**Scheme of Work - Schedules**

The units from the MEI SoW for Mathematics are designed to be used flexibly. This editable document illustrates a number of schedules for delivery of these units that might be adopted as they stand, or used as a starting point for schools and colleges to develop their own schedules.

These schedules are to be used for non-commercial purposes only; they should not be published in part or whole without permission from MEI. For ease of editing the schedules are available in two formats.

**Time allocation**

Not all units will require equal amounts of time for delivery. Since the total number of hours allocated to delivery of the content varies between centres, the individual units in the SoW purposefully do not include specific time allocations. The schedules here are based on an approximate allocation of time to the AS units (units 1 to 21) over a notional 27 weeks in year 12, and the remaining units (units 22 to 43) over a notional 33 weeks at the end of year 12 and through year 13. This should leave sufficient time for revision and assessment activities at appropriate points (these are not included in the schedules).

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| --- | --- | --- | --- | --- | --- |
|  | Unit | No. of weeks |  | Unit | No. of weeks |
| 1 | Problem Solving (AS) | 0.5 | 22 | Proof | 1 |
| 2 | Surds and indices (AS) | 1 | 23 | Trigonometry | 1 |
| 3 | Quadratic functions (AS) | 1.5 | 24 | Sequences and series | 2 |
| 4 | Equations and inequalities (AS) | 0.5 | 25 | Functions | 2 |
| 5 | Coordinate geometry (AS) | 2 | 26 | Differentiation | 1.5 |
| 6 | Trigonometry (AS) | 2 | 27 | Trigonometric functions | 1 |
| 7 | Polynomials (AS) | 1 | 28 | Algebra | 1.5 |
| 8 | Graphs and transformations (AS) | 1 | 29 | Trigonometric identities | 2 |
| 9 | The binomial expansion (AS) | 0.5 | 30 | Further differentiation | 2.5 |
| 10 | Differentiation (AS) | 3 | 31 | Integration | 4 |
| 11 | Integration (AS) | 1.5 | 32 | Parametric equations | 1 |
| 12 | Vectors (AS) | 1 | 33 | Vectors | 0.5 |
| 13 | Exponentials and logarithms (AS) | 2.5 | 34 | Differential equations | 1 |
| 14 | Data collection (AS) | 0.5 | 35 | Numerical methods | 1 |
| 15 | Data processing, presentation and interpretation (AS) | 1.5 | 36 | Probability | 1 |
| 16 | Probability (AS) | 0.5 | 37 | Probability distributions | 2.5 |
| 17 | The binomial distribution (AS) | 1 | 38 | Hypothesis testing | 2 |
| 18 | Statistical hypothesis testing using binomial dist.(AS) | 1 | 39 | Kinematics | 1 |
| 19 | Kinematics (AS) | 1.5 | 40 | Force and motion | 1.5 |
| 20 | Forces and Newton’s laws of motion (AS) | 2.5 | 41 | Moments | 1 |
| 21 | Variable acceleration (AS) | 0.5 | 42 | Projectiles | 1 |
|   | **Total time** | **27** | 43 | Friction | 1 |
|  |  |  |  | **Total time** | **33** |

**AS Unit Schedules (see Appendix 1)**

|  |  |  |
| --- | --- | --- |
|  | Outline | Comments |
| **Schedule A** | * Two teachers with equal timetable allocation.
* Teacher A – Pure and Mechanics integrated.
* Teacher B – Pure and Statistics integrated.
 | This is a versatile schedule that will be suitable for many situations, including those in which AS Further Maths is being delivered in parallel. Ideal if you are planning an early start to Mechanics.  |
| **Schedule B** | * Two teachers with equal timetable allocation.
* Teacher A – Pure and Mechanics integrated.
* Teacher B – Pure and Statistics integrated.
 | An earlier start to Statistics means that this might suit centres delivering an optional Statistics component of AS Further Maths in parallel. |
| **Schedule C** | * Two teachers with equal timetable allocation.
* Teacher A – Pure followed by Mechanics.
* Teacher B – Pure followed by Statistics.
 | Here pure concepts are developed before tackling applied topics in each strand. |
| **Schedule D** | * Two teachers with unequal timetable allocation.
* Teacher A (⅔) – Pure.
* Teacher B (⅓) – Statistics and Mechanics.
 | This approach maintains a clear distinction between pure topics and applied topics. |
| **Schedule E** | * One teacher (or two teachers in close collaboration).
* Integrated Pure and Applied.
* Developed in collaboration with TGA Redditch.
 | Here some units are split and some units are delivered as themes throughout the year. |

**A level Unit Schedules -** TBC

**Appendix 1**

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| **Schedule A** | * Two teachers with equal timetable allocation.
* Teacher A – Pure and Mechanics integrated.
* Teacher B – Pure and Statistics integrated.
 | This is a versatile schedule that will be suitable for many situations, including those in which AS Further Maths is being delivered in parallel. Ideal if you are planning an early start to Mechanics. For a more confident cohort units 2 and 4 could be reduced to give more time (e.g. for working with the Large Data Set). |

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| --- | --- | --- | --- |
| Week | Teacher A |  | Teacher B |
| 1 | 1 | Problem Solving (AS) |  | 2 | Surds and indices (AS) |
| 2 | 19 | Kinematics (AS) |  |
| 3 |  | 3 | Quadratic functions (AS) |
| 4 |  |
| 5 | 6 | Trigonometry (AS) |  |
| 6 |  | 4 | Equations and inequalities (AS) |
| 7 |  | 7 | Polynomials (AS) |
| 8 |  |
| 9 | 8 | Graphs and transformations (AS) |  | 5 | Coordinate geometry (AS) |
| 10 |  |
| 11 | 12 | Vectors (AS) |  |
| 12 |  |
| 13 | 20 | Forces and Newton’s laws of motion (AS) |  | 14 | Data collection (AS) |
| 14 |  | 15 | Data processing, presentation and interpretation (AS) |
| 15 |  |
| 16 |  |
| 17 |  | 16 | Probability (AS) |
| 18 | 10 | Differentiation (AS) |  | 9 | The binomial expansion (AS) |
| 19 |  | 17 | The binomial distribution (AS) |
| 20 |  |
| 21 |  | 18 | Statistical hypothesis testing using the binomial distribution (AS) |
| 22 |  |
| 23 |  | 13 | Exponentials and logarithms (AS) |
| 24 | 11 | Integration (AS) |  |
| 25 |  |
| 26 |  |
| 27 | 21 | Variable acceleration (AS) |  |

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| **Schedule B** | * Two teachers with equal timetable allocation.
* Teacher A – Pure and Mechanics integrated.
* Teacher B – Pure and Statistics integrated.
 | An earlier start to Statistics means that this might suit centres delivering an optional Statistics component of AS Further Maths in parallel. |

|  |  |  |  |
| --- | --- | --- | --- |
| Week | Teacher A |  | Teacher B |
| 1 | 1 | Problem Solving (AS) |  | 2 | Surds and indices (AS) |
| 2 | 3 | Quadratic functions (AS) |  |
| 3 |  | 14 | Data collection (AS) |
| 4 |  | 15 | Data processing, presentation and interpretation (AS) |
| 5 | 4 | Equations and inequalities (AS) |  |
| 6 | 7 | Polynomials (AS) |  |
| 7 |  | 6 | Trigonometry (AS) |
| 8 | 19 | Kinematics (AS) |  |
| 9 |  |
| 10 |  |
| 11 | 12 | Vectors (AS) |  | 8 | Graphs and transformations (AS) |
| 12 |  |
| 13 | 20 | Forces and Newton’s laws of motion (AS) |  | 9 | The binomial expansion (AS) |
| 14 |  | 16 | Probability (AS) |
| 15 |  | 17 | The binomial distribution (AS) |
| 16 |  |
| 17 |  | 5 | Coordinate geometry (AS) |
| 18 | 10 | Differentiation (AS) |  |
| 19 |  |
| 20 |  |
| 21 |  | 18 | Statistical hypothesis testing using the binomial distribution (AS) |
| 22 |  |
| 23 |  | 13 | Exponentials and logarithms (AS) |
| 24 | 11 | Integration (AS) |  |
| 25 |  |
| 26 |  |
| 27 | 21 | Variable acceleration (AS) |  |

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| **Schedule C** | * Two teachers with equal timetable allocation.
* Teacher A – Pure followed by Mechanics.
* Teacher B – Pure followed by Statistics.
 | Here pure concepts are developed before tackling applied topics in each strand. |

|  |  |  |  |
| --- | --- | --- | --- |
| Week | Teacher A |  | Teacher B |
| 1 | 1 | Problem Solving (AS) |  | 3 | Quadratic functions (AS) |
| 2 | 2 | Surds and indices (AS) |  |
| 3 |  |
| 4 | 5 | Coordinate geometry (AS) |  | 4 | Equations and inequalities (AS) |
| 5 |  | 7 | Polynomials (AS) |
| 6 |  |
| 7 |  | 6 | Trigonometry (AS) |
| 8 | 10 | Differentiation (AS) |  |
| 9 |  |
| 10 |  |
| 11 |  | 8 | Graphs and transformations (AS) |
| 12 |  |
| 13 |  | 13 | Exponentials and logarithms (AS) |
| 14 | 11 | Integration (AS) |  |
| 15 |  |
| 16 |  |
| 17 | 12 | Vectors (AS) |  |
| 18 |  | 9 | The binomial expansion (AS) |
| 19 | 19 | Kinematics (AS) |  | 14 | Data collection (AS) |
| 20 |  | 15 | Data processing, presentation and interpretation (AS) |
| 21 |  |
| 22 | 20 | Forces and Newton’s laws of motion (AS) |  |
| 23 |  | 16 | Probability (AS) |
| 24 |  | 17 | The binomial distribution (AS) |
| 25 |  |
| 26 |  | 18 | Statistical hypothesis testing using the binomial distribution (AS) |
| 27 | 21 | Variable acceleration (AS) |  |

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| **Schedule D** | * Two teachers with unequal timetable allocation.
* Teacher A (⅔) – Pure.
* Teacher B (⅓) – Statistics and Mechanics.
 | This approach maintains a clear distinction between pure topics and applied topics. |

|  |  |  |  |
| --- | --- | --- | --- |
| Week | Teacher A |  | Teacher B |
| 1-3 | 1 | Problem Solving (AS) |  | 14 | Data collection (AS) |
| 2 | Surds and indices (AS) |  |
|  | 15 | Data processing, presentation and interpretation (AS) |
| 3 | Quadratic functions (AS) |  |
| 4-6 |  |
|  |
| 4 | Equations and inequalities (AS) |  |
| 7 | Polynomials (AS) |  |
| 7-9 |  | 16 | Probability (AS) |
| 9 | The binomial expansion (AS) |  |
| 5 | Coordinate geometry (AS) |  | 17 | The binomial distribution (AS) |
|  |
| 10-12 |  |
|  |
| 12 | Vectors (AS) |  | 18 | Statistical hypothesis testing using the binomial distribution (AS) |
|  |
| 13-15 | 6 | Trigonometry (AS) |  |
|  |
|  | 19 | Kinematics (AS) |
|  |
| 16-18 | 8 | Graphs and transformations (AS) |  |
|  |
| 10 | Differentiation (AS) |  |
|  |
| 19-21 |  | 20 | Forces and Newton’s laws of motion (AS) |
|  |
|  |
|  |
| 22-24 | 11 | Integration (AS) |  |
|  |
|  |
| 13 | Exponentials and logarithms (AS) |  |
| 25-27 |  |
|  |
|  | 21 | Variable acceleration (AS) |
|  |

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| **Schedule E** | * One teacher (or two teachers in close collaboration).
* Integrated Pure and Applied.
* Developed in collaboration with TGA Redditch.
 | Here some units are split and some units are delivered as themes throughout the year. |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Week | Pure Topics |  | Applied Topics |  | Threaded |
| 1 | 2 | Indices (B1) |  | 15 | Data Processing, presentation & interpretation (L3) |  | 1 | 8 |
| 2 | 13 | Exponentials and Logarithms (F1, F2, F3, F4, F5, F6) |  |  |  |  | Problem-solving | Graphs and transformations (B7, B9) |
| 3 |  | 15 | Data Processing, presentation & interpretation (L2) |  |
| 4 | 2,3 | Surds (B2) , Quadratic Functions (B3) |  |  |  |  |
| 5 | 3 | Quadratic Functions (B3) |  |  |  |  |
| 6 | 4 | Equations and inequalities (B4,B5) |  | 16 | Probability (M1) |  |
| 7 | 5 | Coordinate Geometry (C2) |  | 14 | Data collection (AS) |  |
| 8 |  | 15 | Data Processing, presentation & interpretation (L1, L4) |  |
| 9 | 7 | Polynomials (B6) |  |  |  |  |
| 10 | 9 | The binomial expansion (D1) |  | 17 | Binomial Distribution (N1) |  |
| 11 | 5 | Coordinate Geometry (C1) |  |  |
| 12 |  | 19 | Kinematics (Q1, Q2) |  |
| 13 |  |  |  |  |
| 14 | 10 | Differentiation (G1, G2, G3) |  |  |  |  |
| 15 |  |  |  |  |
| 16 |  |  |  |  |
| 17 | 11 | Integration (H1, H2, H3) |  |  |  |  |
| 18 |  |  |  |  |
| 19 |  | 21 | Variable acceleration (Q4) |  |
| 20 | 6 | Trigonometry (E1, E3, E5, E7) |  |  |  |  |
| 21 |  | 18 | Statistical hypothesis testing using binomial (O1, O2) |  |
| 22 |  |  |
| 23 | 12 | Vectors (J1, J2, J3, J4, J5) |  |  |  |  |
| 24 |  |  |  | 20 | Force and Newton’s Laws of motion (R1, R2, R3, R4) |  |
| 25 |  |  |  |  |
| 26 |  |  |  |  |
| 27 | 13 | Exponentials and Logarithms (F7) |  |  |  |  |