



CAMBRIDGE

International Education

Syllabus

Cambridge International AS & A Level Geography 9696

Use this syllabus for exams in 2027, 2028 and 2029.

Exams are available in the June and November series.



Version I

For the purposes of screen readers, any mention in this document of Cambridge IGCSE refers to Cambridge International General Certificate of Secondary Education.

Why choose Cambridge?

We work with schools worldwide to build an education that shapes knowledge, understanding and skills. Together, we give learners the confidence they need to thrive and make a positive impact in a changing world.

As part of the University of Cambridge, we offer a globally trusted and flexible framework for education from age 3 to 19, informed by research, experience, and listening to educators.

With recognised qualifications, high-quality resources, comprehensive support and valuable insights, we help schools prepare every student for the opportunities and challenges ahead.

Qualifications that are recognised and valued worldwide

From the world's top-ranked universities to local higher education institutions, Cambridge qualifications open doors to a world of opportunities.

Setting a global standard

With over 160 years of experience in delivering fair, valid and reliable assessments to students worldwide, we offer a global, recognised performance standard for international education.

Your path, your way

Schools can adapt our curriculum, high-quality teaching and learning resources and flexible assessments to their local context. Our aligned offer helps Cambridge schools support every learner to reach their potential and thrive.

Learning with lasting impact

Cambridge learners build subject knowledge and conceptual understanding, and develop a broad range of skills, learning habits and attributes to help make them ready for the world.

Improving learning outcomes through data-led insight and action

Our trusted baseline and diagnostic assessments, together with our insights and evaluation service, help schools turn data into knowledge and actionable insights, to inform teaching decisions and improve learner outcomes.

Bringing together a community of experts

We bring together the collective knowledge of experts and our diverse community of educators worldwide, supporting them to learn from one another and share ideas and information.

Tackling the climate crisis together

We believe that education is key to tackling the climate crisis. Together with Cambridge schools, we can empower young people with the skills and knowledge to take action on climate change, helping them be ready for the world.

School feedback: 'We think the Cambridge curriculum is superb preparation for university.'

Feedback from: Christoph Guttentag, Dean of Undergraduate Admissions, Duke University, USA

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Important: Changes to this syllabus

For information about changes to this syllabus for 2027, 2028 and 2029, go to page 58.



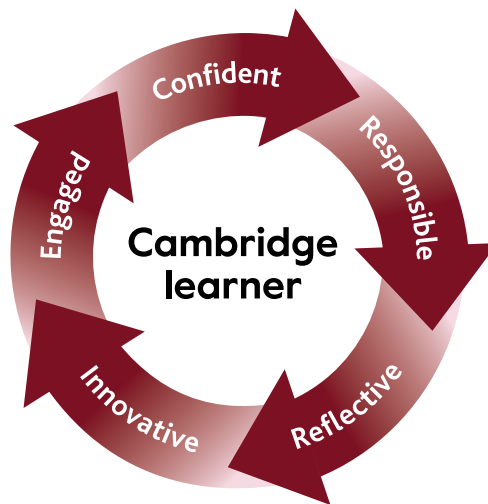
1 Why choose this syllabus?

Key benefits

The best motivation for a student is a real passion for the subject they are learning. Cambridge International AS & A Level give schools flexibility to offer a broad and balanced curriculum with a choice of over 50 subjects. Students can select the subjects they love and that they are best at, enabling them to reach their potential and thrive.

Following a Cambridge International AS & A Level programme helps students develop abilities which universities value highly, including:

- a deep subject knowledge
- conceptual understanding and higher-level thinking skills
- presenting ordered and coherent arguments
- independent learning and research.



Cambridge International AS & A Level Geography encourages students to think like a geographer. The syllabus provides opportunities for students to explore key concepts in geography through the study of a broad range of topics and 21st century issues. The syllabus encourages students to learn more about the world around them by applying their knowledge to their own local, national or regional context whilst also studying environments and contexts in the wider world. Students develop a range of transferable skills, including data interpretation, analysis and evaluation.

Our approach in Cambridge International AS & A Level Geography supports the development of learners who are:

confident, in using and interpreting a wide range of geographical data and in communicating ideas in a critical, analytical and evaluative way.

responsible, for their own learning, with a deep understanding that actions have impacts on the environment and on others. They are respectful of culture and context in evaluating issues they encounter.

reflective, in their geographical studies, including strengthening their conceptual understanding of the interrelationships in the subject.

innovative, and resourceful by applying their knowledge and skills appropriately to both familiar and unfamiliar geographical contexts and issues.

engaged, in their geographical studies, being able to make sense of patterns and evaluate causes, consequences and possible solutions for geographical issues.

School feedback: 'Cambridge students develop a deep understanding of subjects and independent thinking skills.'

Feedback from: Principal, Rockledge High School, USA

Key concepts

Key concepts are essential ideas that help students develop a deep understanding of their subject and make links between different aspects. Key concepts may open up new ways of thinking about, understanding or interpreting the important things to be learned.

Good teaching and learning will incorporate and reinforce a subject's key concepts to help students gain:

- a greater depth as well as breadth of subject knowledge
- confidence, especially in applying knowledge and skills in new situations
- the vocabulary to discuss their subject conceptually and show how different aspects link together
- a level of mastery of their subject to help them enter higher education.

Carefully introducing and developing key concepts at the right time will help to underpin the teaching. You may identify additional key concepts which will also enrich teaching and learning.

The key concepts for Cambridge International AS & A Level Geography are:

- **scale:** considering the significance of spatial scale in interpreting environments, features and places from the local scale to the global scale.
- **change over time:** recognising that changes happen over time, at timescales from geological time through to changes in hours.
- **place:** reflecting on the physical characteristics and human characteristics which create distinctive places with different opportunities and challenges.
- **spatial variation:** recognising how physical characteristics and human characteristics vary from place to place, identifying similarities and differences.
- **cause and effect:** considering the contributing factors which explain geographical events, for example an earthquake or a migration flow, and consequences resulting from them.
- **systems:** understanding how systems in geography, with their inputs, processes, stores and outputs, interact to make different environments and places.
- **environmental interactions:** acknowledging that the interactions between people and the environment create the need for management.
- **challenges and opportunities:** understanding physical and human environmental challenges, including climate change, and opportunities to introduce concepts such as sustainable development.
- **diversity, equality and inclusion:** respecting human diversity across the world and how people from different groups (including people of different genders and ages, and people from different cultural or ethnic backgrounds) can contribute to solve challenges from the local scale to the global scale.

Qualifications that are recognised and valued worldwide

Cambridge qualifications prepare and equip learners with the skills they need to thrive at university and beyond. The world's best higher education institutions recognise our qualifications and value the critical thinking skills, independent research abilities and deep subject knowledge that Cambridge learners bring.

We continually work with universities and colleges in every part of the world to ensure that they understand and accept our qualifications. More than 2220 universities in over 90 countries formally recognise Cambridge qualifications, with many more accepting our qualifications on application.

UK ENIC, the national agency in the UK for the recognition and comparison of international qualifications and skills, has carried out an independent benchmarking study of Cambridge International AS & A Level and found it to be comparable to the standard of AS & A Level in the UK. This means students can be confident that their Cambridge International AS & A Level qualifications are accepted as equivalent, grade for grade, to UK AS & A Levels by leading universities worldwide.

A choice of assessment routes

Cambridge International AS & A Level offers a choice of assessment routes with staged assessment available in many subjects: Cambridge International AS Level can be offered as a standalone qualification or as part of a progression to Cambridge International A Level.

Cambridge International AS Level Geography makes up the first half of the Cambridge International A Level course in Geography and provides a foundation for the study of Geography at Cambridge International A Level. The AS Level can also be delivered as a standalone qualification. Depending on local university entrance requirements, students may be able to use it to progress directly to university courses in Geography or some other subjects. It is also suitable as part of a course of general education.

Cambridge International A Level Geography provides a foundation for the study of Geography or related courses in higher education. Equally it is suitable as part of a course of general education.

For more information about the relationship between the Cambridge International AS Level and Cambridge International A Level see the 'Assessment overview' section of the Syllabus overview.

Visit www.cambridgeinternational.org/recognition-search/ and university websites for the most up-to-date higher education entry requirements.

Learn more: www.cambridgeinternational.org/recognition

Supporting teachers

We believe education works best when teaching and learning are closely aligned to the curriculum, resources and assessment. Our high-quality teaching support helps to maximise teaching time and enables teachers to engage learners of all backgrounds and abilities.

We aim to provide the following support for each Cambridge qualification:

- Syllabus
- Specimen question papers and mark schemes
- Specimen paper answers
- Schemes of Work
- Example candidate responses
- Past papers and mark schemes
- Principal examiner reports for teachers

These resources are available on the School Support Hub at www.cambridgeinternational.org/support, our secure online site for Cambridge teachers. Your exams officer can provide you with a login.

Additional teaching & learning resources are also available for many syllabuses and vary according to the nature of the subject and the structure of the assessment of each syllabus. These can include ready-built lesson materials, digital resources and multimedia for the classroom and homework, guidance on assessment and much more. Beyond the resources available on the Schools Support Hub, a wide range of endorsed textbooks and associated teaching and learning support are available from Cambridge at www.cambridge.org/education and from other publishers. Resources vary according to the nature of the subject and the structure of the assessment of each syllabus.

You can also contact our global Cambridge community or talk to a senior examiner on our discussion forums.

Sign up for email notifications about changes to syllabuses, including new and revised products and services, at www.cambridgeinternational.org/syllabusupdates

Professional development

Find the next step on your professional development journey:

- **Introduction courses** – An introduction to Cambridge programmes and qualifications. For teachers who are new to Cambridge programmes or new to a specific syllabus.
- **Focus on Teaching courses** – These are for teachers who want to explore a specific area of teaching and learning within a syllabus or programme.
- **Focus on Assessment courses** – These are for teachers who want to understand the assessment of a syllabus in greater depth.
- **Marking workshops** – These workshops help you become more familiar with what examiners are looking for, and provide an opportunity to raise questions and share your experiences of the syllabus.
- **Enrichment Professional Development** – Transform your approach to teaching with our Enrichment workshops. Each workshop focuses on a specific area of teaching and learning practice.
- **Cambridge Professional Development Qualifications (PDQs)** – Practice-based programmes that transform professional learning for practicing teachers. Available at Certificate and Diploma level.

For more information visit www.cambridgeinternational.org/support-for-teachers

Supporting exams officers

We provide comprehensive support and guidance for all Cambridge exams officers. Find out more at: www.cambridgeinternational.org/eoguide



2 Syllabus overview

Aims

The aims describe the purposes of a course based on this syllabus.

The aims are to enable students to develop:

- their understanding of geographical concepts and processes and use this to interpret and understand our changing world
- a sense of place and space, and understand the importance of scale in geography
- an understanding of the dynamic and complex interactions and interdependence between physical environments and human environments at various scales
- the ability to interpret and evaluate different sources and types of information
- a logical approach to extended writing in order to present a structured, coherent and evidence-based argument
- into informed and responsible global citizens who recognise the challenges of the changing world and who can evaluate ideas about sustainability
- an awareness of how the study of geography can help understand and solve contemporary environmental, social and economic problems.



We are an education organisation and politically neutral. The contents of this syllabus, examination papers and associated materials do not endorse any political view. We endeavour to treat all aspects of the exam process neutrally.

Content overview

For Cambridge International AS Level Geography, candidates study **all** the following topics:

Paper 1 – Physical Geography

- Hydrology, river processes and hazards
- Atmospheric processes and global climate change
- Earth processes and mass movements.

Paper 2 – Human Geography

- Population and migration
- Water resources and management
- Urban areas and management.

For Cambridge International A Level Geography, candidates study all the AS Level content and **four** A Level topics, a choice of two topics for Paper 3 and two topics for Paper 4.

Paper 3 – Global Environments

two topics from:

- Tropical environments
- Coastal environments
- Hazardous environments
- Arid environments.

Paper 4 – Global Themes

two topics from:

- Climate change impacts and governance
- Environmental issues and management
- Trade, aid and tourism
- Disease and geography.

School feedback: ‘Cambridge International AS & A Levels prepare students well for university because they’ve learnt to go into a subject in considerable depth. There’s that ability to really understand the depth and richness and the detail of a subject. It’s a wonderful preparation for what they are going to face at university.’

Feedback from: US Higher Education Advisory Council

Assessment overview

AS Level candidates take two compulsory papers, Papers 1 and 2. A Level candidates take four compulsory papers, Papers 1, 2, 3 and 4.

All AS Level candidates take:

Paper 1

Physical Geography 1 hour 30 minutes
60 marks

Section A: 45 marks

Structured questions based on:

Hydrology, river processes and hazards

Atmospheric processes and global climate change

Earth processes and mass movements.

Section B: 15 marks

One essay question from a choice of three, one on each topic.

Externally assessed

50% of the AS Level

25% of the A Level

And:

Paper 2

Human Geography 1 hour 30 minutes
60 marks

Section A: 45 marks

Structured questions based on:

Population and migration

Water resources and management

Urban areas and management.

Section B: 15 marks

One essay question from a choice of three, one on each topic.

Externally assessed

50% of the AS Level

25% of the A Level

A Level candidates also take:

Paper 3

Global Environments 1 hour 30 minutes
60 marks

Candidates choose two topics from a choice of four.

Each topic consists of one compulsory structured question – 10 marks.

And a choice of one of two essay questions – 20 marks.

Externally assessed

25% of the A Level

And:

Paper 4

Global Themes 1 hour 30 minutes
60 marks

Candidates choose two topics from a choice of four.

Each topic consists of one compulsory structured question – 10 marks.

And a choice of one of two essay questions – 20 marks.

Externally assessed

25% of the A Level

Information on availability is in the **Before you start** section.

There are two or more routes for Cambridge International AS & A Level Geography:

Route	Paper 1	Paper 2	Paper 3	Paper 4
1 AS Level only (Candidates take all AS components in the same exam series)	yes	yes	no	no
2 A Level (staged over two years) Year 1 AS Level*	yes	yes	no	no
Year 2 Complete the A Level			yes	yes
3 A Level (Candidates take all components in the same exam series)	yes	yes	yes	yes

* Candidates carry forward their AS Level marks subject to the rules and time limits described in the *Cambridge Handbook*. See **Making entries** for more information about carrying forward marks.

Candidates following an AS Level route are eligible for grades a–e. Candidates following an A Level route are eligible for grades A*–E.

Assessment objectives

The assessment objectives (AOs) are:

AO1 Knowledge and understanding

Candidates should be able to demonstrate knowledge and understanding of:

- geographical terms, concepts and systems
- geographical principles, theories and models
- the location and character of environments and places
- the physical and human factors and processes which contribute to different environments, systems, spatial patterns and interactions
- the similarities and differences between environments, people and places
- the causes and consequences of change in physical and human environments
- the importance of spatial scale and time scale in the study of geography.

AO2 Skills and analysis

Candidates should be able to:

- analyse and interpret geographical information (data, written and visual resource material) presented in different forms and recognise their limitations
- use quantitative and qualitative data to identify characteristics, patterns, trends and relationships
- use diagrams, sketches and sketch maps to communicate geographical information
- apply geographical knowledge and understanding to unfamiliar contexts
- use geographical information to reach conclusions supported with evidence.

AO3 Evaluation

Candidates should be able to:

- evaluate the importance of geographical factors, processes and change on different environments
- evaluate the impact of different values and attitudes of different groups of people in the management of physical and human environments
- evaluate the different options available to decision makers
- evaluate the relative success or failure of initiatives and management strategies
- evaluate the strengths and weaknesses of geographical principles, theories and models
- present logical, structured, coherent and evidence-based arguments.

Weighting for assessment objectives

The approximate weightings allocated to each of the assessment objectives (AOs) are summarised below.

Assessment objectives as a percentage of the qualification

Assessment objective	Weighting in AS Level %	Weighting in A Level %
AO1 Knowledge and understanding	53	50
AO2 Skills and analysis	35	24
AO3 Evaluation	12	26
Total	100	100

Assessment objectives as a percentage of each component

Assessment objective	Weighting in components %			
	Paper 1	Paper 2	Paper 3	Paper 4
AO1 Knowledge and understanding	53	53	47	47
AO2 Skills and analysis	35	35	13	13
AO3 Evaluation	12	12	40	40
Total	100	100	100	100

3 Subject content

This syllabus gives you the flexibility to design a course that will interest, challenge and engage your learners. Where appropriate you are responsible for selecting resources and examples, topics and subject contexts to support your learners' study. These should be appropriate for the learners' age, cultural background and learning context as well as complying with your school policies and local legal requirements.

Every Cambridge school has the opportunity to deliver climate education, that shapes knowledge, understanding and skills, and gives learners the confidence to thrive and make a positive impact in our changing world. This Cambridge AS & A Level Geography syllabus has been designed to help schools do this.

Candidates for Cambridge International AS Level Geography must study **all** the topics in the AS Level content for Papers 1 and 2.

Candidates for Cambridge International A Level Geography must study **all** the AS Level content and four A Level topics. Candidates have a choice of topics in Paper 3 and Paper 4.

Examples and detailed specific examples

In all papers candidates are expected to support their answers with examples. Where appropriate, candidates should be able to make reference to examples, drawn from a range of countries, that are different in location, environment, climate or human factors. 'Examples' have a broad interpretation across the four exam papers. They could be located examples but in some cases the location may be less important, such as an example of a hard engineering method, a landform, an economic factor or a type of pollution. The purpose is for candidates to develop their response by supporting points being made using real-world examples.

Some subject content also asks for 'detailed specific examples'. Detailed specific examples are real-world examples which are specific to a time, place and context and are studied in detail. In geography these are sometimes called 'case studies'. Depending on what is required in the detailed specific examples, they should be at an appropriate scale and in enough detail to support an extended argument in response to a question.

The syllabus gives teachers the opportunity to select their own detailed specific examples to study the content. Detailed specific examples from within the lifetime of the student are likely to be the most relevant and engaging, so we recommend that detailed specific examples should be from CE 2000 to present day.

Where the syllabus specifies two examples from contrasting countries, the learner should have two distinct examples. Teachers could choose an example from their home country or region to make this course as relevant to students and their local context as possible. For AS Level Human Geography topics and A Level Global Themes topics, one way to find contrasting countries is to use the World Bank classifications of countries by income: low-income countries (LICs), middle-income countries (MICs) and high-income countries (HICs). Cambridge International Education recognises that categorising countries is not always meaningful and a country can be in different categories depending on the types of measures looked at, for example economic indicators (World Bank income group classifications above) or a composite socio-economic index such as the Human Development Index (HDI) or other measures.

Detailed specific examples should be real rather than theoretical. Where possible there should be opportunity for learners to assess the relative success or failure of initiatives and management strategies.

Detailed specific examples give excellent opportunities for introducing learners to a wide variety of resource material.

Faculty feedback: 'Understanding how and why our climate is changing and providing the knowledge and skills to explore the challenges plays a key role in every student's education.'

Feedback from: Dr Amy Munro-Faure, Head of Education and Student Engagement of Cambridge Zero

Geographical skills

Through studying the subject content, candidates are expected to use and develop the following geographical skills.

- An understanding of the nature and use of different types of geographical information, both quantitative and qualitative, and an understanding of their limitations.
- An ability to use and interpret a variety of geographical information to identify, describe and explain geographical trends and patterns.
- An ability to interpret and evaluate information and produce reasoned conclusions.
- An ability to present a logical, structured, coherent and evidence-based argument.

Teachers are expected to identify suitable opportunities to embed geographical skills and practical work throughout the course. This approach provides opportunities for developing skills in using and interpreting geographical information, as well as increasing the appeal of the course, and the enjoyment of the subject. Practical work helps students to acquire a secure understanding of the subject content and appreciate the interdependent nature of physical and human systems.

It is expected that candidates can use specified geographical information from the resources listed on page 16.

Geography fieldwork and geographical investigations

Learning about geography is enhanced by doing fieldwork and geographical investigations based in a real-world context. Wherever possible, teachers should create a fully integrated course which allows students to develop their practical skills by doing small-scale fieldwork or geographical investigations within the AS and A Level topics chosen for study.

Cambridge International Education acknowledges that fieldwork may not always be possible. However, teachers are encouraged to provide students with practical geographical experience. This can be achieved through collecting primary data in small-scale geographical investigations or in a classroom-based geographical investigation.

Geography fieldwork and geographical investigations will **not** be assessed.

Resource skills

There are some resource-based questions in all exam papers. Resource materials come from various areas of the world in order to match the aims of an international syllabus and examination. The resources used in questions **do not** require specific place knowledge and are designed to prompt candidates to demonstrate geographical skills and apply the principles, theories and concepts they have studied.

The following list shows the types of resource materials that candidates should be confident in handling and that might be used in exam papers:

Resource type	Detail
Maps	Survey map extracts (1 : 25 000 and 1 : 50 000 scale), thematic maps, distribution maps (flow line, isoline, desire line, dot, proportional symbols and choropleth) and sketch maps.
Photographs	Colour photographs, black and white photographs, aerial photographs, terrestrial photographs and satellite images.
Graphs and diagrams	Bar graphs, divided bar graphs, line graphs, scatter graphs (including line of best fit), log-log and log-normal graphs, pie charts, proportional symbols, dispersion graphs, triangular graphs, climate graphs, age/sex structure diagrams, 2D and 3D diagrams, flow diagrams, cartoons and diagrams with and without annotation.
Written	Extracts from newspapers, articles and advertisements.
Numeric	Data tables.

Cambridge International Education also encourages the use of technology and Geographic Information Systems (GIS) in the classroom. These types of resources are **not** used in exam papers.

As an international AS and A Level, the units used in resources and examinations will be metres (m) and kilometres (km) for height and distance, grams (g) and kilograms (kg) for mass (weight), millilitres (ml) and litres (l) for volumes, degrees Celsius (°C) for temperature and US dollars (\$) for economic data. In some cases, we might use other units in resources where appropriate for example cubic metres per second (cumecs).

AS Level content

Candidates study **all** six topics.

The order of topics in the syllabus is not a recommended teaching order. Topics can be taught in any order.

Through studying these topics, candidates are expected to have developed and be able to show the following skills:

- An understanding of the nature and use of different types of geographical information, both quantitative and qualitative, and an understanding of their limitations.
- An ability to use and interpret a variety of geographical information to identify, describe and explain geographical trends and patterns.
- An ability to interpret and evaluate information and produce reasoned conclusions.
- An ability to present a logical, structured, coherent and evidence-based argument.

Teachers are expected to integrate the teaching of geographical skills through their delivery of the subject content. Some resource types will be relevant to several topics, other resource types will be particularly relevant to one topic.

Definitions will **not** be assessed.

Paper 1 – Physical Geography

Candidates must study the following **three** topics. See section 4 for Details of the Assessment for Paper 1. For further information on the use of examples and detailed specific examples see page 14.

These topics develop an understanding of the Earth's major systems: water, atmospheric and earth. They develop understanding from IGCSE/O Level Geography and use a systems approach to consider the physical factors and processes that influence these systems and how human activities have affected physical systems and the consequences.

Topic 1 Hydrology, river processes and hazards

1.1 The drainage basin system

1.1.1 The concept of the drainage basin as an open system

- The drainage basin has inputs, outputs, stores and transfers.
- The relationship between inputs, outputs, stores and transfers.

1.1.2 Movement of water through the drainage system

- Inputs: precipitation (rainfall, snow, hail).
- Outputs: evaporation, evapotranspiration, condensation, channel flow.
- Stores: atmosphere (clouds), vegetation (interception and through roots), surface (channel, lake), soil, bedrock (groundwater store below water table).
- Transfers: stemflow, throughfall, infiltration, overland flow/surface runoff (Hortonian and saturation-excess overland flow), throughflow, percolation, groundwater flow/baseflow, water table.

1.1.3 Drainage basin characteristics influencing the movement of water

- Size and shape of drainage basin (catchment), drainage density, porosity and permeability of soils (clay, silt, sand), rock types (granite, limestone, chalk, sandstone, clay), vegetation type, land use.
- Climate: precipitation type, duration and intensity, temperature, evapotranspiration, antecedent moisture.

1.1.4 Discharge relationships and hydrographs

- Annual hydrographs:
 - reading and interpreting variations in discharge through the year using hydrographs.
 - factors influencing variations in discharge through the year: climate (precipitation type, duration and intensity, temperature, evapotranspiration, antecedent moisture), vegetation type, land use.
- Storm hydrographs:
 - components of storm hydrographs: rising/falling limbs, peaks, lags, amount and timing of precipitation.
 - factors influencing storm hydrographs: climate (precipitation type, duration and intensity, temperature, evapotranspiration, antecedent moisture), vegetation type, land use, drainage basin characteristics.

1.2 River channel processes and landforms

1.2.1 River channel processes

- Erosion: abrasion/corrasion, solution, cavitation, hydraulic action.
- Load transport: traction, saltation, suspension, solution.
- Deposition and sedimentation.
- Relationship between velocity, discharge and load size.

1.2.2 River flow

- Velocity and discharge, patterns of flow (laminar, turbulent, helicoidal), thalweg.

1.2.3 Formation of river landforms by erosion and deposition processes

- Meanders (river cliffs, point bars, oxbow lakes), riffle and pool sequences, waterfalls, gorges, bluffs, floodplains, levées.

1.3 River flood hazards and impacts

1.3.1 Causes of river floods

- Physical factors that affect river discharge and cause flooding: duration and intensity of precipitation, snowmelt and ice melt, drainage basin characteristics.
- Human land-use changes that affect river discharge and cause flooding: deforestation, changing agricultural systems and irrigation, urbanisation.

1.3.2 Impacts of river floods

- Impacts on people and the environment: short-term impacts and long-term impacts.
- Physical factors and human factors of vulnerability to river flood hazards and impacts: scale and duration of flood event, population density, infrastructure, economic development.

1.3.3 Management of river floods

- Prediction of flood risk: recurrence intervals, hazard mapping.
- Forecasts (discharge measurements at gauging stations, rainfall, snowmelt and ice melt) and warnings.
- Effectiveness of hard engineering management strategies: dams, river straightening, artificial levées, diversion spillways.
- Effectiveness of soft engineering management strategies: floodplain and drainage basin management, including afforestation and wetland and riverbank conservation.
- Emergency responses and recovery.
- Detailed specific example of **one** recent river flood: prediction and forecasting, causes, impacts on people and the environment and an evaluation of the success of strategies used to manage floods in this drainage basin.

Topic 2 Atmospheric processes and global climate change

Note: Candidates should have an outline understanding of the vertical structure and composition of the atmosphere.

2.1 Energy budgets

2.1.1 Energy budget systems

- Inputs and outputs: incoming (shortwave) solar radiation, outgoing (longwave) terrestrial radiation, absorption, reflection (albedo), scattering, conduction, back radiation.
- Transfers: latent heat transfer and sensible heat transfer.

2.1.2 The global energy budget

- Latitudinal pattern of radiation: excesses and deficits.
- Natural greenhouse effect.

2.1.3 Global transfers of energy

- Atmospheric transfers: tri-cellular model of atmospheric transfer (Polar, Ferrel and Hadley cells, intertropical convergence zone (ITCZ)), wind belts, jet streams.
- Oceanic transfers: vertical and horizontal transfers by ocean currents and ocean gyres.
- Relationships between atmospheric transfers and oceanic transfers.

2.1.4 Seasonal variations in temperature, pressure and wind belts

- Influence of latitude, land/sea distribution, ocean currents.

2.1.5 Diurnal energy budgets

- Differences between daytime and nighttime.

2.2 Weather processes and phenomena

2.2.1 Atmospheric moisture processes

- Evaporation, condensation, freezing, melting, sublimation.

2.2.2 Causes of precipitation

- Convection, frontal and orographic uplift of air, radiation cooling.

2.2.3 Types of precipitation

- Clouds, rain, hail, snow, dew, fog.

2.3 Global warming and climate change

Note: Candidates should have an outline understanding of climate change over the last 100 million years.

Candidates should understand that atmospheric processes are complex and there are many interdependencies which make it difficult to fully understand the impacts of both physical and human (anthropogenic) factors.

2.3.1 Evidence for global warming and climate change

- Proxy evidence for past climatic conditions: ice cores, tree rings, fossils.
- Evidence of recent atmospheric and sea temperature increases:
 - recorded temperatures since 1850.
 - the link between temperature records (pre- and post-1850) and carbon dioxide emissions.
- Other evidence of global warming: sea-level rise, sea ice reduction, ice sheet and glacial shrinkage.

2.3.2 Causes of global warming and climate change

- Greenhouse gases (GHG) (carbon dioxide, methane, nitrous oxide, F-gases):
 - Global Warming Potential (GWP).
 - longevity in the atmosphere.
 - relative concentration in the atmosphere.
 - carbon dioxide equivalence (CO₂ equivalence).
- Physical factors that affect global energy budgets:
 - longer-term impacts: solar output.
 - shorter-term impacts: volcanic eruptions.
 - other impacts: El Niño Southern Oscillation (ENSO).
- Human (anthropogenic) factors that affect global energy budgets:
 - activities causing greenhouse gas emissions.
 - activities causing changes to greenhouse gas absorption and storage.
 - impacts on reflection (albedo).
- Significance of the impact of the enhanced greenhouse effect on global energy budgets.

Topic 3 Earth processes and mass movements

Note: Candidates should have an outline understanding of the structure of the Earth (core, mantle, crust, lithosphere, asthenosphere).

3.1 Plate tectonics

3.1.1 Tectonic plates

- Continental plates and oceanic plates: density, age, thickness and composition.
- Relative directions and rates of plate movement.

3.1.2 Tectonic movement

- Continental drift theory and the ‘jigsaw’ fit of continents.
- Geological and fossil records.
- Evidence for sea floor spreading: Earth’s magnetic field recorded in rocks (palaeomagnetism), the age of sea floor rocks.
- Convection currents, slab pull, ridge push.

3.1.3 Global distribution of types of plate boundaries

- Divergent/constructive.
- Convergent/destructive.
- Convergent/collision.
- Conservative/transform.

3.2 Tectonic processes and landforms

3.2.1 Tectonic processes

- Faulting and rifting at divergent/constructive boundaries.
- Sea floor spreading at divergent/constructive boundaries.
- Subduction at convergent/destructive boundaries.
- Shearing and thrusting at convergent/collision boundaries.
- Faulting at conservative/transform boundaries.

3.2.2 Formation of landforms by tectonic processes:

- Fold mountains, volcanoes, mid-ocean ridges, ocean trenches, volcanic island arcs, fault scarps, rift valleys.

3.3 Mass movement hazards and impacts

3.3.1 Types of mass movement

- Heaves.
- Flows (mudflow, debris flow).
- Slides (landslides, rotational slides/slumps).
- Falls (rock).

3.3.2 Physical causes and human causes of mass movement

- Physical causes: geology, shape of the land (topography), precipitation intensity and amounts, potential impact of climate change.
- Human causes: building and road construction, land-use change, water management.

3.3.3 Management of mass movement hazards

- Prediction and risk identification of mass movements (hazard mapping and monitoring).
- Impacts on people and the environment.
- Management strategies to improve slope stability:
 - pinning, netting.
 - slope grading, slope drainage.
 - afforestation.
 - planning restrictions on building and development.
- Emergency responses and recovery.
- Detailed specific example of **one** recent mass movement event: prediction, causes, impacts on people and the environment and an evaluation of the success of strategies used to manage mass movement events in conditions similar to the event studied.

Paper 2 – Human Geography

Candidates must study the following **three** topics. See section 4 for Details of the Assessment for Paper 2. For further information on the use of examples and detailed specific examples see page 14.

These topics develop an understanding of different aspects of human environments. They develop understanding from IGCSE/O Level Geography and consider the various factors (physical, environmental, social, economic, political, historical) influencing these human environments, current and future challenges and opportunities for these human environments.

Topic 4 Population and migration

4.1 Global population

4.1.1 Population distribution and population density

- Current patterns of global population distribution.
- Factors (physical, environmental, social, economic, political, historical) influencing population density.

4.1.2 Trends in global population growth and regional variations

- Factors (physical, environmental, social, economic, political, historical) affecting global population growth.
- Current trends in global population growth.
- Factors (physical, environmental, social, economic, political, historical) influencing regional variations in population growth.

4.1.3 Components of population change and their spatial variations

- Natural increase and net migration: birth rate and death rate, total fertility rate (TFR), infant mortality rate (IMR), life expectancy.
- Factors (social, economic, environmental, political) affecting levels of fertility and mortality.

4.2 Population structure

4.2.1 Population structures

- Components of population structure (age, gender, dependency, dependency ratio).
- Interpretation of different age/sex structure diagrams.

4.2.2 Changes in population structures over time

- Factors influencing population structure: natural increase and net migration.
- Critical evaluation of the demographic transition model (DTM): purpose, limitations, usefulness when applied to a range of countries.
- Youthful population structures and ageing population structures: environmental, social, economic, political impacts.

4.2.3 Government attempts to manage natural increase

- Reasons why governments attempt to manage the consequences of natural increase.
- Examples of population policies in **two** contrasting countries.
- Relative success of **one** country's attempt to manage natural increase.

4.3 Migration

4.3.1 International migration types

- Voluntary: economic, social.
- Non-voluntary (forced): asylum seekers and refugees.
- Temporary and permanent.

4.3.2 Causes of migration

- Push and pull factors: environmental, economic, cultural, demographic, political.
- Constraints (obstacles and barriers) to migration: physical, environmental, social, economic, political.

4.3.3 Impacts of migration

- Positive and negative impacts (environmental, social, economic, political, demographic) on:
 - source areas.
 - receiving/destination areas.
 - migrants.
- Factors influencing level of impact:
 - source area characteristics: population structure, income classification of country, level of education and skill of population.
 - migrant characteristics: age, ability to finance travel, level of education and skill.
 - migration flow: number of migrants, type of migration flow.
 - receiving/destination area characteristics: population structure, income classification of country, level of education and skill of population.
- Detailed specific example of the impacts of international migration on **one** country: the causes, characteristics, scale, pattern and an evaluation of attempts at managing international migration.

Topic 5 Water resources and management

Note: Candidates should have an understanding of the concept of the drainage basin as an open system with inputs, outputs, stores and transfers from Topic 1 'Hydrology, river processes and hazards'.

5.1 Global water resources

5.1.1 Patterns of water resources, spatial variation and changes over time

- Types of water resources: rivers, lakes and reservoirs, oceans, underground water, ice sheets, precipitation, recycled.
- Global pattern of water resources.

5.1.2 The human water cycle

- Capture, management, use, disposal, reuse of water.
- Modification to the water cycle: agriculture, deforestation and afforestation, urbanisation, industrialisation, water abstraction, flood management.

5.1.3 Trends in water consumption

- Water stress and water scarcity (physical and economic).
- Water consumption linked to economic development.
- Changing demands for water from human activities: agriculture, domestic use, different industrial sectors.

5.2 Factors influencing water resources at the regional/national scale

5.2.1 Factors that influence the supply of water (volume and quality)

- Physical factors affecting water resources: climate, geology, drainage patterns, relief.
- Human factors affecting water resources: storage and water transfers, water abstraction, salt removal (desalination), water treatment and recycling, type of infrastructure.

5.2.2 Factors that influence the demand for water

- Population characteristics: number and income characteristics.
- Economic structure: type of manufacturing industry, agriculture, recreation and tourism.
- Seasonal demand.

5.2.3 Water security

- The concept of water security.
- Global pattern of water security and water insecurity.
- Physical factors and human factors that contribute to water insecurity.
- Water access issues: poverty, pollution, infrastructure.
- Impact of water insecurity and drought on people and the environment.

5.3 Management of water resources at the regional/national scale

5.3.1 Strategies to increase water resources and access to water

- Relative success of strategies: dams and reservoirs, multipurpose river schemes, water transfers, salt removal (desalination), rainwater harvesting, use of grey water, technological solutions for areas without piped and clean water supplies.

5.3.2 Strategies to manage demand for water

- Relative success of strategies: increasing the price, rationing, technology to reduce amount needed, publicity/education on water conservation.

5.3.3 Management of water resources

- Variability in water resources (volume and quality) and impacts: environmental, social, economic, political.
- Challenges of managing water resources: rates of abstraction, saltwater intrusion, water conflicts, transboundary issues, water pollution, ground subsidence.
- Detailed specific example from **one** country: the challenges in managing water resources, the strategies used and evaluation of the relative success of these strategies.

Topic 6 Urban areas and management

6.1 Urban growth

6.1.1 Processes of urban growth

- Growth in population and area: globally and at city level.
- Cities experiencing different types of urban growth: urbanisation, suburbanisation, urban sprawl, counter-urbanisation, re-urbanisation, urban renewal and regeneration.

6.1.2 Causes and consequences of urban growth for urban areas and rural areas

- Causes of urban growth: social, economic, political, historical.
- Consequences of urban growth for urban areas and rural areas (environmental, social, economic, political).

6.1.3 Urban growth and a hierarchy of urban areas

- The concept of a hierarchy of urban areas in a country.
- Primate cities: causes and consequences for countries.
- World cities: categories and causes.

6.2 Urban structure and change

6.2.1 Factors which influence the structure and characteristics of urban areas

- Horizontal versus vertical urban structures and urban land-use zones.
- The role of factors (physical, social, economic, political, historical) in creating distinct structures and patterns of land use.
- The concept of place identity and perception of place.

6.2.2 The changing location of urban activities

- Factors (population change, cost of land, transport provision, competition for space, investment, local and national planning) causing changes in the characteristics and location of: central business district (CBD), retail, manufacturing, services, residential activities.
- Rate of change may vary in different cities depending on the location, economic classification and influences on change.

6.2.3 Zonation of residential areas

- Characteristics of different residential areas.
- Causes of residential zonation: income, supply of housing, ethnicity, planning, cultural and historical factors.

6.3 Sustainable urban development

6.3.1 Challenges of sustainability in urban development

- The concept of sustainability.
- Difficulties in measuring sustainability.
- Balance between environmental, social, economic and political priorities and the view of different groups of people (residents, landowners, local business owners, community groups, local and national government).

6.3.2 Sustainability issues in urban areas

- Solid waste disposal, transport (public and private) and quality and density of housing.
- Role of green space and water features.

6.3.3 Strategies for the sustainable management of urban areas

- Strategies for reducing the issues of solid waste disposal, pollution, transport and housing.
- Constraints on and incentives to successful management of urban areas.
- Detailed specific example from **one** urban area: the challenges in sustainable management, the strategy or scheme used, and evaluation of the relative success of the strategy or scheme.

A Level content

Candidates study **four** topics.

The order of topics in the syllabus is not a recommended teaching order. Topics can be taught in any order.

Through studying these topics, candidates will further develop the skills acquired in studying the AS Level topics.

Candidates will be expected to be able to show the following skills:

- An ability to use and apply their knowledge and understanding to construct their own explanations and arguments.
- An ability to understand the role of place and interdependence in creating different outcomes, different viewpoints and to make evaluations regarding the relative success or failure of initiatives.
- An ability to interpret and evaluate information and produce reasoned conclusions.
- An ability to present a logical, structured, coherent and evidence-based argument.

These skills provide a solid foundation for progression to university.

Teachers are expected to integrate the teaching of geographical skills through their delivery of the subject content. Some resource types will be relevant to several topics, other resource types will be particularly relevant to one topic.

Definitions will **not** be assessed.

Paper 3 – Global Environments

In Paper 3, candidates choose **two** topics from:

- Topic 7 Tropical environments
- Topic 8 Coastal environments
- Topic 9 Hazardous environments
- Topic 10 Arid environments

See section 4 for Details of the Assessment for Paper 3. For further information on the use of examples and detailed specific examples see page 14.

These topics develop an understanding of different global environments. These topics build on the foundational understanding from the AS Level topics to consider the physical factors and processes that produce the diverse features of these global environments. Each topic also considers the interdependence of physical systems and the dynamic interaction between people and the environment, how human activities impact these global environments and the consequences of these impacts.

Topic 7 Tropical environments

7.1 Tropical climates

- 7.1.1 Global distribution of humid tropical (rainforest) and seasonally humid tropical (savanna) environments
- 7.1.2 Climatic characteristics of humid tropical (rainforest) and seasonally humid tropical (savanna) environments including monsoons
- Key features of temperature and precipitation.
 - Annual variations and diurnal variations in temperature and precipitation.
- 7.1.3 Reasons for the global distribution and climatic characteristics of humid tropical (rainforest) and seasonally humid tropical (savanna) environments
- Roles of the intertropical convergence zone (ITCZ), subtropical anticyclones, and seasonal monsoons.
 - Influence of El Niño Southern Oscillation (ENSO).

7.2 Processes and landforms in tropical environments

- 7.2.1 Weathering processes and their significance in forming and shaping landforms
- Chemical weathering processes: hydrolysis, carbonation.
 - Physical (mechanical) weathering processes: pressure release (dilatation), salt crystal growth.
 - Biological weathering: chelation, vegetation root growth.
- 7.2.2 Granite landforms: bornhardts (dwala, ruware), kopjes (koppies), tors
- Characteristics and formation: the role of weathering, climate, rock structure.
- 7.2.3 Limestone landforms: tropical karst – cone karst, tower karst, cockpit karst
- Distribution, characteristics and formation: the role of weathering, climate, rock structure.

7.3 Vegetation, soils and ecosystems in tropical environments

7.3.1 Vegetation characteristics of rainforest ecosystems and savanna ecosystems

- Development of plant communities: climatic climax, subclimax and plagioclimax.
- Impact of climate and human activities.

7.3.2 Soils in rainforests and savannas

- Distinctive soil forming processes.
- Soil types and profile characteristics: oxisols/latosols, tropical red and brown earths.
- Impact of climate, vegetation and human activities.

7.3.3 Nutrient cycling in rainforests and savannas

- Gersmehl diagrams, soil fertility, energy flows and trophic levels.
- Impact of climate, vegetation and human activities (burning, clearing and deforestation).

7.4 Changes and challenges in tropical environments

7.4.1 Changes and challenges and their impacts on tropical environments:

- Increase in population pressure and changes in land use.
- Threats from exploitation: large-scale monoculture, logging, mining.
- Challenges associated with climate change: changes in temperature and precipitation, increase in wildfires.

7.4.2 Detailed specific example of **one** tropical ecosystem (**either** the rainforest ecosystem **or** the savanna ecosystem):

- Issues affecting the ecosystem.
- Management strategies.
- Evaluation of the success of these management strategies.

Topic 8 Coastal environments

8.1 Coastal processes

8.1.1 Factors influencing coastal environments

- Wave generation and wave characteristics:
 - fetch, high and low energy waves, wave refraction, breaking waves, swash and backwash.
- Rock type and structure.
- Climate.
- Human activities.

8.1.2 Marine erosion processes

- Hydraulic action, cavitation, corrasion, abrasion, attrition.

8.1.3 Sub-aerial processes

- Weathering:
 - physical (mechanical) weathering: freeze–thaw, salt crystal growth.
 - chemical weathering: carbonation, solution, hydrolysis.
- Mass movement: rockfalls, landslides, mudflows.

8.1.4 Marine transportation and marine deposition processes

- Traction, saltation, suspension, longshore drift.
- Sediment sources, sediment characteristics and sediment cells.

8.2 Characteristics and formation of coastal landforms

8.2.1 The role and significance of coastal processes in forming and shaping characteristic landforms.

8.2.2 Erosional landforms

- Cliffs (cross-section and plan), shore platforms, caves, geos, arches, stacks.
- Concordant and discordant coastlines.

8.2.3 Depositional landforms

- Beaches (cross-section and plan).
- Swash-aligned and drift-aligned beaches.
- Spits.
- Tombolos.
- Barrier beaches.

8.2.4 Formation and development of landforms influenced by coastal processes and vegetation types

- Coastal sand dune systems.
- Coastal saltmarsh systems.
- Mangrove swamps.

8.3 Coral reefs

Note: Candidates should have a basic understanding of what coral is, its slow rate of growth and the importance of coral reefs for marine ecology and human communities.

8.3.1 Distribution of coral reefs and conditions required for coral growth

- Temperature, water depth, light and lack of sediment, water oxygenation, salinity.
- How these factors affect coral growth.
- Symbiotic relationship with algae (zooxanthellae).

8.3.2 Threats to coral reefs

- Global warming: marine temperature rise, marine acidification, increased storm activity, changes in salinity, sea-level rise.
- Pollution: marine and land based.
- Physical damage to reef structure: caused by coastal processes and storms, human activities.
- Management strategies to reduce threats to coral reefs and evaluation of the success in reducing threats to coral reefs.

8.4 Physical and human challenges to the coastal environment

8.4.1 Detailed specific example of a stretch or stretches of coastline:

- Issues faced in the stretch or stretches of coastline.
- Management strategies (including hard engineering and soft engineering).
- Evaluation of the success of these management strategies.

Topic 9 Hazardous environments

9.1 Earthquake and volcanic hazards and impacts

Note: Topic 3 'Earth processes and mass movements' provides a foundation for this sub-topic in terms of tectonic processes and plate boundary types.

9.1.1 Global distribution of earthquakes and volcanoes and related tectonic processes and plate boundaries

9.1.2 Earthquake hazards and impacts

- Factors affecting severity of earthquakes:
 - focus and epicentre.
 - types of seismic waves: P-waves and S-waves, Love waves and Rayleigh waves.
 - magnitude and magnitude scales: Richter, Modified Mercalli and Moment Magnitude.
- Main hazards: ground-shaking, liquefaction, landslides, tsunamis, aftershocks.
- Physical factors and human factors of vulnerability to earthquake hazards and impacts: significance of time of day, distance from epicentre, population density, infrastructure, economic development.
- Impacts on people and the environment: short-term impacts and long-term impacts.

9.1.3 Volcanic hazards and impacts

- Processes involved in volcano formation.
- Types of volcano: strato-volcano (composite cone), shield volcano, cinder cone, lava dome, fissure eruptions.
- Explosive and effusive eruptions and their main hazards: lava flows, tephra and ash falls, volcanic mudflows/lahars, volcanic landslides, pyroclastic flows (nuées ardentes), jökulhlaups, toxic gases.
- Volcanic explosivity index (VEI).
- Physical factors and human factors of vulnerability to volcanic hazards and impacts: speed, size, frequency, extent of the eruption, population density, infrastructure, economic development.
- Impacts on people and the environment: short-term impacts and long-term impacts.

9.1.4 Management of earthquake and volcanic hazards

- Prediction techniques and their reliability, precursor events (warning signs) and warning times.
- The concept of perception of risk.
- Effectiveness of management strategies:
 - environmental and infrastructure design or modification.
 - planning, education and awareness.
- Short-term emergency responses and long-term recovery.

9.2 Tropical cyclone hazards and impacts

Note: Topic 2 'Atmospheric processes and global climate change' provides a foundation for this sub-topic in terms of energy budgets and weather processes and phenomena. There are also links to Topic 1 'Hydrology, river processes and hazards' for hazards of river floods and Topic 3 'Earth processes and mass movements' for mass movement hazards and impacts.

9.2.1 Global distribution of tropical cyclones (cyclones, hurricanes, typhoons)

- Conditions required for tropical cyclones: sea temperature, seasonality, Coriolis effect, local atmospheric conditions.
- Formation and development of tropical cyclones.
- Saffir-Simpson (hurricane) scale of tropical cyclone strength.

9.2.2 Tropical cyclone hazards and impacts

- Main hazards: high winds, storm surges, coastal flooding causing saltwater intrusion, intense rainfall causing river floods and mass movements.
- Physical factors and human factors of vulnerability to tropical cyclone hazards and impacts: strength and extent of tropical cyclone, location of landfall, population density, infrastructure, economic development.
- Impacts on people and the environment: short-term impacts and long-term impacts.
- Potential impacts of climate change on the magnitude and frequency of tropical cyclones.

9.2.3 Management of tropical cyclone hazards

- Prediction techniques and their reliability, precursor events (warning signs), monitoring and warning times.
- The concept of perception of risk.
- Effectiveness of management strategies:
 - environmental and infrastructure design or modification.
 - planning, education and awareness.
- Short-term emergency responses and long-term recovery.

9.3 Wildfire hazards and impacts

9.3.1 Global distribution of areas at risk of wildfires

- Conditions influencing wildfire risk: fuel (vegetation type, flammability and density), climatic factors, recent weather conditions.
- Physical causes: desiccation of vegetation, lightning strikes, sparks from falling rocks.
- Human causes:
 - accidental occurrence: unattended fires, equipment use/malfunction, rubbish (lenses/glass, discarded cigarettes).
 - deliberate actions: arson.

9.3.2 Wildfire hazards and impacts

- Wildfire characteristics, speed and extent of wildfire spread, the influence of the shape of the land (topography) and wind.
- Physical factors and human factors of vulnerability to wildfire hazards and impacts: speed and extent of spread, land use, population density and spread, infrastructure, economic development.
- Impacts on people and the environment: short-term impacts and long-term impacts.
- Potential impacts of climate change on the location, extent and frequency of wildfires.

9.3.3 Management of wildfire hazards

- Prediction techniques and their reliability, monitoring and warning times.
- The concept of perception of risk.
- Effectiveness of management strategies:
 - environmental and infrastructure design or modification.
 - planning, education and awareness.
- Short-term emergency responses and long-term recovery.

9.4 Challenges in multi-hazard environments

9.4.1 Detailed specific example of **one** environment which has **multiple hazards** (two or more of the following hazards: earthquake, volcanic, tropical cyclones, wildfires):

- Causes and impacts of the hazards.
- Management strategies.
- Evaluation of the success of these management strategies.

Topic 10 Arid environments

10.1 Arid climates

10.1.1 Global distribution of hot arid and hot semi-arid environments

10.1.2 Climatic characteristics of hot arid and hot semi-arid environments

- High-wind energy environments.
- Diurnal variations and seasonal variations in temperature and precipitation.

10.1.3 Causes of aridity

- Pressure and wind systems.
- Distance from the sea (continentality).
- Influence of ocean currents.
- Rain shadow effect.

10.2 Processes and landforms in arid environments

10.2.1 Weathering processes and their significance in forming and shaping landforms

- Physical (mechanical) weathering processes: heating/cooling (thermal fracture and exfoliation), freeze–thaw (frost shattering), salt crystal growth.
- Chemical weathering processes: hydrolysis, carbonation.

10.2.2 Wind (aeolian) processes and their significance in forming and shaping landforms

- Erosion: abrasion/corrasion, deflation.
- Transportation: traction, saltation, suspension.
- Deposition.

10.2.3 Water (fluvial) processes and their significance in forming and shaping landforms

- Erosion, transportation and deposition.
- Hydrological regime, episodic rainfall, sheet floods and flash floods.

10.2.4 Characteristics, formation and shaping of landforms:

- Wind erosional landforms: deflation hollows, ventifacts, rock pedestals, yardang, zeugen.
- Wind depositional landforms: sand dunes – seif, star, barchan.
- Water erosional landforms: wadis/arroyos, pediments, mesas, buttes, inselbergs.
- Water depositional landforms: alluvial fans, bajadas, playas, salt lakes.

10.3 Vegetation and soils in arid environments

10.3.1 Vegetation characteristics in hot arid and hot semi-arid environments

- Biomass productivity: limited biodiversity, limited nutrient cycling.
- Adaptation of plants to extreme temperatures.
- Adaptation of plants to physical and physiological drought.
- Impact of climate and human activities.

10.3.2 Soils in hot arid and hot semi-arid environments

- Distinctive soil forming processes.
- Characteristics of arid soils: solonetz, solonchaks.
- Impact of climate, vegetation and human activities.

10.4 Changes and challenges in arid environments

10.4.1 Changes and challenges and their impacts on arid environments:

- Increase in population pressure and changes in land use.
- Desertification (both physical factors and human factors) causing the degradation of soils (salinisation) and vegetation in hot semi-arid environments.
- Challenges associated with climate change: changes in temperature and precipitation, threats to agriculture.

10.4.2 Detailed specific example of **one** arid environment (**either** a hot arid **or** a hot semi-arid environment):

- Issues affecting the arid environment.
- Management strategies.
- Evaluation of the success of these management strategies.

Paper 4 – Global Themes

In Paper 4, candidates choose **two** topics from:

- Topic 11 Climate change impacts and governance
- Topic 12 Environmental issues and management
- Topic 13 Trade, aid and tourism
- Topic 14 Disease and geography

See section 4 for Details of the Assessment for Paper 4. For further information on the use of examples and detailed specific examples see page 14.

These topics develop an understanding of the diverse and dynamic factors influencing global themes. These topics build on the foundational understanding from the AS Level topics to consider the various factors (physical, environmental, social, economic, political, historical) influencing these global themes, how the effects of global themes may vary between countries and an understanding of the diversity of responses to global themes.

Topic 11 Climate change impacts and governance

Note: Knowledge from Topic 2 ‘Atmospheric processes and global climate change’, sub-topic 2.3 ‘Global warming and climate change’, is assumed and foundational to an understanding of the causes, changes to the global energy budget and global impacts of projected future climate change.

Candidates should have an outline knowledge that the Intergovernmental Panel on Climate Change (IPCC) is an intergovernmental research group. The IPCC’s role is to bring together experts in many areas to gather information on climate change and produce assessment reports. Although projections and scenarios produced by the IPCC of what is likely to happen to our climate are sometimes critically debated, the IPCC aims to be objective and comprehensive. The projections are updated in a regular cycle of reporting and are thoroughly reviewed. Candidates are **not** expected to read IPCC reports or to know details of the representative concentration pathways (RCP) or shared socio-economic pathways (SSPs).

11.1 Our future global climate

11.1.1 Climate projections and the impact on the global climate

- Five categories of projected climate change: very high, high, intermediate, low and very low (with very high relating to the largest amount of global warming and very low relating to the smallest amount of global warming).
- Understanding what the five categories mean in terms of:
 - projected amount of global warming (in °C above pre-industrial average) by 2100.
 - global changes in projected greenhouse gas (GHG) (carbon dioxide, methane, nitrous oxide, F-gases) emissions: increasing emissions, maintaining emissions, emissions rising to a peak then reducing.
 - the year that greenhouse gas emissions rise to a peak, if applicable.
 - the year of net zero greenhouse gas emissions, if applicable.
 - the concept of net zero: meaning and importance.

continued

11.1 Our future global climate continued

- Understand that the different categories of projected climate change will have different impacts on global conditions including:
 - sea-level rise.
 - changes in global patterns and amount of precipitation.
 - frequency and magnitude of extreme weather events.
 - that observed changes will be smallest in the ‘very low’ projections and greatest in the ‘very high’ projections.
 - the fact that projections are up to 2100, but the changes will continue after 2100, due to the longevity of greenhouse gases in the atmosphere.

11.1.2 Climate change impacts on different environments

- Cold environments (high-latitude areas, i.e. the Arctic and the Antarctic regions, and high-altitude areas): rise in temperature, reduction in snow and ice cover, permafrost melt and methane release.
- Marine environments: sea-level rise and coastal flooding, changes in sea surface temperature, changes to global ocean circulation.

11.1.3 Non-linear change in climate

- Feedback loops (mechanisms): positive feedback (increasing change), negative feedback (reducing change).
- The concept of a climate tipping point.
- Projected tipping points related to sea ice and ice sheet loss, permafrost melt and ocean circulation collapse.
- How these tipping points might impact the magnitude and speed of change in cold environments, marine environments and atmospheric environments.
- Interactions between cold environments, marine environments and atmospheric environments.

11.2 Socio-economic impacts of climate change

11.2.1 Global socio-economic impacts and their distribution

- Current and future projected potential impacts:
 - areas of human habitation.
 - food production.
 - property (land and buildings).

continued

11.2 Socio-economic impacts of climate change continued

11.2.2 Patterns of human vulnerability to climate change

- Factors influencing human vulnerability to climate change:
 - environmental factors related to locational vulnerability: low-lying areas, areas vulnerable to storms, areas vulnerable to drought/flooding.
 - historical, political and economic factors.
 - reliance on sensitive ecosystems.
- How a combination of these factors can cause increased vulnerability.
- Locations and people defined by the IPCC as most vulnerable to climate change:
 - least-developed countries (LDCs).
 - small-scale food producers.
 - low-income households.
 - tropical and subtropical small-island communities.
 - indigenous communities.

Note: This sub-topic considers the impacts of climate change. When discussing the countries and communities defined as most vulnerable by the IPCC teachers should also consider sub-topic 11.3.2 for management strategies and consider the resilience of these countries and communities and the management strategies available to them.

11.3 Governance of climate change

Note: Candidates should have an outline knowledge of the United Nations Framework Convention on Climate Change (UNFCCC) and the Conference of the Parties (COP) meetings and their links to the IPCC.

11.3.1 Governance on a global scale

- An overview of the Paris Agreement (COP21 in 2015) to limit the increase in the global average temperature.
- Major agreements made at COP events since 2015.

11.3.2 Progress and challenges in management of climate change

- Management of climate change to reduce the amount of change or limit the impacts of climate change (mitigation strategies) and adapting to the impacts of climate change (adaptation strategies).
- Mitigation strategies aiming to get to net zero emissions:
 - targets for sustainable energy production and energy use.
 - carbon offsetting and carbon credit.
 - climate engineering: carbon capture and storage (CCS), solar radiation management.
 - nature-based solutions to increase carbon storage and improve resilience of ecosystems: protection, restoration, improvements.
- Adaptation strategies: withdrawal (retreat), compromise (accommodation), protection.
- Limitations on choices of mitigation and adaptation strategies and challenges of implementing strategies.

11.3.3 Detailed specific examples of **two** countries with contrasting management strategies:

- Factors influencing the choice of management strategies implemented by these countries (including any justice issues).
- Evaluation of the challenges of implementing these management strategies.

Topic 12 Environmental issues and management

12.1 Energy supplies

12.1.1 Energy resources

- Types of energy used to produce electricity, and their uses and issues:
 - renewable energy sources: wind, solar, tidal, hydroelectric power (HEP), geothermal, biomass (solid, liquid, gaseous forms).
 - non-renewable fossil fuels: coal, gas, oil.
 - nuclear.
- Global patterns and trends in energy production and consumption.
- Other sources of domestic energy (combustible fuels): wood, charcoal, animal dung.

12.1.2 Challenges of energy transition from fossil fuels to sustainable energy sources

- Environmental, social, economic, and political factors influencing sustainable energy production.
- Scale and efficiency of sustainable energy production.
- Storage of energy and connectivity to energy grids at different scales.
- Decarbonisation of manufacturing industry.

12.1.3 Factors at the national scale (environmental, social, economic, political) affecting demand and supply and the balance between different sources of energy

- Resource endowment, climate, pollution, income characteristics, investment in energy technology, balance of types of economic activity, sustainability, energy policy, energy security.

12.1.4 Detailed specific examples of **two** contrasting countries' electrical energy production and sources of energy at the national scale:

- Factors influencing the choice of sources of energy used to produce electrical energy.
- Challenges of providing energy security.
- Evaluation of the success of the strategies to supply electrical energy.

12.2 Pollution and environmental degradation in rural areas

12.2.1 Human activities that cause large-scale (major) pollution (land, air, water) and degradation of rural environments

- Rock and mineral extraction (mining and quarrying).
- Agricultural practices and related issues.
- Large-scale infrastructure projects.

12.2.2 Management of pollution and environmental degradation caused by human activities

- Sustainable practices in rock and mineral extraction:
 - strategies for restoring extractive landscapes.
 - the role of monitoring and legislation.
- Sustainable environmental practices in agriculture:
 - practices which conserve resources, improve soil health, encourage and protect biodiversity.
 - sustainable strategies in agriculture.

continued

12.2 Pollution and environmental degradation in rural areas continued

12.2.3 Detailed specific example of environmental degradation in **one** rural area:

- Causes and issues.
- Attempts at management.
- Evaluation of the strategies to manage the causes and issues and restore the degraded environment.

12.3 Pollution and environmental degradation in urban areas

12.3.1 Factors influencing the pollution (land, air, water) and environmental degradation of urban environments

- Characteristics of the urban environment: building density, high population, transport networks, concentration of economic activities, lack of open spaces.
- Similarities and differences between the main causes of urban degradation in LICs, MICs and HICs.
- Sources of pollution:
 - domestic.
 - construction.
 - manufacturing industry and power generation.
 - transport.
 - waste (solid and sewage waste).

12.3.2 Management of pollution and environmental degradation in urban areas

- Sustainable practices in:
 - domestic environments.
 - construction.
 - energy conservation.
 - small scale, on-site power generation.
 - transport.
 - waste management.

12.3.3 The reasons for urban planning and controls

12.3.4 Detailed specific example of environmental degradation in **one** urban area:

- Causes and issues.
- Attempts at management.
- Evaluation of the strategies to manage the causes and issues and restore the degraded environment.

Topic 13 Trade, aid and tourism

13.1 Global trade patterns and change

13.1.1 Flows and patterns of visible trade (commodities and goods) between importing countries and exporting countries

- Between types of countries and trade blocs.
- Major trade routes.
- Primary commodities (agricultural, minerals including oil and gas).
- Manufactured goods (components, finished products).
- Inequalities in volume and value of trade.

13.1.2 Factors influencing patterns of visible trade (commodities and goods) between importing countries and exporting countries

- Physical and historical factors:
 - geographical location: locational advantage, resource endowment.
 - the impact of colonialism in establishing trade patterns and the ongoing influence on trade of many post-colonial countries.
- Economic and political factors:
 - changes in the supply of and demand for commodities.
 - developments in logistics: transport infrastructure and information and communication technology (ICT).
 - financial resources and infrastructure.
 - workforce structure and characteristics.
 - the role of regional trade blocs, bilateral agreements, protectionist policies and price setting.
 - the role of transnational corporations (TNCs) in global production networks including TNCs from newly emerging economies (NEEs).
 - level of development.

13.1.3 Detailed specific examples of **two** contrasting countries (**one** of which has a dependence on export of primary commodities) comparison of:

- Commodities/goods traded by these countries.
- Benefits of global trade for these countries.
- Challenges of global trade for these countries.

13.2 International organisations involved in trade and aid

13.2.1 The role and impact of inter-governmental organisations (IGOs) on global trade flows

- The World Trade Organization (WTO) and United Nations Conference on Trade and Development (UNCTAD):
 - in promoting trade between countries.
 - dealing with issues and disputes.
 - monitoring and promoting free trade and trade facilitation measures.
 - protecting intellectual property rights.
 - critical evaluation of the issues of the Aid for Trade initiative.

continued

13.2 International organisations involved in trade and aid continued

13.2.2 International aid and the role of non-governmental organisations (NGOs) and inter-governmental organisations (IGOs)

- Different types of international aid and aid donors:
 - humanitarian aid.
 - development aid.
 - climate aid.
 - tied aid.
 - bilateral aid and multilateral aid.
- Critical evaluation of international aid for donor countries and receiving countries.

13.3 International tourism

13.3.1 Patterns and trends in international tourism

- Patterns include:
 - characteristics of international tourists.
 - sources of international tourists and tourist destinations.
 - seasonality.
 - volume of tourism.
 - value of tourism (a type of invisible trade).
- Factors influencing patterns include:
 - developments in transport and ICT.
 - affordability.
 - TNC involvement in hotel and resort development.
 - government support for tourism as an economic policy.
- Trends in different types of tourism: business, recreational and sport, seasonal, medical, ecotourism, cultural and heritage.

13.3.2 Impacts of tourism

- Economic, social, and environmental impacts of tourism:
 - tourism carrying capacity.
- Issues of sustainability including climate change:
 - the balance between the economic, social and environmental impacts of tourism.
 - sustainability considerations for visitors: carbon cost of travel, environmental claims made by destinations and resorts.

13.3.3 Detailed specific examples of **two** contrasting tourist areas or resorts (**one** of which attracts a large number of international tourists):

- Development of tourism.
- Impacts of tourism.
- Evaluation of the success of attempts to manage tourism in these two tourist areas or resorts.

Topic 14 Disease and geography

Note: The focus should be on the environmental, social, economic and political aspects of disease. Candidates are not expected to have a detailed understanding of the medical and biological aspects of disease.

Terminology for the following is recommended and will be used in assessments. Definitions will **not** be assessed:

- How people get disease: contagious (from other people), infectious (from the environment).
- Types of pathogens (microorganisms causing disease) limited to virus, bacterium, parasite.
- How diseases spread: airborne, waterborne, bodily fluids, direct contact, indirect contact, by insects/animals (vectors).
- Communicable disease (passed between people) and non-communicable disease (cannot be passed between people).

14.1 Distribution of diseases

14.1.1 Geography of disease

- Categorisations for the proportion of a particular population infected (prevalence) and geographical spread: disease outbreak, epidemic, pandemic (limited to a world region or global), endemic.
- Social measures of disease impact: morbidity (people with a disease), death rate, infant mortality rate (IMR), life expectancy, with reference to age/sex structure diagrams.
- Economic measures of disease impact: gross domestic product (GDP), spending on healthcare, workforce issues.

14.1.2 Distribution of disease and spatial variation in morbidity

- Similarities and differences between main causes of death (as reported by the World Health Organization (WHO)) for LICs, MICs and HICs.
- Factors influencing spatial variation in health and morbidity:
 - demographic variations.
 - environmental: climate, water quality and quantity, environmental conditions that disease carrying insects/animals (vectors) need, sanitation and healthcare infrastructure.
 - the impact of disaster events: flooding, tropical cyclones, earthquakes.
 - social: living conditions, diet, education, behaviours (smoking, exercise).
 - economic: poverty/affluence affecting diet, lifestyle and health, occupation, economic development, investment in healthcare infrastructure, vulnerability of infrastructure.
 - political: governance, investment, international relations.
 - global interconnectedness: migration, travel.

14.2 Pathogenic diseases, their spread and impacts

14.2.1 Influenza (flu) as an example of a viral disease

Note: Candidates do not need to know details of different types of human influenza (flu). They should have an outline knowledge that the changing types/strains of influenza (flu) impact the spread, effectiveness of vaccines and epidemic/pandemic potential.

- Transmission, threat to populations and distribution:
 - how influenza (flu) is transmitted and factors influencing its spread.
 - prevalence and risk factors of influenza (flu).
 - global distribution and spatial and time variation of influenza (flu).
 - social and economic impacts of influenza (flu).
- Risks associated with new human strains of influenza (flu), including potential of new variants from animal populations.
- Detailed specific example of the strategies used by **one** country to prevent and control influenza (flu).

14.2.2 Cholera as an example of a bacterial disease

- Transmission, threat to populations and distribution:
 - how cholera is transmitted and factors influencing its spread.
 - prevalence and risk factors of cholera.
 - global distribution and spatial variation of cholera.
 - the potential risks of cholera spread following disaster events.
 - social and economic impacts of cholera.
- Detailed specific example of the strategies used by **one** country to prevent and control cholera.

14.2.3 Malaria as an example of a parasitic disease spread by a vector (mosquito)

- Transmission, threat to populations and distribution:
 - how malaria is transmitted and factors influencing its spread.
 - prevalence and risk factors of malaria.
 - global distribution and spatial variation of malaria and spread due to changing environmental conditions.
 - social and economic impacts of malaria.
- Detailed specific example of the strategies used by **one** country to prevent and control malaria.

14.3 Monitoring and response to pathogenic diseases

14.3.1 Monitoring disease to manage public health emergencies

- Factors that influence effective disease monitoring: cost-effective testing, access and scalability of testing technology, access to patients, data accuracy, disclosure and patient confidentiality, international relations (collaboration).
- Controls of disease: vaccines, education, sanitation infrastructure, low-tech solutions (mosquito nets, face masks).

14.3.2 Responses to disease outbreaks

- Factors influencing an effective response to disease outbreaks: environmental, social, economic, political.

14.3.3 Detailed specific examples of **two** contrasting countries' responses to **one** pandemic since 2000:

- Similarities and differences in responses to the pandemic.
- Factors (environmental, social, economic, political) influencing effective responses.

14.3.4 Critical evaluation of a global programme to eradicate **one** pathogenic disease (any disease may be chosen): with reference to environmental, social, economic or political reasons for potential re-emergence.

4 Details of the assessment

For AS Level, candidates take Papers 1 and 2. Both papers must be taken during the same exam series.

For A Level, candidates take Papers 1, 2, 3 and 4. Papers 1 and 2 must be taken during the same exam series, but Papers 3 and 4 may be taken at a later exam series. Both Papers 3 and 4 must be taken during the same exam series.

Paper 1 – Physical Geography

Written paper, 1 hour 30 minutes, 60 marks

50% of AS Level, 25% of A Level

This paper covers the physical geography topics:

- Hydrology, river processes and hazards
- Atmospheric processes and global climate change
- Earth processes and mass movements.

Paper 1 consists of two sections:

- Section A:
Candidates answer **all** questions in Section A.

Section A consists of short-answer and extended-response questions to assess knowledge and understanding and skills and analysis. Each question will require interpretation of geographical resources. There will be one or more resources used for each question.

There will be one question on each of the three topics.

Each question will be worth 15 marks.

- Section B:
Candidates choose **one** essay question from a choice of three, one on each topic.

Section B consists of essay questions. All questions require candidates to demonstrate their knowledge and understanding and write an evaluative response. Evaluation and conclusions should be supported with examples and evidence from study of the topic.

Each question will be worth 15 marks.

All the resources used for this exam paper will be in an insert.

Candidates answer on the question paper.

Paper 2 – Human Geography

Written paper, 1 hour 30 minutes, 60 marks

50% of AS Level, 25% of A Level

This paper covers the human geography topics:

- Population and migration
- Water resources and management
- Urban areas and management.

Paper 2 consists of two sections:

- Section A:
Candidates answer **all** questions in Section A.

Section A consists of short-answer and extended response questions to assess knowledge and understanding and skills and analysis. Each question will require interpretation of geographical resources. There will be one or more resources used for each question.

There will be one question on each of the three topics.

Each question will be worth 15 marks.

- Section B:
Candidates choose **one** essay question from a choice of three, one on each topic.

Section B consists of essay questions. All questions require candidates to demonstrate their knowledge and understanding and write an evaluative response. Evaluation and conclusions should be supported with examples and evidence from study of the topic.

Each question will be worth 15 marks.

All the resources used for this exam paper will be in an insert.

Candidates answer on the question paper.

Paper 3 – Global Environments

Written paper, 1 hour 30 minutes, 60 marks

25% of A Level

Paper 3 consists of four topics. Candidates choose **two** topics from:

- Tropical environments
- Coastal environments
- Hazardous environments
- Arid environments.

Each topic will consist of:

- **one** compulsory structured question worth 10 marks in total
- **one** out of a choice of two essay questions worth 20 marks each.

The structured question in each topic will require interpretation of geographical resources.

All essay questions require candidates to demonstrate their knowledge and understanding and write an evaluative response. Evaluation and conclusions should be supported with examples and evidence from study of the topic.

All the resources used for this exam paper will be in an insert.

Candidates answer on a separate answer booklet.

Paper 4 – Global Themes

Written paper, 1 hour 30 minutes, 60 marks

25% of A Level

Paper 4 consists of four topics. Candidates choose **two** topics from:

- Climate change impacts and governance
- Environmental issues and management
- Trade, aid and tourism
- Disease and geography.

Each topic will consist of:

- **one** compulsory structured question worth 10 marks in total
- **one** out of a choice of two essay questions worth 20 marks each.

The structured question in each topic will require interpretation of geographical resources.

All essay questions require candidates to demonstrate their knowledge and understanding and write an evaluative response. Evaluation and conclusions should be supported with examples and evidence from study of the topic.

All the resources used for this exam paper will be in an insert.

Candidates answer on a separate answer booklet.

Command words

Command words and their meanings help candidates know what is expected from them in the exams. The table below includes command words used in the assessment for this syllabus. The use of the command word will relate to the subject context.

Command word	What it means
Assess	make an informed judgement
Calculate	work out from given facts, figures or information
Compare	identify/comment on similarities and/or differences
Describe	state the points of a topic / give characteristics and main features
Evaluate	judge or calculate the quality, importance, amount, or value of something
Explain	set out purposes or reasons / make the relationships between things clear / say why and/or how and support with relevant evidence
Give	produce an answer from a given source or recall/memory
Identify	name/select/recognise
State	express in clear terms
Suggest	apply knowledge and understanding to situations where there are a range of valid responses in order to make proposals / put forward considerations

Additional guidance, e.g. phrases such as ‘How far do you agree with this statement?’ ‘Assess the opinion ...’ and ‘To what extent ...?’ may also be seen in the assessment for this syllabus.

5 What else you need to know

This section is an overview of other information you need to know about this syllabus. It will help to share the administrative information with your exams officer so they know when you will need their support. Find more information about our administrative processes at www.cambridgeinternational.org/eoguide

Before you start

Previous study

We recommend that learners starting this course should have completed a course in geography equivalent to Cambridge IGCSE™ or Cambridge O Level.

Guided learning hours

We design Cambridge International AS & A Level syllabuses to require about 180 guided learning hours for each Cambridge International AS Level and about 360 guided learning hours for a Cambridge International A Level. The number of hours a learner needs to achieve the qualification may vary according to each school and the learners' previous experience of the subject.

Availability and timetables

All Cambridge schools are allocated to one of six administrative zones. Each zone has a specific timetable. Find your administrative zone at www.cambridgeinternational.org/adminzone

You can view the timetable for your administrative zone at www.cambridgeinternational.org/timetables

You can enter candidates in the June and November exam series.

Check you are using the syllabus for the year the candidate is taking the exam.

Private candidates can enter for this syllabus. For more information, please refer to the *Cambridge Guide to Making Entries*.

Combining with other syllabuses

Candidates can take this syllabus alongside other syllabuses in a single exam series. The only exceptions are:

- syllabuses with the same title at the same level.

Group awards: Cambridge AICE Diploma

Cambridge AICE Diploma (Advanced International Certificate of Education) is a group award for Cambridge International AS & A Level. It encourages schools to offer a broad and balanced curriculum by recognising the achievements of learners who pass exams in a range of different subjects.

Learn more about Cambridge AICE Diploma at www.cambridgeinternational.org/aice

Making entries

Exams officers are responsible for submitting entries. We encourage them to work closely with you to make sure they enter the right number of candidates for the right combination of syllabus components. Entry option codes and instructions for submitting entries are in the *Cambridge Guide to Making Entries*. Your exams officer has access to this guide.

Exam administration

To keep our exams secure, we produce question papers for different areas of the world, known as administrative zones. We allocate all Cambridge schools to an administrative zone determined by their location. Each zone has a specific timetable.

Some of our syllabuses offer candidates different assessment options. An entry option code is used to identify the components the candidate will take relevant to the administrative zone and the available assessment options.

Support for exams officers

We know how important exams officers are to the successful running of exams. We provide them with the support they need to make entries on time. Your exams officer will find this support, and guidance for all other phases of the Cambridge Exams Cycle, at www.cambridgeinternational.org/eoguide

Retakes and carrying forward marks

Candidates can retake Cambridge International AS Level and Cambridge International A Level as many times as they want to. Information on retake entries is at www.cambridgeinternational.org/retakes

Candidates can carry forward their Cambridge International AS Level marks from one series to complete their Cambridge International A Level in a following series. The rules, time limits and regulations for carry-forward entries can be found in the *Cambridge Handbook* for the relevant year of assessment and the *Carry-forward regulations supplement* at www.cambridgeinternational.org/eoguide

To confirm what entry options are available for this syllabus, refer to the *Cambridge Guide to Making Entries* for the relevant series.

Language

This syllabus and the related assessment materials are available in English only.

Accessibility and equality

Syllabus and assessment design

At Cambridge we recognise that our candidates have highly diverse socio-economic, cultural and linguistic backgrounds, and may also have a variety of protected characteristics. Protected characteristics include special educational needs and disability (SEND), religion and belief, and characteristics related to gender and identity.

We follow accessible design principles to make our syllabuses and assessment materials as accessible and inclusive as possible. We review language accessibility, visual resources, question layout and the contexts used in questions. Using this approach means that we give all candidates the fairest possible opportunity to demonstrate their knowledge, skills and understanding.

Access arrangements

Our design principles aim to make sure our assessment materials are accessible for all candidates. To further minimise barriers faced by candidates with SEND, illness or injury, we offer a range of access arrangements and modified papers. This is the principal way in which we comply with our duty to make 'reasonable adjustments', as guided by the UK Equality Act 2010.

Important:

Requested access arrangements should be based on evidence of the candidate's barrier to taking an assessment and should also reflect their normal way of working. This is explained in section 1.3 of the *Cambridge Handbook* www.cambridgeinternational.org/eoguide

- For Cambridge to approve an access arrangement, we need to agree that it constitutes a reasonable adjustment and does not affect the security or integrity of the assessment.
- Details of our standard access arrangements and modified question papers are available in section 1.3 of the *Cambridge Handbook* www.cambridgeinternational.org/eoguide
- Centres are expected to check the availability of access arrangements and modified question papers at the start of the course. All applications should be made by the deadlines published in section 1.3 of the *Cambridge Handbook* www.cambridgeinternational.org/eoguide
- Contact us at the start of the course to find out if we can approve an access arrangement that is not included in the list of standard access arrangements.
- Candidates who cannot access parts of the assessment may be able to receive an award based on the parts they have completed.

After the exam

Grading and reporting

Grades a, b, c, d or e indicate the standard a candidate achieved at Cambridge International AS Level. 'a' is the highest and 'e' is the lowest grade.

Grades A*, A, B, C, D or E indicate the standard a candidate achieved at Cambridge International A Level. A* is the highest and E is the lowest grade.

'Ungraded' means that the candidate's performance did not meet the standard required for the lowest grade (E or e). 'Ungraded' is reported on the statement of results but not on the certificate. In specific circumstances your candidates may see one of the following letters on their statement of results:

- Q (PENDING)
- X (NO RESULT).

These letters do not appear on the certificate.

If a candidate takes a Cambridge International A Level and fails to achieve grade E or higher, a Cambridge International AS Level grade will be awarded if both of the following apply:

- the components taken for the Cambridge International A Level by the candidate in that series included all the components making up a Cambridge International AS Level
- the candidate's performance on the AS Level components was sufficient to merit the award of a Cambridge International AS Level grade.

On the statement of results, Cambridge International AS & A Levels are shown as General Certificates of Education Advanced Subsidiary Level and Advanced Level, GCE Advanced Subsidiary Level (GCE AS Level) and GCE Advanced Level (GCE A Level).

On the certificates, Cambridge International AS & A Levels are shown as General Certificate of Education.

School feedback: 'Cambridge International A Levels are the 'gold standard' qualification. They are based on rigorous, academic syllabuses that are accessible to students from a wide range of abilities yet have the capacity to stretch our most able.'

Feedback from: Director of Studies, Auckland Grammar School, New Zealand

How students, teachers and higher education can use the grades

Cambridge International A Level

Assessment at Cambridge International A Level has two purposes:

- 1 to measure learning and achievement
The assessment confirms achievement and performance in relation to the knowledge, understanding and skills specified in the syllabus.
- 2 to show likely future success
The outcomes help predict which students are well prepared for a particular course or career and/or which students are more likely to be successful.
The outcomes help students choose the most suitable course or career.

Cambridge International AS Level

Assessment at Cambridge International AS Level has two purposes:

- 1 to measure learning and achievement
The assessment confirms achievement and performance in relation to the knowledge, understanding and skills specified in the syllabus.
- 2 to show likely future success
The outcomes help predict which students are well prepared for a particular course or career and/or which students are more likely to be successful.
The outcomes help students choose the most suitable course or career.
The outcomes help decide whether students part way through a Cambridge International A Level course are making enough progress to continue.
The outcomes guide teaching and learning in the next stages of the Cambridge International A Level course.

Changes to this syllabus for 2027, 2028 and 2029

The syllabus has been reviewed and revised for first examination in 2027.

You must read the whole syllabus before planning your teaching programme.

Changes to syllabus content

- The syllabus aims have been revised.
- The key concepts have been revised and updated.
- The syllabus content has been reviewed, revised and updated to improve the appeal, relevance and inclusivity of the syllabus.
- The assessment objectives have been updated and the weighting in each paper has been adjusted slightly.
- To support teachers, we have clarified the content by adding detail to show the depth of learning required for each topic. The actual size of the topics is the same or slightly reduced.
- In AS Level: Paper 1 is now called Physical Geography. All the content has been revised and slightly reduced.
 - ‘Hydrology and fluvial geomorphology’ is now called ‘Hydrology, river processes and hazards’.
 - ‘Atmosphere and weather’ is now called ‘Atmospheric processes and global climate change’.
 - ‘Rocks and weathering’ is now called ‘Earth processes and mass movements’.
- In AS Level: Paper 2 is now called Human Geography. All the content has been revised and slightly reduced.
 - The ‘Population’ and ‘Migration’ topics have been combined.
 - ‘Water resources and management’ is a new topic.
 - ‘Settlement dynamics’ is now called ‘Urban areas and management’.
- In A Level: Paper 3 is now called Global Environments. All the content has been revised.
 - ‘Tropical environments’ has been revised.
 - ‘Coastal environments’ has been revised.
 - ‘Hazardous environments’ has a new sub-topic on wildfire hazards.
 - ‘Hot arid and semi-arid environments’ has been renamed ‘Arid environments’ and has been revised.
- In A Level: Paper 4 is now called Global Themes. The topics will be:
 - ‘Climate change impacts and governance’ is a new topic.
 - The ‘Environmental management’ topic is now called ‘Environmental issues and management’. The content has been reorganised and significantly revised.
 - The ‘Global interdependence’ topic is now called ‘Trade, aid and tourism’. The content has been significantly revised.
 - ‘Disease and geography’ is a new topic.
 - The topics ‘Production, location and change’ and ‘Economic transition’ have been removed.

**Changes to assessment
(including changes to
specimen papers)**

- The assessment objectives have been revised.
 - AO1 and AO2 have been combined into AO1 Knowledge and understanding.
 - AO3 Skills is now AO2 Skills and analysis.
 - AO4 Evaluation is now AO3 Evaluation.
- The titles of the exam papers have changed:
 - Paper 1 – Physical Geography
 - Paper 2 – Human Geography
 - Paper 3 – Global Environments
 - Paper 4 – Global Themes

AS Level assessment

- Paper 1 and Paper 2 now have two sections:
 - Section A – short answer and extended response questions (45 marks)
 - Section B – essay questions (15 marks).
- The balance of assessment objectives tested in these papers has changed slightly. There will now be more questions testing AO2 Skills and analysis.
- There may be more than one resource for each question.
- The marking grid for the essay questions has been revised.
- Candidates now answer on the question papers.

A Level assessment

- The assessment has not changed significantly in Paper 3 and Paper 4.
- The balance of assessment objectives tested in these papers has changed slightly.
- The marking grid for the essay questions has been revised.
- Candidates will continue to answer in separate answer booklets.

In addition to reading the syllabus, you should refer to the updated specimen assessment materials. The specimen papers will help your students become familiar with exam requirements and command words in questions. The specimen mark schemes show how students should answer questions to meet the assessment objectives.

Any textbooks endorsed to support the syllabus for examination from 2027 are suitable for use with this syllabus.



Syllabuses and specimen materials represent the final authority on the content and structure of all of our assessments.

With a Customer Services team available 24 hours a day, 6 days a week, and dedicated regional teams supporting schools in 160 countries, we understand your local context and are here to guide you so you can provide your learners with everything they need to prepare for Cambridge International AS & A Level.

Quality management



We are committed to providing exceptional quality. In line with this commitment, our quality management system for the provision of international education programmes and qualifications for students aged 5 to 19 is independently certified as meeting the internationally recognised standard, ISO 9001:2015. Learn more at www.cambridgeinternational.org/about-us/our-standards/

School feedback: ‘While studying Cambridge IGCSE and Cambridge International A Levels, students broaden their horizons through a global perspective and develop a lasting passion for learning.’

Feedback from: Zhai Xiaoning, Deputy Principal, The High School Affiliated to Renmin University of China

We are committed to making our documents accessible in accordance with the WCAG 2.1 Standard. We are always looking to improve the accessibility of our documents. If you find any problems or you think we are not meeting accessibility requirements, contact us at **info@cambridgeinternational.org** with the subject heading: Digital accessibility. If you need this document in a different format, contact us and supply your name, email address and requirements and we will respond within 15 working days.

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