

Windsor Sixth Form

Statistics A Level

Course outline

Faculty	Mathematics
Subject	Statistics
Course title and code	Statistics 6380
Exam Board	AQA
Subject mission statement	<p>Statistics is a stimulating subject for those who enjoy a structured process of problem solving and a logical way of thinking. Throughout the course you will</p> <ul style="list-style-type: none"> • Develop an understanding of statistics and statistical processes in a way that promotes confidence and fosters enjoyment. • Develop your abilities to construct a logical statistical argument and recognise incorrect statistical reasoning. • Extend your range of statistical knowledge, skills and techniques, and use them in both structures and unstructured problems. • Recognise how a situation may be represented statistically and understand the relationship between 'real world' problems and statistical models, and how the later can be refined and improved. • Develop an awareness of the relevance of statistics to other fields of study, to the world of work and to society in general. • Take an increasing responsibility for your own learning and the evaluation of your own mathematical development.
Course outline	<p>AS level</p> <p>Unit 1: Statistics 1 - students work with real data sets extending the work they have covered in GCSE Maths, such as the calculation of the numerical measures mean, median and mode, and the practical applications of correlation and regression. Elementary probability theory is also studied, and the Binomial and Normal distributions are introduced.</p> <p>Unit 2: Statistics 2 - different methods of sampling are studied. The work on correlation and regression is extended to look at how it is applied in the world of Business (Time Series Analysis). The Poisson distribution and basic hypothesis testing are also introduced.</p> <p>Unit 3: Statistics 3 - this unit covers topics which appear in such subjects as Biology, Psychology, Geography and Medicine at University, including Contingency Tables, Spearman's Rank Correlation Coefficient, and the Wilcoxon, Mann-Whitney and Kruskal-Wallis tests.</p>

	<p><u>A2 level</u></p> <p>Unit 4: Statistics 4 - this unit extends the work on the Binomial, Poisson and Normal distributions covered at AS level, and introduces further hypothesis tests for single samples.</p> <p>Unit 5: Statistics 5 - the Rectangular and Exponential distributions are introduced, together with further hypothesis testing.</p> <p>Unit 6: Statistics 6 - this unit has a bias towards the industrial and manufacturing application of statistics, and covers Experimental Design, Analysis of Variance (including Latin Squares), Statistical Process Control and acceptance Sampling.</p>
<p>Goes well with</p>	<p>Statistics is popular with students studying subjects such as psychology, biology, geography, economics, etc., which involve presenting information and drawing reasonable conclusions from it. There are many courses at degree level in subjects like these, including statistics itself, that rely on the statistical concepts covered at A level and which lead to a variety of career options.</p>
<p>Careers and Higher Education</p>	<p>There is a countrywide shortage of people with strong statistical skills such as Medical Statisticians, so, career prospects are enhanced by taking this course. This course also excellent preparation for the statistical content of higher education courses including Business Studies, Management Science, I.T., Government and Politics, Pharmacy, Medicine, Dentistry, Psychology, Geography, Biology and financial options, amongst others. It would suit those students who enjoy applying their numerate skills without the need to employ algebraic techniques.</p>
<p>Completed by</p>	<p>Mr S Harvey (October 2009)</p>