



# III Liceum Ogólnokształcące z Oddziałami Dwujęzycznymi im. Bohaterów Westerplatte IB WORLD SCHOOL 1309

**Syllabus & Course of Study** 

based on Geography guide, first exams 2019

**Geography HL and SL** 

HL – 6 hours per week SL – 4 hour per week

#### 1. Geography aims

The aims of the geography course at SL and HL are to enable students to:

- 1. develop an understanding of the dynamic interrelationships between people, places, spaces and the environment at different scales
- 2. develop a critical awareness and consider complexity thinking in the context of the nexus of geographic issues, including:
- acquiring an in-depth understanding of how geographic issues, or wicked problems, have been shaped by powerful human and physical processes
- synthesizing diverse geographic knowledge in order to form viewpoints about how these issues could be resolved
- 3. understand and evaluate the need for planning and sustainable development through the management of resources at varying scales.

#### 2. Assessment objectives

There are four assessment objectives (AOs) for the SL and HL Diploma Programme geography course presented in the Table 1.

Table 1. Assessment objectives (AOs) for the SL and HL Diploma Programme geography course

General assessment	tives (AOs) for the SL and HL Diploma Programme geography course  Detailed assessment objectives (AOs)	
objectives (AOs)	Detailed assessment objectives (AOS)	
1. Demonstrate knowledge and understanding of specified content	<ul> <li>Demonstrate knowledge and understanding of the core theme—global change</li> <li>Demonstrate knowledge and understanding of two optional themes at SL and three optional themes at HL</li> <li>At HL only, demonstrate knowledge and understanding of the HL extension—global interactions</li> <li>In internal assessment, demonstrate knowledge and understanding of a specific geographic research topic</li> </ul>	
2. Demonstrate application and analysis of knowledge and understanding	<ul> <li>Apply and analyse geographic concepts and theories</li> <li>Identify and interpret geographic patterns and processes in unfamiliar information, data and cartographic material</li> <li>Demonstrate the extent to which theories and concepts are recognized and understood in particular contexts</li> </ul>	
3. Demonstrate synthesis and evaluation	<ul> <li>Examine and evaluate geographic concepts, theories and perceptions</li> <li>Use geographic concepts and examples to formulate and present an argument</li> <li>Evaluate materials using methodology appropriate for geographic fieldwork</li> <li>At HL only, demonstrate synthesis and evaluation of the HL extension—global interactions</li> </ul>	
4. Select, use and apply a variety of appropriate skills and techniques	<ul> <li>Select, use and apply the prescribed geographic skills in appropriate contexts</li> <li>Produce well-structured written material, using appropriate terminology</li> <li>Select, use and apply techniques and skills appropriate to a geographic research question</li> </ul>	

#### 3. Assessment objectives in practice

**Command terms** are classified according to the assessment objectives into 4 groups (Figure 1).

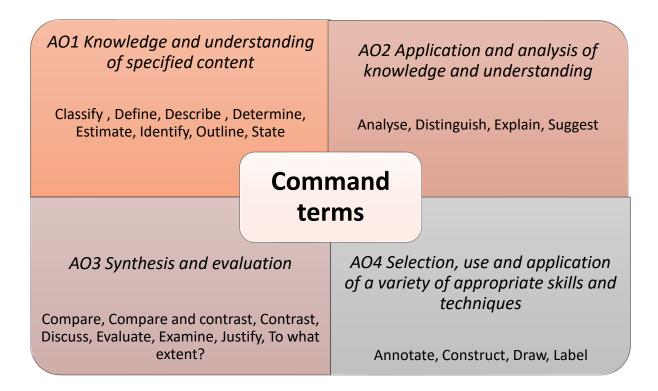


Figure 1. Command terms classified according to the assessment objectives

Although command terms are not used explicitly in the syllabus, students must be familiar with them to understand the depth of treatment required in examination questions. The allocation of marks in examination question markbands also reflects this classification of the assessment objectives.

There is a progression in demand from AO1 to AO3, while AO4 terms are specific to particular skills and examination questions. Definitions of these command terms are listed in the appendix. The command terms within each classification are listed in alphabetical order in the Table 2.

**Table 2.** Command terms and the assessment objectives in depth (AOs) for the SL and HL Diploma Programme geography

OBJECTIVE	KEY COMMAND TERM	DEPTH
AO1 Knowledge and understanding of specified content	Classify Define Describe Determine Estimate Identify Outline State	These terms require students to demonstrate knowledge and understanding.
AO2 APPLICATION AND ANALYSIS OF KNOWLEDGE AND UNDERSTANDING	Analyse Distinguish Explain Suggest	These terms require students to use and analyse knowledge and understanding.
AO3 SYNTHESIS AND EVALUATION	Compare Compare and contrast Contrast Discuss Evaluate Examine Justify To what extent?	These terms require students to make a judgment based on evidence and when relevant construct an argument.
AO4 Selection, use and application of a variety of appropriate skills and techniques	Annotate Construct Draw Label	These terms require students to demonstrate the selection and application of skills.

#### 4. Textbook & reference books/materials

Nagle, G. and Cook, B. (2017). *Geography. 2nd Edition. Course Companion*. Oxford IB Diploma Programme. Oxford University Press.

Nagle, G. and Cook, B. (2017). *Geography for the IB Diplomma. Study Guide*. Oxford IB Diploma Programme. Oxford University Press.

Oaks, S., (2017). *Geography for the IB Diploma Study and Revision Guide. HL Core Extension.*Hodder Education.

Oaks, S., (2017). Geography for the IB Diploma Study and Revision Guide. SL and HL Core Study. Hodder Education.

Geography Guide. First examination 2019, (2017). International Baccalaureate Organization. Geneve

Materials of the UN, the World Bank, International Monetary Found, WWF

#### 5. Other requirements

Students should have the access to Cognity platform. There are no other requirements. Other issues are settled in relevant school documents - academic integrity, assessment, inclusion and language policies.

#### **6.** Geography concepts

The "Geography concepts" model (Figure 2shows the six main concepts of the course, with the four key concepts of place, process, power, and possibility at the centre and the organizing concepts of scale and spatial interactions connecting them. Scale has both temporal and spatial perspectives.

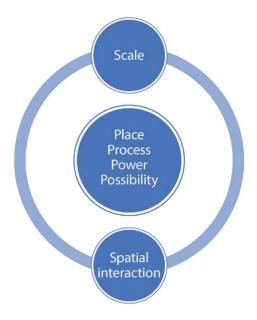


Figure 2. Geography concepts model

**Places** can be identified at a variety of scales, from local territories or locations to the national or state level. Places can be compared according to their cultural or physical diversity, or disparities in wealth or resource endowment. The characteristics of a place may be real or perceived, and spatial interactions between places can be considered.

**Processes** are human or physical mechanisms of change, such as migration or weathering. They operate on varying timescales. Linear systems, circular systems, and complex systems are all outcomes of the way in which processes operate and interact.

**Power** is the ability to influence and affect change or equilibrium at different scales. Power is vested in citizens, governments, institutions and other players, and in physical processes in the natural world. Equity and security, both environmental and economic, can be gained or lost as a result of the interaction of powerful forces.

**Possibilities** are the alternative events, futures and outcomes that geographers can model, project or predict with varying degrees of certainty. Key contemporary questions include the degree to which human and environmental systems are sustainable and resilient, and can adapt or change.

#### 7. Skills (developed and practiced)

- Locate and differentiate elements of the Earth's surface using: direction, latitude, longitude, grid references and area references, scale, political units.
- Interpret, analyse and, when appropriate, construct tables, graphs, diagrams, cartographic material and images: all kinds of maps, including: isoline and isopleth maps, choropleth maps, topological maps, dot maps, flow maps, thematic maps (including mental maps), topographic maps, symbols, aerial photographs, ground-level photographs, satellite images, graphs, including scatter, line, bar, compound, triangular, logarithmic, bipolar graphs, pie charts, flow diagrams/charts, population pyramids, Lorenz curves, cross-profiles (sections), rose diagrams, development diamonds.
- Undertake statistical calculations to show patterns and summarize information such as: totals, averages (means, medians, modes), frequencies, ranges of data (differences between maximum and minimum), densities, percentages, ratios.
- Research, process and interpret data and information
   Types of data and information:
  - measures of correlation (including Spearman rank and chi-squared)
  - measures of concentration and dispersion (including nearest neighbour and location quotients)
  - measures of spatial interactions
  - measures of diversity
  - indices and ratios (including Gini coefficient, ecological footprint, Human Development Index (HDI), dependency ratio)
  - textual information
  - observations
  - opinions, values and perceptions.

#### **Processing and interpreting:**

- classify data and information
- analyse data and information

- describe patterns, trends and relationships
- make generalizations and identify anomalies
- make inferences and predictions
- make and justify decisions
- draw conclusions
- evaluate methodology.
- Collect and select relevant geographic information: by e.g. making observations, including field sketches and sketch map, images; conducting interviews; taking measurements.
- Evaluate sources of geographic information in terms of accuracy, relevance, bias.
- Produce written material (including essays, reports and investigations) by: presenting material in a clear and well-structured way, responding appropriately to command terms.

#### 8. Approaches to teaching

Teaching through inquiry

Teaching through concepts

Teaching developed in local and global contexts

Teaching focused on effective teamwork and collaboration

Teaching differentiated to meet the needs of all learners

Teaching informed by assessment

#### 9. ATL skills (approaches to learning)

#### Thinking skills

- critical thinking
- creativity and innovation (e.g. generating ideas; creating novel solutions, generating ideas)
- transfer (e.g. applying knowledge and concepts)
- inquiring (including questioning and challenging information and arguments, developing questions, developing the skills of critical analysis and using the inquiry cycle
- identifying problems
- reflecting at different stages in the learning process on learning
- self-evaluation

#### Communication skills:

- active listening
- being informed
- informing others
- literacy—including reading strategies, using and interpreting a range of content specific terminology, interpreting meaning through cultural understanding

- Social skills: e.g. working in groups, accepting others
- Self-management skills
  - organization (e.g. planning, time management, self-management)
  - affective
  - reflection

#### Research skills

- information literacy
- media literacy
- accessing information—including researching from a variety of sources, transferring and summarizing information
- selecting and organizing information
- referencing—including the use of citing, footnotes and referencing of sources, respecting the concept of intellectual property rights
- using a range of technologies, identifying primary and secondary sources

#### 10. Attitudes (encouraged and fostered) – learner profile attribute

**Inquirers:** Applying geographic skills by acting upon a geographic inquiry topic or sub-topic and collecting and selecting relevant geographic data, including the use of GIS.

**Knowledgeable:** Studying the content, especially the interdisciplinary aspects, of the optional themes, the SL/HL core theme, and the HL extension.

**Thinkers:** Applying geographic skills, including researching, processing and interpreting data and information, and the subsequent synthesis and evaluation of their knowledge and understanding. This may be expanded by systems thinking and approaches to complexity science.

**Communicators:** Using geographic skills, such as producing and presenting material, including essays, reports and case studies or investigations, to fellow students. This may include making links to TOK, or communicating information graphically—such as through infographics.

**Principled:** Applying geographic skills to research, process and interpret data and information. In cases where sensitive topics are being dealt with, students can make and justify decisions by identifying opinions, values and perceptions.

**Open-minded:** Using geographic skills to evaluate sources of geographic information in terms of reliability, bias, relevance and accuracy.

**Caring:** Considering content from the syllabus such as those elements related to sustainability and acting on CAS opportunities—especially those related to aspects of the UN Sustainable Development Goals.

**Risk-takers:** Considering their geographic skills in making and justifying decisions.

**Balanced:** Collecting primary data in fieldwork and the subsequent treatment, display and analysis of the information.

**Reflective:** Using geographic skills to evaluate methodology, develop clear logical arguments and draw conclusions where appropriate.

#### 11. Assessment outline—SL

Assessment outline for SL are presented in the Figure 3.

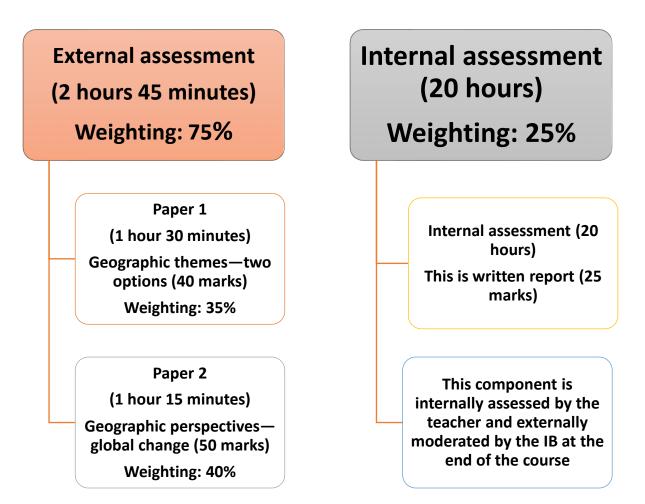


Figure 3. Assessment outline for SL

#### 12. Assessment outline—HL

Assessment outline for SL are presented in the Figure 3.

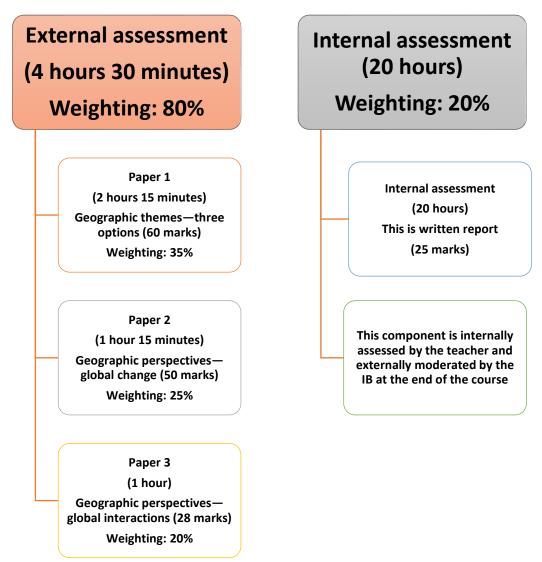


Figure 4. Assessment outline for HL

#### 13. General course overview for HL and SL in IB World School 1309

General course overview for HL and SL is presented in the Table 3.

Table 3. General course overview for HL and SL

PART OF THE COURSE	TOPICS AND SUB_TOPICS
Part one: Geographic themes (3 at HL, 2 at SL)	Option D: Geophysical hazards Option E: Leisure, tourism and sport
SL teaching hours: 60 HL teaching hours: 90	Option G: Urban environments
Part two: SL and HL core Geographic	Unit 1: Changing population
perspectives—global change	Unit 2: Global climate—vulnerability and
SL teaching hours: 70	resilience
HL teaching hours: 70	Unit 3: Global resource consumption and security
Part three: HL extension Geographic	Unit 4: Power, places and networks
perspectives—global interactions	Unit 5: Human development and
HL teaching hours: 60	diversity
	Unit 6: Global risks and resilience
Internal assessment	
SL and HL teaching hours: 20	
SL total teaching hours: 150	
HL total teaching hours: 240	

#### 14. Detailed course overview for HL and SL in IB World School 1309

### 14.1. Part one: Geographic themes Two options are studied at SL, and three at HL

#### 14.1.1. Option D: Geophysical hazard (only at HL)

This optional theme focuses on geophysical hazard events. This includes internal earth processes, such as earthquakes and volcanic activity. It also encompasses mass movements such as landslides, rockslides, debris or mud flows. The theme also includes human impacts and responses. Case studies of contrasting geophysical hazard events need to be undertaken ("contrasting" can be interpreted as severity of impacts and/or locations with different socioeconomic realities):

- two earthquake hazard events of similar magnitudes but with contrasting human impacts
- two volcanic hazard events in contrasting plate boundary locations
- **two** mass movement hazard events with **contrasting** physical characteristics (fast/slow; solid/loose).

## 1. Geophysical systems

Suggested teaching time

6-8 hours

#### Geographic inquiry:

How geological processes give rise to geophysical events of differing type and magnitude

## 2. Geophysical hazard risks

Suggested teaching time

6-8 hours

#### Geographic inquiry:

How geophysical systems generate hazard risks for different places

# 3. Hazard risk and vulnerability

Suggested teaching time

6-8 hours

#### Geographic inquiry:

The varying power of geophysical hazards to affect people in different local contexts

## 4. Future resilience and adaptation

Suggested teaching time
6–8 hours

#### **Geographic inquiry:**

Future possibilities for lessening human vulnerability to geophysical hazards

# Synthesis (Sy), Evaluation (Ev) and Skills (Sk) opportunities

These suggestions can be integrated into the study of the above. No additional teaching time is required.

How hazard risk is a function of spatial interactions between different human and physical processes [Sy]

The varying spatial scale of the processes and challenges associated with different kinds of geophysical event and their aftermaths [Sy/Ev]

Different perspectives on how geophysical hazard risks should be managed [Ev]

How spatial patterns of risk and vulnerability can be represented graphically [Sk]

**Figure 5.** Geographic inquiries and teaching hours related to 4 parts of Option D: Geophysical hazard

Through study of this optional theme, students will develop their understanding of processes, places, power and geographic possibilities. They will additionally gain understanding of more specialized concepts including **risk** and **vulnerability** (both of which vary according to the local context) and also **resilience** and **adaptation** (in relation to pre-event and post-event disaster management).

Geographic inquiries and teaching hours related to 4 parts of Option D are presented in Figure 5.

#### **Details connected with Option D: Geophysical hazards**

#### Part 1. Geophysical systems

Suggested teaching time 6-8 hours

Geographic inquiry: How geological processes give rise to geophysical events of differing type and magnitude

#### Geographic knowledge and understanding

- 1. Mechanisms of plate movement including internal heating, convection currents, plumes, subduction and rifting at plate margins
- 2. Characteristics of volcanoes (shield, composite and cinder) formed by varying types of volcanic eruption; and associated secondary hazards (pyroclastic flows, lahars, landslides)
- 3. Characteristics of earthquakes (depth of focus, epicentre and wave types) caused by varying types of plate margin movement and human triggers (dam building, resource extraction); and associated secondary hazards (tsunami, landslides, liquefaction, transverse faults)
- 4. Classification of mass movement types according to cause (physical and human), liquidity, speed of onset, duration, extent and frequency

#### Part 2. Geophysical hazard risks

Suggested teaching time 6-8 hours

Geographic inquiry: How geophysical systems generate hazard risks for different places

#### Geographic knowledge and understanding

- 1. The distribution of geophysical hazards (earthquakes, volcanoes, mass movements)
- 2. The relevance of hazard magnitude and frequency/recurrence for risk management
- 3. Geophysical hazard risk as a product of economic factors (levels of development and technology), social factors (education, gender), demographic factors (population density and structure) and political factors (governance)
- 4. Geographic factors affecting geophysical hazard event impacts, including rural/urban location, time of day and degree of isolation

#### Part 3. Hazard risk and vulnerability

Suggested teaching time 6-8 hours

### Geographic inquiry: The varying power of geophysical hazards to affect people in different local contexts

#### Geographic knowledge and understanding

- 1. Two contemporary contrasting case studies each for volcanic hazards, earthquake hazards and mass movement hazards
- 2. For each geophysical hazard type, the case studies should develop knowledge and understanding of:
  - geophysical hazard event profiles, including any secondary hazards
  - varied impacts of these hazards on different aspects of human well-being
  - why levels of vulnerability varied both between and within communities, including spatial variations in hazard perception, personal knowledge and preparedness

#### 4. Future resilience and adaptation

Suggested teaching time 6-8 hours

Geographic inquiry: Future possibilities for lessening human vulnerability to geophysical hazards

#### Geographic knowledge and understanding

- 1. Global geophysical hazard and disaster trends and future projections, including event frequency and population growth estimates
- 2. Geophysical hazard adaptation through increased government planning (land use zoning) and personal resilience (increased preparedness, use of insurance and adoption of new technology)
- 3. Pre-event management strategies for mass movement (to include slope stabilization), earthquakes and tsunami (to include building design, tsunami defences), volcanoes (to include GPS crater monitoring and lava diversions)
- 4. Post-event management strategies (rescue, rehabilitation, reconstruction), to include the enhanced use of communications technologies to map hazards/disasters, locate survivors and promote continuing human development

#### 4.1.2. Option E: Leisure, tourism and sport (SL and HL)

This optional theme focuses on ways in which people in a growing number of global contexts make use of their leisure time. As more people join the "global middle class", they have disposable incomes allowing participation in tourism, including international travel and

different types of sport. Sport can also be an important use of leisure time for people on low incomes who cannot afford to participate in tourism.

## 1. Changing leisure patterns

Suggested teaching time

6-8 hours

#### Geographic inquiry:

How human development processes give rise to leisure activities

#### 2. Tourism and sport at the local and national scale

Suggested teaching time

6-8 hours

#### Geographic inquiry:

How physical and human factors shape places into sites of leisure

## 3. Tourism and sport at the international scale

Suggested teaching time

6-8 hours

#### Geographic inquiry:

The varying power of different countries to participate in global tourism and sport

## 4. Managing tourism and sport for the future

Suggested teaching time
6–8 hours

#### Geographic inquiry:

Future possibilities for management of, and participation in, tourism and sport at varying scales

## Synthesis (Sy), Evaluation (Ev) and Skills (Sk) opportunities

These suggestions can be integrated into the study of the above. No additional teaching time is required.

How leisure use of a place is influenced by spatial interactions with other places [Sy]

People's freedom and ability to participate in leisure activities is subject to multiple influences from personal/local to global scales [Sy/Ev]

Different perspectives on the costs and benefits of how places are used for leisure activities and who is allowed to participate [Ev]

How trends and changes in visitor and impact data can be shown graphically [Sk]

**Figure 6.** Geographic inquiries and teaching hours related to 4 parts of Option E: Leisure, tourism and sport

While tourism often has an urban focus, rural areas provide another important geographical setting for touristic activities, including walking, enjoying wilderness, doing extreme sports or visiting heritage sites. The uses made of places vary greatly, depending on physical geography, history and level of economic development.

Through study of this optional theme, students will develop their understanding of processes, places, power and geographical possibilities. They will additionally gain understanding of more specialized concepts including **consumption** (of landscapes), **carrying capacity** and **threshold** (in relation to environmental stress) and **sustainability** (in relation to long-term management of touristic resources).

Geographic inquiries and teaching hours related to 4 parts of Option E are presented in the Figure 6.

#### Details connected with Option E: Leisure, tourism and sport

#### 1. Changing leisure patterns

Suggested teaching time 6–8 hours

Geographic inquiry: How human development processes give rise to leisure activities

#### Geographic knowledge and understanding

- 1. The growth and changing purpose of leisure time for societies in different geographic and developmental contexts
- 2. The categorization of touristic activities (cost, duration, destination) and sporting activities (cost, popularity, site)
- 3. The link between economic development and participation in leisure activities
- 4. Detailed examples to illustrate recent changes in participation for two or more societies at contrasting stages of development
- 5. Factors affecting personal participation in sports and tourism, including affluence, gender, stage in lifecycle, personality, place of residence

#### 2. Tourism and sport at the local and national scale

Suggested teaching time 6–8 hours

Geographic inquiry: How physical and human factors shape places into sites of leisure

- 1. Human and physical factors explaining the growth of rural and urban tourism hotspots including the role of primary and secondary touristic resources
- 2. Variations in sphere of influence for different kinds of sporting and touristic facility, including neighbourhood parks and gyms, city stadiums and national parks
- 3. Factors affecting the geography of a national sports league, including the location of its hierarchy of teams and the distribution of supporters
- 4. Case study of one national sports league

- 5. Large-scale sporting, musical, cultural or religious festivals as temporary sites of leisure and their associated costs and benefits
- 6. Case study of one festival in a rural location, its site factors and geographic impacts

#### 3. Tourism and sport at the international scale

Suggested teaching time 6-8 hours

Geographic inquiry: The varying power of different countries to participate in global tourism and sport

#### Geographic knowledge and understanding

- 1. Niche national tourism strategies with a global sphere of influence, including adventure tourism, movie location tourism and heritage tourism
- 2. The role of TNCs in expanding international tourism destinations, including the costs and benefits of TNC involvement for different stakeholders
- 3. Costs and benefits of tourism as a national development strategy, including economic and social/cultural effects
- 4. Political, economic and cultural factors affecting the hosting of international sporting events, including Olympics and football World Cup events
- 5. Case study of costs and benefits for one country hosting an international event

#### 4. Managing tourism and sport for the future

Suggested teaching time 6–8 hours

Geographic inquiry: Future possibilities for management of, and participation in, tourism and sport at varying scales

- 1. The consequences of unsustainable touristic growth in rural and urban tourism hotspots, including the concept of carrying capacity and possible management options to increase site resilience
- 2. The concept of sustainable tourism, including the growth of ecotourism
- 3. One case study of sustainable tourism in one low-income country
- 4. Factors influencing future international tourism, including greater use of social media, international security and diaspora growth
- 5. The growing importance of political and cultural influences on international sport participation, including international agreements, inclusion via changing gender roles and the growing importance of the Paralympics

#### 4.1.3. Option G: Urban environments

More than 50% of the world's population now lives in urban environments, with many living in megacities. This optional theme considers the hierarchy of cities and other urban places as sites of intense social interaction and as focal points of production, wealth generation and consumption. They exhibit diversity in patterns of wealth and deprivation, which can result in conflict. They may share common characteristics and processes irrespective of the national level of economic development.

## 1. The variety of urban environments

Suggested teaching time

6–8 hours

#### Geographic inquiry:

The characteristics and distribution of urban places, populations and economic activities

## 2. Changing urban systems

Suggested teaching time

6–8 hours

#### Geographic inquiry:

How economic and demographic processes bring change over time to urban systems

## 3. Urban environmental and social stresses

Suggested teaching time

6-8 hours

#### **Geographic inquiry:**

The varying power of different stakeholders in relation to the experience of, and management of, urban stresses

## 4. Building sustainable urban systems for the future

Suggested teaching time
6–8 hours

#### **Geographic inquiry:**

Future possibilities for the sustainable management of urban systems

### Synthesis (Sy), Evaluation (Ev) and Skills (Sk) opportunities

These suggestions can be integrated into the study of the above. No additional teaching time is required.

How urban changes over time are affected by a place's economic and demographic spatial interactions with other places [Sy]

Contrasts in the scale of changes and challenges facing different urban areas [Sy/Ev]

Varying perspectives of different social groups on the costs and benefits of different urban strategies, and priorities for action [Ev]

How urban patterns, movements, flows and trends/temporal changes can best be represented graphically [Sk]

**Figure 7.** Geographic inquiries and teaching hours related to 4 parts of Option G: Urban environments

Transport improvements have led to rapid growth and shifts in population and economic activities, producing stresses and challenges for urban planners. The theme also considers issues of sustainability, wherein cities need to be managed to minimize harmful social and environmental impacts.

Through study of this optional theme, students will develop their understanding of processes, places, power and geographical possibilities. They will additionally gain understanding of more specialized concepts including hierarchies (of settlements), systems (in relation to movements of people and the management of transport and waste flows) and sustainability.

Geographic inquiries and teaching hours related to 4 parts of Option G are presented in Figure 7.

#### **Details connected with Option G: Urban environments**

#### 1. The variety of urban environments

Suggested teaching time 6-8 hours

Geographic inquiry: The characteristics and distribution of urban places, populations and economic activities

#### Geographic knowledge and understanding

- 1. Characteristics of urban places, including site, function, land use, hierarchy of settlement (including megacities) and growth process (planned or spontaneous)
- 2. Factors affecting the pattern of urban economic activities (retail, commercial, industrial), including physical factors, land values, proximity to a central business district (CBD) and planning
- 3. Factors affecting the pattern of residential areas within urban areas, including physical factors, land values, ethnicity and planning
- 4. The incidence of poverty, deprivation and informal activity (housing and industry) in urban areas at varying stages of development

#### 2. Changing urban systems

Suggested teaching time 6-8 hours

Geographic inquiry: How economic and demographic processes bring change over time to urban systems

- Urbanization, natural increase and centripetal population movements, including rural urban migration in industrializing cities, and inner city gentrification in post-industrial cities
- 2. Centrifugal population movements, including suburbanization and counterurbanization
- 3. Urban system growth including infrastructure improvements over time, such as transport, sanitation, water, waste disposal and telecommunications
- 4. Case study of infrastructure growth over time in one city
- 5. The causes of urban deindustrialization and its economic, social and demographic consequences

#### 3. Urban environmental and social stresses

Suggested teaching time 6–8 hours

Geographic inquiry: The varying power of different stakeholders in relation to the experience of, and management of, urban stresses

#### Geographic knowledge and understanding

- 1. Urban microclimate modification and management, including the urban heat island effect, and air pollution patterns and its management
- 2. Case study of air pollution in one city and its varying impact on people
- 3. Traffic congestion patterns, trends and impacts
- 4. Case study of one affected city and the management response
- 5. Contested land use changes, including slum clearances, urban redevelopment and the depletion of green space
- 6. Detailed contrasting examples of two affected neighbourhoods and their populations
- 7. Managing the impacts of urban social deprivation, including the cycle of deprivation and geographic patterns of crime

#### 4. Building sustainable urban systems for the future

Suggested teaching time 6-8 hours

Geographic inquiry: Future possibilities for the sustainable management of urban systems

- 1. Urban growth projections for 2050, including regional/continental patterns and trends of rural—urban migration and changing urban population sizes and structures
- 2. Resilient city design, including strategies to manage escalating climatic and geopolitical risks to urban areas

- 3. Two detailed examples to illustrate possible strategies
- 4. Eco city design, including strategies to manage the urban ecological footprint
- 5. Two detailed examples to illustrate possible environmental strategies
- 6. Smart city design and the use of new technology to run city services and systems, including purpose-built settlements and retrofitting technology to older settlements

#### 4.2. SL and HL core – Geographic perspectives—global change

### Unit 1: Changing population

- Population and economic development patterns
- Changing populations and places
- Challenges and opportunities

## Unit 2: Global climate—vulnerability and resilience

- Causes of global climate change
- Consequences of global climate change
- Responding to global climate change

## Unit 3: Global resource consumption and security

- Global trends in consumption
- Impacts of changing trends in resource consumption
- Resource stewardship

**Figure 8.** Three units of the core (Geographic perspectives—global change) and their geographic inquiries

The core theme provides an overview of the geographic foundation for the key global issues of our time (Figure 8). The purpose is to provide a broad factual and conceptual introduction to the geography of population dynamics, climate change and resource consumption issues.

The content is underpinned by the four key concepts of the course: places, power, processes and possibilities. Each unit examines issues at different scales from local to global, as well as the interaction between different places.

Attention should be given to the positive aspects of change (not only the negative ones), to the need to accept responsibility for seeking solutions to the demographic, economic and environmental issues—and, where appropriate, to the management strategies adopted to meet the challenges.

It is not intended for the units to be taught sequentially. The approach to teaching is not prescribed, and the content can be taught with flexibility according to the interests of the learners.

Each section of a unit is allocated 7–8 hours of teaching time, which includes time to develop AO3 (synthesis/evaluation) and AO4 (mapping/graphical) skills.

#### 4.2.1. Unit 1: Changing population

Figure 9 presents 3 parts of the Unit 1, their teaching hours and geographic inquiries.

#### 1. Population and 2. Changing 3. Challenges and economic populations and development opportunities places patterns Suggested Suggested Suggested teaching time teaching time teaching time 7–8 hours 7-8 hours 7–8 hours Geographic inquiry: Geographic inquiry: Geographic inquiry: Processes of population Population possibilities How population varies change and their effect and power over the between places on people and places decision-making process

**Figure 9.** Geographic inquiries and teaching hours related to Unit 1 of the core: Changing population

#### **Details connected with Unit 1: Changing population**

#### 1. Population and economic development patterns

Suggested teaching time 7–8 hours

**Geographic inquiry: How population varies between places** 

- 1. Physical and human factors affecting population distribution at the global scale
- 2. Global patterns and classification of economic development:
  - low-income countries
  - middle-income countries and emerging economies
  - high-income countries
- 3. Population distribution and economic development at the national scale, including voluntary internal migration, core-periphery patterns and megacity growth

4. Two detailed and contrasting examples of uneven population distribution

#### Synthesis, evaluation and skills opportunities

The relative importance of different influences on where people live and spatial interactions between places at varying scales

#### 2. Changing populations and places

Suggested teaching time 7-8 hours

Geographic inquiry: Processes of population change and their effect on people and places

#### Geographic knowledge and understanding

- 1. Population change and demographic transition over time, including natural increase, fertility rate, life expectancy, population structure and dependency ratios
- 2. Detailed examples of two or more contrasting countries
- 3. The consequences of megacity growth for individuals and societies
- 4. One case study of a contemporary megacity experiencing rapid growth
- 5. The causes and consequences of forced migration and internal displacement
- 6. Detailed examples of two or more forced movements, to include environmental and political push factors, and consequences for people and places

#### Synthesis, evaluation and skills opportunities

How the impacts of population change and spatial interactions between places can be categorized and represented graphically

#### 3. Challenges and opportunities

Suggested teaching time 7-8 hours

Geographic inquiry: Population possibilities and power over the decision-making process

- 1. Global and regional/continental trends in family size, sex ratios, and ageing/greying
- 2. Policies associated with managing population change, focusing on:
  - policies related to ageing societies
  - pro-natalist or anti-natalist policies
  - gender equality policies and anti-trafficking policies

- 3. The demographic dividend and the ways in which population could be considered a resource when contemplating possible futures
- 4. One case study of a country benefiting from a demographic dividend

#### Synthesis, evaluation and skills opportunities

How population change may affect the power balance between groups of people at local, national and international scales

#### 1.2.1. Unit 2: Global climate—vulnerability and resilience

Figure 10 presents 3 parts of the Unit 2, their teaching hours and geographic inquiries.

#### 2. Consequences of 3. Responding to 1. Causes of global global climate global climate climate change change change Suggested Suggested Suggested teaching time teaching time teaching time 7–8 hours 7–8 hours 7-8 hours Geographic inquiry: **Geographic inquiry:** Geographic inquiry: Possibilities for The effects of global How natural and human responding to climate climate change on processes affect the change and power over places, societies and the decision-making global energy balance environmental systems process

**Figure 10.** Geographic inquiries and teaching hours related to Unit 2 of the core: Global climate—vulnerability and resilience

#### Details connected with Unit 2: Global climate—vulnerability and resilience

#### 1. Causes of global climate change

Suggested teaching time 7–8 hours

Geographic inquiry: How natural and human processes affect the global energy balance

#### Geographic knowledge and understanding

- 1. The atmospheric system, including the natural greenhouse effect and energy balance (incoming shortwave radiation and outgoing longwave radiation)
- 2. Changes in the global energy balance, and the role of feedback loops, resulting from:
  - solar radiation variations, including global dimming due to volcanic eruptions
  - terrestrial albedo changes and feedback loops
  - methane gas release and feedback loops
- 3. The enhanced greenhouse effect and international variations in greenhouse gas sources and emissions, in relation to economic development, globalization and trade

#### Synthesis, evaluation and skills opportunities

The complexity of the dynamic climate system and the spatial interactions of different processes and feedback mechanisms

#### 2. Consequences of global climate change

Suggested teaching time 7–8 hours

Geographic inquiry: The effects of global climate change on places, societies and environmental systems

#### Geographic knowledge and understanding

- 1. Climate change and the hydrosphere, atmosphere and biosphere, including:
  - water stored in ice and oceans, and changing sea levels
  - carbon stored in ice, oceans and the biosphere
  - incidence and severity of extreme weather events, including drought
  - spatial changes in biomes, habitats and animal migration patterns
  - changes to agriculture, including crop yields, limits of cultivation, soil erosion
- 2. Impacts of climate change on people and places, including health hazards, migration and ocean transport routes

#### Synthesis, evaluation and skills opportunities

The uneven spatial distribution of effects and uncertainty about their timing, scale and impacts for individuals and societies

#### 3. Responding to global climate change

Suggested teaching time 7–8 hours

Geographic inquiry: Possibilities for responding to climate change and power over the decision-making process

#### Geographic knowledge and understanding

- 1. Disparities in exposure to climate change risk and vulnerability, including variations in people's location, wealth, social differences (age, gender, education), risk perception
- 2. Detailed examples of two or more societies with contrasting vulnerability
- 3. Government-led adaptation and mitigation strategies for global climate change:
  - global geopolitical efforts, recognizing that the source/s of greenhouse gas emissions may be spatially distant from the countries most impacted
  - carbon emissions offsetting and trading
  - technology, including geo-engineering
- 4. Civil society and corporate strategies to address global climate change
- 5. Case study of the response to climate change in one country focusing on the actions of non-governmental stakeholders

#### Synthesis, evaluation and skills opportunities

Why perspectives and viewpoints may be different about the need for, practicality and urgency of action on global climate change

#### 1.2.2. Unit 3: Global resource consumption and security

Figure 11 presents 3 parts of the Unit 3, their teaching hours and geographic inquiries.

## 1. Global trends in consumption

Suggested teaching time

7–8 hours

#### **Geographic inquiry:**

How global development processes affect resource availability and consumption

# 2. Impacts of changing trends in resource consumption

Suggested teaching time

7–8 hours

#### **Geographic inquiry:**

How pressure on resources affects the future security of places

## 3. Resource stewardship

Suggested teaching time

7–8 hours

#### Geographic inquiry:

Possibilities for managing resources sustainably and power over the decisionmaking process

**Figure 11.** Geographic inquiries and teaching hours related to Unit 3 of the core: Global resource consumption and security

#### 1. Global trends in consumption

Suggested teaching time 7–8 hours

Geographic inquiry: How global development processes affect resource availability and consumption

#### Geographic knowledge and understanding

- 1. Global and regional/continental progress towards poverty reduction, including the growth of the "new global middle class"
- 2. Measuring trends in resource consumption, including individual, national and global ecological footprints
- 3. An overview of global patterns and trends in the availability and consumption of:
  - water, including embedded water in food and manufactured goods
  - land/food, including changing diets in middle-income countries
  - energy, including the relative and changing importance of hydrocarbons, nuclear power, renewables, new sources of modern energy

#### Synthesis, evaluation and skills opportunities

How different patterns and trends are interrelated and involve spatial interactions between different places

#### 2. Impacts of changing trends in resource consumption

Suggested teaching time 7–8 hours

Geographic inquiry: How pressure on resources affects the future security of places

#### Geographic knowledge and understanding

- 1. The water–food–energy "nexus" and how its complex interactions affect:
  - national water security, including access to safe water
  - national food security, including food availability
  - national energy security, including energy pathways and geopolitical issues
- 2. The implications of global climate change for the water–food–energy nexus
- 3. Detailed examples of two countries with contrasting levels of resource security
- 4. The disposal and recycling of consumer items, including international flows of waste

#### Synthesis, evaluation and skills opportunities

How perspectives on, and priorities for, national resource security vary between places and at different scales

#### 3. Resource stewardship

Suggested teaching time 7-8 hours

Geographic inquiry: Possibilities for managing resources sustainably and power over the decision-making process

#### Geographic knowledge and understanding

- 1. Divergent thinking about population and resource consumption trends:
  - pessimistic views, including neo-Malthusian views
  - optimistic views, including Boserup
  - balanced views, including resource stewardship
- 2. Resource stewardship strategies, including:
  - the value of the circular economy as a systems approach for effective cycling of materials and energy
  - the role of the UN Sustainable Development Goals and progress made toward meeting them

#### Synthesis, evaluation and skills opportunities

Different perspectives on global resource use and the likely effectiveness of management actions at varying scales

### 4.3. HL core extension (only HL): Geographic perspectives—global interactions

### Unit 4: Power, places and networks

- Global interactions and global power
- Global networks and flows
- Human and physical influences on global interactions

## Unit 5: Human development and diversity

- Development opportunities
- Changing identities and cultures
- Local responses to global interactions

### Unit 6: Global risks and resilience

- Geopolitical and economic risks
- Environmental risks
- Local and global resilience

Figure 12. Three units of the extensions (HL only) and their geographic inquiries

This study of global interactions (Figure 12) has a broader perspective than a more conventional study of globalization that emphasizes a linear process involving the domination and the imposition of Western culture on the world. In the context of this syllabus, global interaction suggests a two-way and complex process whereby cultural traits and commodities may be adopted, adapted or resisted by societies. The process is neither inevitable nor universal.

The HL extension theme focuses on the global interactions, flows and exchanges arising from the disparities that exist between places. It presents important and contestable geographic issues of change in space and time for the HL student to question. This part of the syllabus is divided into three units relating to global interactions and global development.

#### **Teaching and learning guidance**

This sequence of units in the HL core extension is not fixed and may be modified, although it is recommended that unit 4.1 be taught as an introduction.

The time allocation provides a rough guide to the depth of study and emphasis required for each. It should also be recognized that there is overlap between concepts, content and contexts, and that these links should be emphasized to give a holistic view of the course. This course allows for student-centred activities including research, presentations and group work. All units must be covered and be illustrated through the use of case studies and local examples where relevant.

#### 4.3.1. Unit 4: Power, places and networks

#### 1. Global interactions and global power

Suggested teaching time 6-7 hours

Geographic inquiry: How global power and influence varies spatially

#### Geographic knowledge and understanding

- 1. Globalization indices showing how countries participate in global interactions
- 2. Global superpowers and their economic, geopolitical and cultural influence
  - Detailed examples of at least two actual or potential global superpowers
- 3. Powerful organizations and global groups:
  - G7/8, G20 and Organization for Economic Cooperation and Development (OECD) groups
  - Organization of the Petroleum Exporting Countries' (OPEC) influence over energy policies
  - global lending institutions, including the International Monetary Fund (IMF) and New Development Bank (NDB)

#### Synthesis, evaluation and skills opportunities

How wealthy and powerful places exist at varying scales, and how the global map is complex and subject to change

#### 2. Global networks and flows

Suggested teaching time 6–7 hours

Geographic inquiry: How different places become interconnected by global interactions

- 1. An overview of contemporary global networks and flows:
  - global trade in materials, manufactured goods and services
  - an overview of international aid, loans and debt relief
  - international remittances from economic migrants
  - illegal flows, such as trafficked people, counterfeit goods and narcotics
- 2. Foreign Direct Investment (FDI) and outsourcing by transnational corporations (TNCs), and ways in which this networks places and markets
- 3. Two contrasting detailed examples of TNCs and their global strategies and supply chains

#### Synthesis, evaluation and skills opportunities

The relative importance of different flows, and the suitability of different methods for graphically representing flows and interactions

#### 3. Human and physical influences on global interactions

Suggested teaching time 6-7 hours

Geographic inquiry: How political, technological and physical processes influence global interactions

#### Geographic knowledge and understanding

- 1. Political factors that affect global interactions:
  - multi-governmental organizations (MGOs) and free trade zones
  - economic migration controls and rules

Our "shrinking world" and the forces driving technological innovation:

- changing global data flow patterns and trends
- transport developments over time
- patterns and trends in communication infrastructure and use
- 2. The influence of the physical environment on global interactions:
  - natural resource availability
  - the potentially limiting effect of geographic isolation, at varying scales

#### Synthesis, evaluation and skills opportunities

How processes that influence spatial interactions are interlinked in complex ways that accelerate globalization

#### 4.3.2. Unit 5: Human development and diversity

1. Development opportunities

Suggested teaching time 6-7 hours

Geographic inquiry: Ways of supporting the processes of human development

#### Geographic knowledge and understanding

1. The multidimensional process of human development and ways to measure it:

- UN Sustainable Development Goals criteria
- validity and reliability of development indicators and indices, including the human development index (HDI) and gender inequality index (GII)
- empowering women and indigenous or minority groups
- Detailed illustrative examples of affirmative action to close the development gap
- 2. The importance of social entrepreneurship approaches for human development:
  - the work of microfinance organizations and their networks
  - alternative trading networks such as "Fairtrade"
  - TNC corporate social responsibility frameworks and global agreements

#### Synthesis, evaluation and skills opportunities

How actions to support human development involve spatial interactions from local to global scales

#### 2. Changing identities and cultures

Suggested teaching time 6-7 hours

Geographic inquiry: How global interactions bring cultural influences and changes to places

#### Geographic knowledge and understanding

- 1. The global spectrum of cultural traits, ethnicities and identities, and ways in which the spectrum of diversity is widening or narrowing at different scales
- 2. The effects of global interactions on cultural diversity in different places:
  - the diffusion of cultural traits, and cultural imperialism
  - glocalization of branded commodities, and cultural hybridity
  - cultural landscape changes in the built environment
- 3. How diasporas influence cultural diversity and identity at both global and local scales
  - Case study of a global diaspora population and its cultures(s)

#### Synthesis, evaluation and skills opportunities

Differing evidence and perspectives on how diversity is changing at local, national and global scales

#### 3. Local responses to global interactions

Suggested teaching time 6-7 hours

Geographic inquiry: The varying power of local places and actors to resist or accept change

#### Geographic knowledge and understanding

- 1. Local and civil society resistance to global interactions:
  - rejection of globalized production, including campaigns against TNCs and in favour of local sourcing of food and goods by citizens
  - rise of anti-immigration movements
- 2. Geopolitical constraints on global interactions:
  - government and militia controls on personal freedoms to participate in global interactions
  - national trade restrictions, including protectionism and resource nationalism
- 3. The role of civil society in promoting international-mindedness and participating in global interactions, including social media use and campaigning for internet freedom
  - Two detailed examples of places where restricted freedoms have been challenged

#### Synthesis, evaluation and skills opportunities

How acceptance of, or resistance to, global interactions takes different forms and occurs at different scales

#### 4.3.3. Unit 6: Global risks and resilience

#### 1. Geopolitical and economic risks

Suggested teaching time 6–7 hours

Geographic inquiry: How technological and globalizing processes create new geopolitical and economic risks for individuals and societies

- 1. Threats to individuals and businesses:
  - hacking, identity theft and the implications of surveillance for personal freedoms
  - political, economic and physical risks to global supply chain flows
- 2. New and emerging threats to the political and economic sovereignty of states:
  - profit repatriation and tax avoidance by TNCs and wealthy individuals

- disruptive technological innovations, such as drones and 3D printing
- 3. The correlation between increased globalization and renewed nationalism/tribalization
  - Two detailed examples to illustrate geopolitical tension/conflict

#### Synthesis, evaluation and skills opportunities

How the advantages of globalization must be weighed against heightened possibilities of new geopolitical and economic risks

#### 2. Environmental risks

Suggested teaching time 6-7 hours

Geographic inquiry: Geographic knowledge and understanding

#### Geographic knowledge and understanding

- 1. How global interactions create environmental risks for particular places and people
- 2. Transboundary pollution (TBP) affecting a large area/more than one country
  - One TBP case study including the consequences and possible responses
- 3. Environmental impacts of global flows at varying scales:
  - localized pollution, including impacts along shipping lanes
  - carbon footprints for global flows of food, goods and people
- 4. Environmental issues linked with the global shift of industry:
  - polluting manufacturing industries
  - food production systems for global agribusiness

#### Synthesis, evaluation and skills opportunities

How global interactions affect the physical environment by varying degrees at different scales

#### 3. Local and global resilience

Suggested teaching time 6–7 hours

Geographic inquiry: New and emerging possibilities for managing global risks

- 1. The success of international civil society organizations in attempting to raise awareness about, and find solutions for, environmental and social risks associated with global interactions
  - Detailed examples of one environmental and one social civil society organization action
- 2. Strategies to build resilience:
  - re-shoring of economic activity by TNCs
  - use of crowd-sourcing technologies to build resilience by government and civil society
  - new technologies for the management of global flows of data and people, including cybersecurity and e-passports

#### Synthesis, evaluation and skills opportunities

How perspectives vary on the severity of different risks and priorities for action