

Immaculate Conception High School

Grade 10-Geography Syllabus (2017-2018)

Class Organization:

- Each grade 10 class has three (5) scheduled contact periods each week for geography- 2 double (1 hr & 10 mins. Each) and a single period (35 mins)
- Physical Geography is covered during a double period.
- Human geography is covered during the other double period.
- Mapwork geography is covered during the single period.

Topics:

TERM 1 September to December

(SBA fieldwork and draft preparations)

❖ Physical Geography/Natural Systems

✚ River Systems (September and October)

- The hydrological cycle and terms related
- Hydrological cycle-processes and functioning
- Define the following; ground water, permeable rocks, impermeable rocks, porous, pervious, springs, aquifers and water table
- Explain the formation of artesian basins and springs.
- Describe the causes and consequences to ground water pollution
- River Stages and Valleys- upper, middle and lower course
- River Processes-erosion, transportation and deposition
- Types of erosion and transportation
- Stages in deposition
- River Features at each stage-rapids, gorges, ox-bow lakes, meandering, terraces, flood plains, levees, braiding and point and central bars, river cliffs, slip-off slopes, deltas
- Causes, **consequences (pros and cons-** short term and long term) and solution to river flooding on the physical and human environments in the Caribbean (especially areas of high population density)
- Identify areas in the Caribbean at risk for riverine flooding.
- Explain the responses of individual, national and regional agencies in the Caribbean to reduce the effects of flooding. (stages in the hazard/disaster management cycle).
- Causes and consequences to river pollution citing specific Caribbean examples.

✚ Rocks and Minerals (November 2-3 weeks)

- *Define the terms rocks and minerals*
- *Classify rocks and identify examples of each type of classification*
- *Identify uses of rocks*
- *Describe the rock cycle*

✚ Limestone Environments (November to December 2-3weeks)

- Characteristics of the rock
- Chemical processes occurring (Carbonation)
- Karst Landscapes & features formed
- Types of Limestone features-surface and underground
- Swallow/ sink holes, caves, stalactites, stalagmites, rock pillars, disappearing rivers and resurgence streams, poljes, uvala, dolines, etc.

❖ Human Geography/Human Systems

✚ Types of Resources (please note very long may go into January)

- Renewable and Non-renewable resources

- Examples of Resources and location in the Caribbean (locate and name)

Types of Industries/ Economic Activities

- Primary, Secondary, Tertiary
- Definition, Characteristics and Examples in the Caribbean
- Importance of each type of economic activity to the Caribbean
- Factors influencing location of Primary economic activities
- Define economic development, human development and sustainable development
- define GDP and GNP
- Identify pros and cons of using GNP
- Discuss the importance of economic activities in the Caribbean
- Discuss the challenges to the economies of the Caribbean
- Define the term globalization
- Describe the advantages and disadvantages of transnational corporations

Agriculture

-Describe the factors influencing location

-locate areas in the Caribbean where commercial farming (both large-scale and small-scale) and subsistence farming are important.

- compare the characteristics of large scale and small scale commercial farming in a named Caribbean country (namely Jamaica and Guyana.

- Historical, physical, human and economic factors associated with agriculture.

Peasant Farming

- Characteristics of Farming (same as commercial)
- Physical, human and economic factors influencing location
- Problems and solutions of farming
- Case study: 1) Peasant Farming in Jamaica and 2) Peasant Farming in Guyana

Commercial Arable Farming

- Characteristics of Farming(size of farm, ownership, labour, farming practices, products, markets, technology)
 - Physical, human and economic factors influencing location
 - Problems and Solutions of farming
- Case Study:
- 1) Commercial Arable Farming of Sugar Cane in Jamaica
 - 2) Commercial Arable Farming of Sugar Cane in Guyana
 - 3) Commercial Arable farming of Sugar Cane in Brazil

Characteristics of sugar cane farming – acreage, farming practices, labour, technology (for example, the use of materials, tools, techniques and sources of power to improve productivity), and markets.

Compare changing roles of commercial agriculture in the Caribbean

- ✓ Importance of agriculture
- ✓ Changing role of agriculture in the Caribbean (trends in employment, contribution to GDP, acreage, diversification and marketing arrangements) and the impact on economic development.
- ✓ Changes in commercial farming in Guyana and Brazil (for example, government policies (including issues of food security), bio-fuels, value-added products, technology, shade houses, new markets.)

- ✓ Impact on economic development – for example, cost and availability of traditional products, income, government revenue, job opportunities, diversification.

✚ **How agriculture contributes to environmental degradation**

- ✓ Deforestation, soil erosion and soil exhaustion, flooding and pollution (agriculture and agro-processes)

✚ **Measures to ensure sustainable management of Agriculture**

Regional, national and personal responses in primary industries (for example, education, organic farming, forest and soil conservation, fisheries management).

Term 2- January- March

Physical Geography/ Natural Systems

❖ **External Forces**

✚ **Weathering (January 2-3 weeks)**

- Define denudation, weathering and erosion
- Factors affecting weathering
- Location of the types of weathering and results of the different types of weathering
 - ✓ Physical weathering processes
 - Pressure release, frost action, temperature changes
 - ✓ Chemical weathering processes
 - Oxidation, carbonation, solution, hydrolysis
 - ✓ Biological weathering processes
 - Chelation, Tree root wedging, burrowing action of animals etc.

❖ **External Forces (January –February 2-3 weeks)**

✚ **Mass movements**

- Landslides and Soil creep
 - Definition and causes of
 - Conditions influencing occurrence
 - Impact on landscape and human activity {especially areas of high population density (short term and long term)}
 - Case study on landslide in the Caribbean
- Areas in Caribbean countries at high risk from landslides.
- Responses of individuals, national and regional agencies to the risk of landslides: the stages in the hazard/disaster management cycle.

✚ **Weather and Climate (February – April)**

- Differentiate between weather and climate
- Weather elements, instruments & units of measurement
- Factors influencing weather and climate: latitude, altitude, relief, distance from the sea (continentality) and winds (land and sea breezes and prevailing winds).
- Weather symbols & Station models
 - Identify, draw and interpret symbols and models
- Differentiate between high and low pressure systems- characteristics and associated weather

- Influence of relief on the climate in the Caribbean
 - Relief impact on wind speed, rainfall and temperature throughout the Caribbean
 - Types of rainfall
- Caribbean Weather Systems & Weather Maps
 - Hurricanes, Cold Fronts, Easterly Waves weather conditions associated with system (before, during and after)
 - Anticyclones & I.T.C.Z
 - Location of each system in the Caribbean
 - Characteristics and associated weather conditions as each systems passes through the Caribbean

Natural disaster – effects of Hurricanes on the physical and human landscapes, especially in areas of high population density.

(a) Areas in Caribbean countries at high risk from hurricanes

(b) The effects of hurricanes – short term and long term.

Responses of individuals, national and regional agencies to the risk of hurricanes and the effects of hurricanes in the Caribbean: the stages in the hazard/disaster management cycle.

Human Geography / Human Systems

➤ **Fishing Industry (January)**

- Fishing in the Caribbean- Jamaica and Belize
- Location in study areas (produce map)
- Factors influencing location of freshwater and marine fisheries (physical, human and economic factors)

(Factors (raw materials, energy, transport, markets, labour, capital, the role of government) influencing the location)

- Characteristics of freshwater and marine fisheries
Benefits associated with fishing- (for example, employment, revenue, improved standard of living, economic development).
- Challenges in case study areas
Problems (for example, declining sources of raw material, high exploration costs, competition, pollution, accessibility, transportation, sustainability and environmental degradation).
- Solutions to problems faced by the fisheries industries in the Caribbean.

➤ **Bauxite Mining/ Alumina Industry (February)**

- Bauxite Mining in Jamaica/ Guyana
- Location in study areas (produce a map)
- Factors influencing location (physical, human and economic factors)

(Factors (raw materials, energy, transport, markets, labour, capital, the role of government) influencing the location)

- Benefits associated with Bauxite mining- (for example, employment, revenue, improved standard of living, economic development).
- Challenges (Problems (for example, declining sources of raw material, high exploration costs, competition, pollution, accessibility, transportation, sustainability).

- Environmental Degradation:
Quarrying and mining – deforestation, pollution, land degradation.
- Solutions to problems faced by the fisheries industries in the Caribbean – for example, exploration of new sources of raw materials, alternative sources of raw materials, diversification.
- Measures to ensure the sustainable management of resources – regional, national and personal responses in primary industries; (for example, education, soil conservation and, improved mining techniques).

➤ **Food Processing (March)**

- Students should be able to define key terms: Import Substitution, forward Linkage, Backward Linkages, Spread effect, agglomeration, industrial inertia
- Discuss, physical, human and economic factors influencing the location of industries
- Draw a map of a named Caribbean country showing a major industrial area.
- Discuss the importance of the secondary/manufacturing industries.
- **Asses all objectives listed below for Trinidad and Singapore**
- Location in study areas (produce maps)- Identify areas in the Caribbean where food processing is a main economic activity(Trinidad and Singapore
- Factors influencing location (physical, human, and economic factors)

(Factors (raw materials, energy, transport, markets, labour, capital, the role of government) influencing the location)

- Benefits associated with food processing- (for example, employment, revenue, improved standard of living, economic development).
- Outline and describe the challenges (Problems (for example, declining sources of raw material, high exploration costs, competition, pollution, accessibility, transportation, sustainability) in both countries.
- Outline the Environmental Degradation faced by these countries: see specific examples where possible
Secondary industries and the environmental impact of the industries – deforestation, pollution (air and water), land degradation.
- Outline measures implemented to ensure the sustainable management of resources – regional, national and personal responses in secondary industries; (for example, education, and manufacturing techniques).
- Outline the measures implemented to ensure sustainable management in Trinidad and Singapore food processing industry (education, food manufacturing technique, disposal technique, type of energy used)

Term 3-April-June

❖ **Physical Geography/Natural Systems**

➤ **Folding and faulting**

- Key terms associated with folding
- Types of folds
- Force involved in folding
- Importance of folds
- Examples of fold mountains

- Types of faulting
- Forces and key terms associated with faulting
- Importance of faults

❖ Human Environment

➤ *Global Warming (May to June)*

- Definition and causes of
 - Insolation, radiation and the role of greenhouse gases in heating the earth.
 - Human activities that contribute to global warming and influence climate change (such as deforestation and activities that lead to emissions of carbon dioxide and other greenhouse gases).
 - Examples of the consequences of Climate Change in the Caribbean and EITHER United States of America (USA) OR the United Kingdom (UK): for example, sea level rise – examples of increased incidence of coastal flooding, impacts on coral reefs, coastal wetlands and settlements; changes in weather patterns and their impacts.
 - Measures to reduce the effects of climate change in the Caribbean and that of EITHER the United States of America (USA) OR the United Kingdom (UK) (for example, mitigation measures including reduced emissions, sustainable forestry, education).

- **Mapwork Geography** (throughout the entire year)

NB. As each topic under physical and human geography is covered, they must be applied to Mapwork or related Geographical skills if applicable.

- ✚ Locate territories and countries in the Caribbean
 - ✚ Using shape of Caribbean islands to identify countries.
 - ✚ Directions using 16 point compass on a topographical maps
 - ✚ Directions using compass bearings on a topographic map
 - ✚ Locating places using six and four figure grid reference
 - ✚ Locating places using four and six figure grid reference
 - ✚ Measure distance on a topographic map using linear scales
 - ✚ Identification and description of river features on topographical maps
 - ✚ Identify and describe drainage patterns and drainage characteristics on topographical maps
 - ✚ describe landscapes using the following: relief, drainage and land use;
 - ✚ explain the inter-relationships among relief, drainage and land use.
 - ✚ Identification and description of limestone features on topographical maps
 - ✚ Read and interpret conventional symbols
 - ✚ Draw and interpret cross sections of landforms
 - ✚ intervisibility
 - ✚ Describe landforms through the reading of contour lines
 - ✚ Calculate gradients ratios and differentiate slope steepness using gradient (ratio/percentage)
 - ✚ Construction and interpretation of weather station models
 - ✚ Identification of and description of weather changes associated with Caribbean weather systems on synoptic/ weather charts (isobars)
- Students should be able to:
- (a) illustrate weather systems, using isobars and relevant symbols;
 - interpret rainfall and temperature graphs and maps.
- ✚ Identification and description of different types of industrial / economic activities on a topographic map
 - ✚ Identify cultivated vegetation on the map extract
 - ✚ Describe the distribution of cultivated vegetation on a map extract.
 - ✚ Account for the distribution of cultivated vegetation on the map extract
 - ✚ Construct and interpret tables, bar graphs, line graphs, divided circles and pie charts

- ✚ revise calculation of time of places using longitude
construct climatic graph-rainfall and temperature info

Students should be able to:

- (i) identify the main lines of latitude and longitude;
- (ii) locate a place from its latitude and longitude;
- (iii) calculate the Standard Time of places.

- ✚ draw diagrams to illustrate geographical feature