FOREST HILL
COLLEGE

Year 10 Mathematics 2010

In an attempt to help every student achieve their maximum potential, experience success and improve their self-esteem, two different levels of Mathematics are offered at Year 10.

Students are placed in a particular level according to Year 9 test results, Year 9 examination results and the recommendations of Year 9 teachers.

The two levels offered are:

1. Maths Methods

For those students who are able to complete the standard Year 10 course. There will also be provision within the course for some students to complete advanced work to broaden their mathematical knowledge and improve their mathematical skills. The algebra covered in this unit provides the basis for the function work required in higher level Mathematics. Students can move to General Maths Further in Year 11 should they struggle with Maths Methods at Year 10. Students are introduced to the use of CAS calculators.

2. General Mathematics

For those students who find Mathematics difficult and have struggled with Year 9 Mathematics. The course aims to provide a positive experience for students in developing confidence and a sense of achievement from what they learn so that they acquire mathematical skills and knowledge to deal confidently and competently with daily life, develop skills necessary for employment, further study and interest. The course does not contain the algebra content of Maths Methods. Students need to realise that they require **excellent** grades in this subject to ensure they are adequately prepared to undertake Year 11 General Maths Further. Students are introduced to the use of CAS calculators.

MATHEMATICS – **COURSE TOPICS**

1. Maths Methods

The topics covered include:

Number	Surds, indices, scientific notation, rates and variation. Fractional indices.
Measurement and Chance and Data	Errors in measurement, perimeter, Pythagoras' theorem, areas, surface area, capacity, volume, trigonometry, bearings. Measures of central tendency and spread, bivariate data, probability of independent and dependant events.
Space	Circle geometry – Intersecting chords, secants and tangents. Angles in a circle, cyclic

	quadrilaterals.
Structure	Simplifying expressions, factorisation, algebraic fractions, linear equations and inequations, transposition, simultaneous equations, quadratic equations, parabolas and translation, linear relations.
Working Mathematically	Development of mathematical models and procedures, investigations, problem solving, use of technology to support or develop ideas, communicating mathematically.

2. <u>General Mathematics</u>

The topics covered include:

Number	Budgeting, wages, profit, loss, discount. Simple interest, Compound interest. Exponents and index laws.
Measurement and Chance and Data	Trigonometry, Pythagoras' theorem, perimeter, area, surface area of prisms and pyramids, volume of prisms. Probability: tree diagrams, sets and Venn diagrams, mutually exclusive and complimentary events. Handling data, mean, mode, median, box plots, scatter plots.
Space	Geometry- parallel lines and angles, triangles, quadrilaterals, polygons, symmetry and rotation, circle properties, similar triangles, scale diagrams.
Structure	Simplifying algebraic expressions, the distributive law, Solving linear equations, simultaneous equations.
Working Mathematically	Conduct investigations and solve problems by using a variety of strategies formulating and testing generalisations and developing mathematical arguments.

ASSESSMENT:

There are two main areas of assessment:

1. Topic tests and a semester examination. Students will be assessed by tests, which will be conducted usually at the completion of each topic. A 90 minute examination at the end of each semester.
2. One project per semester, problem solving activities and application tasks.

Alex Tsigas
Mathematics Manager