TAURANGA GIRLS' COLLEGE
YEAR 12 MATHEMATICS WITH EXTENSIONS (12MAE), 2019
Course Outline

About 12MAE

This course contains six of the L2 Achievement Standards (AS) with a total of 23 possible credits. There are three external AS (13 credits) and three internal AS (10 credits).

This course continues the formal mathematics introduced in the junior school and the Level 1 NCEA 11MAE course. It is theoretical in nature, placing emphasis on algebra and calculus. According to the curriculum, it encourages extended abstract thinking in problem solving.

Prerequisites for Year 13 Mathematics

12MAE is a prerequisite for those students who intend to take Level 3 *Calculus* and/or *Statistics* in Year 13. The criteria necessary to gain entry are as follows:

Calculus: All 23 credits in 12MAE **and** Algebra 2.6 **and** Calculus 2.7 with Merit or Excellence **and** Achieved in Graphs 2.2 and Simultaneous Equations 2.14.

Statistics: A minimum of 19 credits in 12MAE **and** Statistical inferencing 2.09 **and** Probability 2.12 with Merit or Excellence **and** Achieved in Algebra 2.6.

Achievement Standards, Credits and Course Endorsement:

Students can gain further recognition of their achievements in this course by attaining an Endorsement with Merit and Excellence. An Excellence Endorsement requires 14 or more credits at Excellence level, while students gaining 14 or more credits at Merit (or Merit and Excellence) will gain a Merit Endorsement. For Course Endorsement, at least 3 of the 14 credits must be from internally assessed standards, and 3 from external assessment.

The table below notes if the AS contributes towards Level 1 numeracy and literacy and which Vocational Pathway the AS may be credited towards. The Vocational Pathways are: Primary Industries (PI), Service Industries (SI), Social and Community Services (S+C), Manufacturing and Technology (M+T), Construction and Infrastructure (C+I), and Creative Industries (CI).

Course Assessment Requirements and Reassessment

Students are reminded that they need to be familiar with the requirements set out in the Tauranga Girls' College handbook to students in regard to assessment.

In particular, it is noted that no reassessment is offered for the three internal AS (2.9, 2.2, 2.14). At least one practice will be completed before each internal AS is formally assessed. Student work will be held by the school for assessment requirements.

Those students who are participating in programmes that require them to be absent from their Mathematics class must ensure that their teachers are aware of any intended absences **well in advance**. If students are absent from class for any reason then **they** are responsible for catching up on missed <u>notes and exercises</u>, and being aware of such things as assignment deadlines which may have been given in their absence.

Common marking schedules will be used in all assessments and moderation will occur between 12MAE classes.

Homework, Workbook and Textbook

Completing all set homework is vital. There will be regular revision assignments that will help maintain skills. If no homework has been set, time should be spent reviewing work covered in earlier topics or practising problems that will improve your problem solving skills. Regular algebra maintenance sheets will be issued throughout the year to help maintain these fundamental skills. Students will be issued with **their** textbook, for the year, for which **they are personally** responsible. This book will be kept at home for homework purposes. Please ensure the book is kept in in reasonable order while in your possession. Do not write on it, fold the cover or get food or drink on it. Loss or damage will result in having to pay for a replacement. A newer version of the textbook will be available for use in the classroom.

As part of the course students are required to pay a course fee of $18 to cover the cost of workbooks for AS2.6, AS2.12 and AS2.7, and all printed hand-outs and exam revision material.

Graphics Calculators:
A graphics calculator (Casio fx-9750G PLUS) is required for students enrolled in this course and students need to have purchased these as soon as possible.
Tutorials / Extra Help
Help is available every lunch time in room J209. It is not always possible for every student to get the individual attention they need in their class time. Students are encouraged to seek this extra help when the need arises.

YEAR 12MAE MATHEMATICS COURSE PLANNING SCHEDULE, 2019
The schedule below summarises the approximate assessment dates and the number of credits allocated to each topic. Assessment dates are given as a best estimate at this stage. Due dates will be confirmed. Students should attach this sheet in the front of their notes book and keep a record of their assessment results throughout the year.

An "I can do" sheet is issued at the beginning of each unit, which gives the key skills covered in that topic and form the basis of the material assessed in the Achievement Standard.

Topic	**Achievement Standard**	**Int/ Ext**	**L2 Credits**	**Numeracy / Literacy and Vocational Pathways**	**Assessment Week**	**STUDENT RESULTS**
TERM ONE						
Algebra	2.6 [91261 v3] Apply algebraic methods in solving problems	Ext	(4)	Numeracy, PI, M&T, C&I, CI	T1 Week 7	
Graphs	2.2 [91257 v3] Draw straight-forward non-linear graphs	Int	4	Numeracy, PI, SI, M&T, C&I, CI	T1 Week 11 Last lesson of term	
TERM TWO						
Inference	2.9 [91264 v3] Use statistical methods to make an inference	Int	4	Numeracy, Literacy, PI, SI, S&C, CI	T2 Week 4 Exam week	
Simultaneous Equations	2.14 [91269 v3] Apply systems of equations in solving problems.	Int	2	Numeracy, CI	T2 Week 7	
Probability	2.12 [91267 v3] Apply probability methods in solving problems	Ext	(4)	Numeracy, Literacy, PI, SI, S&C, CI	T3 Week 1	
TERM THREE						
Probability	2.12 [91267 v3]	Ext	(4)		T3Week 1	
Calculus	2.7 [91262 v3] Apply calculus methods in solving problems	Ext	5	Numeracy, PI, M&T, C&I, CI	In Exam week, class test wkend	
EXAMS	**Testing Algebra and Calculus**				**T3 Week 8**	
TERM FOUR						
Algebra	2.6 [91261 v3] Apply algebraic methods in solving problems	Ext	(4)		T4 Week 2	
	EXAM REVISION					
Total Credits			**23**			