Mathematics Academy

Erindale College

UNIT OUTLINE

Year: 11 Accreditation: T

Timetable Period: Semester 2, 2019

Classroom Teacher: Vince Tee, Evelyn Ashcroft, Terry Brady, Emily Munyard

Executive Teacher: Jodie Beaumont

Course Title	**Mathematical Applications** Integrating Australian Curriculum General Mathematics Course	**Course Code:**	**1404**
Semester Unit	Unit 2: Mathematical Applications	**Unit Value/Code:**	1.0/14607
Term Unit (a)	Unit 2a: Mathematical Applications	**Unit Value/Code:**	0.5/14608
Term Unit (b)	Unit 2b: Mathematical Applications	**Unit Value/Code:**	0.5/14609

Specific Unit Goals:

- understand the concepts and techniques in univariate data analysis and the statistical investigation process, linear equations and their graphs, and applications of trigonometry
- apply reasoning skills and solve practical problems in univariate data analysis and the statistical investigation process, linear equations and their graphs, and the applications of trigonometry
- implement the statistical investigation process in contexts requiring the analysis of univariate data
- communicate their arguments and strategies, when solving mathematical and statistical problems, using appropriate mathematical or statistical language
- interpret mathematical and statistical information, and ascertain the reasonableness of their solutions to problems and their answers to statistical questions
- choose and use technology appropriately and efficiently.

Content Summary:

Further elaboration on the content of this unit is available at:
http://www.australiancurriculum.edu.au/SeniorSecondary/Mathematics/General-Mathematics/Curriculum/SeniorSecondary

Topic 1: Univariate data and the statistical process	**Topic 2: Applications of trigonometry**	**Topic 3: Linear equations and their graphs**
The statistical investigation process	Applications of trigonometry	Linear equations
Making sense of data relating to a single statistical variable		Straight-line graphs and their application
Comparing data for a numerical variable across two or more groups		Simultaneous linear equations and their applications
		Piece-wise linear graphs and step graphs

Cost of Materials:

There are no costs however, students need to ensure that they have a scientific calculator for this unit.

Assessment:

TASK	DUE DATE	WEIGHTING
Assignment 1	Mon Week 6 Term 3	15%
Exam 1	Exam Week Term 3	35%
Assignment 2	Mon Week 3 Term 4	15%
Exam 2	Exam Week Term 4	35%

SPECIFIC ENTRY & EXIT REQUIREMENTS FOR TERM UNITS:
This is a Semester Unit, students wishing to enter or exit after the end of term must have the change approved by the Academy Executive Leader and need to complete 50% of the assessment.

ASSESSMENT CRITERIA FOR ASSESSMENT AND REPORTING OF STUDENT ACHIEVEMENT
Students will be assessed on the degree to which they demonstrate:

- Knowledge – knowledge of mathematical facts, techniques and formulae presented in the unit
- Application – appropriate selection and application of mathematical skills in mathematical modelling and problem solving
- Reasoning – ability to use reasoning to support solutions and conclusions (in T courses only)
- Communication – interpretation and communication of mathematical ideas in a form appropriate for a given use or audience.

Unit Grades for T Courses

	Knowledge	Application	Reasoning	Communication
A student who achieves the grade **A**	Demonstrates very high level of proficiency in the use of facts, techniques and formulae.	Selects, extends and applies appropriate modelling and problem solving techniques.	Uses mathematical reasoning to develop logical arguments in support of conclusions, results and/or decisions; justifies procedures.	Is consistently accurate and appropriate in presentation of mathematical ideas in different contexts.
A student who achieves the grade **B**	Demonstrates high level of proficiency in the use of facts, techniques and formulae.	Selects and applies appropriate modelling and problem solving techniques.	Uses mathematical reasoning to develop logical arguments in support of conclusions, results and/or decisions.	Is generally accurate and appropriate in presentation of mathematical ideas in different contexts.
A student who achieves the grade **C**	Demonstrates some proficiency in the use of facts, techniques and formulae studied.	With direction, applies a model. Solves most problems.	Uses some mathematical reasoning to develop logical arguments.	Presents mathematical ideas in different contexts.
A student who achieves the grade **D**	Demonstrates limited use of the facts, techniques and formulae studied.	Solves some problems independently.	Uses some mathematical reasoning to develop simple logical arguments.	Presents some mathematical ideas.
A student who achieves the grade **E**	Demonstrates very limited use of the facts, techniques and formulae studied.	Solves some problems with guidance.	Uses limited reasoning to justify conclusions.	Presents some mathematical ideas with guidance.

Teachers will consider, when allocating grades, the degree to which students demonstrate their ability to complete and submit tasks within a specified time frame.

Attendance and Participation

It is expected that students will attend and participate in all scheduled classes/contact time/structured learning activities for the units in which they are enrolled, unless there is due cause and adequate documentary evidence is provided. Any student whose attendance falls below 90% of the scheduled classes/contact time or 90% participation in structured learning activities in a unit, without having due cause with adequate documentary evidence will be deemed to have voided the unit. However, the principal has the right to exercise discretion in special circumstances if satisfactory documentation is supplied.

Completion of Assessment Items

Students are expected to substantially complete and submit all assessment items. Exemption from an item and/or alternative assessment without penalty is available to students providing adequate documentary evidence. In order to meet the minimum assessment requirements of a unit, a student must substantially complete and submit at least 70% of the total assessment. However, the principal has the right to exercise discretion in the award of a grade or score in special circumstances where satisfactory documentation is supplied.

Late Submission of Assessment Items

Students are encouraged to submit work on time as this is a valuable organisational skill. Students are also encouraged to complete work even if it is late as there are educational benefits in so doing. The following policy is to ensure equity for all students:

• All assessment tasks are expected to be submitted by the specified due date

• Where marks are awarded for assessment tasks, a late penalty will apply unless an extension is granted. The penalty for late submission is 5% of possible marks per calendar day late, including weekends and public holidays, until a notional zero is reached. If an item is more than 7 days late, it receives the notional zero. Submission on weekends or public holidays is not acceptable. Calculation of a notional zero is based on items submitted on time or with an approved extension (Refer to Notional Zeros)

• Where marks are not awarded, and a grade only is given for an assessment task, teachers will take into account the extent to which students have demonstrated their ability to complete and submit the task by the due date (taking into account any extensions granted) in awarding the grade

• Unless there are exceptional circumstances, students must apply for an extension to the specified due date in advance, providing due cause and adequate documentary evidence for late submission

• It may not be possible to grade or score work submitted late after marked work in a unit has been returned to other students

• The principal has the right to exercise discretion in the application of the late penalty in special circumstances where satisfactory documentation has been provided.

Notional Zeros

Where students fail to hand in assessment items for which marks are awarded, they will be awarded a notional zero for that assessment item. The notional zero will be a score, which lies between 0.1 of a standard deviation below the lowest genuine score for that item and zero. Note: if the lowest genuine score is zero, the notional zero is zero.

Cheating and Dishonest Practice

The integrity of the College's assessment system relies upon all involved acting in accordance with the highest standards of honesty and fairness. Plagiarism is the copying, paraphrasing or summarising of work, in any form, without acknowledgement of sources, and presenting this as a student's own work. Examples of plagiarism could include, but are not limited to:

• submitting all or part of another person's work with/without that person's knowledge

• submitting all or part of a paper from a source text without proper acknowledgement

• copying part of another person's work from a source text, supplying proper documentation, but leaving out quotation marks

• submitting materials which paraphrase or summarise another person's work or ideas without appropriate documentation

• submitting a digital image, sound, design, photograph or animation, altered or unaltered, without proper acknowledgement of the source.

Right to Appeal

The ACT system operates a hierarchy of reviews and appeals:

• Student seeks review from teacher regarding assessment task mark/grade, unit score, unit grade, course score

• Student seeks review from head of department, if required following review by teacher

• Student appeals to her/his college principal for a review of college assessment relating to assessment task grade/mark, unit grade, unit score, course score, penalty imposed for breach of discipline in relation to assessment

• Student, who has been through the college appeal process, may appeal to the Board against the college procedures by which the appeal decision was reached.

Executive Teacher: **Class Teachers:**

FURTHER INFORMATION ON RELEVANT BSSS POLICIES CAN BE FOUND HERE:

http://www.bsss.act.edu.au/__data/assets/pdf_file/0010/313777/P_and_P_Manual_2019_V5.pdf