



UTC READING

2019-2020 Year group curriculum Information

YEAR 12

Subject	Type of qualification	Qualification number	Awarding body	Title of course	Link to specification and course information	Duration of course	Number of modules/units of study	Type of Assessment
Specialisms - Technical subjects								
Engineering - Single BTEC (1 A Level Equivalent)	Applied General	60175849	Pearson /Edexcel	BTEC Extended Certificate in Engineering	https://qualifications.pearson.com/content/dam/pdf/BTEC-Nationals/Engineering/2016/specification-and-sample-assessments/SPEC-BTEC-NAT-ENG-ExtCert.pdf	Delivered across year 12 and 13	Total units: 4, 3 Mandatory Units plus 1 Optional Unit	2 Externally assessed units, 6 internally assessed assignments across 2 units
Engineering - Triple BTEC (3 A Level Equivalent)	Tech Level	60175886	Pearson /Edexcel	BTEC Extended Diploma in Engineering	https://qualifications.pearson.com/content/dam/pdf/BTEC-Nationals/Engineering/2016/specification-and-sample-assessments/SPEC-BTEC-NAT-ENG-ExtDip.pdf	Delivered across year 12 and 13	Total Units: 15, 7 Mandatory units plus 8 Optional units	3 Externally Assessed units, 36 internally assessed assignments across 12 units
Computing - Single BTEC (1 A Level Equivalent)	Applied General	60173415	Pearson /Edexcel	BTEC Extended Certificate in Computing	https://qualifications.pearson.com/content/dam/pdf/BTEC-Nationals/Computing/2016/specification-and-sample	Delivered across year 12 and 13	Total units: 4, 3 Mandatory Units plus 1 Optional Unit	2 examinations, 4 internally assessed assignments
Computing - Triple BTEC (3 A Level Equivalent)	Applied General	60173427	Pearson /Edexcel	BTEC Extended Diploma in Computing	https://qualifications.pearson.com/content/dam/pdf/BTEC-Nationals/Computing/2016/specification-and-sample-assessments/9781446937921_BTEC_Nat_ExtDip_C	Delivered across year 12 and 13	Total units: 13, 7 Mandatory Units plus 6 Optional Units	4 examinations, 22 internally assessed assignments
Applied Science - Single BTEC (1 A Level Equivalent)	Applied General	60174365	Pearson /Edexcel	BTEC Extended Certificate in Applied Science	https://qualifications.pearson.com/en/qualifications/btec-nationals/applied-science-2016.html	Delivered across year 12 and 13	Total units: 4, 3 Mandatory Units plus 1 Optional Unit	2 Externally assessed units, 8 internally assessed assignments across 2 units
Option Subject								
Mathematics	A Level	6031333X	Edexcel	Level 3 Advanced GCE in Mathematics	https://qualifications.pearson.com/content/dam/pdf/A%20Level/Mathematics/2017/specification-and-sample-assessment/a-level-3-mathematics-specification.pdf	Delivered across year 12 and 13	All compulsory. Ten content headings for Pure • Topic 1 – Proof • Topic 2 – Algebra and functions • Topic 3 – Coordinate geometry in the (x, y) plane • Topic 4 – Sequences and series • Topic 5 – Trigonometry • Topic 6 – Exponentials and logarithms • Topic 7 – Differentiation • Topic 8 – Integration • Topic 9 – Numerical methods • Topic 10 – Vectors. Five content headings for Statistics • Topic 1 – Statistical sampling • Topic 2 – Data presentation and interpretation • Topic 3 – Probability • Topic 4 – Statistical distributions • Topic 5 – Statistical hypothesis testing. Four content headings for Mechanics • Topic 6 – Quantiles and units in mechanics • Topic 7 – Kinematics • Topic 8 – Forces and Newton's laws • Topic 9 – Moments. All compulsory	Three terminal examinations
Further Mathematics	A Level	6031364X	OCR: MEI	Level 3 Advanced GCE in Further Mathematics	https://www.ocr.org.uk/qualifications/as-and-a-level/further-mathematics-b-mei-h635-h645-from-2017/	Delivered across year 12 and 13	Compulsory part (50%) - Matrices, Vectors, Complex Numbers, Roots of Polynomials, Series, Proof, Differential Equations, Polar Coordinates, Hyperbolic Functions, Further Calculus and Maclaurin Series. Options (50%) - Students are currently taught Modelling with Algorithms (Algorithms, graphs, Networks and Linear Programming) and Mechanics minor (Modelling Friction, Centre of Mass, Dimensional Analysis, Work Energy & Power, Moments and Momentum) in year 12. In the past year 13 students have been offered options from: • Numerical Methods (Root Finding, Estimating Integrals, Estimating Differentials, Approximating Functions by Polynomials, Spreadsheet Modelling and Rates of Convergence). • Statistics Minor (Poisson Distribution, Chi Squared testing, Bivariate Data and Discrete Random Variables) • Mechanics Major (Circular Motion, Oscillations, Simple Harmonic Motion, Modelling with DEs, Further Centre of Mass and Oblique Impacts of objects) • Extra Pure (Group Theory, Further Matrices, Recurrence Relations and Multivariable Calculus) - Students need only choose 3 options (including Modelling with Algorithms and Mechanics Minor) for the A-Level in Further Mathematics but if a student does more than 3 then the lowest scoring options won't count towards the qualification.	At least three final examinations (depending on options chosen)
Core Level 3 Mathematics	Equivalent to AS Level	60147830	OCR/MEI	Level 3 Certificate in Quantitative Reasoning	https://www.ocr.org.uk/images/173575-specification-accredited-quantitative-reasoning-mei-h866.pdf	Delivered across year 12 and 13	Eleven content headings, all compulsory. • Modelling • Statistics • Finance • Working with exponentials • Working with graphs and gradients • Geometry and measures • Risk • Estimation • Problem solving • Communicating solutions • Use of technology	Two terminal examinations
Chemistry	A Level	6015731/8	AQA	A Level Chemistry	https://www.aqa.org.uk/subjects/science/as-and-a-level/chemistry-7404-7405	Delivered across year 12 and 13	Yr 1 topics of the course	End of topic tests and two PPE, Required assessed practicals
Physics	A Level	500/2584/3	OCR	A Level Physics A	https://ocr.org.uk/qualifications/as-a-level-gce/physics-a-h158-h558/	Delivered across year 12 and 13	Yr 1 topics of the course	End of topic tests and two PPE, Required assessed practicals
Biology	A Level	60146254	AQA	A Level Biology	https://www.aqa.org.uk/subjects/science/as-and-a-level/biology-7401-7402	Delivered across year 12 and 13	Yr 1 topics of the course	End of topic tests and two PPE, Required assessed practicals
Computer Science	A Level	60145699	AQA	Computer Science A Level	https://filestore.aqa.org.uk/resources/computing/specifications/AQA-7516-7517-SP-2015.PDF	Delivered across year 12 and 13	13 Units, plus one NEA	Two terminal examinations plus an NEA
Business	A Level	60143368	AQA	Business A Level	https://www.aqa.org.uk/subjects/business/as-and-a-level/business-7131-7132	Delivered across year 12 and 13	6 Units	Two terminal examinations
English	A Level	60153271	AQA	English Literature A Level	https://www.aqa.org.uk/subjects/english/as-and-a-level/english-literature-a-7711-7712	Delivered across year 12 and 13	Nine Units including one NEA. Texts selected by UTC	Two terminal examinations plus an NEA
3d Design; Architecture	A Level	60144567	AQA	A Level Art & Design: 3D Design	https://www.aqa.org.uk/subjects/art-and-design/as-and-a-level/art-and-design	Delivered across Year 12 and 13	Two components both compulsory.	Component 2 is set by the exam board and comprises of an extended project and a 15 hour practical examination, also internally assessed.
Extended Project Qualification	Equivalent to AS Level	5002372X	Edexcel	Extended Project Qualification	https://qualifications.pearson.com/en/qualifications/edexcel-project-qualification/level-3.html	Delivered either over one year, 18 months or two year, flexible submission	Choice from four pathways.	Coursework assessment - Independent study
Core subjects								
English Language Resit	GCSE	60142923	AQA	English Language GCSE	https://www.aqa.org.uk/subjects/english/gcse/english-language-8700	Delivered across year 12	Five Units all compulsory.	Two terminal examinations plus a speaking and listening presentation
Mathematics	GCSE	60147003	Edexcel	Level 1/Level 2 GCSE (9-1) in Mathematics (1MA1)	https://qualifications.pearson.com/content/dam/pdf/GCSE/mathematics/2015/specification-and-sample-assessment/gcse-maths-2015-specification.pdf	Delivered across year 12	Six content headings, all compulsory • Number • Algebra • Ratio, proportion and rates of change • Geometry and measures • Probability • Statistics	Three terminal examinations for each Foundation and Higher tiers