PRE-APPROVED LEARNING AND ASSESSMENT PLAN

**Stage 2 General Mathematics**

*This pre-approved learning and assessment plan is aligned with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

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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| SACE  School Code | | |  | Year |  | Enrolment Code | | | | |  | Program Variant Code (A–W) |
| Stage | Subject Code | | | No. of Credits (20) |
|  |  |  |  | **2** | **M** | **G** | **M** | **20** |  |

**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. |

**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 2 General Mathematics

Assessment Overview

Complete the table below to show details of the planned tasks. Use numbers to show where students will have the opportunity to provide evidence for each of the specific features for all assessment design criteria.

| **Assessment Type and Weighting** | **Name and details of assessment** | **Assessment Design Criteria** | | **Assessment conditions** (e.g. task type, page limit, time allocated, supervision) |
| --- | --- | --- | --- | --- |
| **CT** | **RC** |
| **Skills and Applications Tasks**  **Weighting 40%** | Students demonstrate mathematical knowledge and skills from **Topic One: Modelling with Linear Relationships (non-examined topic)**. The content covers key questions and key concepts within subtopics 1.1 and 1.2. Students apply their knowledge and skills to a range of routine and complex questions in a variety of contexts, with some requiring interpretation of the results.  Appropriate and effective use of electronic technology is expected. Clear and logical communication of solutions and correct use of notation and terminology are required. | 1,2,4 | 1,2,3 | Supervised written assessment.  One A4 page of handwritten notes permitted. Use of graphics calculator is permitted.  Total time: 50 minutes |
| **Topic Two: Modelling with Matrices (non-examined topic)** is the focus of a range of routine and complex questions posed in a variety of contexts. Students demonstrate mathematical knowledge and skills of key questions and key concepts from subtopics 2.1 and 2.2. Appropriate and effective use of electronic technology is expected. Correct use of notation and terminology are required. | 1,2,4 | 1,2,3 | Supervised written assessment.  One A4 page of handwritten notes permitted. Use of graphics calculator is permitted.  Total time: 50 minutes |
| **Topic Three: Statistical Models**  Students are required to show mathematical knowledge and skills based upon the key questions and key concepts from Subtopics 3.1 and 3.2. The assessment includes both routine and complex problems, some requiring interpretation and comparison of two or more sets of data.  Appropriate and effective use of electronic technology is expected. Clear and logical communication of solutions and correct use of notation and terminology are required. | 1,2,4 | 1,2,3 | Supervised written assessment.  One A4 page of handwritten notes permitted. Use of graphics calculator is permitted.  Total time: 50 minutes |
| Mathematical knowledge and skills based upon the key questions and key concepts from **Topic Four: Financial Models** subtopics 4.1 and 4.2 will be assessed. The assessment includes both routine and complex problems, some requiring interpretation and comparison.  Appropriate and effective use of electronic technology is expected. Clear and logical communication of solutions and correct use of notation and terminology are required. | 1,2,4 | 1,2,3 | Supervised written assessment.  One A4 page of handwritten notes permitted. Use of graphics calculator is permitted.  Total time: 50 minutes |
| Mathematical knowledge and skills based upon the key questions and key concepts from **Topic Five: Discrete Models**. Subtopics 5.1 and 5.2 will be assessed. The assessment includes both routine and complex problems, some requiring interpretation and comparison of answers, particularly when initial conditions or parameters of problems are varied.  Clear and logical communication of solutions and correct use of notation and terminology are required. | 1,2 | 1,2,3 | Supervised written assessment.  **Use of graphics calculator and handwritten notes are not permitted**.  Total time: 50 minutes |
| **Mathematical Investigation**  **Weighting 30%** | **Topic Two: Modelling with Matrices**  In this task students investigate dominance matrices and how they can be used to rank teams based on a win/loss game scenario. Students select a skill-based game and collect data for a round robin tournament. Dominance matrices are used to make predictions of the final outcome of the round robin tournament. The actual results are compared with the predictions made. Students are required to consider the reasonableness of their results by examining the underlying assumptions of their mathematical model and its usefulness. | 1,2,3,4 | 1,2,3,4,5 | 3 weeks to complete. Some class time is allowed to support verification.  **Maximum of 12 single-sided A4 pages**.  Appropriate investigation report format as described in the General Mathematics subject outline. |
| **Topic Three: Statistical Models**  In this task students are required to investigate the rate of cooling of a cup of coffee. They display the data collected graphically and then use their graphics calculator to apply an appropriate model to the data they have collected. Students make predictions using the graph and compare these predicted values with those found using the model applied. They then explore another factor that may affect the rate of cooling. Students are required to consider the reasonableness of their results by examining the underlying assumptions of their mathematical models. | 1,2,3,4 | 1,2,3,4,5 | 3 weeks to complete. Some class time is allowed to support verification.  **Maximum of 12 single-sided A4 pages**.  Appropriate investigation report format as described in the General Mathematics subject outline. |
| ***Examination***  ***Weighting 30%*** | *Students undertake a 2-hour external examination in which they answer questions on the following three topics:*  *Topic 3: Statistical Models Topic 4: Financial Models Topic 5: Discrete Models.*  *The examination consists of a range of problems, some focusing on knowledge, routine skills, and applications, and others focusing on analysis and interpretation. Students provide explanations and arguments, and use correct mathematical notation, terminology, and representation throughout the examination.* | *All the specific features of the assessment design criteria may be assessed in the external examination.* | | *2-hour external examination*  *Access to electronic technology required.*  *Students may refer to one unfolded A4 sheet (two sides) of hand-written notes.* |

***Eight assessments.*** *Please refer to the Stage 2 General Mathematics subject outline.*