Curriculum Map
Year 12

Geography

Learning Aims and Curriculum Intent:

Students in Year 12 begin the Cambridge International A level 9696 syllabus which develops students' understanding of the principal processes operating within physical geography and human geography, an understanding of the causes and effects of change on natural and human environments, an awareness of the usefulness of geographical analysis to understand and solve contemporary human and environmental problems, the ability to handle and evaluate different types and sources of information, the skills to think logically, and to present an ordered and coherent argument in a variety of ways. The course is an excellent foundation for studies beyond A Level in higher education, and for professional courses. The A level course is delivered by two teachers who teach Physical Geography and Human Geography, respectively.

Term	Content, Key Questions and Knowledge	Skills	Assessment
Michaelmas	**Physical Geography: Hydrology** **1.1 The drainage basin system** Outputs: evaporation, evapotranspiration and river discharge. Stores: interception, soil water, surface water, ground water, and channel storage. Flows: above ground – throughfall, stemflow, overland flow, and channel flow. below ground – infiltration, percolation, throughflow, groundwater, and baseflow. Underground water: water tables, ground water, recharge, and springs. **1.2 Discharge relationships within drainage basins** Components of hydrographs (storm and annual). Influences on hydrographs. Climate: precipitation type and intensity, temperature, evaporation, transpiration, evapotranspiration, and antecedent moisture. Drainage basin characteristics: size and shape, drainage density, porosity and permeability of soils, rock type, slopes, vegetation type, and land use. **1.3 River channel processes and landforms** Channel processes Erosion: abrasion/corrasion, solution, cavitation, and hydraulic action. Load transport: traction, saltation, suspension, and solution. Deposition and sedimentation: the Hjulström curve. River flow: velocity and discharge, patterns of flow (laminar, turbulent and helicoidal), and thalweg. Channel types: straight, braided, and meandering. Landforms: meander (river cliffs, point bars, oxbow lakes), riffle and pool sequences, waterfalls, gorges, bluffs, floodplains, levées, and deltas. **1.4 The human impact** Modifications to catchment flows and stores and to channel flows by land-use changes (deforestation, afforestation, urbanisation), abstraction and water storage. The causes and impacts of river floods, prediction of flood risk and recurrence intervals. The prevention and amelioration of river floods to include: forecasts and warnings hard engineering – dams, straightening, levées and diversion spillways soft engineering – floodplain and drainage basin management, wetland and riverbank conservation and river restoration.	An understanding of the nature and use of different types of geographical information, both quantitative and qualitative, and understanding of their limitations. An ability to use and interpret a variety of geographical information in order to identify, describe and explain geographical trends and patterns. An ability to interpret and evaluate information and produce reasoned conclusions. Developing exam technique when responding to a range of question types including 8-mark and 15-mark questions.	Ongoing practice and assessment of past questions from Section A and B from Papers 1 and 2. End of Topic Test based on a past paper with questions from both Section A and Section B. Ongoing regular practice and drills of past [4] [5] [6] [8] mark questions in class and for homework. Regular [15] mark essay practice based on each sub-unit, with emphasis on cogent writing, sound content and evaluating real world case studies. Frequent knowledge checks of students' reading and understanding of concepts as well as grasp of glossary/terminology.

	Human Geography: Population **4.1 Natural increase as a component of population change** Natural increase rate, birth rate and death rate, fertility rate, and infant mortality rate. Factors (social, economic, environmental, and political) affecting levels of fertility and mortality. The interpretation of age/sex structure diagrams. Population structure (age, gender, dependency, and dependency ratio). **4.2 Demographic transition** Changes in birth rate and death rate over time. A critical appreciation of the demographic transition model, Stages 1–5. Issues of youthful populations and ageing populations. Links between population and development: changes in infant mortality rate and life expectancy over time. **4.3 Population–resource relationships** The concept of food security. Causes and consequences of food shortages. The roles of technology and innovation in development of food production. The role of constraints (e.g., war, climatic hazards) in relation to sustaining population. The concept of carrying capacity. Candidates should be able to critically evaluate the concept of optimum population including overpopulation and underpopulation. **4.4 The management of natural increase** Case study: candidates must study one country's population policy regarding natural increase, showing the difficulties faced and evaluate the attempted solution(s). (The case study must include attempts to alter the natural increase rate and to manage the results of population change.)	conclusions. Developing exam technique when responding to a range of question types including 8-mark and 15-mark questions.	Regular [15] mark essay practice based on each sub-unit, with emphasis on cogent writing, sound content and evaluating real world case studies. Frequent knowledge checks of students' reading and understanding of concepts as well as grasp of glossary/terminology.
Lent	**Physical Geography: Atmosphere and weather** **2.1 Diurnal energy budgets** Factors affecting diurnal energy budget: incoming (shortwave) solar radiation, reflected solar radiation, energy absorbed into the surface and subsurface, albedo, sensible heat transfer, longwave radiation, latent heat transfer – evaporation, dew and absorbed energy returned to earth. **2.2 The global energy budget** The latitudinal pattern of radiation: excesses and deficits. Atmospheric transfers: wind belts and ocean currents. Seasonal variations in temperature, pressure and wind belts: the influence of latitude, land/sea distribution, and ocean currents. **2.3 Weather processes and phenomena** Atmospheric moisture processes: evaporation, condensation, freezing, melting, deposition, and sublimation. Causes of precipitation: convection, frontal and orographic uplift of air, and radiation cooling. Types of precipitation: clouds, rain, hail, snow, dew, and fog. **2.4 The human impact** The enhanced greenhouse effect and global warming: the evidence, possible causes and atmospheric impacts. Case study: candidates must study an urban area which shows the effects of human activity on climate: temperature (heat island), humidity, precipitation and winds.	An understanding of the nature and use of different types of geographical information, both quantitative and qualitative, and understanding of their limitations. An ability to use and interpret a variety of geographical information in order to identify, describe and explain geographical trends and patterns. An ability to interpret and evaluate information and produce reasoned	Ongoing practice and assessment of past questions from Section A and B from Papers 1 and 2. End of Topic Test based on a past paper with questions from both Section A and Section B. Ongoing regular practice and drills of past [4] [5] [6] [8] mark questions in class and for homework.

Trinity	**Human Geography: Migration** **5.1 Migration as a component of population change** Movements of populations (excluding all movements of less than one year's duration). Causes of migration: push factors and pull factors, processes of migration (including chain migration) and patterns of migration (including by distance and by age), the role of constraints, obstacles and barriers (e.g., cost, national borders). **5.2 Internal migration (within a country)** Rural–urban and urban–rural movements: their causes and impacts on source areas and receiving/destination areas including population structures. Stepped migration within the settlement hierarchy and urban–urban movements. Causes and impacts of intra-urban movements (within urban settlements). **5.3 International migration** Voluntary and forced (involuntary) movements. Causes and patterns of international migrations (including economic migration and refugee flows) and impacts on source areas and receiving/destination areas. **5.4 The management of international migration** Case study: candidates must study one international migration stream: its causes, character, scale, pattern and impacts on source areas and receiving/destination areas.		
	Physical Geography: Rocks and weathering **3.1 Plate tectonics** Nature of tectonic plates and their global patterns. Types of plate boundaries: divergent (constructive), conservative and convergent (destructive). Processes and associated landforms: sea floor spreading, subduction, fold mountain building, ocean ridges, ocean trenches, and volcanic island arcs. **3.2 Weathering** Physical (mechanical) weathering processes: freeze–thaw, heating/cooling, salt crystal growth, pressure release (dilatation), and vegetation root action. Chemical weathering processes: hydrolysis, hydration, and carbonation. General factors affecting the type and rate of weathering: climate, rock type, rock structure, vegetation, and relief. Specific factors affecting the type and rate of weathering: temperature and rainfall (Peltier diagram). **3.3 Slope processes** Slope processes, conditions under which each occurs and effects on slopes. Mass movement: heaves, flows, slides, and falls. Water and sediment movement on slopes: rainsplash and surface runoff (sheetwash and rills). **3.4 The human impact** The impact of human activities on the stability of slopes: increasing stability and decreasing stability. Strategies to modify slopes to reduce mass movements: pinning, netting, grading and afforestation. Case study: candidates must study the impacts of human activity on slopes showing the effect on the stability of the slope and evaluate attempts to reduce mass movement.	An understanding of the nature and use of different types of geographical information, both quantitative and qualitative, and understanding of their limitations. An ability to use and interpret a variety of geographical information in order to identify, describe and explain geographical trends and patterns. An ability to interpret and evaluate information and produce reasoned conclusions. Developing exam technique when responding to a range of question types including 8-mark and 15-mark questions. Final preparations for the End of Year Examinations: retrieval, consolidation and practice.	Ongoing regular practice and drills of past [4] [5] [6] [8] mark questions in class and for homework. Regular [15] mark essay practice based on each sub-unit, with emphasis on cogent writing, sound content and evaluating real world case studies. Frequent knowledge checks of students' reading and understanding of concepts as well as grasp of glossary/terminology.

	Human Geography: Settlement dynamics **6.1 Changes in rural settlements** Contemporary issues in rural settlements in LICs, MICs and HICs, (e.g. depopulation, service provision) including the impacts of internal migration and the consequences of urban growth. Case study: candidates must study a rural settlement (village or hamlet) or a rural area showing some of the issues of its development and growth (or decline) and evaluating the responses to these issues. **6.2 Urban trends and issues of urbanisation** Urban growth. The process of urbanisation and its causes and consequences in LICs, MICs and HICs, including counterurbanisation and re-urbanisation, competition for land and urban renewal. The concept of a world city: causes of the growth of world cities and the development of a hierarchy of world cities. **6.3 The changing structure of urban settlements** Factors (social, economic, environmental and political) affecting the location of activities within urban areas (including planning) and how urban locations change over time for retailing, services and manufacturing. The changing central business district (CBD). Competition for space (spatial competition) in urban areas, the concept of bid rent, and functional zonation. Residential segregation: causes (income and race/ethnicity) and processes (e.g. operation of the housing market, influence of family and friends, culture and planning). **6.4 The management of urban settlements** Case study: candidates must study urban settlements showing the challenges of, and evaluating the attempted solutions in, each of the following: a shanty town (squatter settlement) in an LIC or MIC providing infrastructure (either power or transport) for a city.		End of Year Examination each June. Paper 1: 1 hour 30 minutes Paper 2: 1 hour 30 minutes

Examples of Homework	Consolidation of class materials, past paper question practice (open book), research into examples and case studies, preparation of class presentations.	
Key terminology	Flow, Store, laminar flow, turbulent flow, thalweg, carrying capacity, fertility rate, replacement population, dependency ratio, trade winds, tricellular model, ITCZ, latent heat, sensible heat, albedo, remittances, obstacles to migration, stepped migration, hydration, carbonation, regolith, disintegration, decomposition, shear strength, shear stress, rural depopulation, world cities, infrastructure, residential segregation	
Super-curricular enrichment and scholarly extension	**Read:** Physical Geography of Landscape - Roy Collard, Geology: A Complete Introduction (Teach Yourself) - David Rothery, Peoplequake: Mass Migration, Ageing Nations and the Coming Population Crash – Fred Pearce **Watch:** City of God, **Listen:** The Climate Tipping Points, BBC Radio 4, https://www.bbc.co.uk/programmes/m00180cc/episodes/player; https://www.populationbalance.org/podcast **Visit:** The Migration Museum, The Natural History Museum	
Useful websites	https://www.unrefugees.org.uk/ https://kisialevelgeography.wordpress.com/ https://www.gapminder.org/ https://www.bbc.com/future/article/20220225-how-hong-kong-protects-people-from-its-deadly-landslides	
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