Takapuna Grammar School
Level 2 Mathematics Extension
Course Outline 2022

Recommended Achievement Levels.
Success in a NCEA L1 Mathematics course, ideally achieving two of 1.2 Algebra, 1.3 Tables, Equations and Graphs and 1.6 Geometric Reasoning with Excellence.

Description / Aims of the Course / Course Content
The aim of the course is to introduce and develop advanced mathematical skills, concepts and understandings of parts of the Level 7 and Level 8 Mathematics Curriculum in the areas of Patterns and Relationships and Equations and Expressions and Calculus.

This course will cover the three NCEA Level 2 Mathematics externally assessed achievement standards and two NCEA Level 3 internally assessed achievement standards. It is possible to obtain a maximum of 19 credits. It contains the following subject areas: Algebra, Calculus, Probability, Conic Sections and Systems of Simultaneous Equations. This course uses Walker Maths, ESA and NuLake workbooks plus the Theta textbook for extra practice and homework. By the end of this course, students will have developed sufficient knowledge and skills to solve problems by applying algebraic, calculus, geometric and probability methods. As well as this, students will also be able to apply systems of simultaneous equations to solve equations.

Methods of Assessment

Students will be assessed on a basis of a three-hour external exam in November. This exam will consist of three booklets, each one examining an externally assessed achievement standard.

These externally assessed achievement standards are:

AS 91261	**2.6**	**Apply algebraic methods in solving problems (4 credits)**
AS 91262	**2.7**	**Apply calculus methods in solving problems (5 credits)**
AS 91267	**2.12**	**Apply probability methods in solving problems (4 credits)**

Two achievement standards will be assessed internally as common assessment tasks. There will be no opportunities for reassessment.

These internally assessed achievement standards are:

AS 91573 3.1 Apply the geometry of conic sections in solving problems (3 credits)
This will be assessed as an in-class assessment task in term three, week 4 beginning 30 May

AS 91587 3.15 Apply systems of simultaneous equations in solving equations (3 credits)
This will be assessed as an in-class assessment task in term two, week 7 beginning 27 June

Assessment of the internally assessed achievement standards will follow the school and NCEA policies and procedures on lateness, misconduct, extensions, missed / delayed assessments and appeals. An assessment will not automatically be offered for a catch-up opportunity if a student is absent. If the internal assessment is missed, there must be valid medical evidence to say why the student was absent.

There will be common practice externals, based on past examination papers, on every topic. These results are recorded for both school and NCEA purposes. There will also be a three-hour practice NCEA examination in September, during week 9 of Term 3. These assessments are important as practice for the final November NCEA examination.

All assessments provide evidence for the award of school subject prizes. If you are absent for a common assessment, it is important that you organise an alternative time to sit the missed assessment as soon as you return to school. The Maths teachers offer a catch up session for missed assessments after schools on Thursdays. Final practice externals, that cover the whole topic, provide evidence for derived grades when needed.

Student Work

Every student must use two 1J5 or 1J8 Quad Exercise Books, one to be used for theory notes the other for practice. It is expected that the student will bring all appropriate mathematical equipment for each lesson, each day. Teachers will instruct students that all necessary working must be shown. It is suggested that students buy a 40 page clear file to ensure safe storage of worksheets, test revisions and assessments during the year.

If a student is absent from class on any given day, it is the student's responsibility to catch up on missed work. This means that all students must ensure that they copy out any missed theory notes, collect missed hand-outs, check the Google classroom for any learning materials shared with the class and catch up on any work set during their absence.

All students must bring a graphic calculator to every lesson. The Casio model fx-9750GII is recommended, as teachers will be able to most easily support students in the use of this model. These calculators are best purchased through Warehouse Stationery while they have their February Back to School Specials. Students must provide their own calculators for all assessments. The Mathematics Faculty is not able to lend calculators.

Homework

Every teacher will set homework of about 30 minutes per lesson. The student should record this with clear reference to exercise and page numbers in their diary. It is the responsibility of each student to ensure that all work set is completed and marked. We encourage students who are struggling with their homework or maths tasks to seek additional support at Maths Coaching. Help is available after school on Tuesdays in RN46.

Every Level 2 Mathematics Extension student is expected to buy five single standards workbooks: 2.6 Algebra WalkerMaths, 2.7 Calculus WalkerMaths, 2.12 Probability NuLake, 3.1 Conic Sections ESA and 3.15 Simultaneous Equations WalkerMaths.

General

If you have any further questions regarding your child's progress in Level 2 Mathematics Extension, please contact your child's teacher or the Mathematics Faculty Leader - Mrs. C. Udy-Bothwell.

2022 TGS Year Planner for L2MAX

TERM	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11
ONE	31/1 – 4/2	7/2 – 11/2	14/2 – 18/2	21/2 – 25/2	28/2 – 4/3	7/3 – 11/3	14/3 – 18/3	21/3 – 25/3	28/3 – 1/4	4/3 – 9/4	11/4 – 14/4
Topic		2.6 Algebra 1				2.7 Calculus					
Assess		Monday 7th Waitangi Day									Friday 15th Good Friday
TERM	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	
TWO	2/5 – 6/5	9/5 – 13/5	16/5 – 20/5	23/5 – 27/5	30/5 – 3/6	6/6 – 10/6	13/6 – 17/6	20/6 – 24/6	27/6 – 1/7	4/7 – 8/7	
Topic	3.1 Conic Sections					3.15 Systems of Equations				2.12	
Assess						Monday 6th Queen's Bday		Friday 24th Matariki			
TERM	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	
THREE	25/7 – 29/7	1/8 – 5/8	8/8 – 12/8	15/8 – 19/8	22/8 – 26/8	29/8 – 2/9	5/9 – 9/9	12/9 – 16/9	19/9 – 23/9	26/9 – 30/9	
Topic	2.12 Probability Methods				2.6 Algebra 2			Revise	Exams		
Assess						Friday 2nd Bapsi Day					
TERM	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8			
FOUR	17/10 – 21/10	24/10 – 28/10	31/10 – 4/11	7/11 – 11/11	14/11 – 18/11	21/11 – 25/11	28/11 – 2/12	5/12 – 9/12			
Topic	Revise for NZQA exams										
Assess		Mon 24th Labour Day						Friday 9th Last Day			