
* whether these changes have been made for all students, or for individuals within the student group.
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**Endorsement**

The use of the learning and assessment plan is approved for use in the school. Any changes made to the plan support student achievement of the performance standards and retain alignment with the subject outline.

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| Signature of principal or delegate |  | Date |  |

| **Stage 1 Mathematics****Assessment Overview** |
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| The table below provides details of the planned tasks and shows where students have the opportunity to provide evidence for each of the specific features of both assessment design criteria |
| Assessment Type and Weighting | Name and details of assessment | Assessment Design Criteria | Assessment conditions(e.g. task type, word length, time allocated, supervision) |
| C&T | R&C |
| Skills and Applications TasksWeighting 75% | **SAT 1: Topic 9 – Vectors In The Plane** Students demonstrate knowledge of the key questions and key concepts within subtopics 9.1, 9.2, 9.3 and 9.4. SAT 1 is divided into two parts:**Part 1**: Focus on subtopics 9.1, 9.2 and 9.3. This will be the longer of the two parts and will require the use of calculators. **Part 2:** Focus on subtopic 9.4. The task will focus on geometric proof work.Part 1 will focus on both routine and complex type questions whilst part 2 will focus on questions more complex in nature. The complex questions require students to apply the key concepts to solve problems in a variety of contexts and some require interpretation of the results. Construction of graphical representations may be required to support their problem-solving strategies. | 1,2,3,4  | 1,2,3,4,5 | Supervised written assessment.Part 1 : 40 minutes Calculator permittedPart 2 : 20 minutes No calculator permitted1 A4 page of handwritten notes  |
| **SAT 2: Topic 12 – Real and Complex Numbers.** Mathematical knowledge and skills based upon the key questions and key content from subtopics 12.2, 12.3, 12.4 and 12.5 are assessed. The assessment includes both routine and complex problems, some requiring interpretation. Conjectures will be developed and tested. Appropriate and effective use of electronic technology is expected. Clear and logical communication of solutions and correct use of notation and terminology are required. | 1,2,3,4 | 1,2,3,4,5 | Supervised written assessment.Total time: 60 minutes Calculator permitted1 A4 page of handwritten notes  |
| **SAT 3: Topic 10 – Further Trigonometry.**  Students demonstrate knowledge of the key questions and key concepts from subtopics 10.1 (part) and 10.2.Routine questions will require algebraic solutions to simple trigonometric equations and relationships.The complex questions require students to apply the key concepts to solve problems in a variety of contexts in relation to solving trigonometric equations and incorporating relations. Some require interpretation of the results. Construction of graphical representations will be required to support algebraic solutions to some trigonometric equations.Appropriate and effective use of electronic technology is expected. Clear and logical communication of solutions and correct use of notation and terminology are required. | 1,2,3,4 | 1,2,3,4 | Supervised written assessment.Total time: 60 minutes Calculator permitted1 A4 page of handwritten notes  |
| Mathematical InvestigationWeighting 25% | **Bezier Curves**Students look at an application of vectors in Topic 9. They will investigate how to model Quadratic Bezier curves using points and vectors, building on the skills learnt in subtopics 9.1 and 9.2. An application of using Bezier curves to model situations is investigated.  | 1,2,3,4 | 1,2,3,4 | 1 week to complete. Some class time is allowed to support verification. Maximum of 8 A4 pages.Appropriate investigation report format as described in the Mathematics subject outline. |
| ***Four assessments.*** *Please refer to Stage 1 Mathematics subject outline.* |