



**L-Università
ta' Malta**

**MATSEC
Examinations Board**



SEC 15 Syllabus

Geography

2029

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Introduction

This syllabus is based on the curriculum principles outlined in *The National Curriculum Framework for All* (NCF) which was translated into law in 2012 and designed using the *Learning Outcomes Framework* that identify what students should know and be able to achieve by the end of their compulsory education.

As a learning outcomes-based syllabus, it addresses the holistic development of all learners and advocates a quality education for all as part of a coherent strategy for lifelong learning. It ensures that all students can obtain the necessary skills and attitudes to be future active citizens and to succeed at work and in society irrespective of socio-economic, cultural, racial, ethnic, religious, gender and sexual status. This syllabus provides equitable opportunities for all learners to achieve educational outcomes at the end of their schooling which will enable them to participate in lifelong and adult learning, reduce the high incidence of early school leaving and ensure that all learners attain key twenty-first century competences.

This programme also embeds learning outcomes related to cross-curricular themes, namely digital literacy; diversity; entrepreneurship creativity and innovation; sustainable development; learning to learn and cooperative learning and literacy. In this way students will be fully equipped with the skills, knowledge, attitudes and values needed to further learning, work, life and citizenship.

This Geography syllabus enables students to develop spatial understanding of the local, regional and global environment as well as physical, economic and political interactions within and between communities. It encourages learners to acquire an understanding of sustainable development and an awareness of the need to protect and conserve the environment for future generations. It provides students with the opportunities to explore certain themes in both the physical and human fields of geography in a practical way, both inside the classroom through case studies and outside the classroom through fieldwork and site visits.

The study of geography enhances the student's awareness of man's global physical and human environment. In fact, the main subject focus is on natural and human environments using scientific method and qualitative and quantitative research. This is achieved by means of geographic methods, including observation, data gathering and interpretative skills. The knowledge, understanding and skills obtained help the student to form proper values and attitudes, as well as to assess, interpret and attempt solutions to spatial socio-environmental problems. Therefore, the student's role in society will be more effective.

The syllabus aims at providing teachers of Geography a choice of materials which should suit a variety of teaching approaches. It also provides educators and students with an opportunity to assess and react to environmental problems through a local, national and global perspective. The syllabus content focuses on contemporary geographic issues such as climate change, globalisation, management of energy resources and habitat destruction. It aims to instil in students an interest and a sense of wonder in places, the physical processes that shape our world, and how people and environments inter-relate and inter-connect. This will enable learners to make correct value judgements when editing/correcting their own work, encourage questioning, instil investigative and constructive skills by making use of different media as well as create an atmosphere where learners develop their own problem-solving skills.

At the end of the programme candidates will be able to:

1. Demonstrate knowledge and understanding of major physical processes of the Earth (coastal, fluvial, tectonic and glaciated landforms) and factors that produce diverse and dynamic landscapes that change over time;
2. Demonstrate knowledge and understanding of major socio-economic systems of the Earth (settlement, population, industry, trade and energy) to achieve a sense of place;
3. Demonstrate awareness of environmental issues in terms of the conservation and the protection of both the physical and the human environments;
4. Form reasonable judgements towards the sustainable use of the environment and resources and to other issues of a geographical nature;
5. Demonstrate awareness of the connections between people and places;
6. Show understanding of geographical concepts, ideas, principles contained in the syllabus and their application in the context of the physical and human environments;
7. Observe, record, classify and interpret data collected in the field or from secondary sources, to form conclusions and communicate ideas and geographical information in a variety of ways including extended writing and graphical forms;
8. Read and interpret information from a range of sources such as maps, drawings, diagrams, photographs and statistical data;
9. Demonstrate locational knowledge at regional, national and global scale, to include places at different levels of development;
10. Use new technologies to assist geographical inquiry; and
11. Relate and apply knowledge attained to the world outside the classroom.

List of Subject Foci

The learning outcomes are structured into the following subject foci:

1. Mapping Skills;
2. Weather and Climate;
3. Rocks, Karst Landscapes and Coastal Processes;
4. River Landforms;
5. Tectonic Hazards;
6. Managing Energy Resources;
7. Global Ecosystems and Environmental Issues;
8. Settlement, Population and Migration;
9. Economic Development; and
10. Fieldwork Investigation.

List of Learning Outcomes

At the end of the programme, I can:

- LO 1 I can apply skills required in using different types of maps including topographical maps at different scales within the context of human and physical landscapes. (Paper II).
- LO 2 I can demonstrate an understanding of how to measure and record the weather, explore characteristics of different weather systems and their effect on the environment. (Paper I and Paper II).
- LO 3 I can: (i) describe the formation of the three main types of rock and the processes of their weathering with an emphasis on limestone (karstic) landscape; and (ii) demonstrate an understanding of coastal processes resulting in the formation of distinctive landforms and investigate some coastal management strategies. (Paper I and Paper II).
- LO 4 I can demonstrate an understanding of river processes resulting in the formation of distinctive landforms and investigate some river management strategies. (Paper II).
- LO 5 I can demonstrate an understanding of the formation of landforms at different plate margins and the causes and impacts of earthquakes and volcanoes. (Paper II).
- LO 6 I can evaluate different energy sources to achieve a secure and sustainable energy system in the European Union. (Paper II).
- LO 7 I can demonstrate an understanding of how physical aspects such as climate, soil and human activities affect the natural vegetation and environment. (Paper II).
- LO 8 I can demonstrate an understanding of models of urban structure, the causes and effects of urbanisation, population distribution, change and structure as well as analyse the causes and consequences of migration. (Paper II).
- LO 9 I can demonstrate an understanding of the characteristics, development and impact of the four economic sectors of the economy and investigate contrasts in development between MEDCs and LEDCs. (Paper I and Paper II).
- LO 10 I can demonstrate an understanding of techniques used to collect, present and analyse primary and secondary sources to write a report, reach conclusions and suggest recommendations. (Paper I and Paper II).

Programme Level Descriptors

This syllabus sets out the content and assessment arrangements for the award of Secondary Education Certificate in Geography at Level 1, 2 or 3. First teaching of this programme begins in September 2022. First award certificates will be issued in 2025.

The following levels refer to the qualification levels that can be obtained by candidates sitting for SEC examinations. These are generic statements that describe the depth and complexity of each level of study required to achieve an award at Level 1, 2 or 3 in Geography (level 1 being the lowest and level 3 the highest).

Level 1: At the end of the programme the candidate will have obtained basic knowledge, skills and competences in the subject such as basic repetitive communication skills and the ability to follow basic, simple instructions to complete tasks. Support is embedded within the task.

Level 2: At the end of the programme the candidate will have obtained good knowledge, skills and competence in the subject such as the interpretation of given information and ideas. The candidate will have developed the ability to carry out complex tasks. Limited support may be embedded within the task.

Level 3: At the end of the programme the candidate will autonomously apply knowledge and skills to a variety of complex tasks. Candidate will utilise critical thinking skills to analyse, evaluate and reflect upon their own work and that of others. Problem solving tasks may be part of the assessment process.

Learning Outcomes and Assessment Criteria

Subject Focus 1:	Mapping Skills
Learning Outcome 1: (Paper II)	I can apply skills required in using different types of maps including topographical maps at different scales within the context of human and physical landscapes. Interpret a variety of maps; basic topographical map skills; scales, measurement of distances - linear distances on topographical maps, non-linear distances using Google Earth; grid references, direction, shape contours, land profile drawing; interpretation of human and physical landscapes; lines of latitude and longitude; the movements (rotation and revolution) of the Earth; effects of the Earth's rotation; effects of the Earth's revolution; interpret a time zone map.

Assessment Criteria (Level 1)	Assessment Criteria (Level 2)	Assessment Criteria (Level 3)
1.1a Use a map key to identify places and other human and/or physical features.	1.2a Interpret a variety of maps using symbols and/or keys.	1.3a Analyse information presented on a variety of different maps.
1.1b Use simple topographical maps to locate places using the given four-figure grid reference.	1.2b Locate places on topographical maps using the given six-figure grid references.	1.3b Give four-figure and/or six-figure grid references.
1.1c Draw a labelled diagram of an 8-point compass.	1.2c Use the 8-point compass to follow and/or give direction on topographical maps.	1.3c Use the 16-point compass to follow and/or give directions on topographical maps.
1.1d Measure straight line distance on maps and convert the distance into real distance using the linear scale.	1.2d Measure straight line distances between places on the map using the statement of scale.	1.3d Measure linear (straight line) and non-linear distances on maps and using digital media and convert these into real distance.
1.1e Read the height of land above sea level using contour lines on simple topographical maps.	1.2e Use contours to identify areas of steep land, gentle slope and flat land as well as slope direction.	1.3e Calculate height difference between two setpoints using contour lines on topographical maps.
1.1f Distinguish rural and/or urban areas on a topographical map.	1.2f Identify the main physical and/or human features on topographical maps using a map key and contour lines.	1.3f Interpret the physical and/or human landscape on topographical maps using a map key and contour lines.
1.1g Identify high and/or low areas on a land profile diagram.	1.2g Determine the intervisibility of two points on a given map.	1.3g Interpret the land profile between two given points on a topographical map.

		1.3h Plot the land profile between two given points on a topographical map.
1.1i Distinguish between lines of latitudes and longitudes and identify the Equator and the Prime/Greenwich Meridian on a world map.	1.2i Locate on a world map the main lines of latitude and longitude. <i>Prime/Greenwich Meridian; International Date Line; Equator; North Pole; South Pole; Tropic of Cancer; Tropic of Capricorn; Antarctic Circle; Arctic Circle.</i>	1.3i Locate the main lines of latitude and longitude on a world map using degrees. <i>Prime/Greenwich Meridian [0°]; International Date Line [180°]; Equator [0°]; North Pole [90°N]; South Pole [90°S]; Tropic of Cancer [23½°N]; Tropic of Capricorn [23½°S]; Antarctic Circle [66½°S]; Arctic Circle [66½°N].</i>
1.1j Locate the Northern and Southern Hemispheres on a map.	1.2j Locate countries on a world map using given longitudes and latitudes.	1.3j Give the latitude and longitude to locate places and features on a map or globe.
1.1k Recognise that the Earth rotates on its own axis (in a West to East direction) in 24 hours.	1.2k Describe the rotational movement of the Earth with the help of a labelled diagram.	1.3k Explain how the Earth's rotation results in day and night.
1.1l Identify areas which are experiencing daylight or darkness on a diagram of a globe.	1.2l Identify the first areas/locations to experience sunrise using a map or a diagram of a globe.	1.3l Explain where sunset, sunrise, noon and midnight are occurring on the globe at a given time.
1.1m Indicate that time (in hours) decreases to the west of Greenwich/Prime Meridian and increases to its east.	1.2m Interpret a 24-standard time zone map of the world.	1.3m Interpret a time zone map of the world and explain the need for different time zones.
1.1n Identify which pole (North or South Pole) is experiencing summer or winter during a particular time of the year using a diagram.	1.2n Label a diagram with the terms Northern Solstice, Southern Solstice and Equinoxes.	1.3n Interpret a diagram of the Earth's orbit round the sun showing its position on 21st March, 21st June, 21st September and 21st December.
1.1o Recognise that length of day and night varies with seasons.	1.2o Interpret a diagram of the Earth's orbit around the sun showing areas experiencing 24 hours of daylight and others with 24 hours darkness.	1.3o Describe the effects of the Earth's tilt on day and night in each of the following areas: the north and south hemispheres, the North and South Pole, the Equator.

Subject Focus 2:	Weather and Climate
Learning Outcome 2:	I can demonstrate an understanding of how to measure and record the weather, explore characteristics of different weather systems and their effect on the environment.
(Paper I and Paper II)	Difference between weather and climate; recording and interpreting the main weather elements; microclimate; construction and interpretation of climate graphs; calculating the mean daily temperature and range of temperature; types of rainfall: relief, convectional, frontal; factors affecting temperature; depressions and anticyclones; tropical storms.

Assessment Criteria (Level 1)	Assessment Criteria (Level 2)	Assessment Criteria (Level 3)
2.1a Identify the main weather elements. <i>Temperature; rainfall; wind direction; speed.</i>	2.2a Define the main weather elements.	2.3a Differentiate between weather and climate supported by relevant examples.
2.1b Recognise instrument(s) to measure the elements of the weather. <i>Thermometer; rain gauge; wind vane; anemometer; barometer; maximum and minimum thermometers.</i>	2.2b Identify the best location for the placement of weather instruments to provide valid results. <i>The Stevenson screen and its main characteristics; thermometer; rain gauge; wind vane; anemometer; barometer; maximum and minimum thermometers.</i>	2.3b Investigate the factors influencing the microclimate of a place or area within school premises. <i>Aspect; shelter; buildings; surface.</i>
2.1c Read from illustrations the main weather elements. <i>Temperature; and rainfall.</i>	2.2d Use simple weather-related terminology to write a short weather report for a given day.	2.3d Use secondary data to write a report which includes mean daily temperature and/or daily range of temperature.
2.1d Interpret an online weather report and/or forecast.	2.2e Construct separate temperature (line) and rainfall (bar) graphs with given data.	2.3e Construct climate graphs of different regions around the world with given data.
2.1e Plot separate rainfall and temperature graphs on a grid with given axis and data.	2.2f Interpret a climate graph.	2.3f Interpret climate graphs of different regions to calculate the mean annual range of temperature and total annual rainfall.
2.1f Identify the hottest, coldest, driest and wettest months on separate temperature and rainfall graphs.		

2.1g Label diagrams to describe the water cycle and/or types of rainfall. <i>Labels for water cycle diagram: Evaporation; transpiration; condensation; precipitation; groundwater flow; surface runoff.</i> <i>Labels for rainfall diagrams: rising air; cooling air; condensation; precipitation.</i>	2.2g Describe the formation of types of rainfall with the help of diagrams. <i>Convectional; frontal; relief.</i>	2.3g Explain the formation of types of rainfall including labelled diagrams.
2.1h Describe in brief (possibly with help of a diagram) factors influencing temperature. <i>Latitude and altitude (height of land).</i>	2.2h Describe (possibly with help of a diagram) factors influencing temperature. <i>Latitude, distance from the sea, altitude and prevailing winds.</i>	2.3h Explain (possibly with help of a diagram) factors influencing temperature <i>Latitude, distance from the sea, altitude, prevailing winds and ocean currents.</i>
2.1i Interpret pictorial weather maps to describe the weather conditions in different parts of the world.	2.2i Recognise an area of high pressure and low pressure on a satellite image.	2.3i Recognise a depression (warm front, warm sector and cold front) and/or an anticyclone on a weather chart.
2.1j State the weather associated with pressure systems. <i>High pressure systems; Low pressure systems.</i>	2.2j Describe in brief the weather associated with pressure systems. <i>High pressure systems; Low pressure systems.</i>	2.3j Explain the typical weather associated with a depression (warm front, warm sector and cold front) and/or the typical weather associated with an anticyclone during the summer and/or winter seasons.
2.1k Describe in brief the weather associated with a tropical storm and list some of its effects on people.	2.2k Describe the global distribution and type of weather associated with tropical storms and their effects on people and the environment.	2.3k Explain the causes and impact of a tropical storm on people and/or the environment. <i>Case Study.</i>

Subject Focus 3:	Rocks, Karst Landscapes and Coastal Processes
Learning Outcome 3:	I can: (i) describe the formation of the three main types of rock and the processes of their weathering with an emphasis on limestone (karstic) landscape; and (ii) demonstrate an understanding of coastal processes resulting in the formation of distinctive landforms and investigate some coastal management strategies. Interpreting a rock cycle diagram; formation, characteristics and examples of igneous, sedimentary and metamorphic rocks; difference between weathering and erosion; the processes of freeze-thaw weathering, exfoliation, limestone solution and biological weathering; permeability of rocks; formation of underground karst landforms; formation of surface karst landforms; formation of depositional karst landforms; different types of waves: constructive and destructive waves; the process of coastal erosion; coastal features created by erosion; wave transport: longshore drift; coastal features created by deposition; soft and hard engineering coastal management strategies.
(Paper I and Paper II)	

Assessment Criteria (Level 1)	Assessment Criteria (Level 2)	Assessment Criteria (Level 3)
3.1a Recognise the formation of rock families. <i>Igneous; sedimentary; metamorphic.</i>	3.2a Label a rock cycle diagram that describes the formation of rocks. <i>Igneous; sedimentary; metamorphic.</i>	3.3a Interpret the rock cycle to describe the formation of rock families. <i>Igneous; sedimentary, metamorphic.</i>
3.1b Recognise examples of rock types. <i>Igneous; sedimentary; metamorphic.</i>	3.2b Give examples of rocks. <i>Igneous; sedimentary; metamorphic.</i>	3.3b Describe the use of types of rock by industry.
3.1c Define the term weathering and/or erosion.		3.3c Differentiate between weathering and erosion.
3.1d Recognise biological, physical and/or chemical weathering processes.	3.2d Describe briefly, with the help of given diagrams, weathering processes. <i>Physical (Freeze-thaw weathering; frost shattering); exfoliation; limestone solution; biological weathering.</i>	3.3d Relate the location with the processes of weathering. <i>Physical (Freeze-thaw weathering; frost shattering); exfoliation; limestone solution; biological weathering.</i>
3.1e Recognise the following karst features. <i>Caverns; stalactites; stalagmites; pillars.</i>	3.2e Describe how water flowing through limestone can form various features. <i>Caves; stalactites; stalagmites; pillars.</i>	3.3e Describe the formation of karst landforms. <i>Swallow holes; stream resurgence; dry valleys; bedding planes; caverns; stalactites; stalagmites; pillars; dolines.</i>
3.1f Distinguish between waves with an erosive power and waves which deposit sand and pebbles.	3.2f Define constructive and destructive waves.	3.3f Describe the main characteristics of constructive and destructive waves.

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3.1g Recognise landforms created by coastal erosion.	3.2g Describe coastal erosional processes. <i>Abrasion; attrition; solution; hydraulic action.</i>	
3.1h Use given diagrams and/or statements to show the sequence in the formation of coastal features. <i>Cave; arch; stack.</i>	3.2h Use given diagrams and/or statements to show the sequence in the formation of coastal features. <i>Notches; cliff recession; wave-cut platforms; headlands and bays; caves; arches; stacks; stumps.</i>	3.3h Explain with the aid of labelled diagrams the formation of coastal features. <i>Notches; cliff recession; wave-cut platforms; headlands and bays; caves; arches; stacks; stumps; blow holes.</i>
3.1i Recognise landforms created by coastal deposition. <i>Beaches; spits.</i>	3.2i Use given diagrams and/or statements to show the sequence in the formation of coastal features. <i>Spits; bars; tombolos.</i>	3.3i Explain with the aid of labelled diagrams the formation of coastal deposition landforms. <i>Spits; bars; tombolos; sand dunes.</i>
3.1j Give examples to show how coastal erosion leads to loss of land and property.	3.2j Describe briefly coastal management strategies used to prevent coastal erosion. <i>Groynes; wave deflectors.</i>	3.3j Evaluate hard and/or soft engineering coastal management strategy. <i>Groynes; beach nourishment.</i>

Subject Focus 4:	River Landforms
Learning Outcome 4:	I can demonstrate an understanding of river processes resulting in the formation of distinctive landforms and investigate some river management strategies.
(Paper II)	Features of a drainage basin; processes by which a river transports its load; processes of river erosion; river landforms in upper course; river landforms in the middle course; landforms in the lower course; human activities in rivers and their valleys; causes and impacts of flooding; flood control schemes in developed and developing countries.

Assessment Criteria (Level 1)	Assessment Criteria (Level 2)	Assessment Criteria (Level 3)
4.1a Identify the main characteristics of a drainage basin. <i>Source; tributary; river channel; river estuary.</i>	4.2a Define the main characteristics of a river basin. <i>Watershed; river channel; source; tributary; confluence; river estuary.</i>	4.3a Describe the characteristics of a river drainage basin system and river estuary. <i>Watershed; river channel; source; tributary; confluence; river estuary.</i>
4.1b Recognise the main processes of erosion, transportation and/or deposition. <i>In the upper, middle and lower river sections.</i>	4.2b Distinguish between processes of river erosion and transportation.	4.3b Describe the processes by which a river transports its load and erodes its channel. <i>Hydraulic action; abrasion; attrition and corrosion; traction; saltation; suspension; solution.</i>
4.1c Recognise river landforms found in the upper course. <i>Steep-sided V-shaped valleys; waterfalls; gorges.</i>	4.2c Define river landforms found in the upper course. <i>Steep-sided V-shaped valleys; interlocking spurs; waterfalls; gorges.</i>	4.3c Explain the formation of different river landforms found in an upper course of a river. <i>Steep-sided V-shaped valleys; interlocking spurs; waterfalls; gorges.</i>
4.1d Recognise landforms found in the middle course of a river. <i>Meanders; ox-bow lakes.</i>	4.2d Define landforms found in the middle course of a river. <i>Meanders (including slip-off slope); river cliff; and ox-bow lakes.</i>	4.3d Explain the formation of river landforms found in the middle course of the river: <i>Meanders (including slip-off slope); river cliff; ox-bow lakes.</i>
4.1e Recognise landforms found in the lower course of the river. <i>Floodplains; levees; deltas.</i>	4.2e Define landforms found in the lower course of the river. <i>Floodplains; levees; deltas.</i>	4.3e Explain the formation of landforms found in the lower course of the river. <i>Floodplains; levees; deltas.</i>

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4.1f List important land uses along a river. <i>Farming; reservoirs; HEP; settlement; transport; industry; recreation.</i>	4.2f Describe human activities found alongside a river valley or basin. <i>Irrigation; farming; fishing; dams for the production of HEP; leisure and tourism; transport.</i>	4.3f Describe the positive and/or negative impacts of human activities along a river. <i>Case Study.</i>
4.1g Distinguish between physical and human causes of flooding.	4.2g Describe the most common physical and/or human causes of flooding.	4.3g Discuss the relationship of flooding to physical landscape attributes and/or human interference on the natural environment. <i>Steep gradients; low lying areas; rock permeability; heavy rainfall; thawing of snow; silting of river beds; deforestation; population increase; rapid surface runoff due to urbanisation.</i>
4.1h Identify positive and/or negative impacts of river flooding.	4.2h Describe a river flooding event and its impacts on people and the environment.	4.3h Compare the impacts of flooding through case studies from developed and/or developing countries.
4.1i Identify ways by which river flooding can be controlled. <i>Dams; diversion walls; afforestation.</i>	4.2i Describe some river flooding control methods employed in developed and/or developing countries.	4.3i Compare flood control schemes through case studies from developed and developing countries.

Subject Focus 5:	Tectonic Hazards
Learning Outcome 5: (Paper II)	I can demonstrate an understanding of the formation of landforms at different plate margins and the causes and impacts of earthquakes and volcanoes. The Earth's Structure; convection currents in the mantle and the concept of continental drift; the relationship between earthquakes, volcanoes and plate boundaries; the movement of the Earth's plates – constructive boundaries, destructive boundaries (collision and subduction) and conservative boundaries; plate movements and the formation of distinct landforms – trenches, mid-ocean ridges, fold mountains, volcanic islands; difference between focus and epicentre; Richter scale to measure the magnitude of an earthquake; causes and impacts of earthquakes; managing the effects of earthquakes; features and characteristics of a composite volcano; volcanic activity - active, dormant and extinct volcanoes; positive and negative effects of volcanoes.

Assessment Criteria (Level 1)	Assessment Criteria (Level 2)	Assessment Criteria (Level 3)
5.1a Recognise the structure of the Earth in a diagram illustrating the Earth's interior. <i>Core; mantle; crust.</i>	5.2a Sketch, including labels, a simplified diagram of the Earth's interior. <i>Core; mantle; crust.</i>	5.3a Describe the main characteristics and properties of the layers forming the interior structure of the Earth. <i>Inner Core; outer core; mantle; crust.</i>
5.1b Label a diagram to show how convection currents are responsible for plate movement.	5.2b Relate global earthquake and volcano distribution with the location of plate margins.	5.3b Explain the concept of continental drift to show how continents shift position on the Earth's surface.
5.1c Label given diagrams to show the movement at plate boundaries. <i>Destructive plate boundaries (collision and subduction); Constructive plate boundaries; Conservative plate boundaries.</i>	5.2c Describe using diagrams the plate movement at different plate boundaries. <i>Destructive plate boundaries (collision and subduction); Constructive plate boundaries; Conservative plate boundaries.</i>	5.3c Describe the plate movement and resultant landforms at plate boundaries, with examples.
5.1d Recognise a seismograph and the units used to measure and record the magnitude of an earthquake.	5.2d Describe the effects of earthquakes of different magnitudes on the Richter Scale.	5.3d Compare the effects of two case studies of earthquakes of different magnitudes.
5.1e Give examples of the effects of earthquakes on the Maltese Islands and places where these can be observed. <i>Cliffs; valleys; faults.</i>	5.2e Refer to a case study from Malta to describe the effects of an earthquake.	5.3e Explain the causes of earthquake activity in the Mediterranean region including Malta.
5.1f Locate on a map showing plate margins areas prone to earthquakes and/or volcanoes.	5.2f Identify the causes and/or aftereffects of an earthquake.	5.3f Use a case study to explain the causes and/or impacts of an earthquake.

5.1g Describe health and safety measures which can be resorted to during an earthquake.	5.2g Describe some measures that can be taken to reduce earthquake-related damage.	5.3g Refer to specific examples of measures taken by some countries to reduce earthquake-related damage.
<i>Drop; cover; hold.</i>	<i>Training on emergency response; evacuation point; monitoring; earthquake-resistant buildings.</i>	<i>Japan; Italy; USA (California).</i>
5.1h Recognise the main types of volcanoes.	5.2h Mention examples of volcanoes including their location.	
<i>Active; dormant; extinct.</i>	<i>Active, dormant, extinct.</i>	
5.1i Identify features of a composite volcano.	5.2i Sketch, including labelling, various features of a composite volcano.	5.3i Describe the features of a composite volcano.
<i>Crater; secondary cone; side vents and lava tubes; layers of lava and ash; magma chamber.</i>	<i>Crater; secondary cone; side vents and lava tubes; layers of lava and ash; magma chamber.</i>	<i>Crater; secondary cone; side vents and lava tubes; layers of lava and ash; magma chamber.</i>
5.1j List negative and/or positive effects volcanoes have on an area or country.	5.2j Describe negative and/or positive effects of a volcano on people and/or the environment.	5.3j Use a case study and/or examples from around the world to discuss positive and/or negative impacts of a volcanic eruption on people and/or the environment.

Subject Focus 6:	Managing Energy Resources
Learning Outcome 6:	I can evaluate different energy sources to achieve a secure and sustainable energy system in the European Union.
(Paper II)	Increasing demand in energy resources; advantages and disadvantages of non-renewable and renewable energy resources; pros and cons of nuclear energy; impacts of the oil industry on the environment and the economy; strategies to reduce the damage caused by the oil industry; siting and benefits of a renewable energy project; EU 2050 energy targets; causes and effects of climate change; sustainable responses to climate change.

Assessment Criteria (Level 1)	Assessment Criteria (Level 2)	Assessment Criteria (Level 3)
6.1a Identify non-renewable and/or renewable resources.	6.2a Differentiate between non-renewable and renewable energy resources.	6.3a Analyse the increase in demand and consumption of energy resources (non-renewable and renewable) through various sources and/or data.
6.1b List benefits and/or problems associated to a fossil fuel.	6.2b Describe the advantages and/or disadvantages of fossil fuels. <i>Fuelwood; coal; oil; natural gas.</i>	
6.1c List advantages and/or disadvantages of nuclear energy.	6.2c Describe the advantages and/or disadvantages of nuclear energy as an alternative source of energy.	6.3c Discuss nuclear energy as an alternative to fossil fuels.
6.1d List effects of an oil spillage accident on the environment.	6.2d Describe the effects of an oil spillage accident on the physical environment.	6.3d Discuss how the damage to the physical environment caused by oil spills influences the socio-economic situation of a place. <i>Case Study: Example Gulf of Mexico oil spill.</i>
6.1e List the types of energy-generation and/or importation in Malta. <i>Gas; interconnector; renewable energy resources.</i>	6.2e Describe the challenges arising from the generation of energy in Malta. <i>Pollution (air, visual, noise); land-use; dependence on importation.</i>	
6.1f Name renewable sources of energy. <i>Solar; wind; HEP; geothermal; wave and tidal.</i>	6.2f List advantages and/or challenges of generating energy through renewable sources. <i>Solar; wind; HEP; geothermal; wave and tidal.</i>	6.3f Discuss the benefits of having a clean and reliable energy mix. <i>Sustainable Development Goal 7.</i>
	6.2g Describe the reasons that led to the 2050 EU energy targets.	6.3g Discuss the EU 2050 energy targets to protect the earth's energy resources for better sustainability.

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6.1h Label a diagram illustrating the Greenhouse Effect.	6.2h Describe the causes of Global Warming.	6.3h Discuss the causes of Global Warming.
6.1i Identify some effects of Global Warming.	6.2i Interpret data showing evidence of global warming.	6.3i Discuss the effects of climate change on the environment and/or people using examples.
6.1j List life-style choices that help reduce the impact of global warming.	6.2j Describe national measures to reduce greenhouse gas emissions.	6.3j Discuss case stud(ies) illustrating responses to Global Warming. <i>National; European Union International.</i>

Subject Focus 7: Global Ecosystems and Environmental Issues	
Learning Outcome 7:	I can demonstrate an understanding of how physical aspects such as climate, soil and human activities affect the natural vegetation and environment. Basic processes of an ecosystem: flow of energy and the recycling of nutrients; components of a soil profile; properties of soil; water movement in soil; global distribution of Mediterranean biome and of two other biomes; climate and vegetation of the Mediterranean biome and of two other biomes; adaptation of the natural Mediterranean vegetation to the climate; adaptation of the vegetation to the climate in two other biomes; causes and effects of deforestation in tropical rainforests; sustainable forestry; soil erosion and management.
(Paper II)	

Assessment Criteria (Level 1)	Assessment Criteria (Level 2)	Assessment Criteria (Level 3)
7.1a Label a simple food chain.	7.2a Describe the role of producers and/or consumers and/or decomposers in an ecosystem.	7.3a Explain the basic processes of an ecosystem. <i>Flow of energy; the recycling of nutrients.</i>
7.1b Label a diagram of a soil profile to show its main components. <i>Parent rock; decaying leaves and vegetation; weathered parent rock.</i>	7.2b Describe how the weathering of rock leads to soil formation. <i>Water; air; living organisms; decayed organic matter (humus).</i>	7.3b Explain how parent rock influences soil characteristics, with specific reference to the soils of the Maltese Islands.
7.1c Mention soil characteristics. <i>Texture; depth; colour; organic matter.</i>	7.2c Differentiate between different types of soils of Malta. <i>Terra Rossa; Xerorendzina; Carbonate raw soil.</i>	7.3c Associate types of soil to Maltese landscapes. <i>Terra Rossa – karst landscapes; Xerorendzina – Globigerina Limestone landscapes; Carbonate raw soil – clay slopes.</i>
7.1d Locate places with a Mediterranean type of climate on a world map.	7.2d Describe the main characteristics of the Mediterranean climate.	7.3d Interpret a climate graph of the Mediterranean region.
7.1e Recognise the main types of Mediterranean natural vegetation. <i>Woodland; scrub (maquis and garigue).</i>	7.2e Name examples of vegetation typical of Mediterranean woodland and/or garigue.	7.3e Explain how plants adapt to the seasonal pattern of the Mediterranean climate.
7.1f Locate places with tropical rainforest and/or hot desert biomes.	7.2f Describe the main climatic characteristics of biomes. <i>Tropical rainforest; hot desert.</i>	7.3f Interpret climate graphs of biomes. <i>Tropical rainforest; hot desert.</i>
7.1g Recognise the vegetation of biomes. <i>Tropical rainforest; hot deserts.</i>	7.2g Name examples of vegetation typical of biomes. <i>Tropical rainforest; hot deserts.</i>	7.3g Explain how plants adapt to the climate of biomes. <i>Tropical rainforest; hot deserts.</i>

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7.1h Recognise different human activities that damage ecosystems. <i>Pollution; urbanization; deforestation; overgrazing; accidental fires; arson.</i>	7.2h Outline measures to combat environmental degradation. <i>Landscape conservation; legislation; education.</i>	
7.1i Recognise deforestation.	7.2i Describe the causes of deforestation. <i>Farming; commercial ranching and logging; construction; mining; population pressure.</i>	7.3i Explain the environmental effects of deforestation using a case study. <i>Biome degradation; resource depletion; indigenous communities; link to climate change.</i>
7.1j Identify ways how forests can be managed sustainably.	7.2j Describe measures linked to forest conservation.	7.3j Explain how forests can be managed sustainably using a case study.
7.1k Label a diagram showing physical and/or human causes of soil erosion.	7.2k Describe physical and/or human causes of soil erosion.	7.3k Explain how soil erosion can lead to desertification using a case study including soil conservation methods.
7.1l List soil conservation methods.	7.2l Explain soil conservation methods.	7.3l Discuss the importance of soil conservation.

Subject Focus 8:	Settlement, Population and Migration
Learning Outcome 8:	I can demonstrate an understanding of models of urban structure, the causes and effects of urbanisation, population distribution, change and structure as well as analyse the causes and consequences of migration.
(Paper II)	Types and functions of settlements; settlement patterns; urbanisation; sustainable cities; distribution of population; density of population; global population growth; population pyramids; migration and integration.

Assessment Criteria (Level 1)	Assessment Criteria (Level 2)	Assessment Criteria (Level 3)
8.1a Recognise rural and/or urban settlements.	8.2a Classify different settlements in a hierarchy according to their population size. <i>Conurbation; capital city; city; town; village; hamlet; isolated buildings.</i>	8.3a Compare different types of rural settlements and/or urban settlements in terms of services offered. <i>Megalopolis; conurbation; capital city; city; town; village; hamlet; isolated buildings.</i>
8.1b Identify the main economic activity of settlements.	8.2b Recognise the function and/or functions of settlements. <i>Residential; fishing; agricultural; industrial, port, commercial; administrative; tourist resort.</i>	8.3b Discuss how the function and/or functions of settlements changes over time. <i>Residential; fishing; agricultural; industrial, port, commercial; administrative; tourist resort.</i>
8.1c Distinguish between settlement patterns. <i>Dispersed; linear; nucleated.</i>	8.2c Distinguish between settlement patterns and/or factors influencing this development. <i>Dispersed; linear; nucleated.</i>	8.3c Discuss, using visual aids, the factors influencing the changing settlement patterns over time.
8.1d Recognise the main land use zones in a city. <i>Central Business District (CBD); residential; industrial.</i>	8.2d Describe the key characteristics of urban zones. <i>Central Business District (CBD); residential; industrial; rural-urban fringe.</i>	8.3d Discuss, using a case study, ways of promoting sustainable land use through urban regeneration.
8.1e Identify push and/or pull factors to explain the rapid growth of cities.	8.2e Describe the causes of urbanisation listing push and/or pull factors of urban areas and push and/or pull factors of rural areas.	8.3e Discuss, using a case study, the causes and effects of urbanisation and/or deurbanization (including gentrification).
8.1f Identify problems faced by urban areas due to rapid urban growth.	8.2f List problems common to most cities as a result of rapid urban growth. <i>Developed; developing.</i>	8.3f Discuss the problems associated with urbanisation in developed and/or developing countries.
8.1g List measures to reduce traffic congestion and/or improve air quality in an urban area.	8.2g Describe measures to reduce traffic congestion and/or improve air quality in urban areas.	8.3g Describe initiatives in one leading eco/sustainable city taken to offset urbanisation problems. <i>(E.g. Curitiba Brazil, Adelaide Australia).</i>

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8.1h Define population distribution and/or density.	8.2h Calculate population density.	8.3h Explain the physical, economic and/or human factors influencing patterns of population distribution in a country.
8.1i Name areas with a high and/or low population density.	8.2i Identify places with sparse or dense population using choropleth maps.	8.3i Discuss factors which effect the global population distribution.
8.1j Name the factors influencing population change. <i>Birth rate; death rate; migration.</i>	8.2j Define terms related to population change. <i>Birth rate; death rate; migration; natural increase.</i>	8.3j Interpret population graphs to showing global population change.
8.1k Calculate the natural increase in the population of a given country.	8.2k Describe the factors that influence changes in birth rate and death rate.	8.3k Discuss measures how countries can use birth rate and death rate data. <i>Pension schemes; family-friendly incentives; geriatric care.</i>
8.1l Label the elements of a population pyramid. <i>Gender; age-groups.</i>	8.2l Interpret a population pyramid graph. <i>Economically active; economically inactive; developing country; developed country.</i>	8.3l Discuss population pyramids including differences between developed and/or developing countries.
8.1m Define life expectancy.	8.2m Identify reasons resulting in a longer life expectancy.	8.3m Discuss measures to increase birth rate as a means to counteract longer life expectancy.
8.1n Define ageing population.	8.2n Identify the challenges of an ageing population.	8.3n Describes the measures taken to address problems arising from an aging population.
8.1o Differentiate between voluntary and forced migration.	8.2o List examples of voluntary and forced migration.	8.3o Discuss push and pull factors of global migration.
8.1p List problems faced by migrants.	8.2p Describe issues related to migration in receiving countries and the country of origin.	8.3p Analyse a case study in migration to discuss causes and effects on the receiving country and/or on the country of origin.
8.1q List effects that migration has on the receiving country.	8.2q Describe measures to address migrant integration.	8.3q Discuss migrant integration with use of a case study.

Subject Focus 9:	Economic Development
Learning Outcome 9:	I can demonstrate an understanding of the characteristics, development and impact of the four economic sectors of the economy and investigate contrasts in development between MEDCs and LEDCs.
(Paper I and Paper II)	Economic activities; globalisation; Human Development Index (HDI); sustainable development goals to reduce inequalities.

Assessment Criteria (Level 1)	Assessment Criteria (Level 2)	Assessment Criteria (Level 3)
9.1a Give examples of different types industry. <i>Primary; secondary; tertiary; quaternary.</i>	9.2a Interpret employment pie charts. <i>Percentage of people employed in different economic sectors.</i>	9.3a Analyse how employment structures vary between developed and developing countries using pie charts.
9.1b Identify the inputs, processes and/or outputs of a primary industry.	9.2b Explain the physical factors that influenced the development of a primary activity.	9.3b Discuss the negative effects a primary industry has on the environment and ways how to minimise them.
9.1c Identify reasons for an increase in secondary industry.	9.2c Explain the physical and/or human factors that influence the development of a secondary industry.	9.3c Discuss the negative effects of a secondary industry on the environment and ways to minimize (mitigate) them.
9.1d Identify reasons for an increase in tertiary industry.	9.2d Explain the physical and/or human factors that influence the development of a tertiary industry.	9.3d Discuss the negative effects of a tertiary industry on the environment and ways to minimize (mitigate) them.
9.1e Identify reasons for an increase in quaternary industry.	9.2e Describe the factors that influence the development of a quaternary industry. <i>Footloose industry; low carbon footprint; specialised workforce; communications (telecommunications & transport); grants and financial incentives (usually from governments).</i>	9.3e Discuss the advantages and/or challenges of having an economy dependent on quaternary industry. <i>SDG 9.</i>
9.1f List examples of Transnational Corporations (TNCs).	9.2f Define globalisation of industries and/or Transnational Corporations (TNCs).	9.3f Explain the positive and negative effects of Transnational Corporations (TNCs).
9.1g List some indicators used to measure development. <i>Housing; diet; health; wages.</i>	9.2g Describe the Human Development Index (HDI) as a statistical measure to compare development between countries. <i>Life expectancy; mean years of schooling; Gross National Income (GNI).</i>	9.3g Discuss the limitations of the Human Development Index (HDI) when measuring the development of a country.
9.1h Identify the aims of the United Nations (UN) Sustainable Development Goals (SDGs).	9.2h Explain with example(s) the reasons for Sustainable Development Goals (SDGs).	9.3h Discuss how the Sustainable Development Goals (SDGs) aim to combat development problems.

Subject Focus 10:	Fieldwork Skills
Learning Outcome 10:	I can demonstrate an understanding of techniques used to collect, present and analyse primary and secondary sources to write a report, reach conclusions and suggest recommendations.
(Paper I and Paper II)	Individual report-writing aim or hypothesis, primary sources, secondary sources, data collection, data presentation, data analysis, recommendations, bibliography.

Assessment Criteria (Level 1)	Assessment Criteria (Level 2)	Assessment Criteria (Level 3)
10.1a List the aim(s) of the fieldwork.	10.2a Write the aim(s) of the fieldwork or a simple hypothesis.	10.3a Formulate aim(s) and/or hypothesis which identifies the fieldwork question.
10.1b Identify an area suitable for a fieldwork investigation.	10.2b Describe an area suitable for a fieldwork investigation by giving example/s.	
10.1c List the methods and/or equipment used to collect data.	10.2c Describe the methods and/or equipment used to collect data. <i>(May include illustrations).</i>	10.3c Describe in detail methods and/or equipment used to collect data. <i>(May include illustrations).</i>
10.1d Gather simple data using basic equipment relevant to the stated aim(s) of the fieldwork investigation.	10.2d Collect data using methods that are relevant to the aim(s) and/or hypothesis of the fieldwork investigation. <i>(Individual or in group).</i>	10.3d Use various instruments in order to collect specific data relevant to the aim(s) and/or hypothesis of the fieldwork investigation. <i>(Individual or in group).</i>
10.1e List references used in the report.	10.2e Present a basic bibliography used in the writing of the report.	
10.1f List secondary source/s that are relevant to the fieldwork investigation.	10.2f State which secondary sources were used that are relevant for the fieldwork investigation.	10.3f Explain the secondary sources used to discuss information that is relevant to the fieldwork investigation.
10.1g List collected data. <i>Writing; graphs; maps; diagrams; table; sketches; photos.</i>	10.2g Describe the collected data.	10.3g Discuss the collected data.
	10.2h Provide a brief analysis of the collected data to answer the aim and/or hypothesis of the fieldwork investigation.	10.3h Provide an interpretation of the data collected.
10.1i Provide a brief point form conclusion.	10.2i Provide a conclusion supporting the aim(s) and/or hypothesis based on the collected data.	10.3i Provide a conclusion, including one recommendation, based on the collected data in the context of the sources to answer the aims and/or hypothesis of the fieldwork investigation.

10.1j Write a brief point-form report that includes some illustrations.

10.2j Write a brief report that uses basic terminology and is supported with appropriate illustrations.

10.3j Write a report that uses relevant terminology and is supported with appropriate captioned illustrations.

Scheme of assessment

School candidates

The assessment consists of Paper I and Paper II. Paper I consists of unmoderated school-based assessment (SBA) that is to be set and assessed by the school. Paper II consists of a controlled assessment that will take place at the end of the three-year programme.

School-based assessment (SBA): is any type of assessment of a candidate made by the school relevant to the respective SEC syllabus contributing to the final level awarded in the subject.

Controlled assessment: is comprised of a two-hour written exam set at the end of the programme and differentiated between two levels:

- a. Levels 1 and 2;
- b. Levels 2 and 3.

Candidates are to satisfy the examiner in Paper I and Paper II to obtain a level higher than 1

Part I - School Based Assessment (30% of the total mark)

The school-based assessment shall be marked out of 100 each year (9, 10 and 11). The assessment for each year will contribute to 10% of the overall mark and will be reported to MATSEC by the school in Year 11. Therefore, each year will equally contribute to the final mark of the school-based assessment. The school-based assessment shall reflect the MATSEC syllabus covered in Year 9, Year 10 and Year 11.

School-based assessment can be pegged at either of two levels:

- SBA at Level 1-2 must identify assessment criteria from these two levels. It is suggested that assessment criteria are weighted at a ratio of 40% at Level 1 and 60% at Level 2.
- SBA at Level 1-2-3 must identify assessment criteria from each of Levels 1, 2 and 3. It is suggested that assessment criteria are weighted at a ratio of 30% each at Levels 1 and 2, and 40% at Level 3.

The mark for SBA at Level 1-2 presented for a qualification at Level 2-3 will be calculated to 60% of the original mark. The mark stands in all other cases.

Part II - Controlled Assessment (70% of the total mark)

Written Examination (100 marks; 2 hours)

The Paper II will consist of **ONE** paper having a two-hour duration which will carry 70% of the final mark and assessed externally. The Paper II will assess most Learning Outcomes in the syllabus. The paper will be set in English. Candidates will be required to answer **ALL** questions.

The use of non-programmable calculators, geometrical instruments and pencil colours are permitted during the examination. When questions on topographical maps are set, conventional map symbols will be provided.

The Paper II (Option Level 1-2 and Level 2-3) will consist of **TWO** sections. **ALL** questions are compulsory.

Section A – 15 marks

Question on mapping skills (LO 1).

Section B – 85 marks

Consists of structured questions, focusing on the content of most Learning Outcomes.

Levels 1 – 2

The written paper will consist of questions covering assessment criteria from the syllabus in ratio Level 1 40%; Level 2 60%. Questions will be objective (multiple choice questions, completion, true/false, cloze, matching *etc.*), and structured, requiring short responses. Questions may include stimulus materials such as maps, graphs, diagrams and photographs. All questions are compulsory and need to be answered in the space provided in the exam booklet.

Levels 2 – 3

The written paper will consist of questions covering assessment criteria from the syllabus in ratio Level 2 40%; Level 3 60%. Questions will be varied and will include objective, resource-based, involving data response and problem solving and free response writing. The questions set will assess the students' understanding and application of the main geographical concepts and knowledge of the whole programme and the acquisition of basic geographical skills such as reading and interpretation of topographical maps, analysis and interpretation of data and photographs, drawing and labelling of diagrams, interpretation of weather maps and satellite images. All questions are compulsory and need to be answered in the space provided in the exam booklet.

Private candidates

Private candidates will not be expected to carry out any school-based assessment. Instead, private candidates will sit for another controlled paper (Paper I) as an alternative to the school-based assessment. Private candidates will be assessed through the means of **TWO** Controlled papers, Paper II will be common with school candidates.

Paper I – Controlled Assessment – Private Candidates Only (30% of the total mark)**Written Examination (100 marks; 2 hours)**

Paper I for private candidates shall be a controlled assessment assessing Levels 1-2-3 as described in the respective syllabus, which will be set and marked by MATSEC.

Paper I will have a two-hour duration, and will be set in English. **ALL** questions will be compulsory. The paper will be focused on **ALL** Learning Outcomes designated for SBA: LO2, LO3, LO9, and LO10, and may include assessment criteria from all the syllabus.

Levels 1 – 2 - 3

The paper will consist of questions covering assessment criteria from the syllabus in the ratio: Level 1 30%; Level 2 30%, Level 3 40%. Questions may include objective and structured questions requiring short responses, and are structured with gradients of difficulty.