

Course Planner



GCSE (9-1) Statistics

Pearson Edexcel Level 1/Level 2 GCSE (9-1) in Statistics (1ST0)

Course planner: GCSE (9–1) Statistics

Contents

Introduction	2
Assessment objectives for GCSE Statistics	3
Prerequisite knowledge from GCSE Mathematics	4
Planner at a glance	6
Option 1: Two-year course planner	6
Option 2: One-year course planner	7
Option 1: Two-year course planner	8
Year 1	8
Year 2	12
Option 2: One-year course planner	16

Introduction

This course planner provides one possible two-year course and one possible one-year course for the delivery of GCSE Statistics (9-1). These models are suggestions only and there are a number of valid ways of structuring the course.

The amount of time available for statistics in the curriculum varies widely from centre to centre. Teachers will want to adapt the models presented here to suit their circumstances.

The course planner provides opportunities to apply statistical techniques to solve problems within the framework of the statistical enquiry cycle (SEC). Students should have experience of the application of statistical techniques across the curriculum, in subjects such as the sciences, social sciences, computing, geography, business and economics, and outside the classroom in the world in general.

Assessment objectives for GCSE Statistics

Skill	Weighting	Assessment objective
Demonstrate knowledge and understanding, using appropriate terminology and notation, of standard statistical techniques used to: <ul style="list-style-type: none">• collect and represent information• calculate summary statistics and probabilities.	55%	AO1
Interpret statistical information and results in context and reason statistically to draw conclusions.	25%	AO2
Assess the appropriateness of the statistical methodologies and the conclusions drawn through the application of the statistical enquiry cycle.	20%	AO3

Prerequisite knowledge from GCSE Mathematics

Students will need to be familiar with the following mathematics before entering for GCSE Statistics.

GCSE Mathematics topic area and reference		Content
1. Number	N1	order positive integers, decimals and fractions; understand and use the symbols $=$, \neq , $<$, $>$, \leq , \geq
	N2	apply the four operations to integers, decimals and simple fractions (proper and improper), and mixed numbers; understand and use place value (for example when working with very large or very small numbers, and when calculating with decimals)
	N3	recognise and use relationships between operations, including inverse operations, for example cancellation to simplify calculations and expressions; use conventional notation for priority of operations, including brackets, powers, roots and reciprocals
	N9	understand and use standard form
	N10	work interchangeably with terminating decimals and their corresponding fractions (such as 3.5 and $\frac{7}{2}$ or 0.375 and $\frac{3}{8}$). Recognise that some fractions can be written as recurring decimals
	N11	identify and work with fractions in ratio problems
	N12	interpret fractions and percentages as operators
	N13	use standard units of mass, length, time, money and other measures (including standard compound measures) using decimal quantities where appropriate
	N14	estimate answers; check calculations using approximation and estimation, including answers obtained using technology
	N15	round numbers and measures to an appropriate degree of accuracy (for example to a specified number of decimal places or significant figures); use inequality notation to specify simple error intervals due to truncation or rounding
2. Algebra	A2	substitute numerical values into formulae and expressions, including scientific formulae
	A5	understand and use standard mathematical formulae; rearrange formulae to change the subject
	A8	work with coordinates on Cartesian grid
	A9	understand and use the general equation of a straight line $y = mx + c$ where c is the intercept with the y -axis and $m = \frac{(y_1 - y_2)}{(x_1 - x_2)}$.

GCSE Mathematics topic area and reference		Content
3. Ratio, proportion and rates of change	R3	express one quantity as a fraction of another, where the fraction is less than 1 or greater than 1
	R4	use ratio notation, including reduction to simplest form
	R5	divide a given quantity into two parts in a given part:part or part:whole ratio; express the division of a quantity into two parts as a ratio; apply ratio to real contexts and problems (such as those involving probability)
	R8	relate ratios to fractions and vice versa
	R9	define percentage as 'number of parts per hundred'; interpret percentages and percentage changes as a fraction or a decimal, and interpret these multiplicatively; express one quantity as a percentage of another; compare two quantities using percentages
	R11	use compound units such as speed, rates of pay, unit pricing
	R14	interpret the gradient of a straight line graph as a rate of change
4. Probability	P1	record, describe and analyse the frequency of outcomes of probability experiments
	P7	construct theoretical possibility spaces for single and combined experiments with equally likely outcomes and use these to calculate theoretical probabilities

Planner at a glance

Option 1: Two-year course planner

This option is designed for the delivery of GCSE Statistics as a two-year course with the option of teaching alongside GCSE Mathematics. Though the number of teaching hours varies from centre to centre, this option is based on up to 2 hours per week.

Term	Year	Content area	Topics
Autumn	Yr 1	1. The collection of data	1(a) Planning 1(b) Types of data 1(c) Population and sampling 2(h) Estimation 1(d) Collecting data
Spring	Yr 1	2. Processing, representing and analysing data	2(a) Tabulation, diagrams and representation
Summer	Yr 1	2. Processing, representing and analysing data	2(b) Measures of central tendency 2(c) Measures of dispersion 2(e) Scatter diagrams and correlation
Autumn	Yr 2	2. Processing, representing and analysing data 3. Probability	2(f) Time series 3. Experimental and theoretical probability 2(d) Further summary statistics
Spring	Yr 2	3. Probability distributions 2. Processing, representing and analysing data Statistical enquiry cycle/A03 practice	3. Probability distributions 2(c) Standardised scores 2(g) Quality assurance Mini-investigation
Summer	Yr 2	Revision	

Option 2: One-year course planner

This is an accelerated one-year option to deliver GCSE Statistics. Though the number of teaching hours varies from centre to centre, this option is based on up to 4 hours per week. Students should carry out a statistical investigation in the Spring term to gain full experience with the statistical enquiry cycle and develop relevant AO3 skills.

Term	Content area	Topics	Investigation
Autumn	1. The collection of data 2. Processing, representing and analysing data	1(a) Planning 1(b) Types of data 1(c) Population and sampling 2(h) Estimation 1(d) Collecting data 2(a) Tabulation and diagrams 2(a) Representing data	
Spring	2. Processing, representing and analysing data 3. Probability	2(b) Measures of central tendency 2(c) Measures of dispersion 2(e) Scatter diagrams and correlation 2(f) Time series 3. Experimental and theoretical probability	Statistical enquiry cycle (AO3) investigation
Summer	3. Probability 2. Processing, representing and analysing data Revision	2(d) Further summary statistics 3. Probability distributions 2(c) Standardised scores 2(g) Quality assurance Revision	

Option 1: Two-year course planner

Topics in bold type are Higher tier only.

Year 1

Year 1	Statistics specification content	Co-teaching opportunity with GCSE Mathematics	Statistical enquiry cycle opportunity
Autumn 1	<p>1. The collection of data</p> <p>1(a) Planning</p> <ul style="list-style-type: none"> Hypotheses Designing investigations Strategies to deal with potential problems <p>1(b) Types of data</p> <ul style="list-style-type: none"> Describing data <ul style="list-style-type: none"> Raw data, quantitative, qualitative, categorical, ordinal, discrete, continuous, ungrouped, grouped, bivariate and multivariate Advantages and implications of merging/grouping data Primary/secondary data <ul style="list-style-type: none"> Advantages and disadvantages <p>1(c) Population and sampling</p> <ul style="list-style-type: none"> Population, sample frame and sample Judgment, opportunity (convenience) and quota sampling 	<p>S5 apply statistics to describe a population</p>	<p><i>Defining a question or hypothesis to investigate.</i></p> <p><i>Developing a strategy for how to process and represent data.</i></p> <p><i>Designing methods for collecting primary data.</i></p>
Autumn 2	<p>1(c) Population and sampling</p> <ul style="list-style-type: none"> Random, systematic and quota sampling <ul style="list-style-type: none"> Advantages of each method Techniques to avoid bias Stratified sampling 	<p>S1 infer properties of populations or distributions from a sample, while knowing the limitations of sampling</p>	<p><i>Deciding what data to collect and how to collect and record it, giving reasons.</i></p>

GCSE Statistics (9-1) Option 1: Two-year course planner

Year 1	Statistics specification content	Co-teaching opportunity with GCSE Mathematics	Statistical enquiry cycle opportunity
	<p>2(h) Estimation</p> <ul style="list-style-type: none"> • 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 <p>1(d) Collecting data</p> <ul style="list-style-type: none"> • Collection of data <ul style="list-style-type: none"> ○ Experimental (laboratory, field and natural), simulation, questionnaires, observation, reference, census, population and sampling ○ Reliability and validity ○ Collecting sensitive content matter ○ Random response • Questionnaires and interviews • Leading questions, avoiding biased sources, time factors, open/closed questions, different types of interview technique • Problems with collected data <ul style="list-style-type: none"> ○ Missing data, non-response, 'cleaning' data • Controlling extraneous variables <ul style="list-style-type: none"> ○ Control groups 		<p><i>Making inferences and/or predictions.</i></p> <p><i>Organising, processing and 'cleaning' data, using technology.</i></p>
Spring 1	<p>2. Processing, representing and analysing data</p> <p>2(a) Tabulation</p> <ul style="list-style-type: none"> • Tally, tabulation, two-way tables • Frequency tables <p>2(a) Representing data</p> <ul style="list-style-type: none"> • Pictogram 	<p>S2</p> <p>interpret and construct tables, charts and diagrams, including frequency tables, bar</p>	

GCSE Statistics (9-1) Option 1: Two-year course planner

Year 1	Statistics specification content	Co-teaching opportunity with GCSE Mathematics	Statistical enquiry cycle opportunity
	<ul style="list-style-type: none"> • Pie chart • Bar charts • Stem and leaf diagram • Population pyramid • Choropleth map • Comparative pie chart • Comparative 2D representations/comparative 3D representations. • Interpret and compare data sets represented pictorially • Line graphs • Bar line (vertical line) charts • Frequency polygons • Cumulative frequency (discrete and grouped) charts • Histograms (equal class width) • Box plots • Interpret and compare data sets represented graphically 	charts, pie charts and pictograms for categorical data, vertical line charts for ungrouped discrete numerical data, tables and line graphs for time series data and know their appropriate use	<i>Generating diagrams and visualisations to represent the data, including an understanding of outputs generated by appropriate technology.</i>
Spring 2	2(a) Representing data <ul style="list-style-type: none"> • Histograms unequal class widths <ul style="list-style-type: none"> ○ Frequency density ○ Interpret and compare data sets displayed in histograms 2(a) Representing data <ul style="list-style-type: none"> • Justify appropriate form to represent data • Graphical misrepresentation • Determine skewness by inspection <ul style="list-style-type: none"> ○ Interpreting a distribution of data with reference to skewness ○ Calculating skewness • Comparing data sets represented in different formats 	S3 construct and interpret diagrams for grouped discrete data and continuous data, i.e. histograms with equal and unequal class intervals and cumulative frequency graphs, and know their appropriate use	
Summer 1	2(b) Measures of central tendency <ul style="list-style-type: none"> • Averages from raw or grouped data <ul style="list-style-type: none"> ○ Mean, median, mode 	S4 interpret, analyse and compare the	<i>Generating statistical measures to compare data,</i>

GCSE Statistics (9-1) Option 1: Two-year course planner

Year 1	Statistics specification content	Co-teaching opportunity with GCSE Mathematics	Statistical enquiry cycle opportunity
	<ul style="list-style-type: none"> • Weighted mean • Geometric mean • Justify appropriate average to use in context <p>2(c) Measures of dispersion</p> <ul style="list-style-type: none"> • 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 	distributions of data sets from univariate empirical distributions	<p><i>understanding the advantages of using technology to automate processing.</i></p> <p><i>Analysing and interpreting diagrams and calculations.</i></p>
Summer 2	<p>2(e) Scatter diagrams and correlation</p> <ul style="list-style-type: none"> • Explanatory (independent) variables and response (dependent) variables • Correlation <ul style="list-style-type: none"> ○ Positive, negative, zero, weak, strong ○ Distinction between correlation and causation • Line of best fit <ul style="list-style-type: none"> ○ 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) 	<p>S6</p> <p>use and interpret scatter graphs of bivariate data; recognise correlation and know that it does not indicate causation; draw estimated lines of best fit; make predictions; interpolate and extrapolate apparent trends while knowing the dangers of so doing</p>	<p><i>Reaching conclusions that relate to the questions and hypotheses addressed.</i></p>

Year 2

Year 2	Statistics specification content	Co-teaching opportunity with GCSE Mathematics	Statistical enquiry cycle opportunity
Autumn 1	<p>2(f) Time series</p> <ul style="list-style-type: none"> Moving averages Identifying trends Interpreting seasonal and cyclical trends in context Mean seasonal variation <ul style="list-style-type: none"> Predictions using average seasonal effect <p>3. Probability</p> <p>3. Experimental and theoretical probability</p> <ul style="list-style-type: none"> Likelihood 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 Understand that increasing sample size generally leads to better estimates of probability and population parameters 	<p>P3 use appropriate language and the 0–1 probability scale</p> <p>P2 apply ideas of randomness to calculate expected outcomes of multiple future experiments</p> <p>P3 relate relative expected frequencies to theoretical probability</p> <p>P5 understand that empirical unbiased samples tend towards theoretical probability distributions, with increasing sample size</p>	<p><i>Making predictions.</i></p> <p><i>Making inferences and/or predictions.</i></p>

GCSE Statistics (9-1) Option 1: Two-year course planner

Year 2	Statistics specification content	Co-teaching opportunity with GCSE Mathematics	Statistical enquiry cycle opportunity
	<ul style="list-style-type: none"> Use two-way tables, sample space diagrams, tree diagrams and Venn diagrams to represent all the different outcomes possible for at most three events 	P6 enumerate sets and combinations of sets systematically, using tables, grids, Venn diagrams and tree diagrams	
Autumn 2	3. Experimental and theoretical probability <ul style="list-style-type: none"> Independent events Conditional probability Difference in terms of bias 	P8 calculate the probability of independent and dependent combined events, including using tree diagrams and other representations, and know the underlying assumptions P9 calculate and interpret conditional probabilities through representation using expected frequencies with two-way tables, tree diagrams and Venn diagrams	

Year 2	Statistics specification content	Co-teaching opportunity with GCSE Mathematics	Statistical enquiry cycle opportunity
	<p>2. Processing, representing and analysing data</p> <p>2(d) Further summary statistics</p> <ul style="list-style-type: none"> Index numbers / weighted index numbers <ul style="list-style-type: none"> 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 Calculate and interpret rates of change over time from tables using context specific formula 		<i>Interpreting the diagrams and calculations.</i>
Spring 1	<p>3. Probability distributions</p> <ul style="list-style-type: none"> Binomial distribution <ul style="list-style-type: none"> Notation $B(n, p)$ Conditions that make binomial model suitable Mean (np) Calculation of binomial probabilities Normal distribution <ul style="list-style-type: none"> 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 <p>2(c) Measures of dispersion</p> <ul style="list-style-type: none"> Standardised scores <p>2(g) Quality assurance</p> <ul style="list-style-type: none"> Know that a set of sample means are more closely distributed than individual 		

GCSE Statistics (9-1) Option 1: Two-year course planner

Year 2	Statistics specification content	Co-teaching opportunity with GCSE Mathematics	Statistical enquiry cycle opportunity
	<p>values from the same population.</p> <ul style="list-style-type: none"> • Control charts <ul style="list-style-type: none"> ○ Use action and warning lines in quality assurance sampling applications. 		
Spring 2	<p>Statistical Enquiry Cycle/A03 Practice Mini-investigation</p> <p>Use this time to carry out an investigation. Students should have the opportunity to work with real world data sets. They may choose to investigate a problem from the sciences, geography, business, economics or other relevant field. Students should:</p> <ul style="list-style-type: none"> • Define a hypothesis to be investigated • Decide data to collect • Plan a strategy on how to process and represent data • Generate diagrams to represent data • Generate statistical measures • Analyse diagrams and calculations • Draw conclusions relating to hypotheses <ul style="list-style-type: none"> ○ Discuss reliability ○ Identify weaknesses ○ Suggest improvements ○ Make refinements 		
Summer 1	Revision for Paper 1 and Paper 2		

Option 2: One-year course planner

Topics in bold type are Higher tier only.

	Statistics specification content	Co-teaching opportunity with GCSE Mathematics
Autumn 1	<p>1. The collection of data</p> <p>1(a) Planning</p> <ul style="list-style-type: none"> Hypotheses Designing investigations Strategies to deal with potential problems <p>1(b) Types of data</p> <ul style="list-style-type: none"> Describing data <ul style="list-style-type: none"> Raw data, quantitative, qualitative, categorical, ordinal, discrete, continuous, ungrouped, grouped, bivariate and multivariate Advantages and implications of merging/grouping data Primary/secondary data <ul style="list-style-type: none"> Advantages and disadvantages <p>1(c) Population and sampling</p> <ul style="list-style-type: none"> Population, sample frame and sample Judgment, opportunity (convenience) and quota sampling Random, systematic and quota sampling <ul style="list-style-type: none"> Advantages of each method Techniques to avoid bias Stratified sampling <p>2(h) Estimation</p> <ul style="list-style-type: none"> 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 <p>1(d) Collecting data</p> <ul style="list-style-type: none"> Collection of data <ul style="list-style-type: none"> Experimental (laboratory, field and natural), simulation, questionnaires, observation, reference, census, population and sampling Reliability and validity Collecting sensitive content matter Random response 	<p>S5 apply statistics to describe a population</p> <p>S1 infer properties of populations or distributions from a sample, while knowing the limitations of sampling</p>

	Statistics specification content	Co-teaching opportunity with GCSE Mathematics
	<ul style="list-style-type: none"> Questionnaires and interviews <ul style="list-style-type: none"> Leading questions, avoiding biased sources, time factors, open/closed questions, different types of interview technique Problems with collected data <ul style="list-style-type: none"> Missing data, non-response, 'cleaning' data Controlling extraneous variables <ul style="list-style-type: none"> Control groups 	
Autumn 2	<p>2. Processing, representing and analysing data</p> <p>2(a) Tabulation</p> <ul style="list-style-type: none"> Tally, tabulation, two-way tables Frequency tables <p>2(a) Representing data</p> <ul style="list-style-type: none"> Pictogram Bar charts Pie chart Stem and leaf diagram Population pyramid Choropleth map Comparative pie chart Comparative 2D representations/comparative 3D representations. Interpret and compare data sets represented pictorially Line graphs Bar line (vertical line) charts Frequency polygons Cumulative frequency (discrete and grouped) charts Histograms (equal class width) Box plots Interpret and compare data sets represented graphically Histograms unequal class widths <ul style="list-style-type: none"> Frequency density Interpret and compare data sets displayed in histograms 	<p>S2</p> <p>interpret and construct tables, charts and diagrams, including frequency tables, bar charts, pie charts and pictograms for categorical data, vertical line charts for ungrouped discrete numerical data, tables and line graphs for time series data and know their appropriate use</p> <p>S3</p> <p>construct and interpret diagrams for grouped discrete data and continuous data, i.e. histograms with equal and unequal class intervals and cumulative frequency graphs, and know their appropriate use</p>

GCSE Statistics (9-1) Option 2: One-year course planner

	Statistics specification content	Co-teaching opportunity with GCSE Mathematics
	<p>2(a) Representing data</p> <ul style="list-style-type: none">• Justify appropriate form to represent data• Graphical misrepresentation• Determine skewness by inspection<ul style="list-style-type: none">◦ Interpreting a distribution of data with reference to skewness◦ Calculating skewness• Comparing data sets represented in different formats	

	Statistics specification content	Co-teaching opportunity with GCSE Mathematics
Spring 1	<p>2(b) Measures of central tendency</p> <ul style="list-style-type: none"> • Averages from raw or grouped data <ul style="list-style-type: none"> ◦ Mean, median, mode • Weighted mean • Geometric mean • Justify appropriate average to use in context <p>2(c) Measures of dispersion</p> <ul style="list-style-type: none"> • 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 <p>2(e) Scatter diagrams and correlation</p> <ul style="list-style-type: none"> • Explanatory (independent) variables and response (dependent) variables • Correlation <ul style="list-style-type: none"> ◦ Positive, negative, zero, weak, strong ◦ Distinction between correlation and causation • Line of best fit <ul style="list-style-type: none"> ◦ 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 <p>Understand the distinction between Spearman's rank correlation coefficient and Pearson's product moment correlation coefficient (PMCC)</p>	<p>S4</p> <p>interpret, analyse and compare the distributions of data sets from univariate empirical distributions</p> <p>S6</p> <p>use and interpret scatter graphs of bivariate data; recognise correlation and know that it does not indicate causation; draw estimated lines of best fit; make predictions; interpolate and extrapolate apparent trends while knowing the dangers of so doing</p>

	Statistics specification content	Co-teaching opportunity with GCSE Mathematics
Spring 2	<p>2(f) Time series</p> <ul style="list-style-type: none"> • Moving averages • Identifying trends • Interpreting seasonal and cyclical trends in context • Mean seasonal variation <ul style="list-style-type: none"> ◦ Predictions using average seasonal effect <p>3. Probability</p> <p>3. Experimental and theoretical probability</p> <ul style="list-style-type: none"> • Likelihood • 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 • Understand that increasing sample size generally leads to better estimates of probability and population parameters. • Use two-way tables, sample space diagrams, tree diagrams and Venn diagrams to represent all the different outcomes possible for at most three events. 	<p>P3 use appropriate language and the 0–1 probability scale</p> <p>P2 apply ideas of randomness to calculate expected outcomes of multiple future experiments</p> <p>P3 relate relative expected frequencies to theoretical probability</p> <p>P5 understand that empirical unbiased samples tend towards theoretical probability distributions, with increasing sample size</p> <p>P6 enumerate sets and combinations of sets systematically, using tables,</p>

	Statistics specification content	Co-teaching opportunity with GCSE Mathematics
	<ul style="list-style-type: none"> Independent events Conditional probability Difference in terms of bias 	<p>grids, Venn diagrams and tree diagrams</p> <p>P8</p> <p>calculate the probability of independent and dependent combined events, including using tree diagrams and other representations, and know the underlying assumptions</p> <p>P9</p> <p>calculate and interpret conditional probabilities through representation using expected frequencies with two-way tables, tree diagrams and Venn diagrams</p>
Summer 1	<p>2(d) Further summary statistics</p> <ul style="list-style-type: none"> Index numbers / weighted index numbers <ul style="list-style-type: none"> 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 Calculate and interpret rates of change over time from tables using context specific formula <p>3. Probability distributions</p> <ul style="list-style-type: none"> Binomial distribution <ul style="list-style-type: none"> Notation $B(n, p)$ Conditions that make binomial model suitable Mean (np) 	

	Statistics specification content	Co-teaching opportunity with GCSE Mathematics
	<ul style="list-style-type: none"> ○ Calculation of binomial probabilities • Normal distribution <ul style="list-style-type: none"> ○ 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 <p>2(c) Measures of dispersion</p> <ul style="list-style-type: none"> • Standardised scores <p>2(g) Quality assurance</p> <ul style="list-style-type: none"> • Know that a set of sample means are more closely distributed than individual values from the same population. • Control charts <ul style="list-style-type: none"> ○ Use action and warning lines in quality assurance sampling applications. <p>Revision for Paper 1 and Paper 2</p>	

Statistical Enquiry Cycle/A03 Practice

During the Spring term/start of the Summer term, students would benefit from carrying out a statistical investigation.

Mini-investigation

Students should use this time to carry out an independent statistical investigation. Students should have the opportunity to work with real world data sets. They may choose to investigate a problem from the sciences, geography, business, economics or other relevant field. In the investigation students should:

- Define a hypothesis to be investigated
- Decide data to collect
- Plan a strategy on how to process and represent data
- Generate diagrams to represent data
- Generate statistical measures
- Analyse diagrams and calculations
- Draw conclusions relating to hypotheses
 - Discuss reliability
 - Identify weaknesses
 - Suggest improvements
 - Make refinements

