CAMBRIDGE ADVANCED NATIONALS

OCR
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It's easy to join us

Moving to the new Level 3 Cambridge Advanced National (AAQ) in Applied Science from BTEC Level 3 in Applied Science

Are you currently teaching the BTEC Level 3 in Applied Science (first teaching September 2016)?

This guide will take a look at our Level 3 Cambridge Advanced National (AAQ) in Applied Science, show you how it compares to the BTEC Level 3 in Applied Science and how you can easily move to teaching our specification.

Developed with the support of teachers, our new Level 3 Cambridge Advanced National (AAQ) in Applied Science has a number of key benefits for teachers and students:

- teacher-friendly specification based on extensive research and engagement with the teaching community.
- straightforward for teachers to deliver and accessible for students.
- structure of the qualification can be tailored to suit your needs.

The unit grade awarded is based on the **total** number of achieved criteria for the unit. The total number of achieved criteria for each unit can come from achievement of any of the criteria (Pass, Merit or Distinction). This is **not** a 'hurdles-based' approach, so students do **not** have to achieve **all** criteria for a specific grade to achieve that grade (e.g. all Pass criteria to achieve a Pass).

We have designed our new specification to help students build real and relevant skills for the future.

Your students will develop:

- real and relevant knowledge for the future
- vital knowledge and experience of the scientific method
- a line of sight to working in different science industries, including forensics, environmental careers and radiography
- an understanding of the importance of communication and collaboration in the scientific community

Our specification offers:

- Three mandatory units that contain key knowledge and skills beneficial for further study
- Two externally assessed units that that focus on key Biology, Chemistry and Physics knowledge, as well as practical skills and science in the modern society
- One mandatory non-examined assessment (NEA) unit
- Two optional skills-based NEA units.

About our support

We believe in developing specifications that help you bring the subject to life and inspire your students to achieve more.

We've created teacher-friendly specifications based on extensive research and engagement with the teaching community as well as representatives from higher education. The new specifications are designed to be straightforward and accessible so that you can tailor the delivery of the course to suit your needs. We've clarified the depth and breadth required throughout, and we've made the assessment criteria clearer.

We offer a range of support services to help you at every stage, from preparation to delivery and assessment:

- **free OCR resources** to help you plan your teaching and get your students ready for assessment
- an extensive **range of free professional development courses** covering everything from getting started to hands-on assessment practice. There are also regular Q&A opportunities with moderators and examiners. To find out more, visit our professional development page.
- Active Results: our **free results analysis service** to help you review the performance of individual students or whole school
- ExamBuilder: our **free question-building platform** that helps you to build your own tests using past OCR exam questions
- **expert Subject Advisors** who are part of their subject communities and here to support you with advice, updates on resources, and information about training opportunities.
- **textbooks and teaching and learning resources from leading publishers.**

> **The need to change assignment briefs is an Ofqual requirement but with the OCR Level 3 AAQs, changes will be kept to a minimum and whilst the scenario will change, the content and equipment won't.**

To find out more about all of our support services, please visit Teach Cambridge.

At a glance specification comparison

	OCR Level 3 Cambridge Advanced National (AAQ) in Applied Science	Pearson BTEC Level 3 in Applied Science (first teaching September 2016)
Structure	**Extended certificate (360 GLH):** There are five units of assessment. Students must complete three mandatory and two optional units to achieve the qualification. Two mandatory externally assessed units: • Unit F180 Fundamentals of science • Unit F181 Science in society One mandatory internally assessed and externally moderated NEA: • Unit F182 Investigating science Two optional internally assessed and externally moderated NEA units from a choice of four: • Unit F183 Analytical techniques in chemistry • Unit F184 Environmental studies • Unit F185 Forensic biology • Unit F186 Medical physics **Certificate (180 GLH):** One mandatory externally assessed unit: • Unit F180 Fundamentals of science One mandatory internally assessed and externally moderated NEA Unit: • Unit F182 Investigating science	**Extended certificate (360 GLH):** There are four units of assessment. Students must complete three mandatory units and one optional unit to achieve the qualification. Three units are mandatory: • Principles and Applications of Science • Practical Scientific Procedures and Techniques • Science Investigation Skills One optional unit from a choice of nine: • Physiology of Human Body Systems • Human Regulation and Reproduction • Biological Molecules and Metabolic Pathways • Genetics and Genetic Engineering • Diseases and Infections • Applications of Inorganic Chemistry • Applications of Organic Chemistry • Electrical Circuits and their Application • Astronomy and Space Science **Certificate (180 GLH):** Two mandatory units This qualification is also available as Foundation Diploma, Diploma and Diploma Extended levels.

	OCR Level 3 Cambridge Advanced National (AAQ) in Applied Science	Pearson BTEC Level 3 in Applied Science (first teaching September 2016)
Grading	All results from each unit are awarded on the following scale: • Distinction (D) • Merit (M) • Pass (P) The unit grade awarded is based on the **total** number of achieved criteria for the unit. The total number of achieved criteria for each unit can come from achievement of any of the criteria (Pass, Merit or Distinction). This is **not** a 'hurdles-based' approach, so students do **not** have to achieve **all** criteria for a specific grade to achieve that grade (e.g. all Pass criteria to achieve a Pass). The overall qualification grades are awarded: • Distinction* (D*) • Distinction (D) • Merit (M) • Pass (P) • Unclassified (U)	All results from each unit are awarded on the following scale: • Distinction (D), • Merit (M), • Pass (P) • Near Pass (N) • Unclassified (U) Qualifications in the suite are graded using a scale of: • P to D* • PP to D*D • PPP to D*D*D*
Assessment	**Extended Certificate:** F180 Exam 1 hour 30 minutes F181 Exam 1 hour 15 minutes F182 NEA F183 Optional NEA F184 Optional NEA F185 Optional NEA F186 Optional NEA	**Extended Certificate:** Unit 1 Exam 40 minutes x 3 Unit 2 Internally assessed assignment Unit 3 Exam 1 hour 30 minutes Unit 8 Optional internally assessed unit Unit 9 Optional internally assessed unit Unit 10 Optional internally assessed unit Unit 11 Optional internally assessed unit Unit 12 Optional internally assessed unit Unit 13 Optional internally assessed unit Unit 14 Optional internally assessed unit Unit 15 Optional internally assessed unit Unit 16 Optional internally assessed unit
	Certificate: F180 Exam 1 hour 30 minutes F182 NEA	**Certificate:** Unit 1 Exam 40 minutes x 3 Unit 2 Internally assessed assignment This qualification is also available as Foundation Diploma, Diploma and Diploma Extended levels.

	OCR Level 3 Cambridge Advanced National (AAQ) in Applied Science	Pearson BTEC Level 3 in Applied Science (first teaching September 2016)
Administration	External assessments available twice a year, with opportunity to resit. Internal assessment with external moderation available in two assessment windows each year: January and June. The NEA assignments will be valid for 2 year(s). The dates for which they are live will be shown on the front cover. For external moderation, you must make unit entries for students before you can submit outcomes to request a visit. Students can resit the examined unit twice before they complete the qualification. Familiar administration for exam officers. See the specification for full administration information	External assessments available twice a year, with opportunity to resit. Internal assessment with external standards verification. Centre must make arrangements for secure delivery of exams and supervised tasks. Single retake opportunity for internally assessed units. Retake can only be achieved at a pass.

Detailed comparison of units

OCR Level 3 Cambridge Advanced National (AAQ) in Applied Science **Unit F180** **Fundamentals of science** **OCR-set and marked** **70 marks** **90 GLH** **1 hour and 30 minutes written examination**			Pearson BTEC Level 3 in Applied Science (first teaching September 2016)
Topic Area title	**Teaching content reference**	**Teaching content title**	**Comparable teaching content**
Topic Area B1: Cell structure and microscopy	1.1	Cell structure and function	Unit 1: Principles and applications of science I B1 Cell structure and function B2 Cell specialisation B3 Tissue structure and function
	1.2	Microscopy	Unit 1 Principles and applications of science I B1 Cell structure and function Unit 11: Genetics and genetic engineering B3 Practical demonstration of slide preparation of dividing cells Unit 17: Microbiology and microbiological techniques B1 Microscopes B2 Specimen and slide preparation B3 Setting up and using a compound microscope
Topic Area B2: Bioenergetics	2.1	Photosynthesis	Unit 10: Biological molecules and metabolic pathways C1 Pathways in photosynthesis C2 Factors that can affect the pathways in photosynthesis
	2.2	Cellular respiration	Unit 10: Biological molecules and metabolic pathways B1 Respiration
Topic Area B3: Structure and function of biological molecules	3.1	Biological molecules	Unit 10: Biological molecules and metabolic pathways A2 Carbohydrates A3 Proteins and nucleic acids A4 Lipids

F180 comparison continues on next page.

OCR Level 3 Cambridge Advanced National (AAQ) in Applied Science **Unit F180** **Fundamentals of science** **OCR-set and marked** **70 marks** **90 GLH** **1 hour and 30 minutes written examination**			Pearson BTEC Level 3 in Applied Science (first teaching September 2016)
Topic Area title	**Teaching content reference**	**Teaching content title**	**Comparable teaching content**
Topic Area B4: Biodiversity and ecosystems	4.1	The distribution of organisms	Unit 3: Science investigation skills F1 Factors that can affect plant growth and/or distribution
	4.2	Sampling	Unit 3: Science investigation skills F2 Sampling techniques F3 Sampling sizes
Topic Area C1: Atomic structure and the Periodic Table	1.1	Atomic structure	Unit 1: Principles and applications of science I A1 Structure and bonding in applications of science
	1.2	The Periodic Table	Unit 1: Principles and applications of science I A2 Production and uses of substances in relation to properties
Topic Area C2: Quantitative chemistry	2.1	Amount of substance	Unit 1: Principles and applications of science I A1 Structure and bonding in applications of science
Topic Area C3: Structure and bonding	3.1	Bonding	Unit 1: Principles and applications of science I A1 Structure and bonding in applications of science A2 Production and uses of substances in relation to properties Unit 10: Biological molecules and metabolic pathways A1 Water
	3.2	Structures and properties	Unit 1: Principles and applications of science I A2 Production and uses of substances in relation to properties
	3.3	Organic chemistry	Unit 1: Principles and applications of science I A1 Structure and bonding in applications of science Unit 14: Applications of organic chemistry C1 Types, structures, reactions, uses and properties of isomers

F180 comparison continues on next page.

OCR Level 3 Cambridge Advanced National (AAQ) in Applied Science **Unit F180** **Fundamentals of science** **OCR-set and marked** **70 marks** **90 GLH** **1 hour and 30 minutes written examination**			Pearson BTEC Level 3 in Applied Science (first teaching September 2016)
Topic Area title	**Teaching content reference**	**Teaching content title**	**Comparable teaching content**
Topic Area C4: Rates of reaction and enthalpy changes	4.1	Rates of reaction	Unit 3: Science investigation skills D2 Enzymes as biological catalysts in chemical reaction Unit 18: Industrial chemical reactions B1 Rates of reaction
	4.2	Enthalpy changes	Unit 5: Principles and applications of science II A3 Energy changes in industry Unit 18: Industrial chemical reactions A1 Enthalpy changes
Topic Area P1: Electricity	1.1	Circuits	Unit 3: Science investigation skills H1 Use of electrical components in series and parallel circuits H2 Equations E3 Energy usage Unit 15: Electrical circuits and their applications A1 Electrical symbols, units and definitions A2 Electrical formulae and relationships B1 Circuit characteristics B2 Measurement devices
Topic Area P2: Motion	2.1	Energy	Unit 3: Science investigation skills E3 Energy usage Unit 5: Principles and applications of science II C1 Thermal physics in domestic and industrial applications Unit 26: Forensic traffic collision investigation B1 Physics of movement and collision

F180 comparison continues on next page.

OCR Level 3 Cambridge Advanced National (AAQ) in Applied Science **Unit F180** **Fundamentals of science** **OCR-set and marked** **70 marks** **90 GLH** **1 hour and 30 minutes written examination**			Pearson BTEC Level 3 in Applied Science (first teaching September 2016)
Topic Area title	**Teaching content reference**	**Teaching content title**	**Comparable teaching content**
Topic Area P3: Medical physics	3.1	X-rays and ultrasound	Unit 1: Principles and applications of science I C1 Working with waves Unit 21: Medical physics applications A4 Ultrasound B1 X-rays
	3.2	Radioactivity	Unit 21: Medical physics applications B3 Gamma ray imaging B4 Radiotherapy, Gamma knife surgery and proton beam therapy C3 Safety precautions, side effects and risks for operators and patients of ionising radiation

OCR Level 3 Cambridge Advanced National (AAQ) in Applied Science **Unit F181** **Science in society** **OCR set and marked** **50 marks in total** **60 GLH** **1 hour and 15 minutes written examination**			Pearson BTEC Level 3 in Applied Science (first teaching September 2016)
Topic Area title	**Teaching content reference**	**Teaching content title**	**Comparable teaching content**
Topic Area 1: What scientists do	1.1	The skills of scientists	
	1.2	The Scientific Method	
	1.3	The Scientific Community	Unit 7: Contemporary issues in science A2 Understand the influence of different organisations/individuals on scientific issues
	1.4	The role of scientists	Unit 7: Contemporary issues in science A2 Understand the influence of different organisations/individuals on scientific issues
Topic Area 2: Handling scientific data	2.1	Types of scientific data	Unit 7: Contemporary issues in science B1 Interpretation and analysis of scientific information
	2.2	Collecting scientific data	Unit 7: Contemporary issues in science B1 Interpretation and analysis of scientific information
	2.3	Storage and presentation of scientific data	Unit 7: Contemporary issues in science B1 Interpretation and analysis of scientific information B2 Evaluation of scientific information
	2.4	Interpreting data	Unit 7: Contemporary issues in science B1 Interpretation and analysis of scientific information B2 Evaluation of scientific information
Topic Area 3: Scientific developments	3.1	Hypothesis, theory and law	
	3.2	Using new technologies in science	Unit 7: Contemporary issues in science A1 Understand the scientific issues in terms of ethical/social/economic/environmental impact A2 Understand the influence of different organisations / individuals on scientific issues
	3.3	Implications and limitations of scientific developments	Unit 7: Contemporary issues in science A1 Understand the scientific issues in terms of ethical/social/economic/environmental impact A2 Understand the influence of different organisations/individuals on scientific issues

F181 comparison continues on next page.

OCR Level 3 Cambridge Advanced National (AAQ) in Applied Science **Unit F181** **Science in society** **OCR set and marked** **50 marks in total** **60 GLH** **1 hour and 15 minutes written examination**			Pearson BTEC Level 3 in Applied Science (first teaching September 2016)
Topic Area title	**Teaching content reference**	**Teaching content title**	**Comparable teaching content**
Topic Area 4: Communicating science	4.1	Methods of communication	Unit 7: Contemporary issues in science C1 Know how science is reported in different media and for different audiences C2 Understand the presentation of science reporting and its relationship with the reporting medium and target audience
	4.2	Plagiarism	Unit 7: Contemporary issues in science B2 Evaluation of scientific information C2 Understand the presentation of science reporting and its relationship with the reporting medium and target audience
	4.3	Using science to inform decision making	Unit 7: Contemporary issues in science A1 Understand the scientific issues in terms of ethical/social/economic/environmental impact A2 Understand the influence of different organisations / individuals on scientific issues
	4.4	Problems with communicating science	Unit 7: Contemporary issues in science C1 Know how science is reported in different media and for different audiences C2 Understand the presentation of science reporting and its relationship with the reporting medium and target audience

OCR Level 3 Cambridge Advanced National (AAQ) in Applied Science **Unit F182** **Investigating science** **Centre assessed and OCR moderated** **28 marks** **90 GLH**			Pearson BTEC Level 3 in Applied Science (first teaching September 2016)
Topic Area title	**Teaching content reference**	**Teaching content title**	**Comparable teaching content**
Topic Area 1: Planning a scientific investigation	1.1	Researching the topic	Unit 6: Investigative project A1 Literature review A2 Investigative project proposal
	1.2	Designing a scientific investigation	Unit 3: Science investigation skills A1 Developing a hypothesis for an investigation A2 Selection of appropriate equipment, techniques, and standard procedures A3 Health and safety associated with the investigation A4 Variables in the investigation A5 Method for data collection and analysis Unit 6: Investigative project B1 Schedule B2 Plan B3 Health and safety and ethical considerations
	1.3	Conducting preliminary experiments	Unit 6: Investigative project C1 Experimental procedures and techniques C2 Collect, collate and analyse data
Topic Area 2: Performing a scientific investigation	2.1	Practical skills and apparatus	Unit 3: Science investigation skills B1 Collection of quantitative / qualitative data Unit 6: Investigative project C1 Experimental procedures and techniques C2 Collect, collate and analyse data
	2.2	Recording data from experiments	Unit 3: Science investigation skills B1 Collection of quantitative / qualitative data Unit 6: Investigative project C2 Collect, collate and analyse data

F182 comparison continues on next page.

OCR Level 3 Cambridge Advanced National (AAQ) in Applied Science **Unit F182** **Investigating science** **Centre assessed and OCR moderated** **28 marks** **90 GLH**			Pearson BTEC Level 3 in Applied Science (first teaching September 2016)
Topic Area title	**Teaching content reference**	**Teaching content title**	**Comparable teaching content**
Topic Area 3: Analysing and communicating results	3.1	Analysing data	Unit 3: Science investigation skills B2 Processing data C1 Interpretation / analysis of data Unit 6: Investigative project C2 Collect, collate and analyse data C3 Data presentation
	3.2	Writing conclusions	Unit 3: Science investigation skills C1 Interpretation / analysis of data Unit 6 Investigative project D2 Scientific evaluation of findings
	3.3	Communicating results	Unit 6: Investigative project D1 Scientific report for the investigative project D2 Scientific evaluation of findings
Topic Area 4: Evaluating a scientific investigation	4.1	Evaluating the investigation	Unit 3: Science investigation skills C2 Evaluation Unit 6: Investigative project D2 Scientific evaluation of findings

OCR Level 3 Cambridge Advanced National (AAQ) in Applied Science **Unit F183** **Analytical techniques in chemistry** **Centre assessed and OCR moderated** **22 marks** **60 GLH**			Pearson BTEC Level 3 in Applied Science (first teaching September 2016)
Topic Area title	**Teaching content reference**	**Teaching content title**	**Comparable teaching content**
Topic Area 1: Techniques to categorise and separate chemical substances	1.1	Chemical substances and their properties	Unit 1: Principles and applications of science I A2 Production and uses of substances in relation to properties Unit 2: Practical scientific procedures and techniques B2 Cooling curves
	1.2	Separating chemical substances	Unit 2: Practical scientific procedures and techniques B2 Cooling curves C1 Chromatographic techniques C2 Application of chromatography C3 Interpretation of a chromatogram Unit 4: Laboratory techniques and their application B1 Manufacturing techniques B2 Testing methods and techniques C1 Manufacturing techniques C3 Estimation of purity Unit 18: Industrial chemical reactions D1 Industrial application of physical chemistry concepts Unit 19: Practical chemical analysis C1 Gas chromatography C2 High performance liquid chromatography (HPLC) Unit 23: Forensic evidence, collection and analysis C2 Chemical evidence techniques

F183 comparison continues on next page.

OCR Level 3 Cambridge Advanced National (AAQ) in Applied Science **Unit F183** **Analytical techniques in chemistry** **Centre assessed and OCR moderated** **22 marks** **60 GLH**			Pearson BTEC Level 3 in Applied Science (first teaching September 2016)
Topic Area title	**Teaching content reference**	**Teaching content title**	**Comparable teaching content**
Topic Area 2: Quantitative and qualitative analytical techniques to quantify and identify substances	2.1	Quantitative analysis	Unit 2: Practical scientific procedures and techniques A1 Laboratory equipment and its calibration A2 Preparation and standardisation of solutions using titration A3 Colorimetry Unit 19: Practical chemical analysis A1 Quantitative analysis of products B1 Beer-Lambert applications
	2.2	Qualitative analysis	Unit 4: Laboratory techniques and their application B2 Testing methods and techniques C3 Estimation of purity
Topic Area 3: The principles of spectroscopic techniques and interpreting spectra for chemical substances	3.1	Spectroscopic techniques	Unit 4: Laboratory techniques and their application B2 Testing methods and techniques C3 Estimation of purity Unit 19: Practical chemical analysis B1 Beer-Lambert applications B2 Organic structure elucidation Unit 23: Forensic evidence, collection and analysis

OCR Level 3 Cambridge Advanced National (AAQ) in Applied Science **Unit F184** **Environmental studies** **Centre assessed and OCR moderated** **22 marks** **60 GLH**			Pearson BTEC Level 3 in Applied Science (first teaching September 2016)
Topic Area title	**Teaching content reference**	**Teaching content title**	**Comparable teaching content**
Topic Area 1: Ecosystems and diversity	1.1	Ecosystems	Unit 3: Science investigation skills F1 Factors that can affect plant growth and/or distribution
	1.2	Biodiversity	
	1.3	Importance of conserving ecosystems and maintaining biodiversity	
	1.4	Understanding case studies	
Topic Area 2: Impact of human activity and natural events	2.1	Impact of human activities	Unit 3: Science investigation skills F1 Factors that can affect plant growth and/or distribution Unit 7: Contemporary issues in science A1 Understand the scientific issues in terms of ethical/social/economic/environmental impact
	2.2	Impact of natural events	Unit 12 Disease and infection A1 Pathogens and infectious disease A2 Dietary and environmental diseases A3 Genetic and degenerative disease
Topic Area 3: Waste management	3.1	Dealing with domestic waste	Unit 7: Contemporary issues in science A1 Understand the scientific issues in terms of ethical/social/economic/environmental impact
	3.2	Dealing with industrial waste	Unit 7: Contemporary issues in science A1 Understand the scientific issues in terms of ethical/social/economic/environmental impact Unit 22: Materials science B4 Environmental impact and health and safety risks of nanotechnology materials C3 Limitations and environmental risks of polymers

F184 comparison continues on next page.

OCR Level 3 Cambridge Advanced National (AAQ) in Applied Science **Unit F184** **Environmental studies** **Centre assessed and OCR moderated** **22 marks** **60 GLH**			Pearson BTEC Level 3 in Applied Science (first teaching September 2016)
Topic Area title	**Teaching content reference**	**Teaching content title**	**Comparable teaching content**
Topic Area 4: Environmental management and conservation	4.1	Environmental surveying	
	4.2	Environmental management	
	4.3	Conservation strategies	
Topic Area 5: Fieldwork	5.1	Location analysis	
	5.2	Suitability of the environment	
	5.3	Sampling techniques	Unit 3: Science investigation skills F2 Sampling techniques F3 Sampling sizes
	5.4	Risk assessment	Unit 6: Investigative project B3 Health and safety and ethical consideration
	5.5	Data processing and analysis	Unit 6: Investigative project C2 Collect, collate, and analyse data

OCR Level 3 Cambridge Advanced National (AAQ) in Applied Science **Unit F185** **Forensic biology** **Centre assessed and OCR moderated** **22 marks** **60 GLH**			Pearson BTEC Level 3 in Applied Science (first teaching September 2016)
Topic Area title	**Teaching content reference**	**Teaching content title**	**Comparable teaching content**
Topic Area 1: Forensic biology disciplines and evidence	1.1	The nature and origins of forensic evidence	
	1.2	Forensic biology disciplines	Unit 23: Forensic evidence, collection, and analysis C1 Biological evidence techniques C2 Chemical evidence techniques C3 Physical evidence techniques C4 Other areas of forensic science
	1.3	Types of evidence in forensic biology	Unit 23: Forensic evidence, collection, and analysis B1 Collection of biological evidence B2 Collection of chemical evidence B3 Collection of physical evidence
Topic Area 2: Cells, tissues and organs in forensic biology	2.1	Microscopy in forensic biology	Unit 17: Microbiology and microbiological techniques B1 Microscopes B2 Specimen and slide preparation B3 Setting up and using a compound light microscope
	2.2	Observing biological evidence	Unit 1: Principles and applications of science I B1 Cell structure and function Unit 17: Microbiology and microbiological techniques A1 Microorganisms and infectious agents A2 Classification B1 Microscopes B2 Specimen and slide preparation B3 Setting up and using a compound light microscope
	2.3	Microbiology in forensic science	Unit 17: Microbiology and microbiological techniques B1 Microscopes B2 Specimen and slide preparation B3 Setting up and using a compound light microscope C1 Safety and prevention of contamination in microbial culturing C2 Growth media C3 Inoculation and incubation

F185 comparison continues on next page.

OCR Level 3 Cambridge Advanced National (AAQ) in Applied Science **Unit F185** **Forensic biology** **Centre assessed and OCR moderated** **22 marks** **60 GLH**			Pearson BTEC Level 3 in Applied Science (first teaching September 2016)
Topic Area title	**Teaching content reference**	**Teaching content title**	**Comparable teaching content**
Topic Area 3: Investigation and evidence collection	3.1	Scene investigation and preservation of site	Unit 23: Forensic evidence, collection, and analysis A1 At the crime scene A2 Preservation and recovery of evidence A3 Search patterns
	3.2	Collection of evidence	Unit 23: Forensic evidence, collection, and analysis A2 Preservation and recovery of evidence A4 Health and safety
Topic Area 4: Analytical techniques and evidence interpretation	4.1	Observational analytical techniques	Unit 11: Genetics and genetic engineering D1 DNA extraction D2 Gel electrophoresis D3 DNA amplification Unit 23: Forensic evidence, collection, and analysis C1 Biological evidence techniques C2 Chemical evidence techniques C3 Physical evidence techniques C4 Other areas of forensic science
	4.2	Microbiological analytical techniques	Unit 17: Microbiology and microbiological techniques B1 Microscopes B2 Specimen and slide preparation B3 Setting up and using a compound light microscope C1 Safety and prevention of contamination in microbial culturing C2 Growth media C3 Inoculation and incubation
	4.3	Reviewing evidence	Unit 23: Forensic evidence, collection, and analysis D1 Interpretation of evidence D2 Presentation of evidence

OCR Level 3 Cambridge Advanced National (AAQ) in Applied Science **Unit F186** **Medical physics** **Centre assessed and OCR moderated** **22 marks** **60 GLH**			Pearson BTEC Level 3 in Applied Science (first teaching September 2016)
Topic Area title	**Teaching content reference**	**Teaching content title**	**Comparable teaching content**
Topic Area 1: Application of non-ionising diagnosis techniques	1.1	Magnetic Resonance Imaging (MRI)	Unit 21: Medical physics applications A1 Magnetic resonance imaging (MRI)
	1.2	Diagnostic ultrasound	Unit 21: Medical physics applications A4 Ultrasound
	1.3	Endoscopy	
	1.4	Electrocardiogram (ECG)	Unit 1: Principles and applications of science I B3 Tissue structure and function Unit 5: Principles and applications of science II B1 The cardiovascular system
Topic Area 2: Application of ionising diagnosis techniques	2.1	X-ray imaging	Unit 21: Medical physics applications B1 X-rays B2 Computerised tomography (CT) or computerised axial tomography (CAT)
	2.2	Radionuclides	Unit 21: Medical physics applications B3 Gamma ray imaging
Topic Area 3: Application of ionising therapy techniques	3.1	Treatment with external source	Unit 21: Medical physics applications B1 X-rays B2 Computerised tomography (CT) or computerised axial tomography (CAT) B3 Gamma ray imaging B4 Radiotherapy, Gamma knife surgery and proton beam therapy
	3.2	Treatment with internal source	Unit 21: Medical physics applications B1 X-rays B2 Computerised tomography (CT) or computerised axial tomography (CAT) B3 Gamma ray imaging B4 Radiotherapy, Gamma knife surgery and proton beam therapy

F186 comparison continues on next page.

OCR Level 3 Cambridge Advanced National (AAQ) in Applied Science **Unit F186** **Medical physics** **Centre assessed and OCR moderated** **22 marks** **60 GLH**			Pearson BTEC Level 3 in Applied Science (first teaching September 2016)
Topic Area title	**Teaching content reference**	**Teaching content title**	**Comparable teaching content**
Topic Area 4: Application of non-ionising therapy techniques	4.1	Lasers	Unit 21: Medical physics applications A2 Lasers
	4.2	Photodynamic therapy (PDT)	Unit 21: Medical physics applications A2 Lasers
	4.3	Artificial cardiac devices	
	4.4	Ultrasound therapies	Unit 21: Medical physics applications A4 Ultrasound
Topic Area 5: Planning for diagnosis and therapy	5.1	Diagnosis plan	Unit 21: Medical physics applications C1 Safety precautions, side effects and risks for operators and patients of non-ionising radiation C2 Safety precautions, side effects and risks for operators and patients of ionising radiation
	5.2	Therapy plan	Unit 21: Medical physics applications C1 Safety precautions, side effects and risks for operators and patients of non-ionising radiation C2 Safety precautions, side effects and risks for operators and patients of ionising radiation

Next steps

If you are an OCR-approved centre, all you need to do is download the specification and start teaching. Your exams officer can complete an intention to teach form which enables us to provide appropriate support. When you're ready to enter your students, you just need to speak to your exams officer.

1. Get to know the specification, sample assessment materials and teaching resources on our Cambridge Advanced National (AAQ) in Applied Science website.
2. Sign up to receive subject updates by email.
3. Sign up to attend a training event or take part in a webinars on specific topics running throughout the year and our Q&A webinar sessions every half term.

To find out more about all of our support services, please visit Teach Cambridge.

Need to get in touch?

If you ever have any questions about OCR qualifications or services (including administration, logistics and teaching) please feel free to get in touch with our customer support centre.

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