Key Stage 4

Subject: Mathematics

Intent

The Mathematics Department at Frances Bardsley Academy for Girls wish to provide mathematics education that will encourage the girls to become accurate, efficient, and flexible problem solvers. Rapidly changing technological advances have created a fluid and dynamic world for this generation of students and it is difficult to predict and plan for the problems that our girls will need to solve when they enter the world of work. Therefore, we must ensure that the girls have the core knowledge, and the skills to apply that core knowledge, to a variety of situations that are known and unknown to all of us at this time.

Our curriculum is cyclic in nature in that topics are taught at Key Stage 3 and revisited then enhanced as the students move into Key Stage 4. Across all key stages, we teach a knowledge-based curriculum which is integral to students being successful in Mathematics. We use technology to support our students' learning; we subscribe to Mathswatch, MyMaths and PiXL Maths App which give students immediate access to online videos and tutorials and practice questions. Other resources are free of charge and we recommend these to our students as we go through the years (e.g., Corbett Maths, Maths Genie etc).

Programme of study and assessment

	Autumn Term	Spring Term	Summer Term
Year 10	• Decimals, percentages & fractions • Further algebra • Probability	• Graphs • Right-angled triangles	• Quadratic equations • Patterns & sequences • Standard index form & surds
Assessment	• Assessments are completed after each unit of work. • As in year 9, we continue to assess the students using cumulative testing in year 10. • Before every assessment the students are given a topic list to give focus to their revision. • All assessments test the unit of work that has just	• Assessments are used to test students' recall of the key concepts and their ability to use these ideas to solve problems. • Questions are a mixture of fact-based questions and problem-solving questions. • We continue the emphasis on examination style questions in preparation for Key	• Assessment results are used alongside classwork & homework to produce estimated grades that are reported to parents at regular intervals throughout the year. • In the summer term, the students sit their end-of-year assessment. This is used alongside all the other data obtained throughout the year to set the

	been taught and a variety of questions from earlier units.	Stage 4 that was started in year 9.	students for the next academic year.
Year 11	• Compound measures & graphs • Further trigonometry • Constructions, loci and accurate drawing • Similarity, proportion & accuracy	• Algebraic fractions & functions • Circle theorems • Vectors • Revision	• Revision
Assessment	• Assessments follow the same pattern as in year 10. • In late November/early December, the students sit their first round of mock examinations. • In late February/early March, the students sit their second round of mock examinations.	• As with all previous assessments, the students are given a detailed topic list with Mathswatch clip numbers; revision packs are made available to help focus the students on the type of questions that are going to be asked.	• The GCSE examinations take place in May/June. • These consist of three examination papers, each 90 minutes long. • The first paper is non-calculator; in the second & third papers the use of a calculator is permitted.