Physics Curriculum Intent	
Year 12 and 13	Choosing an A-level in Physics will open the door to many opportunities. Our students will develop skills that can be transferred to just about any area of work. For students not going on to become a physicist, learning to think like one will help them develop the skills to get to the root of any problem and draw connections that aren't obvious to others. The scope and nature of A-Level Physics (AQA) ensures we cover a mixture of highly conceptual thinking and very practical applications. Students have the opportunity to be able to think about abstract ideas such as fields, but then have to apply those ideas to how, for instance, electric motors and generators work. There is also a full programme of practical work (CPACs) to complement the theory classes and to develop lab skills. Our curriculum goes far beyond what is taught in lessons, for whilst we want students to achieve the very best examination results possible, we believe our curriculum goes beyond what is examinable. As a department, we bring the subject to life through demonstrations, experiments and real world concepts. KS5 students are encouraged and supported to attend master classes offered by Isaac Physics. Teams participate annually in QMU undergraduate research projects such as CosmicCon and SCREAM. We aim to support our students to become outstanding Physicists who are able to complete an experiment from beginning to end. They will be able to plan valid experiments and make adjustments where necessary. Getting accurate results from experiments requires practice and competence in the use of a variety of equipment. The same experimental work also requires students to be precise in recording their observations and disciplined in the layout and analysis of the data. Our students will also develop their written communication skills as they draw conclusions from the evidence and explain their ideas. Although only a lucky few can become astronauts, our curriculum encourages and facilitates potential careers in space. Cosmologists and astrophysicists work to understand the evolution of the universe or search for black holes, or for the more practical, there are lots of UK jobs in space engineering. Our learners will have the opportunities where it might not be so obvious that Physics is needed: visual effects in films require physicists on the team to model tidal waves, falling objects and explosions; computer games need the physics to be programmed into them; physics is needed to create monitoring equipment and model ecosystems to help protect our environment; and physics is used in sport, for example developing goal line technology.

For curriculum map - the work for sections below Years 12 and 13 can be found here

Curriculum Implementation						
	Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Year 12	1. Measurements and their errors 2. Particles and radiation 3. Waves 4. Mechanics and materials 5. Electricity		• Measurements and their errors • Particles and radiation		• Mechanics and materials • Electricity • Waves	
Year 13	6. Further mechanics and thermal physics 7. Fields and their consequences 8. Nuclear physics **Options** 9. Astrophysics 10. Medical physics 11. Engineering physics 12. Turning points in physics 13. Electronics		• Fields and their consequences • Further mechanics and thermal physics • Nuclear physics • **Turning points in physics**		• Pre-Release material • Revision.	

	Physics Curriculum Impact KS5		
	FORMATIVE; *The instructional guidance that identifies central points of learning and plans for the progression of individual students.*	**SUMMATIVE;** *This describes individuals learning at the end of an instructional unit by comparing it against a standard or benchmark. (High Stakes Assessment)*	**EVALUATIVE;** *This is about institutional accountability and comes after terminal exams. External agencies.*

TIMESCALE	**Annually**		**Year 12:** - End of Year assessment (June) - based upon all topics taught in year 12. - 2 Papers are sat for the two halves of the course - 90 minutes for each paper **Year 13:** - Mock Examinations (September, December and February) - based upon all topics taught to this point. - 2 Papers are sat for the two halves of the course. - 90 minutes for each paper	Nationally standardised summative assessment takes the form of A-levels and vocational qualifications at the end of Key Stage 5. **A-level exam board**: AQA **Exam structure: (all equally weighted)** **Paper 1** : Sections 1 to 5 and 6.1 (Periodic motion) **Assessed** ● written exam: 2 hours ● 85 marks ● 34% of A-level **Paper 2**: Sections 6.2 (Thermal Physics), 7 and 8 Assumed knowledge from sections 1 to 6.1 **Assessed** ● written exam: 2 hours ● 85 marks ● 34% of A-level **Paper 3** Section A Compulsory section: Practical skills and data analysis Section B: Students enter for one of sections 9, 10, 11, 12 or 13 **Assessed** - written exam: 2 hours - 80 marks - 32% of A-level -

	Interim (termly or half-termly)		**Cumulative Testing:** ● Each half term- yr 12 OR termly - yr13 students will sit cumulative tests covering all topics covered to date. ● The exam will use questions taken from the exam board which have previously been in real exams. ● The assessments will be approximately 50 minutes ● Exams are marked by specialists and moderated in-house. ● Grade boundaries from the most recent exam series are used where possible and fine grades used to identify those needing intervention. **End of topic exams** End of topic test continuing practice questions for the cumulative tests are provided to students to complete during their 10th- non face to face lesson for Physics. Students complete this test under exam conditions and then self assess using the mark scheme and grade boundaries provided. **Homework booklets** At the start of each topic a booklet of questions is handed out. These are longer style questions that require students to develop their use of key terminology. An extension task is also included to stretch the most able students beyond the syllabus. Booklets are collected by staff and marked - ReACT activities are recorded on the front of the booklet. **Folder checks** Folders are collected half termly to ensure students are managing their notes and time well. Feedback is provided via pink sheets. Practical Assessments: Practicals will constitute 50% of exam paper 3 and AQA has identified 12 Required practicals for students to complete.	

			PRactical skills are assessed for CPAC which is awarded (pass/fail) separately from the A level exams. Each practical has specific criteria staff are to assess and monitor via a shared spreadsheet provided by the exam board. Students are given practical sheets made in house with sections to complete to achieve each criteria.
	Weekly	Teachers role: - Identify how students are performing and use this to provide support, evaluate student learning and plan future lessons. - Provide oral and/or written feedback. - Keep track of student progress using department internal and school wide data systems. - Scaffold feedback to students for effective self/peer assessment. - Exam questions set fortnightly according to schemes of work - students submit for marking and feedback given. Students role: - Engage in self assessment. - Engage in peer assessment. - Be proactive in ReACT taks. - Revise content. - Redraft and submit work which is completed to the best of their abilities. - Identify their own strengths and weaknesses and ask for support from their subject teachers. .	

	Hourly	*'Every Lesson Every Day'* techniques are embedded in lessons formative assessment takes place using the following strategies: - Questioning - Low stakes testing - Spiral learning - Oral feedback - Whole-class feedback - Retrieval practice tasks	