

**Wah Yan College Kowloon**  
**F.6 Mathematics (Core&M1) Scheme of Work (2016-2017)**

<b>Textbook</b>	1. New Progress in Senior Mathematics 6A (Compulsory Part) (with Public Exam Essentials and Student's Revision CD,) 2. New Progress in Senior Mathematics (Extended Part) Module 1 Book 1 3. New Progress in Senior Mathematics (Extended Part) Module 1 Book 2
<b>Other Resources</b>	

◆ **Repertoire of Self-directed Learning Skills:**

1. reading to learn, 2. notes-taking, 3. looking up words in the dictionary, 4. pre-lesson preparation, 5. group discussion, 6. group presentation, 7. initiative to ask questions, 8. setting learning objectives and doing reflection, 9. eLearning platform with instant feedback, 10. flipped classroom, 11. peer assessment, 12. searching for information on the internet, 13. project learning, 14. training of higher-order thinking skills, etc.

**SL:** Scheduled number of lessons

**AL:** Actual number of lessons

School Term	Weeks	Topics/ Extended Parts*	Learning Objectives/ Teaching Focus	SL/AL	Teaching and Learning Activities	Consolidation and Assessment	Self-directed Learning Skills◆	Values#	Basic Law Education*
<b>First Term (3/9/2017- 30/12/2017, Weeks 1-17)</b>	1-3	<b>Chapter 21 Measures of Dispersion</b>  • To understand the concept of dispersion  • To understand the concepts of	<b>Let's Review (pp.176 – 177)</b>  • Teachers may ask students to review the techniques for collecting and organizing data, and use statistical graphs to represent frequency distribution and different measures of	0.5 hour /0.5 hour	Demonstrating some examples and giving some classwork	• Worksheet 21.0 (Sets 1 & 2)			

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		<p>range and inter-quartile range</p> <ul style="list-style-type: none"> <li>• To construct and interpret box-and-whisker diagrams and use them to compare the distributions of different sets of data</li> <li>• To understand the concept of standard deviation</li> <li>• To</li> </ul>	<p>central tendency.</p>						

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		<p>compare the dispersion of different sets of data using appropriate measures</p> <p><b>Non-foundation</b></p> <ul style="list-style-type: none"> <li>To understand the applications of the standard deviation in real-life problems</li> </ul> <p><b>Non-foundation</b></p> <ul style="list-style-type: none"> <li>To explore and make conjecture on the effects of</li> </ul>							

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		dispersion in different situations							
			<p><b>21.1 Range and Inter-quartile Range (pp.178 – 188)</b></p> <ul style="list-style-type: none"> <li>Teachers can remind students the difference in calculating range and inter-quartile range of grouped and ungrouped data.</li> </ul>	2 hours /2 hours	Demonstrating some examples and giving some classwork	<ul style="list-style-type: none"> <li>Additional Examples 21.1 – 21.5</li> <li>Worksheet 21.1 (Sets 1 &amp; 2)</li> <li>Ongoing Assessment Package: Quiz 21.1</li> <li>Test Bank 21.1</li> </ul>			
			<p><b>21.2 Box-and-whisker Diagrams (pp.189 – 198)</b></p> <ul style="list-style-type: none"> <li>Teachers can illustrate the general configuration of a box-and-whisker diagram.</li> </ul>	3 hours /3 hours	Demonstrating some examples and giving some classwork	<ul style="list-style-type: none"> <li>Additional Examples 21.6 – 21.7</li> <li>Worksheet 21.2 (Sets 1 &amp; 2)</li> <li>Ongoing Assessment Package:</li> </ul>			

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			<ul style="list-style-type: none"> <li>Teachers can teach students how to use box-and-whisker diagrams to compare different sets of data.</li> <li>Teachers can help students develop their information technology skills in drawing the box-and-whisker diagram by using a spreadsheet.</li> </ul>			Quiz 21.2 <ul style="list-style-type: none"> <li>Test Bank 21.2</li> </ul>			
			<b>21.3 Standard Deviation (pp.198 – 209)</b> <ul style="list-style-type: none"> <li>Teachers can use two sets of data with the same mean but different dispersions to point out the meaning of standard deviation of the data.</li> </ul>	3 hours /3 hours	Demonstrating some examples and giving some classwork	<ul style="list-style-type: none"> <li>Additional Examples 21.8 – 21.11</li> <li>Worksheet 21.3 (Sets 1 &amp; 2)</li> <li>Ongoing Assessment Package: Quiz 21.3</li> <li>Test Bank 21.3</li> </ul>			

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			<p><i>Non-foundation</i></p> <p><b>21.4 Applications of Standard Deviation (pp.210 – 218)</b></p> <ul style="list-style-type: none"> <li>Teachers can tell students to use the formula for standard score to find the standard deviation.</li> <li>Teachers can ask students what a standard deviation of 0 represents.</li> </ul>	2.5 hours /2.5 hours	Demonstrating some examples and giving some classwork	<ul style="list-style-type: none"> <li>Additional Examples 21.12 – 21.15</li> <li>Worksheet 21.4 (Sets 1 &amp; 2)</li> <li>Ongoing Assessment Package: Quiz 21.4</li> <li>Test Bank 21.4</li> </ul>			
			<p><i>Non-foundation</i></p> <p><b>21.5 Effects on the Dispersion with a Change in Data (pp.218 – 227)</b></p> <ul style="list-style-type: none"> <li>Teachers can discuss with students about the change on the dispersion of data after making different</li> </ul>	2 hours /2 hours	Demonstrating some examples and giving some classwork	<ul style="list-style-type: none"> <li>Additional Examples 21.16 – 21.17</li> <li>Worksheet 21.5 (Sets 1 &amp; 2)</li> <li>Ongoing</li> </ul>			

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			changes to data values.			Assessment Package: Quiz 21.5 • Test Bank 21.5			
			<b>Enrichment Mathematics – Applications of the Coefficient of Variation (pp.246 – 247)</b> <ul style="list-style-type: none"> <li>Teachers can point out that the standard deviation is commonly used to compare different sets of data in daily life.</li> </ul>	0.5 hour /0.5 hour	Demonstrating some examples and giving some classwork				
	3-4	<b>Chapter 22 Uses and Abuses of Statistics</b> <ul style="list-style-type: none"> <li>To recognize different techniques</li> </ul>	<b>Let's Review (p.250)</b> <ul style="list-style-type: none"> <li>Teachers can ask students to review sampling techniques and different methods of data collection.</li> </ul>	0.5 hour /0.5 hour	Demonstrating some examples and giving some classwork				

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		<p>in survey sampling and the basic principles of questionnaire design</p> <ul style="list-style-type: none"> <li>• To discuss and recognize the uses and abuses of statistical methods in various daily-life activities or investigations</li> <li>• To assess statistical</li> </ul>							



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		investigations presented in different sources such as the news media, research reports, etc							
			<b>22.1 Statistical Surveys (pp.250 – 255)</b> <ul style="list-style-type: none"> <li>Teachers can ask students to discuss in groups about the strengths and weaknesses of various methods of surveys.</li> </ul>	2 hours /2 hours	Demonstrating some examples and giving some classwork	<ul style="list-style-type: none"> <li>Worksheet 22.1 (Sets 1 &amp; 2)</li> </ul>			
			<b>22.2 Sampling Methods (pp.256 – 264)</b> <ul style="list-style-type: none"> <li>Teachers can discuss with students about the reasons of using sampling method as a</li> </ul>	3 hours /3 hours	Demonstrating some examples and giving some classwork	<ul style="list-style-type: none"> <li>Additional Examples 22.1 – 22.3</li> <li>Worksheet 22.2 (Sets 1 &amp; 2)</li> </ul>			

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			<p>statistical method.</p> <ul style="list-style-type: none"> <li>Teachers can point out the difference between probability sampling and non-probability sampling.</li> </ul>			<ul style="list-style-type: none"> <li>Ongoing Assessment Package: Quiz 22.2</li> <li>Test Bank 22.2</li> </ul>			
			<p><b>22.3 Statistical Investigations (pp.265 – 273)</b></p> <ul style="list-style-type: none"> <li>Through reading various statistical reports, teachers can discuss the credibility of the reports with students.</li> <li>Teachers can also ask the students to assess the statistical investigations in groups.</li> </ul>	<p>2 hours /2 hours</p>	<p>Demonstrating some examples and giving some classwork</p>	<ul style="list-style-type: none"> <li>Additional Examples 22.4 – 22.5</li> <li>Worksheet 22.3 (Sets 1 &amp; 2)</li> <li>Ongoing Assessment Package: Quiz 22.3</li> <li>Test Bank 22.3</li> </ul>			
			<p><b>Enrichment Mathematics –</b></p>	<p>0.5 hour /0.5 hour</p>	<p>Demonstrating some</p>				

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			<p><b>Population Census and By-census in Hong Kong (pp.286 – 287)</b></p> <ul style="list-style-type: none"> <li>Teachers can ask students to find out some data from population census and do a project.</li> </ul>		<p>examples and giving some classwork</p>				
	4-6	<p><b>Chapter 23 Locus</b></p> <ul style="list-style-type: none"> <li>To understand the concept of loci and describe and sketch the locus of points under given conditions</li> <li>To describe the locus of</li> </ul>	<p><b>23.1 Concept of Loci (pp.290 – 300)</b></p> <ul style="list-style-type: none"> <li>Teachers can help students investigate the locus of a moving point by geometric software 'winggeom'.</li> <li>Teachers can teach the students how to use algebraic equations to describe the simple locus of a moving point.</li> </ul>	7 hours /7 hours	<p>Demonstrating some examples and giving some classwork</p>	<ul style="list-style-type: none"> <li>Additional Examples 23.1 – 23.6</li> <li>Worksheet 23.1 (Sets 1 &amp; 2)</li> <li>Ongoing Assessment Package: Quiz 23.1</li> <li>Test Bank 23.1</li> </ul>			

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		<p>points with algebraic equations</p> <ul style="list-style-type: none"> <li>• To understand the equation of a circle</li> </ul> <p><i>Non-foundation</i></p> <ul style="list-style-type: none"> <li>• To find the number and coordinates of the points of intersection of a straight line and a circle</li> </ul> <p><i>Non-foundation</i></p> <ul style="list-style-type: none"> <li>• To find the equations of tangents</li> </ul>							

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		to a circle							
			<b>23.2 Equations of Circles (pp.300 – 312)</b> <ul style="list-style-type: none"> <li>Teachers can deduce the equation of circle and transform the equation in the form of <math>x^2 + y^2 + Dx + Ey + F = 0</math> or <math>(x - h)^2 + (y - k)^2 = r^2</math>.</li> <li>Teachers may remind students that the coefficients of <math>x^2</math> and <math>y^2</math> must be equal.</li> </ul>	5 hours /5 hours	Demonstrating some examples and giving some classwork	<ul style="list-style-type: none"> <li>Additional Examples 23.7 – 23.12</li> <li>Worksheet 23.1 (Sets 1 &amp; 2)</li> <li>Ongoing Assessment Package: Quiz 23.1</li> <li>Test Bank 23.1</li> </ul>			
			<p><i>Non-foundation</i></p> <b>23.3 Intersection of a Straight Line and a Circle (pp.313 – 319)</b> <ul style="list-style-type: none"> <li>Teachers may point out the conditions of the intersection of a straight line and a circle.</li> </ul>	5 hours /5 hours	Demonstrating some examples and giving some classwork	<ul style="list-style-type: none"> <li>Additional Examples 23.13 – 23.15</li> <li>Worksheet 23.3 (Sets 1 &amp; 2)</li> <li>Ongoing Assessment</li> </ul>			

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			<ul style="list-style-type: none"> <li>Teachers can ask students to review how to solve the simultaneous equations.</li> </ul>			Package: Quiz 23.3 <ul style="list-style-type: none"> <li>Test Bank 23.3</li> </ul>			
			<b>Enrichment Mathematics – Loci in a Parabola (pp.332 – 333)</b> <ul style="list-style-type: none"> <li>Teachers can point out the properties of parabola.</li> <li>Teachers can introduce the focus and directrix of parabola.</li> </ul>	0.5 hour /0.5 hour	Demonstrating some examples and giving some classwork				
	6-8	<b>Chapter 24 Inequalities and Linear Programming</b> <ul style="list-style-type: none"> <li>To solve compound linear inequalities in one</li> </ul>	<b>Let's Review (p.336)</b> <ul style="list-style-type: none"> <li>Teachers may review the method of solving a linear inequality in one unknown.</li> <li>Teachers may review the properties of inequalities.</li> </ul>	0.5 hour /0.5 hour	Demonstrating some examples and giving some classwork	<ul style="list-style-type: none"> <li>Worksheet 24.0 (Sets 1 &amp; 2)</li> <li>Test Bank 24.0</li> </ul>			

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		unknown <ul style="list-style-type: none"> <li data-bbox="427 331 607 699">• To solve quadratic inequalities in one unknown by the graphical method</li> <li data-bbox="427 719 600 751"><i>Non-foundation</i></li> <li data-bbox="427 778 607 1145">• To solve quadratic inequalities in one unknown by the algebraic method</li> <li data-bbox="427 1166 600 1198"><i>Non-foundation</i></li> <li data-bbox="427 1225 607 1449">• To represent the graphs of linear inequalities</li> </ul>							

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		<p>in two unknowns on a plane</p> <p><i>Non-foundation</i></p> <ul style="list-style-type: none"> <li>To solve systems of linear inequalities in two unknowns</li> </ul> <p><i>Non-foundation</i></p> <ul style="list-style-type: none"> <li>To solve linear programming problems</li> </ul>							
			<p><b>24.1 Compound Linear Inequalities in One Unknown (pp.337 – 346)</b></p> <ul style="list-style-type: none"> <li>Teachers can introduce the methods of solving compound linear inequalities.</li> </ul>	<p>2 hours /2 hours</p>	<p>Demonstrating some examples and giving some classwork</p>	<ul style="list-style-type: none"> <li>Additional Examples 24.1 – 24.5</li> <li>Worksheet 24.1 (Sets 1 &amp; 2)</li> <li>Ongoing Assessment</li> </ul>			



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						Package: Quiz 24.1 • Test Bank 24.1			
			<b>24.2 Quadratic Inequalities in One Unknown (pp.346 – 354)</b> <ul style="list-style-type: none"> <li>Teachers can review solving inequalities graphically.</li> </ul> <p><i>Non-foundation</i></p> <ul style="list-style-type: none"> <li>Teachers may teach the skills of solving an inequality by the algebraic method.</li> </ul> <p><i>Non-foundation</i></p>	3 hours /3 hours	Demonstrating some examples and giving some classwork	<ul style="list-style-type: none"> <li>Additional Examples 24.6 – 24.9</li> <li>Worksheet 24.2 (Sets 1 &amp; 2)</li> <li>Ongoing Assessment Package: Quiz 24.2</li> <li>Test Bank 24.2</li> </ul>			
			<b>24.3 Linear Inequalities in Two Unknowns (pp.354 – 366)</b> <ul style="list-style-type: none"> <li>Teachers may explain to students when to use solid line or dotted</li> </ul>	3 hours /3 hours	Demonstrating some examples and giving some classwork	<ul style="list-style-type: none"> <li>Additional Examples 24.10 – 24.12</li> <li>Worksheet 24.3</li> </ul>			

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			line in solving linear inequalities in two unknowns.			(Sets 1 & 2) <ul style="list-style-type: none"> <li>Ongoing Assessment Package: Quiz 24.3</li> <li>Test Bank 24.3</li> </ul>			
			<i>Non-foundation</i> <b>24.4 Linear Programming (pp.367 – 376)</b> <ul style="list-style-type: none"> <li>Teachers can remind students that under the same constraints, the optimal solutions may differ from different objective functions.</li> <li>Teacher may ask students to verify the result by using a computer software like 'Winplot'.</li> </ul>	3 hours /3 hours	Demonstrating some examples and giving some classwork	<ul style="list-style-type: none"> <li>Additional Examples 24.13 – 24.14</li> <li>Worksheet 24.4 (Sets 1 &amp; 2)</li> <li>Ongoing Assessment Package: Quiz 24.4</li> <li>Test Bank 24.4</li> </ul>			
			<i>Non-foundation</i>		Demonstrati				

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			<b>24.5 Applications of Linear Programming (pp.376 – 385)</b> <ul style="list-style-type: none"> <li>Teachers can discuss with students about examples of linear programming in modeling real-life problems.</li> </ul>	4 hours /4 hours	ng some examples and giving some classwork	<ul style="list-style-type: none"> <li>Additional Examples 24.15 – 24.17</li> <li>Worksheet 24.5 (Sets 1 &amp; 2)</li> <li>Ongoing Assessment Package: Quiz 24.5</li> <li>Test Bank 24.5</li> </ul>			
			<b>Enrichment Mathematics – Understanding the Concepts of Operations Research (pp.402 – 403)</b> <ul style="list-style-type: none"> <li>Teacher may introduce the development of linear programming.</li> </ul>	0.5 hour /0.5 hour	Demonstrating some examples and giving some classwork				
	8-10	<b>Chapter 13 (M1)</b>	<b>13.1 Poisson Distribution</b>	2.5 hours	Demonstrati	<ul style="list-style-type: none"> <li>Additional</li> </ul>			

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		<b>Poisson Distribution</b> <ul style="list-style-type: none"> <li>To recognize the concept and properties of the Poisson distribution</li> <li>To calculate probabilities involving the Poisson distribution</li> <li>To use the Poisson distribution to solve problems</li> <li>To use binomial, geometric</li> </ul>	<b>(pp.164 – 174)</b> <ul style="list-style-type: none"> <li>Students should be able to represent the probability functions of Poisson distributions graphically.</li> <li>Students should also be able to calculate the probability, mean and variance of Poisson distributions.</li> </ul>	/2.5 hours	ng some examples and giving some classwork	Examples 13.1 – 13.3 <ul style="list-style-type: none"> <li>Worksheet 13.1 (Sets 1 &amp; 2)</li> <li>Ongoing Assessment Package: Quiz 13.1</li> <li>Test Bank 13.1</li> </ul>			

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		and Poisson distributions to solve problems							
			<b>13.2 Applications of Poisson Distribution (pp.174 – 184)</b> <ul style="list-style-type: none"> <li>Students should be able to solve application problems of Poisson distributions.</li> </ul>	2 hours /2 hours	Demonstrating some examples and giving some classwork	<ul style="list-style-type: none"> <li>Additional Examples 13.4 – 13.6</li> <li>Worksheet 13.2 (Sets 1 &amp; 2)</li> <li>Ongoing Assessment Package: Quiz 13.2</li> <li>Test Bank 13.2</li> </ul>			
			<b>13.3 Applications of Different Distributions (pp.184 – 190)</b> <ul style="list-style-type: none"> <li>Students should be able to solve application</li> </ul>	1.5 hours /1.5 hours	Demonstrating some examples and giving some classwork	<ul style="list-style-type: none"> <li>Additional Examples 13.7 – 13.8</li> <li>Worksheet 13.3 (Sets 1 &amp; 2)</li> </ul>			

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			problems involving two to three different distributions.			<ul style="list-style-type: none"> <li>Ongoing Assessment Package: Quiz 13.3</li> <li>Test Bank 13.3</li> </ul>			
			<b>Enrichment Mathematics – Poisson or Bortkiewicz Distribution (p.201)</b> <ul style="list-style-type: none"> <li>This enrichment introduces the contribution made by Ladislaus Bortkiewicz on the development of the concept of the Poisson distribution.</li> </ul>	0.5 hour /0.5 hour	Demonstrating some examples and giving some classwork				
	10-12	<b>Chapter 14 (M1) Normal Distribution</b> <ul style="list-style-type: none"> <li>To recognize the</li> </ul>	<b>14.1 Continuous Random Variables (pp.218 – 219)</b> <ul style="list-style-type: none"> <li>Students should be able to classify random variables as discrete or</li> </ul>	0.5 hour /0.5 hour	Demonstrating some examples and giving some classwork	<ul style="list-style-type: none"> <li>Worksheet 14.1 (Sets 1 &amp; 2)</li> </ul>			

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		<p>concepts of continuous random variables and continuous probability distributions, with reference to the normal distribution</p> <ul style="list-style-type: none"> <li>• To recognize the concept and properties of the normal distribution</li> <li>• To standardize a normal</li> </ul>	<p>continuous.</p> <ul style="list-style-type: none"> <li>• Students should also learn about probability density functions, and the expectation and variance of continuous random variables.</li> </ul>						

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		variable and use the standard normal distribution table to find probabilitie s involving the normal distribution <ul style="list-style-type: none"> <li>• To find the values of <math>P(X &gt; x_1)</math>, <math>P(X &lt; x_2)</math>, <math>P(x_1 &lt; X &lt; x_2)</math> and related probabilities, given the values of <math>x_1</math>, <math>x_2</math>, <math>\mu</math> and <math>\sigma</math>, where <math>X \sim N(\mu, \sigma^2)</math>.</li> </ul>							



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		$\sigma^2$ )							
			<b>14.2 Normal Distribution (pp.220 – 232)</b> <ul style="list-style-type: none"> <li>Teachers can remind students to make use of symmetry and the laws of complementary probability when finding the probabilities of standard normal distributions.</li> <li>Students should also be able to find probabilities from a standard normal curve and the standard normal distribution table, and find the value of <math>z</math> for the given probability.</li> </ul>	4 hours /4 hours	Demonstrating some examples and giving some classwork	<ul style="list-style-type: none"> <li>Additional Examples 14.1 – 14.4</li> <li>Worksheet 14.2 (Sets 1 &amp; 2)</li> <li>Ongoing Assessment Package: Quiz 14.2</li> <li>Test Bank 14.2</li> </ul>			
		<ul style="list-style-type: none"> <li>To find the values of <math>x</math>, given the values of <math>P(X &gt; x)</math>,</li> </ul>	<b>14.3 Standardization of Normal Variable (pp.233 – 240)</b> <ul style="list-style-type: none"> <li>Students should be able</li> </ul>	4 hours /4 hours	Demonstrating some examples and giving some	<ul style="list-style-type: none"> <li>Additional Examples 14.5 – 14.9</li> <li>Worksheet</li> </ul>			

School Term	Weeks	Topics/ Extended Parts*	Learning Objectives/ Teaching Focus	SL/AL	Teaching and Learning Activities	Consolidation and Assessment	Self-directed Learning Skills♦	Values#	Basic Law Education*
		$P(X < x)$ , $P(a < X < x)$ , $P(x < X < b)$ or a related probability, where $X \sim N(\mu, \sigma^2)$ <ul style="list-style-type: none"> <li>To use the normal distribution to solve problems</li> </ul>	to find the probabilities of normal distributions and the value of $z$ for the given probability.		classwork	14.3 (Sets 1 & 2) <ul style="list-style-type: none"> <li>Ongoing Assessment Package: Quiz 14.3</li> <li>Test Bank 14.3</li> </ul>			
			<b>14.4 Applications of Normal Distribution (pp.241 – 251)</b> <ul style="list-style-type: none"> <li>Students should be able to solve practical problems of normal distributions or involving more than one distribution.</li> </ul>	3 hours /3 hours	Demonstrating some examples and giving some classwork	<ul style="list-style-type: none"> <li>Additional Examples 14.10 – 14.14</li> <li>Worksheet 14.4 (Sets 1 &amp; 2)</li> <li>Ongoing Assessment</li> </ul>			

School Term	Weeks	Topics/ Extended Parts*	Learning Objectives/ Teaching Focus	SL/AL	Teaching and Learning Activities	Consolidation and Assessment	Self-directed Learning Skills♦	Values#	Basic Law Education*
						Package: Quiz 14.4 • Test Bank 14.4			
			<b>Enrichment Mathematics – Approximating a Binomial Distribution by a Normal Distribution (pp.264 – 265)</b> <ul style="list-style-type: none"> <li>This enrichment introduces the de Moivre-Laplace theorem which enables us to approximate a binomial distribution by a normal distribution.</li> </ul>	0.5 hour /0.5 hour	Demonstrating some examples and giving some classwork				
	13-14	<b>Chapter 15 (M1) Sampling Distribution and Point Estimates</b> <ul style="list-style-type: none"> <li>To</li> </ul>	<b>15.1 Sample Statistics and Sampling Distribution (pp.268 – 278)</b> <ul style="list-style-type: none"> <li>Students should be able to calculate and</li> </ul>	2.5 hours /2.5 hours	Demonstrating some examples and giving some classwork	<ul style="list-style-type: none"> <li>Additional Examples 15.1 – 15.3</li> <li>Worksheet 15.1 (Sets 1 &amp; 2)</li> </ul>			

School Term	Weeks	Topics/ Extended Parts*	Learning Objectives/ Teaching Focus	SL/AL	Teaching and Learning Activities	Consolidation and Assessment	Self-directed Learning Skills♦	Values#	Basic Law Education*
		<p>recognize the concepts of sample statistics and population parameters</p> <ul style="list-style-type: none"> <li>To recognize the sampling distribution of the sample mean from a random sample of size <math>n</math></li> <li>To recognize the concept of point estimates</li> </ul>	<p>compare sample means, find possible samples from a population and find sample size.</p> <ul style="list-style-type: none"> <li>Students should also be able to calculate the variance of a sample mean, the mean and variance of a sample from a given distribution, and the mean and variance of a sample from a real-life situation.</li> </ul>			<ul style="list-style-type: none"> <li>Ongoing Assessment Package: Quiz 15.1</li> <li>Test Bank 15.1</li> </ul>			

School Term	Weeks	Topics/ Extended Parts*	Learning Objectives/ Teaching Focus	SL/AL	Teaching and Learning Activities	Consolidation and Assessment	Self-directed Learning Skills♦	Values#	Basic Law Education*
		including the sample mean, sample variance and sample proportion <ul style="list-style-type: none"> <li>To recognize the Central Limit Theorem</li> </ul>							
			<b>15.2 Point Estimates (pp.279 – 290)</b> <ul style="list-style-type: none"> <li>Suppose <math>\hat{\theta}</math> is a point estimator of population parameter <math>\theta</math>. Teachers may point out that if <math>E(\hat{\theta}) = \theta</math>, then <math>\hat{\theta}</math> is an unbiased estimator of <math>\theta</math>.</li> <li>Students should be able to calculate sample variances and sample</li> </ul>	2 hours /2 hours	Demonstrating some examples and giving some classwork	<ul style="list-style-type: none"> <li>Additional Examples 15.4 – 15.8</li> <li>Worksheet 15.2 (Sets 1 &amp; 2)</li> <li>Ongoing Assessment Package: Quiz 15.2</li> <li>Test Bank 15.2</li> </ul>			

School Term	Weeks	Topics/ Extended Parts*	Learning Objectives/ Teaching Focus	SL/AL	Teaching and Learning Activities	Consolidation and Assessment	Self-directed Learning Skills♦	Values#	Basic Law Education*
			proportions, find sample size, and solve practical problems on sample variance.						
			<b>15.3 Central Limit Theorem (pp.291 – 304)</b> <ul style="list-style-type: none"> <li>Students should be able to solve application problems on the Central Limit Theorem.</li> </ul>	2 hours /2 hours	Demonstrating some examples and giving some classwork	<ul style="list-style-type: none"> <li>Additional Examples 15.9 – 15.14</li> <li>Worksheet 15.3 (Sets 1 &amp; 2)</li> <li>Ongoing Assessment Package: Quiz 15.3</li> <li>Test Bank 15.3</li> </ul>			
			<b>Enrichment Mathematics – Central Limit Theorem and Normal Approximation (p.319)</b> <ul style="list-style-type: none"> <li>This enrichment introduces the use of</li> </ul>	0.5 hour /0.5 hour	Demonstrating some examples and giving some classwork				

School Term	Weeks	Topics/ Extended Parts*	Learning Objectives/ Teaching Focus	SL/AL	Teaching and Learning Activities	Consolidation and Assessment	Self-directed Learning Skills♦	Values#	Basic Law Education*
			the Central Limit Theorem to approximate a Poisson distribution by a normal distribution.						
	15-16	<b>Chapter 16 (M1) Confidence Interval</b> <ul style="list-style-type: none"> <li>To recognize the concept of confidence interval</li> <li>To find the confidence interval for a population mean</li> <li>To find an approximate</li> </ul>	<b>16.1 Concept of Confidence Interval (p.322)</b> <ul style="list-style-type: none"> <li>Students should learn the definition of a confidence interval.</li> </ul>	0.5 hour /0.5 hour	Demonstrating some examples and giving some classwork	<ul style="list-style-type: none"> <li>Worksheet 16.1 (Sets 1 &amp; 2)</li> </ul>			

School Term	Weeks	Topics/ Extended Parts*	Learning Objectives/ Teaching Focus	SL/AL	Teaching and Learning Activities	Consolidation and Assessment	Self-directed Learning Skills♦	Values#	Basic Law Education*
		confidence interval for a population proportion							
			<b>16.2 Confidence Interval for a Population Mean (pp.323 – 339)</b> <ul style="list-style-type: none"> <li>Students should be able to find the confidence interval for normal and other populations, and for populations with unknown population variances.</li> </ul>	5.5 hours /5.5 hours	Demonstrating some examples and giving some classwork	<ul style="list-style-type: none"> <li>Additional Examples 16.1 – 16.6</li> <li>Worksheet 16.2 (Sets 1 &amp; 2)</li> <li>Ongoing Assessment Package: Quiz 16.2</li> <li>Test Bank 16.2</li> </ul>			
			<b>16.3 Approximate Confidence Interval for a Population Proportion (pp.340 – 349)</b> <ul style="list-style-type: none"> <li>Students should be able</li> </ul>	2.5 hours /2.5 hours	Demonstrating some examples and giving some classwork	<ul style="list-style-type: none"> <li>Additional Examples 16.7 – 16.9</li> <li>Worksheet 16.3 (Sets 1 &amp; 2)</li> </ul>			



School Term	Weeks	Topics/ Extended Parts*	Learning Objectives/ Teaching Focus	SL/AL	Teaching and Learning Activities	Consolidation and Assessment	Self-directed Learning Skills♦	Values#	Basic Law Education*
			to find confidence intervals and solve application problems on the confidence intervals for population proportions.			<ul style="list-style-type: none"> <li>Ongoing Assessment Package: Quiz 16.3</li> <li>Test Bank 16.3</li> </ul>			
			<b>Enrichment Mathematics – Hypothesis Testing (pp.366 – 367)</b> <ul style="list-style-type: none"> <li>This enrichment introduces the concept of hypothesis testing.</li> </ul>	0.5 hour /0.5 hour	Demonstrating some examples and giving some classwork				
<b>Second Term (31/12/2017-18/7/2018, Weeks 18-46)</b>	18-24 26	<b>Revisions</b>			Demonstrating some examples and giving some classwork				

\* The extended parts should be marked with asterisks. These parts should be more challenging and can be covered when the students can master the knowledge and skills covered in the conventional topics.

# Core Values of Wah Yan College, Kowloon

I. Love and care	<ul style="list-style-type: none"> <li>1. Accept &amp; feel positive about himself</li> <li>2. Appreciation &amp; Gratitude</li> <li>3. Empathy &amp; Compassion</li> </ul>	<ul style="list-style-type: none"> <li>4. Forgiveness &amp; Reconciliation</li> <li>5. Service</li> <li>6. Family as a basic unit of society; marriage is the foundation of a family</li> </ul>
II. Strive for excellence	<ul style="list-style-type: none"> <li>7. Reflective</li> <li>8. Commitment</li> <li>9. Perseverance</li> </ul>	<ul style="list-style-type: none"> <li>10. Curiosity &amp; willingness to learn</li> <li>11. Value imagination and creativity</li> </ul>
III. Respect and Justice	<ul style="list-style-type: none"> <li>12. Life is valuable and respectable</li> <li>13. Openness to good in all things</li> <li>14. Respect for himself &amp; others</li> </ul>	<ul style="list-style-type: none"> <li>15. Integrity</li> <li>16. Faithfulness</li> </ul>
IV. Responsibility	<ul style="list-style-type: none"> <li>17. Freedom &amp; Self-discipline</li> <li>18. Care for the environment</li> </ul>	<ul style="list-style-type: none"> <li>19. Social Identities: citizen identity, national identity and global citizen identity</li> </ul>
V. Faith	<ul style="list-style-type: none"> <li>20. Experience of God</li> <li>21. Explore &amp; practise one's faith</li> </ul>	<ul style="list-style-type: none"> <li>22. Appreciate religious liturgies</li> </ul>