



	Autumn 1		Autumn 2		Spring 1		Spring 2		Summer 1		Summer 2	
Reporting Y10		CfCs		BfL & Grades		CfCs		BfL & Grades			BfL & Report	
Year 10			Overview of the course, objectives, skills gained and the wider benefits of these skills and the course. 1. The collection of data • Hypotheses • Designing investigations • Strategies to deal with potential problems 1(b) Types of data • Describing data - o Raw data, quantitative, qualitative, categorical, ordinal, discrete, continuous, ungrouped, grouped, bivariate and multivariate • Advantages and implications of merging/grouping data • Primary/secondary data - o Advantages and disadvantages 1(c) Population and sampling • Population, sample frame and sample • Judgment, opportunity (convenience) and quota sampling 1(d) Collecting Data • Collecting sensitive content matter • Random Response 2(h) Estimation • Use summary statistics to make estimates of population characteristics • Use sample data to predict population proportions • Know that sample size has an impact on reliability and replication • Apply Petersen capture recapture formula to calculate an estimate of the size of a population				1(d) Collecting data • Collection of data - o Experimental (laboratory, field and natural), simulation, questionnaires, observation, reference, census, population and sampling • Questionnaires and interviews - o Leading questions, avoiding biased sources, time factors, open/closed questions, different types of interview technique • Problems with collected data - o Missing data, non-response, 'cleaning' data • Controlling extraneous variables - o Control groups 2. Processing, representing and analysing data ASSESSMENT 2(a) Representing data • Population pyramid, Choropleth map, Comparative pie chart Interpret and compare data sets represented pictorially • Cumulative frequency charts, Histograms, Box plots • Interpret and compare data sets represented graphically		2(a) Representing data • Histograms unequal class widths - o Frequency density - o Interpret and compare data sets displayed in histograms 2(a) Representing data • Justify appropriate form to represent data • Graphical misrepresentation • Determine skewness by inspection - o Interpreting a distribution of data with reference to skewness - o Calculating skewness • Comparing data sets represented in different formats	2(b) Measures of central tendency • Averages from raw or grouped data - o Mean, median, mode • Weighted mean • Geometric mean • Justify appropriate average to use in context 2(c) Measures of dispersion • Range, quartiles, interquartile range (IQR), percentiles • Interpercentile range, interdecile range • Standard deviation • Identifying outliers by inspection • Identifying outliers by calculation • Comment on outliers in context • Compare data sets using appropriate measure of central tendency and measure of dispersion ASSESSMENT	Work Experience Week	

Reporting Y11		CfCs & Grades		Rep & Grades			CfCs & Grades		BfL & Grades		
Year 11	2(c) Measures of dispersion - Standardised scores 2(d) Further summary statistics - Index numbers / weighted index numbers - Retail price index (RPI) - Consumer price index (CPI) - Gross domestic product (GDP) - Interpret data related to rates of change over time when given in graphical form	ASSESSMENT 2(e) Scatter diagrams and correlation - Explanatory (independent) variables and response (dependent) variables - Correlation - Distinction between correlation and causation - Line of best fit - Using the regression equation $y = a + bx$ - Calculate Spearman's rank correlation coefficient - Interpret Spearman's rank in context - Interpret Pearson's product moment correlation coefficient (PMCC) in context - Understand the distinction between Spearman's rank correlation coefficient and Pearson's product moment correlation coefficient (PMCC) 2(f) Time series - Moving averages - Identifying trends - Interpreting seasonal and cyclical trends in context - Mean seasonal variation - Predictions using average seasonal effect	3. Probability - Expected frequency of a specified characteristic within a sample or population - Use collected data and calculated probabilities to determine and interpret risk - Compare experimental data with theoretical predictions - Use two-way tables, sample space diagrams, tree diagrams and Venn diagrams to represent all the different outcomes possible for at most three events 3. Experimental and theoretical probability - Independent events - Conditional probability - Difference in terms of bias 3. Probability distributions - Binomial distribution - Notation $B(n, p)$ - Conditions that make binomial model suitable - Mean (np) - Calculation of binomial probabilities	- Normal distribution - Notation $N(\mu, \sigma^2)$ - Characteristics of Normal distribution - Conditions that make Normal model suitable - Approximately 95% of the data lie within two standard deviations of the mean and that 68% (just over two thirds) lie within one standard deviation of the mean 2(g) Quality assurance - Know that a set of sample means are more closely distributed than individual values from the same population. - Control charts - Use action and warning lines in quality assurance sampling applications. ASSESSMENT	Revision for Paper 1 and Paper 2						