



Year Group: **Year 12**

This is the plan for the taught curriculum during achievement period: **Three (May-Jul)**

Brief summary of the topic/work being covered during this period

The Summer term of Key Stage 5 Year 12 consists of the remainder of the applied content, followed by a period of revision, assessment and review, before introducing a couple of year 2 topics, then finishing with revision and, usually, a whole school mock-exam period.

Statistics

Substantive knowledge

- Probability distributions
- The Binomial distribution
- Cumulative probabilities
- Hypothesis testing with the binomial distribution

Disciplinary knowledge

1. Binomial Distribution
2. Hypothesis Testing

Mechanics

- **Substantive knowledge**
- Forces and friction
- Variable acceleration as a function of time

Disciplinary knowledge

1. Friction
2. Variable Acceleration

Year 2 Pure:

Substantive knowledge

- Algebraic Fractions
- Partial fractions
- Modulus function
- Functions and mappings
- Composite functions and inverse functions

Disciplinary knowledge

1. Algebra and Functions
2. Partial Fractions
3. Modulus Function

Prior knowledge needed for this unit/topic from previous teaching

Statistics

No prior knowledge assumed, other than confidence using the calculator and switching between its modes.

Mechanics

Students will have met the idea of friction in their studies of Physics; all remaining content here is building on content from the last term, so a good knowledge of those topic areas are expected.

Year 2 Pure

An understanding of functions and basic algebraic manipulation, including simplifying algebraic fractions, and solving equations.

Rationale for students studying this unit/topic

The year 2 Pure topics have been chosen to be placed here due to their short length and their relative low challenge, so the most accessible to cover at the end of year 1 of the course. They also require minimal new knowledge and are simply building on previously learned skills and techniques.

A lot of time in this term is given to revision of the year 1 content, directly at the end of coverage of the course material (before a formal in-class assessment), and directly before the whole-school mock exams at the end of the term. This extensive revision period with their teachers, rather than moving onto a lot more year 2 content, means any gaps in knowledge can be ironed out before the end of the year, and topics can be fully consolidated and embedded before moving onto year 2 content in September, making that transition and workload in year 13 more smooth.

Key concepts/ideas that are taught to students in this unit/topic, including any anticipated gaps in knowledge and plan to overcome these

Again, students will be expected to have a Casio class wiz calculator and will be taught to use this in line with the A Level specification to support their answering of questions; in particular this term with calculating probabilities for the binomial distribution for use in hypothesis testing (students are no longer provided with tables, except in certain "reverse" problems, where a condensed version is given with the question; they are expected to use this particular model of calculator which contains all the necessary distributions stored within).

Students build on their algebra with the year 2 Pure content, and teachers will review all necessary content prior to beginning to ensure there are no misconception around, for example, simplifying algebraic fractions by "cancelling out an x on the top, with an x on the bottom".

New key terminology students will be taught during this topic/unit**Tier 3**

Binomial Distribution, Hypothesis Testing

Plan for Assessment

- Once teaching of year 1 content is finished, students will complete a pair of full AS-Level papers in order to assess their overall progress over the year. The two 90-minute papers (split over two lessons each), cover between them nearly all content from the course. These will not only be used to assess achievement at the end of year 1, but also to give students a focus for revision of their weaker areas before the whole-school mock exam period a few weeks later.
- There is usually a period of whole-school mock exams scheduled towards the end of this term. For these, the students complete a pair of complete AS papers, as above, allowing us to assign them an AS-Level grade, as well as plan for potential weak areas when moving onto year 2 content in September.
- Students will continue to be assessed through weekly homework tasks until the end of the year.