



BTEC Applied Science Extended Certificate

Year 13 Curriculum Framework



BTEC Certificate & Extended Certificate
601/7436/5

Curriculum Overview

At ICC we follow the Pearson BTEC Certificate and Extended Certificate Specification. The curriculum is sequenced to be delivered by two members of teaching staff and each unit is mapped to the big ideas from our KS3 and KS4 curriculum. Unit 3 is externally assessed with the opportunity to take the exam in January and to retake in May if desired. Each topic of this unit is assessed with end of topic summative assessments. Unit 16 is an internally assessed unit on Astronomy and Space Science. Opportunities to consider rich questions and reference to futures are made where relevant throughout the course in order to help our students understand the present and plan for their own future.

[Link to the specification](#)

[Link to the scheme of work](#)

		Teacher 1			Teacher 2		
		Topics	Practical's	Big idea	Topics	Practical's	Big idea
Autumn Term	First half	Unit 3: Science Investigation Skills D: Enzymes in Action D1: Protein structure, D2: Enzymes as biological catalysts, D3: Factors that can affect enzyme activity F: Plants and their environment F1: Plant growth and/or distribution	Temperature on enzyme action, pH on enzyme action, Concentration on enzyme action	 ORGANISMS REACTIONS	Unit 3: Science Investigation Skills E: Diffusion of molecules E1: Factors affecting the rate of diffusion, E2 Arrangement and movement of molecules	Temperature on diffusion, Concentration on diffusion, Surface area on diffusion	 ORGANISMS REACTIONS MATTER
	Second half	F2: Sampling techniques, F3: Sampling sizes G: Energy content of fuels G1: Fuels, G2: Hazards associated with fuels, G3: Units of Energy	Using quadrats, transects & point frames, Burning fuels	 ECOSYSTEM	H: Electrical circuits H1: Use of electrical components in series and parallel circuits, H2: Equations, H3: Energy usage	Electrical circuits	 ELECTROMAGNETS ENERGY
Spring Term	First half	Revision, Exam Learning aim A: Understand the fundamental aspects of the Solar System A1: The sun, A2: relationship factors of the Earth and Moon, A3: Inner and outer planets, A4: Other Solar System Objects		 EARTH FORCES WAVES	Revision, Exam Learning aim C: Investigate the essential factors involved in space flight C1: Spacecraft design, C2: Space flight, C3: Space flight and Exploration, C4: Space technology		 EARTH FORCES WAVES
	Second half	Learning aim B: Undertake measurement and observation of astronomical objects B1: Earth-based telescope design, B2: Space-based telescope design, B3: Night-Sky Mapping, B4: Daytime observation	Observations of stars	 EARTH FORCES WAVES	Learning aim D: Understand the fundamental concepts outlined in astrophysics and cosmology D1: Principles of star creation, D2: Principles of the 'death' of stars, D3: Properties of stars, D4: Origin of the universe		 EARTH FORCES WAVES



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Collaborating with:



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Summer Term	First half	Revision of Unit 3 for Retake Retake Unit 3 exam			Revision of Unit 3 for Retake Retake Unit 3 exam		
	Second half						