CAMBRIDGE ADVANCED NATIONALS

OCR
Oxford Cambridge and RSA

Assessment story

LEVEL 3 ALTERNATIVE ACADEMIC QUALIFICATION CAMBRIDGE ADVANCED NATIONALS IN

APPLIED SCIENCE
COMPUTING: APPLICATION DEVELOPMENT
ENGINEERING
HEALTH AND SOCIAL CARE
HUMAN BIOLOGY
IT: DATA ANALYTICS

Understanding the assessment: examined and moderated

Contents

 © OCR 2024

1. Introduction

Our OCR Level 3 Alternative Academic Qualification Cambridge Advanced National qualifications are high quality, alternative academic qualifications, aimed at 16-19 year old students who want to progress to higher education. They are designed to complement and enhance A Level studies, building applied and practical skills. The qualifications are also designed to meet the Department for Education's funding approval criteria for Alternative Academic Qualifications and for inclusion on performance tables.

This exciting suite of qualifications will be available for first teaching from September 2025. We've created this guide to share with you the story of our assessment approach for these qualifications. We've also developed a resource called **Exploring our exams: a guide to our sample assessment material** to give you more information about the content and structure of the external assessments for each subject.

During the development of the OCR Level 3 Alternative Academic Qualification Cambridge Advanced National qualifications, we talked extensively with Higher Education (HE) representatives, teachers, subject experts and our senior assessment teams, to influence the structure and content of the qualifications and assessment materials. We then shared our final materials with HE representatives and teachers to make sure that they met their needs and the progressional needs of students.

Quotes from Higher Education representatives:

> *This qualification aligns with much of the content we cover in the first year of undergraduate degrees, so this course will set students up really well for that transition to university.*

> *I like that there are no set answers for the assignments – I like the freedom.*

> *The optional units echo our degree course, we teach the content at a higher level, but it would definitely prepare students well for our course.*

 © OCR 2024

2. Qualification structures

There are two sizes of qualification in each subject. These are:

- A Certificate qualification: This is 150 or 180 Guided Learning Hours (GLH) – approximately the same size as an AS level qualification.
- An Extended Certificate qualification: This is 360 GLH – the same size as an A level qualification.

We spoke to teachers about how they would deliver the qualifications. The responses told us that five or six units in the Extended Certificate allowed for optimum teaching across the standard two years of delivery. They also told us that having a smaller 'nested' Certificate qualification was important. We developed our structures to meet this feedback, the content requirements of each qualification and the regulatory requirements for Alternative Academic Qualification Cambridge Advanced Nationals.

Each **Certificate** qualification is either **150 or 180 GLH**. The size of the qualification and the number of units in it, depend on the qualification and its key content.

Students will take 2 or 3 mandatory units in a Cambridge Advanced National Certificate qualification:

- One externally assessed (EA) unit. This is assessed by a written exam.
- One or two non examined assessment (NEA) units. These are assessed by OCR-set assignments.

Each **Extended Certificate** qualification is **360 GLH**. The Extended Certificate qualifications have both mandatory and optional units. Students need to complete either five or six units in an Extended Certificate qualification. The number of units depends on the qualification and its key content.

Students will take:

- Two mandatory externally assessed units. These are assessed by written exams.
- One or two mandatory NEA units. These are assessed by OCR-set assignments.
- Two optional NEA units (from a choice of optional units). These are assessed by OCR-set assignments.

Teachers and subject experts said that optionality was important to provide breadth in the subject content, to allow students the flexibility to tailor qualifications to meet their planned progression routes and to maximise the expertise of teachers.

To help further enhance delivery flexibility, there are four opportunities for students to take exams, and for you to submit NEA outcomes (NEA), over a typical two-year programme of study. These are January and June each year. Assessments can be taken in any order – there is no terminal assessment requirement. Qualification certification is available at each assessment series. More information about the availability of assessments is in **sections 3 and 6**.

These tables show the structure of each Cambridge Advanced National qualification.

OCR Level 3 Alternative Academic Qualification Cambridge Advanced National in Computing: Application Development (Certificate)

Unit Number	Unit Title	EA or NEA	M/O*	GLH	UMS+	Raw marks
F160	Fundamentals of application development	EA	M	75	60	60
F162	Designing and communicating a UX/UI solution	NEA	M	75	60	24

*Mandatory or Optional
+Uniform Mark Scale

 © OCR 2024

OCR Level 3 Alternative Academic Qualification Cambridge Advanced National in Computing: Application Development (Extended Certificate)

Unit Number	Unit Title	EA or NEA	M/O*	GLH	UMS+	Raw marks
F160	Fundamentals of application development	EA	M	75	60	60
F161	Developing application software	EA	M	70	60	60
F162	Designing and communicating a UX/UI solution	NEA	M	75	60	24
F163	Game development	NEA	O	70	60	24
F164	Website development	NEA	O	70	60	24
F165	Immersive technology solution development	NEA	O	70	60	24
F166	Software development	NEA	O	70	60	24
Students take the three mandatory units and two optional units from the choice of four.						

OCR Level 3 Alternative Academic Qualification Cambridge Advanced National in IT: Data Analytics (Certificate)

Unit Number	Unit Title	EA or NEA	M/O*	GLH	UMS+	Raw marks
F200	Fundamentals of data analytics	EA	M	75	60	60
F202	Spreadsheet data modelling	NEA	M	75	60	24

OCR Level 3 Alternative Academic Qualification Cambridge Advanced National in IT: Data Analytics (Extended Certificate)

Unit Number	Unit Title	EA or NEA	M/O*	GLH	UMS+	Raw marks
F200	Fundamentals of data analytics	EA	M	75	60	60
F201	Big data and machine learning	EA	M	70	60	60
F202	Spreadsheet data modelling	NEA	M	75	60	24
F203	Relational database design	NEA	O	70	60	24
F204	Data and the Internet of Everything (IoE)	NEA	O	70	60	24
F205	Data visualisation	NEA	O	70	60	24
F206	Data and digital marketing	NEA	O	70	60	24
Students take the three mandatory units and two optional units from the choice of four.						

 © OCR 2024

OCR Level 3 Alternative Academic Qualification Cambridge Advanced National in Applied Science (Certificate)

Unit Number	Unit Title	EA or NEA	M/O*	GLH	UMS+	Raw marks
F180	Fundamentals of science	EA	M	90	70	70
F182	Investigating science	NEA	M	90	70	28

OCR Level 3 Alternative Academic Qualification Cambridge Advanced National in Applied Science (Extended Certificate)

Unit Number	Unit Title	EA or NEA	M/O*	GLH	UMS+	Raw marks
F180	Fundamentals of science	EA	M	90	70	70
F181	Science in society	EA	M	60	50	50
F182	Investigating science	NEA	M	90	70	28
F183	Analytical techniques in chemistry	NEA	O	60	55	22
F184	Environmental studies	NEA	O	60	55	22
F185	Forensic biology	NEA	O	60	55	22
F186	Medical physics	NEA	O	60	55	22
Students take the three mandatory units and two optional units from the choice of four.						

 © OCR 2024

OCR Level 3 Alternative Academic Qualification Cambridge Advanced National in Human Biology (Certificate)

Unit Number	Unit Title	EA or NEA	M/O*	GLH	UMS+	Raw marks
F170	Fundamentals of human biology	EA	M	80	60	60
F172	Genetics	NEA	M	50	45	24
F173	Biomedical techniques	NEA	M	50	45	24

OCR Level 3 Alternative Academic Qualification Cambridge Advanced National in Human Biology (Extended Certificate)

Unit Number	Unit Title	EA or NEA	M/O*	GLH	UMS+	Raw marks
F170	Fundamentals of human biology	EA	M	80	60	60
F171	Health and disease	EA	M	80	60	60
F172	Genetics	NEA	M	50	45	24
F173	Biomedical techniques	NEA	M	50	45	24
F174	Nutrition and metabolism	NEA	O	50	45	24
F175	Human reproduction	NEA	O	50	45	24
F176	The brain	NEA	O	50	45	24
F177	Drug development	NEA	O	50	45	24
Students take the four mandatory units and two optional units from the choice of four.						

 © OCR 2024

OCR Level 3 Alternative Academic Qualification Cambridge Advanced National in Engineering (Certificate)

Unit Number	Unit Title	EA or NEA	M/O*	GLH	UMS+	Raw marks
F130	Principles of engineering	EA	M	90	70	70
F132	Engineering in practice	NEA	M	90	70	28

OCR Level 3 Alternative Academic Qualification Cambridge Advanced National in Engineering (Extended Certificate)

Unit Number	Unit Title	EA or NEA	M/O*	GLH	UMS+	Raw marks
F130	Principles of engineering	EA	M	90	70	70
F131	Materials science and technology	EA	M	60	50	50
F132	Engineering in practice	NEA	M	90	70	28
F133	Computer Aided Design (CAD)	NEA	O	60	55	22
F134	Programmable electronics	NEA	O	60	55	22
F135	Mechanical product design	NEA	O	60	55	22
F136	Computer Aided Manufacture (CAM)	NEA	O	60	55	22
F137	Electrical devices and circuits	NEA	O	60	55	22
Students take the three mandatory units and two optional units from the choice of five.						

 © OCR 2024

OCR Level 3 Alternative Academic Qualification Cambridge Advanced National in Health and Social Care (Certificate)

Unit Number	Unit Title	EA or NEA	M/O*	GLH	UMS+	Raw marks
F090	Principles of health and social care	EA	M	80	60	60
F092	Person-centred approach to care	NEA	M	50	45	24
F093	Supporting people with mental health conditions	NEA	M	50	45	24

OCR Level 3 Alternative Academic Qualification Cambridge Advanced National in Health and Social Care (Extended Certificate)

Unit Number	Unit Title	EA or NEA	M/O*	GLH	UMS+	Raw marks
F090	Principles of health and social care	EA	M	80	60	60
F091	Anatomy and physiology for health and social care	EA	M	80	60	60
F092	Person-centred approach to care	NEA	M	50	45	24
F093	Supporting people with mental health conditions	NEA	M	50	45	24
F094	Supporting people with long term physiological conditions	NEA	O	50	45	24
F095	Investigating public health	NEA	O	50	45	24
F096	Supporting people in relation to sexual health, pregnancy and postnatal health	NEA	O	50	45	24
F097	Supporting healthy nutrition and lifestyles	NEA	O	50	45	24
Students take the four mandatory units and two optional units from the choice of four.						

 © OCR 2024

Grading

When we work out students' qualification grades, we need to be able to compare performance on the same unit in different assessments over time and between different units. We use a uniform mark scale (UMS) to do this. The uniform mark for each unit is calculated from the mark achieved on the exam (raw mark) for EA units, or from the number of assessment criteria achieved for NEA units. For ease, these are all shown as raw marks on the qualification structure tables.

The raw marks are converted to the equivalent uniform mark. The uniform mark achieved for each unit will be aggregated to give a total uniform mark for the qualification. Students' qualification grades will be determined by the total uniform mark they achieve. All uniform marks achieved by a student for each unit will count towards their qualification grade. This means that these qualifications take a compensatory approach rather than a 'hurdles-based' approach to assessment. Students might perform well on some units to make up for shortcomings on other units and may pass the qualification without achieving a pass in each unit.

Each **unit** has the following grade outcomes:

- Distinction (D)
- Merit (M)
- Pass (P)
- Unclassified (U)

The overall qualification grades for the Certificate and Extended Certificate qualifications are:

- Distinction* (D*)
- Distinction (D)
- Merit (M)
- Pass (P)
- Unclassified (U)

You can find more information about grading and awarding grades in **Section 5** of the **specification**.

Performance Objectives (POs)

Each Cambridge Advanced National qualification has related Performance Objectives (POs). There are four Performance Objectives in the qualification suite. These may be contextualised for each subject.

The performance objectives are:

PO1: Show knowledge and understanding

This allows students to demonstrate core knowledge and understanding without having to apply it. It enables the use of multiple-choice questions (MCQs) or low tariff items in the external assessments. PO1 is not assessed in the NEA assessments as these assess content in an applied or practical way.

PO2: Apply knowledge and understanding

The Cambridge Advanced National qualifications are applied qualifications. This means that it is appropriate that a large proportion of the knowledge and understanding is assessed in an applied or contextualised way. PO2 is assessed in both the EA and NEA assessments.

PO3: Analyse and evaluate knowledge, understanding and performance

PO3 is assessed in both the EA and NEA assessments. This means that students will be expected to use analysis and evaluative skills in either the exam(s), the assignment(s) or in both for each qualification.

 © OCR 2024

PO4: Demonstrate and apply skills and processes relevant to the subject

PO4 recognises the assessment of applied or practical skills and processes. It also recognises the higher order levels of processing, such as interpersonal skills and psychomotor procedures that cannot easily be assessed in an exam. PO4 is only assessed in the NEA assessments.

We have suite level weighting ranges applied to the Performance Objectives, helping consistency of assessment approach across the Cambridge Advanced National suite of qualifications.

For each subject, each PO has a subject-specific weighting range assigned. This subject-specific weighting range will be within the suite level weighting range for that PO. The balance of knowledge, understanding and skills is tailored in these ranges to be appropriate for each subject. **Section 4** of the **specification** shows the PO weightings for the individual subject.

The table below shows the suite level PO weighting ranges for the Cambridge Advanced National qualifications:

Certificate qualifications with 40% External Assessment

PO	EA range	EA or NEA	M/O*
PO1	10-30%	n/a	10-30%
PO2	10-20%	15-25%	25-45%
PO3	0-10%	10-25%	10-35%
PO4	n/a	15-30%	15-30%
Overall weighting of assessments	**40%**	**60%**	**100%**

Certificate qualifications with 50% External Assessment

PO	EA range	EA or NEA	M/O*
PO1	10-30%	n/a	10-30%
PO2	10-30%	8-25%	18-55%
PO3	0-10%	10-25%	10-35%
PO4	n/a	15-30%	15-30%
Overall weighting of assessments	**50%**	**50%**	**100%**

Extended Certificate qualifications

PO	EA range	EA or NEA	M/O*
PO1	10-20%	n/a	10-20%
PO2	10-22%	10-25%	20-47%
PO3	5-10%	10-25%	15-35%
PO4	n/a	15-40%	15-40%
Overall weighting of assessments	**40%**	**60%**	**100%**

 © OCR 2024

3. Externally assessed (EA) units

Each Cambridge Advanced National qualification has a minimum of 40% external assessment. This percentage is based on the UMS marks. The EA units contain the knowledge and understanding that supports or underpins the subject content and the rest of the qualification.

When we spoke to teachers, they told us that students are familiar with the approximate 'one mark per minute' approach to exams, allowing for some additional time to read contextual information. We have designed exams that allow a minimum of 1.25 minutes per mark across the suite. Depending on the size of the unit, each exam is either:

- 1 hour 15 minutes or
- 1 hour 30 minutes

The exams sample content from across the unit. The annotated SAM for each subject (**Exploring our exams: a guide to our sample assessment materials)** gives more detail about what to expect from each exam.

There are two exam series available for the externally assessed units each year. These are in January and June. They will be timetabled so that all students sit the exam for a unit at the same time on the same day.

We will set and mark all exams. Each exam is marked according to a mark scheme, and the mark achieved will determine the unit grade awarded (Pass, Merit or Distinction). We set grade boundaries for each of the exams in each assessment series.

If a student doesn't achieve the mark needed for a Pass grade, we issue an unclassified result for that unit. The raw mark achieved in the exam will be converted to a uniform mark and will contribute to the student's overall qualification grade, even if a Pass is not achieved on that assessment. If a student wanted to resit an externally assessed unit to try and improve their grade, they can resit each examined unit twice before they complete their qualification.

 © OCR 2024

Unit content

The content for each EA unit is made up of several topic areas. Each topic area has related teaching content. Questions can be asked about anything in the teaching content or breadth and depth columns.

The EA units also have a breadth and depth column.

The breadth and depth column:

- Clarifies the breadth and depth of teaching needed.
- Indicates the range of knowledge and understanding that can be assessed in the exam.
- Confirms any aspects that do not need to be taught as 'does not include' statements.

Teaching must cover **both** the **teaching content** and **breadth and depth** columns.

This is what we mean by knowledge and understanding.

Know	• Be able to identify or recognise a given item, for example on a diagram. • Use direct recall to answer a question, for example the definition of a term.
Understand	• To assess and evidence the perceived meaning of something in greater depth than straight identification or recall. • Understanding will be expressed and presented using terms such as: how; why; when; reasons for; benefits and limitations of; advantages and disadvantages of; purpose of; suitability of; recommendations for improvement; pros and cons; appropriateness of something to/in different contexts.

Students will need to **understand** the content, unless the breadth and depth column identifies it as knowledge only.

Any item(s) that should be taught as **knowledge** only will start with the word 'know' in the breadth and depth column.

All other content is expected to be taught as understanding.

 © OCR 2024

Command words

We have a common set of command words that we will use in our exams. Each command word has a definition which shows what a student is expected to do when it is used. You can share these with your students when you are teaching and preparing them for the exams.

The exact response expected to a command word will depend on the context in which we use it, so students must remember that the rest of the wording in the question is also very important. Students should read the full question carefully to be sure of what they are being asked to do. The resource **Exploring our exams: a guide to our sample assessment material** for each externally assessed unit shows how the command words may be used in context.

Command word	Meaning
Analyse	• Separate or break down information into parts and identify their characteristics or elements • Explain the different elements of a topic or argument and make reasoned comments • Explain the impacts of actions using a logical chain of reasoning
Annotate	• Add information, for example, to a table, diagram or graph
Calculate	• Work out the numerical value. Show your working unless otherwise stated
Choose	• Select an answer from options given
Compare	• Give an account of the similarities and differences between two or more items or situations
Complete	• Add information, for example, to a table, diagram or graph to finish it
Describe	• Give an account that includes the relevant characteristics, qualities or events
Discuss (how/ whether/etc)	• Present, analyse and evaluate relevant points (for example, for/against an argument) to make a reasoned judgement
Draw	• Produce a picture or diagram
Explain	• Give reasons for and/or causes of something • Make something clear by describing and/or giving information
Give examples	• Give relevant examples in the context of the question
Identify	• Name or provide factors or features from stimulus
Justify	• Give valid reasons for offering an opinion or reaching a conclusion
Label	• Add information, for example, to a table, diagram or graph until it is final
Outline	• Give a short account or summary
State	• Give factors or features • Give short, factual answers

 © OCR 2024

Accessibility principles

Our exam papers and associated materials are developed with our accessibility principles in mind. The table below tells you a little more about the principles and rationale underpinning our approach for the Cambridge Advanced Nationals.

Accessibility principle			Why?
Look and feel of the paper	**1**	**Layout (clear for all)** • We use Arial 11 font. • We put in enough space for responses and room for working calculations where needed. • If a question asks for two or more points, the answer lines will start with numbers to show where students should write each point of their answer.	So that text is easy to read. To make it easy for students to add their responses or do their workings.
	2	We left align text and tables, graphs or diagrams that are for information only.	This makes them easier to read.
	3	We centre tables, graphs and diagrams that students write on.	So that they can be seen more clearly.
	4	We use bold instead of italics for emphasis in questions.	Italics can be hard to read.
	5	We only use images, diagrams and data where they genuinely support the question. Where possible, images, diagrams and data are presented on the same page as the question or on the facing page.	Images can be distracting for some students. To avoid unnecessary page turning.
	6	We don’t wrap text around images, diagrams or graphs.	So that they can be seen more clearly.
	7	If students need to do something with an image, diagram or graph, it will be centred with enough space around it to do their working.	So that students can write in their answers without difficulty.

 © OCR 2024

Accessibility principle			Why?
Assessment approach	**8**	Command words all come from the defined list of command words for the Cambridge Advanced National qualifications. Some subjects may also include subject-specific command words.	To make sure the requirements of each question are clear.
	9	We keep negative questions to a minimum.	Used well, negative questions can be a good way of testing understanding but can also easily lead to confusion. We only use negatives where it is the most appropriate approach to take.
	10	We keep contexts to a minimum. Where context is needed to answer a question, we present it in as clear a way as possible, for example by grouping sentences by theme or using bulleted or numbered lists.	To make sure: • Students don't have to spend time reading and processing superfluous information. • Contexts are easy to read and to understand.
Language	**11**	• We use familiar words and familiar spoken-style language. • We use short and simple sentences and avoid unnecessary words wherever possible.	To make our papers as easy as possible to read and understand for all of our students.
	12	• We avoid ambiguous words and language. • We use language and terminology consistently.	To make questions and instructions as clear as possible.

 © OCR 2024

4. EA question types

Question styles

The exams are designed to test breadth and depth of knowledge and understanding of the EA units' content. We use a range of question types to do this. These include:

- Forced choice/controlled response questions (including Multiple Choice Questions (MCQs)) – these are typically worth 1 mark but might have a maximum of 4 marks depending on the question type
- Short answer, closed response questions – these are typically worth 1 to 2 marks but can sometimes be worth more.
- Extended constructed response questions with points-based mark schemes – these are typically worth 3 to 4 marks but can sometimes be worth more.
- Extended constructed response questions with levels of response mark schemes – these will be worth 6 or 9 marks.

The range of question types allow us to assess Performance Objectives:

- PO1 – Show knowledge and understanding.
- PO2 – Apply knowledge and understanding.
- PO3 – Analyse and evaluate knowledge, understanding and performance.

We have annotated sample assessment material (SAM) for each externally assessed unit in this suite of qualifications. These are called **Exploring our exams: a guide to our sample assessment material**. These give you more information about the structure and design of each exam and the types of questions that they will include.

Forced choice/controlled response questions

Forced choice/controlled response questions might ask students to select answers from a list or to complete sentences, tables or diagrams. These questions:

✓ can assess any topic area.

✓ assess PO1 most often but can assess POs 2 or 3.

✓ allow students to show knowledge and/or understanding in a range of response styles.

✓ provide an accessible method of response for students.

✓ enable exams to have a broad specification coverage.

 © OCR 2024

Examples of forced choice/controlled response questions

Applied Science

(ii) Pea proteins have a secondary level of organisation.

What is the secondary level of organisation in proteins?

Tick (✓) **one** box.

- Folding of a single polypeptide chain to form an α-helix or β-pleated sheet ☐
- More than one polypeptide chain folded to form a 3D shape ☐
- The sequence of amino acids in a polypeptide chain ☐
- 3D folding of a single polypeptide chain due to side-chain interactions ☐

[1]

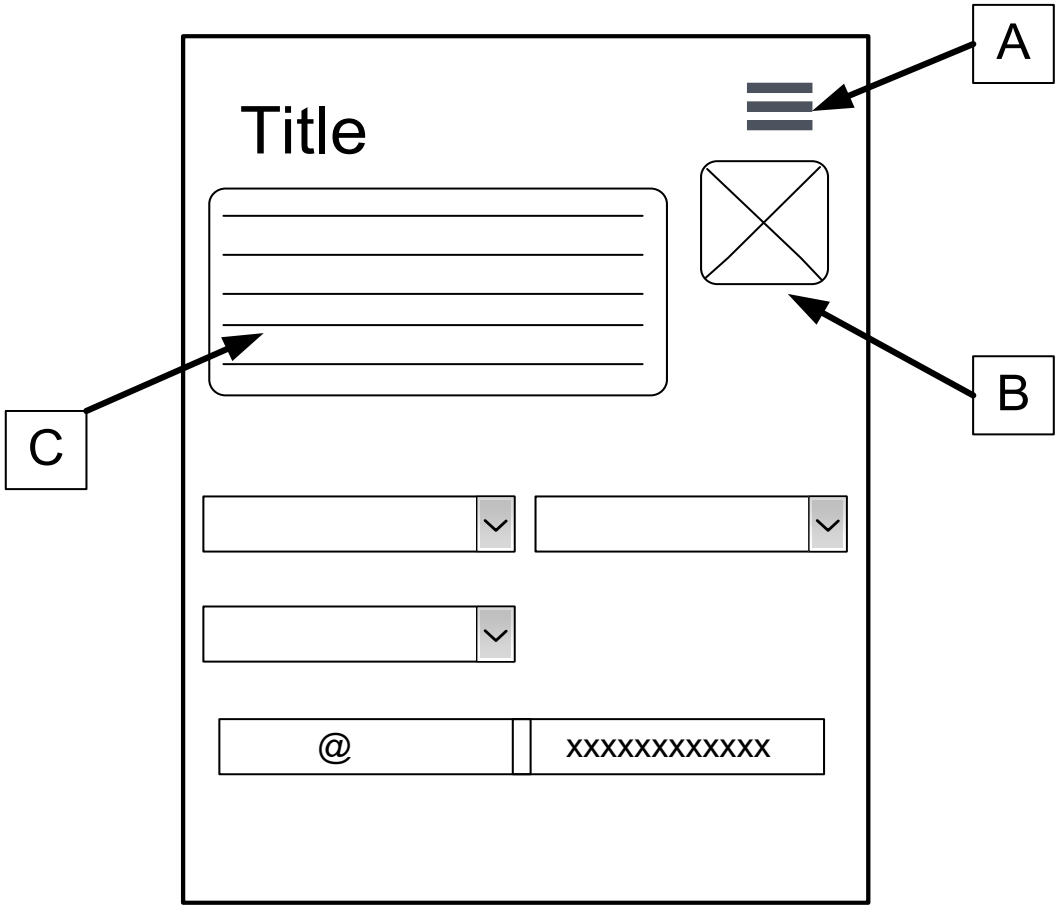
3 (a) (ii)	
Max mark	1 (PO1)
Answer	Folding of a single polypeptide chain to form an α helix or β pleated sheet. ✓ More than one polypeptide chain folded to form a three-dimensional shape. The sequence of amino acids within a polypeptide chain. Three-dimensional folding of a single polypeptide chain due to side chain interactions. (1)
Guidance	If a candidate ticks **more than one** box, award zero for the item.

 © OCR 2024

Computing: Application Development

Players will score points by uploading photos of themselves outside local buildings. Players can add text to the images. The images can also be posted on players' personal social media accounts.

8 (a) (i) This is a wireframe of the main screen human computer interface.



Complete the table using the letters **(A-C)** from the wireframe.

Wireframe component	**Letter**
Text box	
Image	
Menu	

[3]

 © OCR 2024

<table>
<tr><td>8 (a) (i)</td><td></td></tr>
<tr><td>Max mark</td><td>3 (PO1)</td></tr>
<tr><td>Answer</td><td>
<table>
<tr><th>Wireframe component</th><th>Letter</th></tr>
<tr><td>Text box</td><td>C</td></tr>
<tr><td>Menu/hamburger menu</td><td>A</td></tr>
<tr><td>Image</td><td>B</td></tr>
</table>
</td></tr>
<tr><td>Guidance</td><td>1 mark for 1 correct answer.
2 marks for 2 correct answers.
3 marks for 3 correct answers.

Correct answers only.</td></tr>
</table>

 © OCR 2024

Health and Social Care

11

(a) Complete the sentences below to describe what happens in inspiration when breathing.

In inspiration, the external intercostal muscles …….. This pulls the …… upwards. At the same time the …… contracts and moves downwards.

This increases the volume in the chest cavity, which decreases the pressure. Air then …… the lungs to equalise the pressure.

[4]

11 (a)	
Max mark	4 **(PO1)**
Answer	• Contract • Ribs • Diaphragm • Enters
Guidance	No other answers are acceptable**.** If more than one answer is given in a space, no mark should be awarded.

 © OCR 2024

Short answer questions

Short answer questions may be closed response questions, have diagrams to interpret or complete or require calculations.

Short answer questions:

- ✓ can assess any topic area.
- ✓ assess POs 1, 2 or 3.
- ✓ allow students to show knowledge and/or understanding in a range of response styles.
- ✓ allow students to show understanding of both simple and more complex ideas, without necessarily needing a detailed written response or multi-line answer.
- ✓ enable exams to have a broad specification coverage.

Examples of short answer questions

IT: Data Analytics

5 A travel company stores data on the holidays it offers. The data includes destinations, dates and prices. This data is **structured**.

State **two** reasons why this data is **structured**.

1 .....

.....

2 .....

.....

[2]

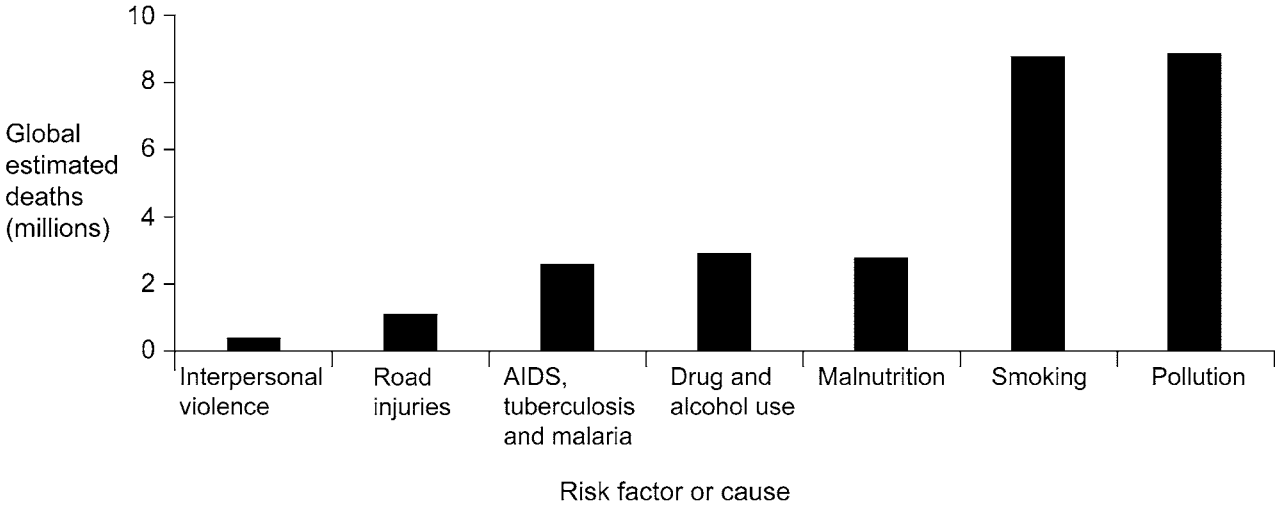
5	
Max mark	2 (PO1)
Answer	Max 2 marks One mark for Structured One mark for any **one** reason from • Data can be stored in an organised format (1) • Data can be stored in tables/columns and rows (1) • Data is text and numbers (1) **Credit any other appropriate response**
Guidance	

 © OCR 2024

Human Biology

12 Global estimated deaths can be classified by major risk factor or cause.

The bar chart shows some data obtained for this type of research.



Identify **three** observations from the bar chart.

1 .....

.....

2 .....

.....

3 .....

.....

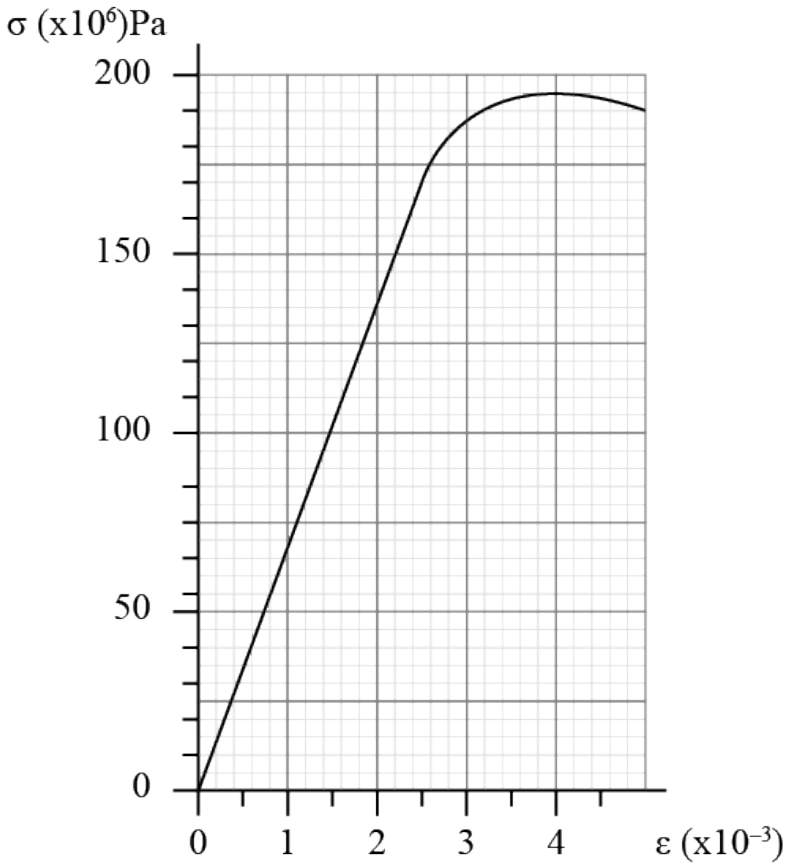
[3]

12	
Max mark	3 (PO2)
Answer	Any **three** from: • Pollution is one of the largest risk factors for disease and premature death globally (1) • Number of deaths caused by pollution are on par with those caused by smoking (1) • The impact of pollution on health is much greater than that of violence, drugs, and alcohol combined (1) • The impact of pollution is roughly three times greater than that of malnutrition (1) • The impact of smoking is much greater than that of road injuries, violence and malnutrition combined (1) **Credit any other appropriate response**
Guidance	1 mark for each correct answer. Accept any reference to approximately how many times pollution is greater than any of the individual risks named.

 © OCR 2024

Engineering

7 This is a stress versus strain graph for a material used to manufacture engineering components.



Calculate the modulus of elasticity (E) of the material.

modulus of elasticity (E) = ….....Pa

[2]

7	
Max mark	2 (PO2)
Answer	$E = \frac{170\times10^{6}}{2{\cdot}5\times10^{-3}}$ (C1) Substitution (any appropriate values from the graph) $E = 68.0 \times 10^{9}$ (A1) Answer
Guidance	Accept answers in the range 66.0 to 70.0 x 10^{9} Pa. Award full marks for the correct answer within range.

 © OCR 2024

Extended constructed response questions with points-based mark schemes

Extended constructed response questions with points-based mark schemes:

- ✓ can assess any topic area.
- ✓ assess POs 1, 2 or 3.
- ✓ allow students to demonstrate knowledge or understanding and their ability to apply it in different contexts.
- ✓ enable us to assess PO1 and PO2 in more depth than in short answer questions.
- ✓ might require students to describe, explain, outline, compare or analyse in their responses.

Examples of extended constructed response questions with points-based mark schemes

Computing: Application Development

9 Describe **two** characteristics of a smartphone that make it suitable for use with the ProgressWalk application.

1 .....

.....

.....

.....

2 .....

.....

.....

.....

[4]

 © OCR 2024

9	
Max mark	4 (PO2)
Answer	Up to **two** marks for each characteristic on a smartphone **One** mark for each characteristic **One** mark for saying how it is suitable for the application e.g.: • Smartphones have camera functions that can be used to take photographs (1) which are uploaded to show the players new location(1) • Smartphones use GPS to monitor position so that the location of the image can be verified (1) because photographs include meta data which include the GPS position (1) • Smartphones have internal storage facility (1) that allows the application to be downloaded to and installed on the phone (1) **Credit any other appropriate response**
Guidance	Up to **two** marks **max** for describing **each** characteristic of a smartphone. Max **four** marks. Max **two** characteristics.

 © OCR 2024

Health and Social Care

(c) Describe how the Equality Act protects someone with a disability in health and social care settings.

.....

.....

.....

.....

.....

.....**[4]**

2 (c)	
Max mark	**4** **(PO1)**
Answer	• disability is one of the protected characteristics in the Equality Act • it protects against direct and indirect discrimination • settings have a legal duty to make reasonable adjustments • provision of services has to be made as accessible as possible • specific equipment/aids/access arrangements need to be made • individuals with protected characteristics cannot be asked to pay for the cost of reasonable adjustments • individuals can take legal action if they feel they are being disadvantaged by the setting/service (because of their disability)
Guidance	One mark for each valid point. Credit any other appropriate answer

Extended constructed response questions with levels of response mark schemes

Extended constructed response questions with levels of response mark schemes:

- ✓ can assess any topic area.
- ✓ assess POs 2 or 3.
- ✓ might require students to explain in detail, compare, analyse or discuss in their responses.
- ✓ provide the opportunity for students to construct and develop a sustained line of reasoning.
- ✓ need a detailed written response or multi-line answer that is presented in a logical and structured way.

 © OCR 2024

Examples of extended constructed response questions with a levels of response mark scheme

Engineering

13 Car headlights have a transparent lens on the front. These lenses could be made from glass or polymer.

Discuss which of these materials is the most sustainable choice for this application.

In your answer you **must** write about:

- the **advantages** of using each material for a car headlight lens.
- the **disadvantages** of using each material for a car headlight lens.
- **which** material you would recommend **and** the reasons why.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

..... **[9]**

 © OCR 2024

13	
Max mark	9 (PO3)
Levels of Response	**Level 3 (high) 7-9 marks** A **thorough** discussion which shows **detailed** evaluation, which includes: • a **range** of points from **both** sides of the argument • a **detailed** analysis in the context of the question • a **clear** conclusion(s) with **detailed** reasons/justifications • **consistent** use of appropriate subject terminology. **Level 2 (mid) 4-6 marks** An **adequate** discussion which shows **sound** evaluation, which includes: • **some** points from **both** sides of the argument • **some** analysis in the context of the question • an **adequate** conclusion(s) with **relevant** reasons/justifications • **some** use of appropriate subject terminology. **Level 1 (low) 1-3 marks** A **basic** discussion which shows **limited** evaluation, which includes: • a **few** points from the argument • a **limited** analysis in the context of the question • a **brief** conclusion(s) with **limited** reasons/justifications • use of appropriate subject terminology is **limited**. **0 marks** Answer is **not** worthy of credit **Level 3 (high) 7-9 marks** Very detailed response which includes knowledge recall, supporting understanding and evaluation. The response addresses a wide variety of considerations, such as the characteristics or properties of the two options relative to the context, the relative environmental impact of each option, user preferences and manufacturing requirements. All considerations have supporting explanations related to the requirements of the context. The relative importance of the different considerations is evaluated and conclusions drawn. Responses at the top of this band may include judgements relating to conflicting requirements, such as cost, performance and sustainability.
	Level 2 (mid) 4-6 marks Detailed response which includes both recall of knowledge and understanding. The response addresses a range of considerations, such as the characteristics or properties of the two options relative to the context and the relative environmental impact of each option or manufacturing requirements. Most considerations have supporting explanations related to the requirements of the context. Responses at the top of this band may contain supporting explanations for all of the considerations, related to the requirements of the context.

	Level 1 (low) 1-3 marks Largely descriptive response based mainly on recall of knowledge. The response is limited to a single area of consideration, such as either the characteristics or properties of the two options relative to the context or the relative environmental impact of each option or manufacturing requirements. Reasoning and explanations are presented in general terms. Responses at the top of this band may contain some supporting explanations relating the presented characteristics to the context. **0 marks** Answer is **not** worthy of credit.
Indicative content	Advantages of using polymer as a material for a car headlight lens compared to glass: • Polymer lenses have less strength but are more resistant to impact than glass lenses, so may require replacing less often. • The cost of the polymer lens would be substantially less than the cost of the glass lens. • Polymer can be recycled Disadvantages of using polymer as a material for a car headlight lens: • Polymer lenses are produced from oil, which is a finite resource. • Drilling for and transporting oil can cause environmental pollution. • Polymers are not biodegradable. Advantages of using glass as a material for a car headlight lens compared to a polymer: • Glass is an abundant natural material which can be reused and recycled repeatedly. • Glass lenses also require less energy to produce than polymer lenses Disadvantages of using glass as a material for a car headlight lens: • Glass lenses are made from ceramic, which requires a lot of energy for processing. • The energy used in production can cause pollution if generated using non-renewable resources. • Glass lenses would have a greater risk of breakage, which could limit opportunities for reuse and could harm the user. • Glass lenses would weigh more than plastic lenses, which would require more energy for transportation, with resultant effects on pollution. • Disposal at the end of the life of the product – methods and implications of recycling each material, use of landfill or associated disposal (such as incineration for the polymer).
	Example Conclusion The material I would recommend is polymer, because a car headlight lens made from polymer would be more sustainable than one made from a glass. Overall, there are more advantages given above than disadvantages for this choice. Credit other relevant conclusions, points and examples.

 © OCR 2024

Human Biology

14 Orla is a 65-year-old with **early stage** Parkinson's Disease. Parkinson's Disease cannot be cured and is progressive.

Orla is independent in her daily living activities. Orla has concerns about her balance and ability to participate in some activities. Orla lives alone.

Orla has a history of:
- depression
- mild bradykinesia (slowness of movement and speed)
- resting tremor
- decreased range of movement in her joints because of muscle stiffness and pain
- mild cognitive impairment.

Parkinson's Disease treatments include:
- supportive therapies
- medication
- surgery.

Analyse the therapeutic effects of the treatments on Orla's early stage Parkinson's Disease.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

..... **[6]**

 © OCR 2024

14	
Max mark	6 (PO3)
Levels of Response	**Level 3 (high) 5-6** A **thorough** analysis, which includes: • identification of a **range** of characteristics or elements • **detailed** knowledge and understanding in the context of the question • **clear** explanation • **consistent** use of appropriate subject terminology. **Level 2 (mid) 3-4** An **adequate** analysis, which includes: • identification of **some** characteristics or elements • **sound** knowledge and understanding in the context of the question • **adequate** explanation • **some** use of appropriate subject terminology. **Level 1 (low) 1-2** A **basic** analysis, which includes: • identification of **at least one** characteristic or element • **limited** knowledge and understanding in the context of the question • **basic** explanation • use of appropriate subject terminology is **limited**. **0 marks** Answer is **not** worthy of credit.
Indicative content	Answers can include some of the following: Possible contributions of **supportive therapies**: • Slows the disease process – exercise has a preventative and maintenance role, important because Parkinson's Disease is chronic and progressive with no known cure and Orla is at an early stage in the disease process. • Exercise prolongs independent functioning by improving mobility, strength and flexibility which allows Orla, who lives alone, to maintain her independence for longer. • Exercise will improve her balance and reduce the risk of injury and hospitalisation. It will reduce the risk of falls, as Orla lives alone and she could be left unattended for quite a while. • Exercise can build muscle strength and flexibility, which can reduce fatigue and inflammation, and decrease pain. This means Orla will be less reliant on pain medication and their possible side effects. • Social well-being through exercise could be promoted to reduce the risk of depression by increasing social interaction directly through activity, particularly if the activity is with fellow patients. • Exercise promotes positive and significant effects on mild to moderately impaired patients like Orla, early diagnosis of cognitive impairment is associated with increased risk of dementia. • Mental well-being is promoted – exercise should ease Orla's depression and reduces the likelihood of making her Parkinson's Disease worse. This may mean less reliance on more medication and side effects.

 © OCR 2024

	• At this early stage it is possible that physiotherapy is the dominant therapy for Orla, which may include dancing, yoga or Nordic walking given the benefits of exercise to early stage Parkinson's Disease. • Speech therapy may not be necessary in early stage Parkinson's Disease as there is no mention of Orla having speech problems at this time. • As Orla can manage day to day activities, occupational therapy may not be necessary at this point. • Some form of cognitive therapy may be useful to address Orla's depression. Less reliance on more medication and their side effects. Possible contributions of **medication**: • Medication can be used to improve Orla's symptoms of shaking (tremors) and movement problems. • Orla's early stage Parkinson's Disease may not require medication at this time. • Some medications may not suit Orla, because they may have negative side effects on her health and well-being. Possible contributions of **surgery**: • May involve deep brain stimulation but not usually necessary in early stage Parkinson's Disease as medication is the preferred option. **Credit other relevant analysis, points and examples.**

 © OCR 2024

5. Non examined assessment (NEA) units and assignments

The main purpose of the Cambridge Advanced National qualifications is for students to gain key knowledge and understanding relevant to a subject, as well as the ability to apply it in a range of contexts. Taking a combination of examined and non examined assessments will enable students to develop a broad and relevant set of skills and experiences which help to prepare them for progression to higher education.

As our Cambridge Advanced National qualifications are applied qualifications, each have up to 60% NEA. The NEA assessments assess these performance objectives:

- PO2: Apply knowledge and understanding.
- PO3: Analyse and evaluate knowledge, understanding and skills.
- PO4: Demonstrate and apply skills and processes relevant to the subject.

Each qualification has at least one mandatory NEA unit. The Extended Certificate qualifications have both mandatory and optional NEA units.

The NEA units:

- are made up of several topic areas with associated teaching content which details what must be taught.
- have an exemplification column that provides more information about, and examples relating to, the teaching content. This helps to exemplify the teaching expected so that students are equipped to successfully complete their assignments.
- are assessed by OCR-set assignments. These contain applied or practical tasks. Students will build a portfolio of evidence to meet the requirements of the tasks in the set assignments. The tasks are designed to meet all topic areas in the unit content.

Each NEA assessment draws on some of the knowledge and understanding learned in the externally assessed units and reinforces this learning by allowing students to apply it to scenario-based or practical tasks, which represent real-life situations. The NEA units assess the application of knowledge and understanding and/or practical skills.

The NEA assignments are:

- set by us.
- taken under supervised conditions (unless we specify otherwise in the assessment guidance).
- assessed by the teacher.
- moderated by us.

Each NEA assignment has a number of tasks which assess the Topic Areas from the unit content. The tasks may relate to a scenario given at the start of the assignment or specific task. Students should try to complete all tasks in the assignment.

Students must understand:

- What the task is. This information is under the heading: **The task is:**
- The evidence to submit to the teacher for assessment to meet the tasks and assessment criteria. If evidence must be a specific type or format, this information is under the heading: **Your evidence must include**. If the assignment does not specify an evidence format, students can present it how they want to.

 © OCR 2024

- The **assessment criteria** for the task. These tell students what they need to do to meet the requirements of each Pass (P), Merit (M) or Distinction (D) assessment criterion. The assessment criteria are numbered, for example, P1, M1, D1.
- The **assessment guidance**. This gives students more information about how to meet the assessment criteria. It also tells students where there are links between assessment criteria and may identify the breadth of coverage needed by linking back to content areas in the specification. There might not be assessment guidance for each assessment criterion. It is only given where more information is needed.
- The **command words** and what they mean.
- Any **advice** given. We may give students advice for some assignment tasks. When we do, it is usually a prompt to remind them to do or consider something when they produce their evidence. If there is advice for a task, it will be given below the assessment guidance.

For each assignment, we give an approximate time that it will take to complete all the tasks. This time forms part of the GLH for the unit. The time we have identified is for guidance to help teachers indicate to students approximately how long they should spend on their tasks. The **Information and instructions for teachers** section of the assignment will also tell teachers if there are aspects of the assignment that can be completed outside of teacher supervision. These aspects are not included in the GLH for the unit but count towards the qualification's Total Qualification Time (TQT). An example of this may be where students need to complete independent research. **Section 6** of the **Specification** gives more information about delivering the NEA assignments.

We will publish a new set assignment each year for every NEA unit. Each NEA assignment will be valid for 2 years. The dates for which they are live will be shown on the front cover. Teachers must use a live assignment for students' assessments and submit work based on an assignment in the period in which the assignment is live.

There are two windows each year to submit NEA outcomes and request a moderation visit by an OCR Assessor. You must make unit entries for students before you can submit outcomes to request a visit. All dates are on our administration pages.

 © OCR 2024

NEA Assessment Criteria

Each NEA unit has specified Pass, Merit and Distinction assessment criteria. The assessment criteria relate to tasks in the NEA assignments and tell both students and teachers what needs to be done in the tasks to meet each criterion. Students will use the assessment criteria, its associated assessment guidance and any additional information we give them in the assignment tasks to complete their assignments. Teachers will also use the assessment criteria and its associated assessment guidance to mark the students' work, making judgements about whether students have sufficiently met each criterion and its command word or not.

A **unit** grade can be awarded at Pass, Merit or Distinction.

The unit grade awarded is based on the total number of criteria the student achieves 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 NEA units have been developed with a certain number of achieved criteria for each grade in mind. These are known as design thresholds. The **specification** for each qualification gives the design thresholds for each grade outcome for the NEA assessments in the qualification. This is an example from the **Applied Science** qualifications, which have units that are 60 GLH and/or 90 GLH:

Unit size (GLH)	60	90
Total number of criteria	22	28
Number of pass criteria	11	14
Number of merit criteria	6	8
Number of distinction criteria	5	6
Total number of criteria needed for a unit pass	9	12
Total number of criteria needed for a unit merit	13	17
Total number of criteria needed for a unit distinction	18	23

To make sure that our design thresholds are appropriate and that we can keep outcomes fair and comparable over time, we will review the performance of the NEA units during the early stages of assessment and through their lifetime. The aim will be to set grade boundaries on the design thresholds initially as long as the review process shows them to be appropriate. During the qualifications' lifetime, ongoing review might lead to changes in these boundaries if any unexpected outcomes or significant changes are identified.

If a student doesn't achieve enough criteria to achieve a unit Pass, we will issue an unclassified result for that unit; **but**, the number of criteria achieved will be converted into a mark on the Uniform Mark Scale (UMS) and will **still contribute towards the student's overall qualification grade**.

 © OCR 2024

NEA Command Words

The assessment criteria each start with a command word. The command words will always appear in bold so that they are easy to identify and cross reference with the meanings. We have developed a common set of command words for use in all subjects, but some subjects may have additional, subject specific words that are needed to reflect their content. The list of NEA command words that may be used in each subject are given in **Appendix B** of the **specification** and at the end of each set assignment.

This is the common set of NEA command words and their meanings:

Command word	Meaning
Adapt	• Change to make suitable for a new use or purpose
Analyse	• Separate or break down information into parts and identify their characteristics or elements • Explain the different elements of a topic or argument and make reasoned comments • Explain the impacts of actions using a logical chain of reasoning
Assess	• Offer a reasoned judgement of the standard or quality of situations or skills. The reasoned judgement is informed by relevant facts
Calculate	• Work out the numerical value. Show your working unless otherwise stated
Classify	• Arrange in categories according to shared qualities or characteristics
Compare	• Give an account of the similarities and differences between two or more items, situations or actions
Conclude	• Judge or decide something
Describe	• Give an account that includes the relevant characteristics, qualities or events
Discuss (how/whether/etc)	• Present, analyse and evaluate relevant points (for example, for/against an argument) to make a reasoned judgement
Evaluate	• Make a reasoned qualitative judgement considering different factors and using available knowledge/experience
Examine	• To look at, inspect, or scrutinise carefully, or in detail
Explain	• Give reasons for and/or causes of something • Make something clear by describing and/or giving information
Interpret	• Translate information into recognisable form • Convey one's understanding to others, e.g. in a performance
Investigate	• Inquire into (a situation or problem)
Justify	• Give valid reasons for offering an opinion or reaching a conclusion
Research	• Do detailed study in order to discover (new) information or reach a (new) understanding
Summarise	• Express the most important facts or ideas about something in a short and clear form

We might also use other command words, but these will be:

- Commonly used words whose meaning will be made clear from the context in which they are used (e.g. create, improve, plan).
- Subject specific words drawn from the unit content.

 © OCR 2024

Examples of NEA tasks and assessment criteria

Here are some examples from our sample assessment materials:

Applied Science

Scenario

You will undertake a scientific investigation to explore **one** of the following titles with your own research question:

1. How vitamin C concentration varies in foods.
2. How the temperature affects the rate of a reaction.
3. How the surface a ball is dropped onto affects the bounce of the ball.

You must conduct your own investigation where you collect and analyse your own data.

Your investigation must focus on one independent variable that can be measured over a suitable range of values.

Task 1

Prepare for a scientific investigation

Topic Area 1 is assessed in this task.

The task is:

Prepare for your investigation.

Your evidence **must** include:

- A relevant section within your final investigation report.

Use the assessment criteria below to tell you what you need to do in more detail.

Pass	Merit	Distinction
P1: Use research to **create** an appropriate research question from **one** of the given investigation titles. (PO4)	**M1: Explain** the scientific principles behind the investigation. (PO2)	**D1:** Use research to **explain** how the scientific principles behind the investigation relate to environmental, commercial, and industrial processes. (PO4)
P2: Construct a hypothesis, and a prediction. (PO2)		

 © OCR 2024

Assessment Guidance

This assessment guidance gives you information to meet the assessment criteria. There might not be additional assessment guidance for each criterion. It is only given where it is needed. You must read this guidance before you complete your evidence.

Assessment Criteria	Assessment guidance

P1	• Teachers must discuss with students the research they completed independently to inform their research question, giving students the opportunity to say:
	  ○ What research they completed
	  ○ How they completed it
	  ○ Why they used the research methods they did.
	• The research question must include one independent and one dependent variable, and an indication of how investigation will be performed (e.g. via titration, using gas syringe, colorimetry).
	• The data collected for both variables will need to be quantitative.
	• The research should include data that the student can use to help them create their research question, and to allow them to then make a comparison later on between this data and their collected data in **M7**.
	• The research element of this criterion does not need to be completed under supervised conditions.

M1	• Students must apply knowledge and understanding from Unit F180 to explain the scientific principles behind the investigation.
D1	• Students must explain how the scientific principles in **M1** and their research question in **P1** can relate to real world understanding or applications. Students must explain how the scientific principles behind the investigation relate to environmental, commercial, and/or industrial processes. • If any of environmental, commercial and/or industrial processes are not appropriate, students must explain why. • The research element of this criterion does not need to be completed under supervised conditions.

Advice:

- Remember to clearly reference any information used from books, websites or other sources to support your evidence.

 © OCR 2024

Computing: Application Development

Task 2
Creating the high-fidelity game prototype

Topic Areas 1 and 3 are assessed in this task.

The task is:

Create the game prototype that you planned and designed in **Task 1**.

You will:

- Source and prepare assets for use in the game prototype.
- Use game engine tools and/or programming techniques to create the game prototype.

Your evidence **must** include:

- An export of the game prototype which allows it to be played without installing any specialist software **or** video/screen recordings demonstrating the game prototype.

Use the assessment criteria below to tell you what you need to do in more detail.

<table>
<tr><th>Pass</th><th>Merit</th><th>Distinction</th></tr>
<tr><td>P6: Source assets appropriate for use in the game prototype.
(PO4)</td><td rowspan="2">M4: Prepare assets appropriately for use in the game prototype.
(PO4)</td><td rowspan="2"></td></tr>
<tr><td>P7: Create an appropriate game environment using game engine tools.
(PO4)</td></tr>
<tr><td>P8: Implement character and/or object movement and navigation appropriate for the game prototype.
(PO4)</td><td rowspan="2">M5: Implement collision detection appropriate for the game prototype.
(PO4)</td><td rowspan="2">D3: Create a cohesive game prototype combining game environment, assets and mechanics.
(PO4)</td></tr>
<tr><td>P9: Implement game play controls appropriate for the game prototype.
(PO4)</td></tr>
<tr><td>P10: Implement game start and end mechanisms appropriate for the game prototype.
(PO4)</td><td>M6: Implement scoring and timing mechanisms appropriate for the game prototype.
(PO4)</td><td>D4: Implement player interaction and feedback appropriate for the game prototype.
(PO4)</td></tr>
</table>

 © OCR 2024

Assessment guidance

This assessment guidance gives you information to meet the assessment criteria. There might not be additional assessment guidance for each criterion. It is only given where it is needed. You must read this guidance before you complete your evidence.

Assessment Criteria	Assessment guidance
Task 2	• Ideally students will create the game prototype planned and designed in **Task 1**. However, if students deviate from the plan(s) and/or design(s) they should not be penalised when assessing **Task 2**. • To confirm assessment decisions made for this task, the OCR assessor will need to be able to see the final game prototype. Therefore, students **must** provide either: o The final game prototype in a format which allows it to be played without the need to install any specialist software and instructions on how to play the game. o Video/screen recordings of the final game prototype being demonstrated. This is especially useful if the skill level required to play the game is high.
P6	• Students **must** source assets for use in the game prototype that are appropriate for the game concept detailed in P1. The final game prototype will be sufficient evidence for this assessment criterion.
P7	• Using assets sourced in P6, students **must** create a game environment (screens/rooms/levels/stage), appropriate for the game concept detailed in P1. Students **must** use the game engine tools in Topic Area 3.2. The final game prototype will be sufficient evidence for this assessment criterion.
P8	• Students **must** add character and/or object movement and navigation to the game prototype, so the game functions as intended. Students **must** use the game engine tools and/or programming techniques in Topic Area 3.2. The final game prototype will be sufficient evidence for this assessment criterion.
P9	• Students **must** add game play controls to the game prototype, so the game functions as intended. Students **must** use the game engine tools and/or programming techniques in Topic Area 3.2. The final game prototype will be sufficient evidence for this assessment criterion.
P10	• Students **must** add game start and end mechanisms to the game prototype, so the game functions as intended. Students **must** use the game engine tools and/or programming techniques in Topic Area 3.2. The final game prototype will be sufficient evidence for this assessment criterion.
M4	• Students **must** prepare **all** assets sourced in P6, so they are appropriate for use in the game prototype. Topic Area 3.1 has examples of techniques students could use to prepare assets**.** Students **could** prepare assets in the game engine software or in external graphic software. The final game prototype will be sufficient evidence for this assessment criterion.

 © OCR 2024

M5	• Students **must** add collision detection to the game prototype, so the game functions as intended. Students **must** use the game engine tools and/or programming techniques in Topic Area 3.2. The final game prototype will be sufficient evidence for this assessment criterion.
M6	• Students **must** add scoring and timing mechanisms to the game prototype, so the game functions as intended. Students **must** use the game engine tools and/or programming techniques in Topic Area 3.2. The final game prototype will be sufficient evidence for this assessment criterion.
D3	• Students **must** create a game prototype where all components of the game work, and fit, together. The final game prototype will be sufficient evidence for this assessment criterion.
D4	• Students **must** add player interaction and feedback to the game prototype, so the game functions as intended. Students **must** use the game engine tools and/or programming techniques in Topic Area 3.2. The final game prototype will be sufficient evidence for this assessment criterion.

 © OCR 2024

IT: Data Analytics

Task 1

Plan a relational database solution

Topic Area 1 and Topic Area 2 are assessed in this task.

The task is:

Plan your database solution, using appropriate design tools and planning documentation. Use the data on **Page 7**.

Your evidence **must** include:

- An entity-relationship diagram.
- A data dictionary.
- Written reports.
- The other planning documentation you have created.

Use the assessment criteria below to tell you what you need to do in more detail.

Pass	Merit	Distinction
P1: Create an entity relationship diagram (ERD) for the solution where data duplication is minimised and data integrity is maintained. (PO4)		
P2: Normalise the database to third normal form (3NF) using normalisation techniques. (PO4)		
P3: Create a data dictionary for the solution, using standard conventions. (PO4)	**M1: Identify** input masks and other methods to validate the data. (PO2)	**D1: Justify** the use of the chosen validation methods for the database solution. (PO3)
P4: Design the forms to be used for the solution. (PO2)		
P5: Describe simple queries to be used for the solution. (PO2)	**M2: Describe** complex queries to be used for the solution. (PO2)	
P6: Design the switchboard and navigation for the solution. (PO2)	**M3: Design** outputs to be used for the solution. (PO2)	**D2: Design** the macros required for the solution to work effectively. (PO2)

 © OCR 2024

This assessment guidance gives you information to meet the assessment criteria. There might not be additional assessment guidance for each criterion. It is only given where it is needed. You must read this guidance before you complete your evidence.

Assessment Criteria	Assessment guidance
P1	• The entity relationship diagram for the solution **must** be notated to identify relationships
P2	• The database structure for the solution **must** be created to third normal form with an explanation relating to each stage of the normalisation process carried out. • The evidence **must** cover 0NF/UNF, 1NF, 2NF and 3NF.
P3	• All entities in the data dictionary solution **must** be atomic. • The data dictionary **must** include: o field name o data type o field size o format o default value o required (Y/N) o reference table if foreign key o identification of primary keys
M1	• Input masks and other methods **must** be defined for the relevant fields in the data dictionary.
D1	• There is no assessment guidance for this criterion.
P4	• The forms used for the solution **must** be designed with enough detail to allow someone else to implement the designs. • Sub-forms can be used as part of the solution. • The forms **must** clearly indicate user aids, such as indicating mandatory fields to be completed. • Designs can be hand drawn or produced electronically.
P5	• Queries **must** be related to the scenario. • At least one criterion **must** be used in each query. • Totals such as count, minimum/maximum, sum may be required for the output.
M2	• Queries **must** include the use of calculations. • Queries **must** require the use of multiple tables. • Queries might use parameters.
P6	• The solution **must** include a main menu/switchboard and navigation back to it. HCI considerations **must** be included.
M3	• The outputs **must** be designed for screen and print output. Totals can form part of the output.
D2	• State the steps required within the macros clearly enough to allow someone else to create the macros. • For the solution to work effectively, students **must** plan for different macros to be used throughout the solution. • Users **must** be able to fully operate the solution using automated features only.

 © OCR 2024

6. Summary of what you need to do

Here is a summary of what you need to do as a teacher:

- ✓ make sure you are familiar with **all** the rules and guidance in **Section 6** of the **specification before** your students complete, and you assess, the set assignments. It is very important that you and your students fully adhere to these throughout assessment and marking of the NEA assignments.
- ✓ only use our assignments for summative assessment (we make other sample and practice materials available).
- ✓ only make allowed changes to the assignments – the **Information and instructions for teachers** at the start of the assignments tells you if changes are allowed.
- ✓ give all students a copy of the qualification's **Student Guidance** before they start working on the assignments.
- ✓ start the summative assessment at any point when you know you have covered the knowledge, understanding and skills with your students and they are ready for assessment.
- ✓ allow students a reasonable amount of time to complete the assignments and be fair and consistent to all students. We will indicate the time we estimate it will take students to complete each assignment on the front cover.
- ✓ students can work on the tasks under supervised conditions any time until the date you collect the work for internal assessment. If there are aspects of the tasks that do not need to be completed under supervised conditions (for example, research), this will be shown in the assessment guidance for that part of the task, and on the front cover. Here is an example from an **Applied Science** NEA unit:

> **Duration**
>
> About:
>
> - 20 hours of supervised time (GLH)
> (work that must be completed under teacher supervised conditions)
> - 5 hours of unsupervised time
> (work that students can complete independently without teacher supervision)

- ✓ make sure that students don't complete further work between supervised sessions on assessment tasks that must be completed under supervised conditions
- ✓ monitor students' progress to make sure work is capable of being assessed against the assessment criteria, on track for being completed in good time and is the student's own work.

 © OCR 2024

7. Synoptic assessment

Synoptic assessment is a built-in feature of these qualifications. It means that students will use an appropriate selection of their knowledge, understanding and skills developed across the qualification in an integrated way and apply them to a key task or tasks.

This also helps students to build a holistic understanding of the subject and the connections between different areas of learning, so they can go on to apply what they learn from this qualification to new and different situations and contexts.

The externally assessed units allow students to gain knowledge and understanding relevant to the subject and the NEA units draw on and strengthen this learning by letting students apply it in a practical way.

We give details of the synoptic links for each qualification after each NEA unit in the specification. Here is an example:

Health and Social Care

Synoptic assessment

Some of the knowledge, understanding and skills needed to complete this unit will draw on the learning in Unit F090.

This table details the synoptic links.

Unit F092: Person-centred approach to care		Unit F090: Principles of health and social care	
Topic Area		Topic Area	
1	Taking a person-centred approach	1	Equality, diversity, and rights in health and social care settings
		4	Best practice in health and social care settings
2	Meeting needs and providing support in a person-centred way	1	Equality, diversity, and rights in health and social care settings
		4	Best practice in health and social care settings
3	Communication skills needed to offer person-centred care	1	Equality, diversity, and rights in health and social care settings
		4	Best practice in health and social care settings

 © OCR 2024

8. Transferable skills

These applied qualifications also give students the opportunity to gain broad, transferable skills and experiences that will help to prepare them for progression to higher education and work and life situations.

Students will develop different transferable skills depending on the qualification(s) they take, but here are examples of some of the skills they may develop naturally as a result of completing the assessments:

- Collaboration
- Communication
- Creativity
- Critical thinking
- Independent learning
- Leadership
- Presentation skills
- Problem solving
- Project and team-based working
- Referencing
- Reflection
- Research skills
- Risk taking, resilience
- Self-directed study
- Time management

The specification for each subject gives more information about the transferable skills developed from completing the qualification. Here is an example from our **IT: Data Analytics** Specification:

5.3 Transferable skills

These qualifications give students the opportunity to gain broad, transferable skills and experiences that they can apply in future study, employment and life.

Higher Education Institutions (HEIs) have told us that developing some of these skills helps students to transition into higher education.

These skills include:

- Communication
- Creativity
- Critical thinking
- Independent learning
- Presentation skills
- Problem solving
- Reflection
- Research skills
- Resilience
- Risk taking
- Time management

 © OCR 2024

These are draft documents and some aspects may not be fully accessible. If you have any problems with the accessibility of this format, please contact us.

Contact the team at:

01223 553998
support@ocr.org.uk
ocr.org.uk
facebook.com/ocrexams
twitter.com/ocrexams
instagram.com/ocrexaminations
linkedin.com/company/ocr
youtube.com/ocrexams

To stay up to date with all the relevant news about our qualifications, register for email updates at **ocr.org.uk/updates**

Visit our Online Support Centre at **support.ocr.org.uk**

CAMBRIDGE
UNIVERSITY PRESS & ASSESSMENT

OCR is part of Cambridge University Press & Assessment, a department of the University of Cambridge.

For staff training purposes and as part of our quality assurance programme your call may be recorded or monitored. ©OCR 2024 Oxford Cambridge and RSA Examinations is a Company Limited by Guarantee. Registered in England. Registered office The Triangle Building, Shaftesbury Road, Cambridge, CB2 8EA. Registered company number 3484466. OCR is an exempt charity.

OCR operates academic and vocational qualifications regulated by Ofqual, Qualifications Wales and CCEA as listed in their qualifications registers including A Levels, GCSEs, Cambridge Technicals and Cambridge Nationals.

Cambridge University Press & Assessment is committed to making our documents accessible in accordance with the WCAG 2.1 Standard. We're always looking to improve the accessibility of our documents. If you find any problems or you think we're not meeting accessibility requirements, please contact us.

OCR acknowledges the use of the icons by appleuzr, sourced from gettyimages.co.uk.