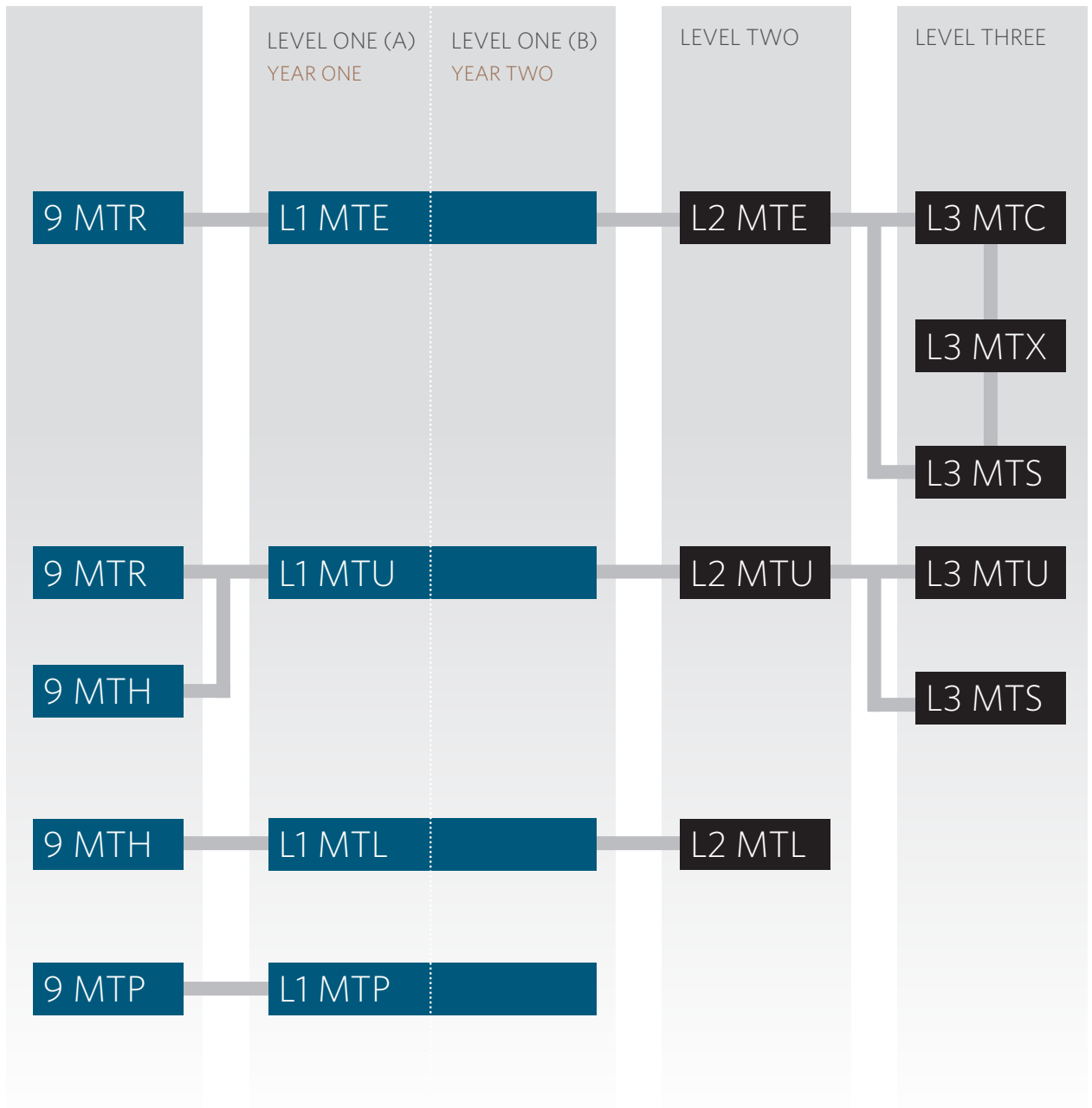




MATHEMATICS FACULTY

The focus of the Mathematics Faculty is the academic success of our students. We strive to ensure that all students leave Long Bay College with the best possible qualification record. Our quantifiable success is the result of dedicated teachers working with the most up-to-date technology in close partnership with students and caregivers.

SUBJECT PATHWAY



MTC = Calculus

MTE = Mathematics External

MTR = Mathematics Enrichment

MTX = Mathematics Extension

MTH/MTU/MTL = Mathematics

MTP = Mathematics Applied

MTS = Statistics

■ Compulsory subject

■ University approved pathway

■ Not a university approved pathway

YEAR 9 MATHEMATICS ENRICHMENT CODE: 9 MTR

Credit Value: Nil

Number of Field Trips: Nil

Subject Material Costs: Nil

Course: A programme designed to prepare students for excellence at NCEA Level 1 by focusing on thinking and problem solving at level 5/6 of the New Zealand Mathematics Curriculum.

LEVEL 1 MATHEMATICS EXTERNAL CODE: L1 MTE

Credit Value: 24

Number of Field Trips: Nil

Subject Material Costs: \$20 per year

Qualification: NCEA Level 1

A course designed to meet the needs of students who are ready to engage with Level 5/6 of the NZMC. Students will be aiming for excellence in all assessments. Students will sit all 4 externals as well as selected internal standards.

L1A: An extension Mathematics programme, designed to challenge and extend students.

Students will follow a course with an emphasis on higher level thinking. Students will be aiming for Merit and Excellence in all assessments.

L1B: This year is designed to meet the needs of students who are capable of continuing with Mathematics to Level 3 calculus and/or statistics and modelling.

Topics covered:

- Applying algebraic methods in solving problems
Investigating relationships between tables, equations and graphs
- Applying geometric reasoning in solving problems
- Investigating a given multivariate data set using the statistical enquiry cycle
- Demonstrating understanding of chance and data

A Casio graphics calculator is recommended for this course.

LEVEL 2 MATHEMATICS EXTERNAL CODE: L2 MTE

Credit Value: 22

Number of Field Trips: Nil

Subject Material Costs: Nil

Qualification: NCEA Level 2

Prerequisites: Year 11 students with 4 standards from including both achievement standards 90127 & 90128 at a Merit grade or higher. Students from other year levels/courses by recommendation of Head of Faculty.

Course: This is an academic course that requires fluency in algebraic skills. It establishes the basis for tertiary study in Mathematics and Statistics. Using Mathematics to model practical situations is a unifying theme. An appropriate selection of internally and externally assessed Level 2 standards will be offered.

A Casio graphics calculator is a requirement for this course.

COURSE DESCRIPTION

LEVEL 3 CALCULUS

CODE: L3 MTC

Credit Value: 21

Number of Field Trips: Nil

Subject Material Costs: \$30

Other Costs: Mathematics competition entry fees may apply

Qualification: NCEA Level 3

Prerequisites: 14 credits from L2 MTE, including achievement standards 91261 and 91262, both at Merit or higher.

Course: This course is appropriate for students wishing to continue in mathematics, physical sciences, engineering or any field in which analysis of mathematical relationships is an important tool. Topics including coordinate geometry, algebra, trigonometry and calculus are extended from Level 2 Mathematics and new topics are introduced such as complex numbers and differential equations.

A Casio graphics calculator is a requirement for this course.

LEVEL 3 STATISTICS

CODE: L3 MTS

Credit Value: 20

Number of Field Trips: Nil

Subject Material Costs: \$30

Other Costs: Mathematics competition entry fees may apply

Qualification: NCEA Level 3

Prerequisites: 14 credits from Level 2, 8 at Merit or higher including achievement standard 91267

Course: This course is appropriate for students wishing to continue in biological and social sciences, medicine, commerce and management or any field in which the collection, analysis and interpretation of quantitative data is important. It builds on Level 2 Mathematics, with emphasis on probability and statistics.

A Casio graphics calculator is a requirement for this course.

LEVEL 3 MATHEMATICS EXTENSION

CODE: L3 MTX

Credit Value: Nil

Number of Field Trips: Nil

Subject Material Costs: \$30

Other Costs: MAXX programme entry fee

Qualification: Scholarship

Prerequisites: successful completion of, or concurrent study of L3MTC or L3MTS

Course: This course is designed to prepare students for Scholarship in either calculus or statistics. For calculus students it will include the opportunity to join the MAXX course at Auckland University.

YEAR 9 MATHEMATICS CODE: 9 MTH

Credit Value: Nil
Number of Field Trips: Nil
Subject Material Costs: Nil
Other Costs: Mathematics competition entry fees may apply

Course: This course will reflect Levels 4/5 of the New Zealand Mathematics Curriculum.

LEVEL 1 MATHEMATICS CODE: L1 MTL

Credit Value: 15
Number of Field Trips: Nil
Subject Material Costs: Nil
Other Costs: Mathematics competition entry fees may apply
Qualification: NCEA Level 1

This internally assessed NCEA Level 1 course is designed to meet the needs of those students entering with a maths curriculum level of 4.

LEVEL 2 MATHEMATICS CODE: L2 MTL

Credit Value: 14
Number of Field Trips: Nil
Subject Material Costs: Nil
Qualification: NCEA Level 2
Prerequisites: Year 12 students with 10 Level 1 achievement standard credits in Mathematics. Students from other year levels by recommendation of Head of Faculty.

Course: This course builds on the knowledge and skills gained in the Level 1 course. It is suitable for those Year 12 students who do not fully meet the prerequisites for L2 MTU. An appropriate selection of Level 2 standards will be offered.

A Casio graphics calculator is recommended for this course.

LEVEL 1 MATHEMATICS CODE: L1 MTU

Credit Value: 20
Number of Field Trips: Nil
Subject Material Costs: \$20
Other Costs: Mathematics competition entry fees may apply
Qualification: NCEA Level 1

This course has a mixture of internal and external level 1 standards designed to meet the needs of those students entering with a maths curriculum Level of 4/5.

COURSE DESCRIPTION

LEVEL 2 MATHEMATICS CODE: L2 MTU

Credit Value: 19
Number of Field Trips: Nil
Subject Material Costs: Nil
Qualification: NCEA Level 2
Prerequisites: 14 credits from any mathematics course, with 8 at Merit or higher.

Course: This course builds on the knowledge and skills gained in the L1 MTU course. It is also suitable for students from L1 MTE who do not fully meet the prerequisites for L2 MTE. An appropriate selection of Level 2 standards will be offered.

A Casio graphics calculator is a requirement for this course.

LEVEL 3 MATHEMATICS CODE: L3 MTU

Credit Value: 20
Number of Field Trips: Nil
Subject Material Costs: \$30
Qualification: NCEA Level 3
Prerequisites: 14 credits from L2 MTU including AS 91267, or by Head of Faculty recommendation from L2 MTL

Course: The topics covered are based on aspects of statistics and algebra. This course gives students the opportunity to gain 14 credits at Level 3 from the approved University Entry list.

A Casio graphics calculator is a requirement for this course.

YEAR 9 MATHEMATICS APPLIED CODE: 9 MTP

Credit Value: Nil
Number of Field Trips: Nil
Subject Material Costs: Nil

Course: This course will provide support for those students who are identified as having lower than expected mathematical skills, it will reflect Levels 2/3 of the New Zealand Mathematics Curriculum.

LEVEL 1 MATHEMATICS APPLIED CODE: L1 MTP

Credit Value: 14
Number of Field Trips: Nil
Subject Material Costs: Nil
Qualification: NCEA Level 1

This course will provide a solid foundation to enable students to be successful in the Numeracy Level 1 standards. This course will reflect Level 3-5 of the New Zealand Mathematics Curriculum. This course leads to L1 MTL by Head of Faculty recommendation.