YEAR 11 MATHEMATICS B WORK PLAN: Semester 2, 2017 – Ms Every, Mr Miller-Metzner

UNIT	TERM 3 TOPIC	ASSESSMENT	DUE DATE
6	**Rates of Change and Optimisation 1 (5 weeks)** Text Ref: 12A-12D and 13A, 13C-13F Concept rate of change (constant and variable), Average rates of change (practical and purely mathematical), Instantaneous rates (tangent to a curve), Understanding of a limit in simple situations (calc of limit theorems not required), Differentiation using first principles, Differentiation by rule, Practical Applications of instantaneous rates of change, Zero values of the derivative as an indication of stationary points, Relative Maxima and Minima and the greatest and least value of functions, Methods of determining the nature of stationary points, Greatest and least values of a function in a given interval	Exam 2.1a Topic 6	**Week 9** Tuesday 5th Sept Lessons 1 and 2 TBC
7	**Applied Statistical Analysis 1 Presentation of Data (1.5 weeks)** Text Ref: Chap 9 pg 372-412 **Exercise: 9A → 9F**. (Text: Maths Quest – 11 Maths B) Types of variables and data; Collection of data; Stem Plots; Frequency Histograms and Bar Charts; Describing the shape of stem plots; Cumulative Data	Exam 2.1b Topic 7&8	**Week 9** Thursday 7th Sept Lessons 5 and 6 TBC
8	**Applied Statistical Analysis 2 Summary Statistics (1.5 weeks)** Text Ref: Chap 10 pg 414-455 **Exercise: 10A → 10F**. (Text: Maths Quest – 11 Maths B) Measures of Central Tendency; Range and Inter-Quartile range; The Standard Deviation; Boxplots; Back to Back Stemplots; Parallel Boxplots		

UNIT	TERM 4 TOPIC	ASSESSMENT	DUE DATE
9	**Exponential and logarithmic functions and applications (3 weeks)** Text Ref: 7E-7G and 8C Definitions of a^x and $\log_a x$, for $a>1$ Logarithmic laws and definitions Definition of the exponential function e^x Graphs of and the relationships between $y = a^x$, $y = \log_a x$ for $a=e$ and other values of a Graphs of $y = e^{kx}$, for $k \neq 0$ Exponential and logarithmic functions and applications	Assignment 2.2 Modelling with exponential functions	**Week 1:** Handed Out Thursday 5th Oct **Week 3:** Monitoring **Week 4** Due Date: Tuesday 24th Oct (In class component – Lessons 5 and 6- TBC)
10	**Trigonometry (2 weeks)** Text Ref: 4D-4G (additional notes from Q maths) Definition and practical applications of sine, cosine and tangent ratios Simple, practical applications of the sine and cosine rules	Exam 2.3a Topic 9	**Week 8**: Exam Block
11	**Rates of Change 2 (1 weeks)** Text Ref: alternate notes in Q maths Review of rules for differentiation Introduction of product and quotient rule	Exam 2.3b Topics 10, 11	**Week 8**: Exam Block

This work plan was last updated on Tuesday, 18 July 2017. The contents are subject to change – students will be advised in advance of any changes - regularly check for updates.