

Curriculum Sequencing Grid: Further Mathematics

Year 12	Term 1	Term 2	Term 3
Unit (Tablet in 39 week plan)	Core Pure 1: Complex Numbers Argand Diagrams Series Roots of Polynomials Matrices Linear Transformations Decision 1: Algorithms Graphs & Networks Algorithms on Graphs Route Inspection Travelling Salesman Problem	Core Pure 1: Proof Vectors Volumes of Revolution Decision 1: Linear Programming Simplex Algorithms Critical Path Analysis	Core Pure 1 Revision Decision 1 Revision Assessments
Key Retainable Knowledge (Required for Y11/13) <ul style="list-style-type: none"> What... How.... Why.... 	All Core Pure topics taught in term 1 will be built upon in year 13. Regular extended learning sheets provided and assessed on prior topics throughout the year. All topics will be assessed in final exams at the end of year 13.	All Core Pure topics taught in term 2 will be built upon in year 13. Regular extended learning sheets provided and assessed on prior topics throughout the year. All topics will be assessed in final exams at the end of year 13.	Assessment at the start Personalised revision to close the gaps Assessment at the end of term to show progress
Key Technical Vocabulary (To be modelled and deliberately practiced in context.)	Command words: Show, prove, evaluate, calculate, find, hence.	Command words: Show, prove, evaluate, calculate, find, hence.	Command words: Show, prove, evaluate, calculate, find, hence.
Opportunities for Reading	Textbooks for all units provided for pre-reading and post-reading. integralmaths.org (videos and worked examples) physicsandmathstutor.com (past papers)	Textbooks for all units provided for pre-reading and post-reading. integralmaths.org (videos and worked examples) physicsandmathstutor.com (past papers)	Textbooks for all units provided for pre-reading and post-reading. integralmaths.org (videos and worked examples) physicsandmathstutor.com (past papers)
Developing Cultural Capital (exposure to very best-essential knowledge and skills of educated citizens – appreciation of human creativity and achievement.)	UKMT maths challenges and team competitions Maths Inspiration – Crucible Theatre	Maths Feast - Nationwide	AMRC – higher level apprenticeships University open days
Cross Curricular Links (Authentic Connections)	Decision links to computer science	Decision links to computer science	Decision links to computer science
Key Assessment	Assessment uses exam standard questions and mark schemes. Topic tests to check understanding Cumulative tests to check retention	Assessment uses exam standard questions and mark schemes. Topic tests to check understanding Cumulative tests to check retention	Assessment uses exam standard questions and mark schemes. Use of AS past papers for end of Y12 exam week

Curriculum Sequencing Grid: Further Mathematics

Year 13	Term 1	Term 2	Term 3
Unit (Tablet in 39 week plan)	Core Pure 2: Complex Numbers Series Methods in Calculus Volumes of Revolution Further Mechanics 1: Momentum and Impulse Work, Energy and Power Elastic strings and springs	Core Pure 2: Polar Coordinates Hyperbolic Functions Methods in Differential Equations Further Mechanics 1: Elastic strings and springs Elastic Collisions in 2-D	Core Pure 1 Revision Decision 1 Revision Further Mechanics 1 Revision Assessments
Key Retainable Knowledge (Required for Y11/13) <ul style="list-style-type: none"> What... How.... Why... 	Regular extended learning sheets provided and assessed on prior topics from year 12 and 13 throughout the year. All topics will be assessed in final exams at the end of year 13.	Regular extended learning sheets provided and assessed on prior topics from year 12 and 13 throughout the year. All topics will be assessed in final exams at the end of year 13.	Regular extended learning sheets provided and assessed on prior topics from year 12 and 13 throughout the year. All topics will be assessed in final exams at the end of year 13.
Key Technical Vocabulary (To be modelled and deliberately practiced in context.)	Command words: Show, prove, evaluate, calculate, find, hence.	Command words: Show, prove, evaluate, calculate, find, hence.	Command words: Show, prove, evaluate, calculate, find, hence.
Opportunities for Reading	Textbooks for all units provided for pre-reading and post-reading. integralmaths.org (videos and worked examples) physicsandmathstutor.com (past papers)	Textbooks for all units provided for pre-reading and post-reading. integralmaths.org (videos and worked examples) physicsandmathstutor.com (past papers)	Textbooks for all units provided for pre-reading and post-reading. integralmaths.org (videos and worked examples) physicsandmathstutor.com (past papers)
Developing Cultural Capital (exposure to very best-essential knowledge and skills of educated citizens – appreciation of human creativity and achievement.)	UKMT maths challenges and team competitions HE+ Programme University open days	HE+ Programme University open days	
Cross Curricular Links (Authentic Connections)	Further Mechanics links to Physics	Further Mechanics links to Physics	Further Mechanics links to Physics Decision links to computer science
Key Assessment	Assessment uses exam standard questions and mark schemes. Topic tests to check understanding Cumulative tests to check retention	Assessment uses exam standard questions and mark schemes. Topic tests to check understanding Cumulative tests to check retention	Use of past papers for all units and mock exams.