GCSE Geography
Edexcel A

Coastal Fieldwork and Case Study
3 days

• In-depth study of a coastal landscape providing a detailed case study, to ensure students are prepared for Paper 1: The Physical Environment.

• Complete 7A Investigating Physical Environments (coastal landscapes) in preparation for Section A of Paper 3 exam: Geographical Investigations.

• Develop the geographical, mathematical and statistical skills which are integrated within all areas of assessment in a real world situation with contextualised data students have collected themselves.
## Example Course Timetable

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| 1   | Arrive Midday  
Students will be greeted by FSC staff, with a welcome talk followed by a brief tour of the Centre and the local area. | Coastal Processes  
Immersed in a real world coastal landscape students will consider the different geomorphic processes taking place in the area, such as weathering, mass movement, erosion transportation and deposition. They will be introduced to the geographical enquiry process while starting to build the context for their case study of a coastal landscape. | Historical Perspective  
Using the FSC’s extensive secondary data and information sources students will start to consider how the geology and climate has affected the coast line in the past and the possible scenarios for the future. They will start to consider how field data assists professionals to make decisions about the contemporary issues facing our coastal landscape. |
| 2   | Coastal Landforms  
The focus for this days fieldwork will specifically be the required fieldwork for 7A: Investigating the physical environment (coastal landscapes) – Investigation of coastal processes through landscape evidence.  
Students will investigate the landforms and features of the coastline, looking at how waves shape the coast and the distinctive features resulting from erosion and deposition. Case study material will be combined with detailed fieldwork methods such as beach profiles and cliff surveys to develop an in depth understanding of the coastal system. | Landforms Conclusion  
Using historical data sets, students will contextualise their own data in a wider temporal and spatial environment. They will develop their skills in data presentation and analysis, forming evidenced conclusions relating to their enquiry questions. |  |
| 3   | Human Activity  
In this final session students will consider how human activity and management impacts the coastal landscape. They will consider the information they have collected over the course and evaluate the effectiveness of the management of the coastal landscape. | Depart at Midday  
A final farewell from FSC staff as the students depart at midday. |  |

This course allows students to practise a range of geographical fieldwork skills by presenting geography fieldwork through an enquiry approach and preparing learners for all fieldwork aspects of AO4 (skills) and AO3 (application) that they will come across in their examinations. The following areas of fieldwork will be embedded within each day enabling students to build their confidence and competence in enquiry based geography as they progress throughout the course.

1. Understanding of the kinds of question capable of being investigated through fieldwork and an understanding of the geographical enquiry processes appropriate to investigate these.
2. Understanding of the range of techniques and methods used in fieldwork, including observation and different kinds of measurement.
3. Processing and presenting fieldwork data in various ways including maps, GIS, graphs and diagrams (hand drawn and computer-generated).
4. Analysing and explaining data collected in the field using knowledge of relevant geographical case studies and theories.
5. Drawing evidenced conclusions and summaries from fieldwork transcripts and data.
6. Reflecting critically on fieldwork data, methods used, conclusions drawn and knowledge gained.
Learning Opportunities

Students will visit a distinctive coastal landscape and start to explore the geomorphic processes which are operating in the environment. They will look at how the process of weathering and specific geology exposes the rock forms, as well as other material inputs into the coastal system. They will consider how erosion, transportation and deposition operate and may conduct fieldwork such as:

- Geology survey: considering the origin of the material on the beach, using primary and secondary data.
- Climate survey: gathering wind and wave data, comparing with longer terms records.
- Sketching, maps and photographs: annotated to explain the processes operating in the area.

Specification Links

Component 1 The Physical Environment

Topic 1 The Changing Landscapes of the UK

1A: Coastal landscapes and processes

1.3 A variety of physical processes interact to shape coastal landscapes

a. The physical processes at work on the coast: weathering (mechanical, chemical, biological), mass movement (sliding and slumping), erosion (abrasion, hydraulic action, attrition and solution), transport (traction, saltation, suspension and solution, longshore drift) and deposition.

b. Influence of geological structure (concordant/discordant, joints and faults) and rock type (hard/soft rock) and wave action (destructive and constructive waves) on landforms (5)

c. How the UK’s weather and climate (seasonality, storm frequency and prevailing winds) affect rates of coastal erosion and retreat, and impact on landforms and landscape. (6)
Learning Opportunities

By combining their fieldwork data with a range of secondary data such as, shoreline management plans, historical maps and personal first-hand accounts, students will start to build a picture of the historical context of the coastal landscape. They will consider some of the issues facing the coastline such as sea-level change and cliff collapse. The enquiry process will be used to provide students with a framework to develop their knowledge and case study understanding, placing the specific landscape into the wider geographical context.

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c. How the UK's weather and climate (seasonality, storm frequency and prevailing winds) affect rates of coastal erosion and retreat, and impact on landforms and landscape. (6)
Learning Opportunities

Students will visit an accessible, interesting and dynamic coastal landscape and have the opportunity to explore first-hand a coastal environment undergoing change. The investigation will focus on 7A: Investigating physical landscapes and relate to the coastal landscape task – investigation of coastal processes through landscape evidence. This fieldwork will also make clear synoptic links with Topic 2: Weather Hazards and Climate Change.

Students will use a range of quantitative and qualitative methods including: beach sediment (size and shape) and beach profile, supported by field sketches and photographs. Secondary information will be used including extracts of the local shoreline management plan (SMP), a BGS geology map as well as other student’s fieldwork data from different times of the year. This will allow them to critically reflect on the role of different coastal processes and management linked to their fieldwork. ArcGIS Online will be used to contextualise and analyse information, and this will be related to the characteristics and formation of the erosional and depositional landforms which link to the theoretical aspects of Topic 1.

Fieldwork may include:

• Sediment analysis, to include size and shape, which can then be linked to the coastal processes active in the area.
• Use sketches and/or photographs to record the landscape and the distinctive landforms that make up the landscapes.
• Beach profiles, to illustrate the action of longshore drift and/or erosion and consider what this means for the origin and development of landforms.

Specification Links

Component 1 The Physical Environment

Topic 1 The Changing Landscapes of the UK

1A: Coastal landscapes and processes

1.4 Coastal erosion and deposition create distinctive landforms within the coastal landscape

a. The role of erosional processes in the development of landforms: headlands and bays, caves, arches, cliffs, stacks, wave cut platforms. (7)

b. The role of depositional processes in the development of landforms: bars, beaches and spits. (6)

1.6 Distinctive coastal landscapes are the outcome of the interaction between physical and human processes

a. The significance of the location of one named distinctive coastal landscape within the UK (discordant, concordant, coastline of deposition, coastal retreat) including how it has been formed and the most influential factors in its change. (7).
Learning Opportunities

Students will follow up their day’s fieldwork by collating, processing and presenting their data to form evidenced conclusions about the extent to which coastal processes affect the landscape. They will use OS maps to locate coastal landforms and explore geological maps to link coastal landforms to the underlying geology. Use will be made of ArcGIS Online to enable students to visualise and analyse their data, as well as selecting appropriate graphs to present their data. The enquiry processes will be used to enable students to add depth to their case study understanding, as well as developing students’ geographical skills that they will need for the fieldwork exam.

A range of presentation methods will be introduced and approaches to identify the most appropriate will be discussed. Key terminology will be used to support the discussion framework to ensure students can describe, analyse and explain their data, as well as identify anomalies in the data sets. During each follow-up session evidenced conclusions will be modelled, relating these to the original aims of the enquiries and detailed evaluations will include limitations of data collection and reliability of conclusions. Students will be encouraged to take ownership of their learning by reflecting on what and how they have learnt throughout their investigation.

Specification Links

Geographical Skills

Atlas and map skills:
• recognise and describe distributions and patterns of both human and physical features at a range of scales using a variety of maps and atlases
• draw, label, annotate, understand and interpret sketch maps

Graphical skills
• label, annotate and interpret different diagrams, maps, graphs, sketches and photographs
• use and interpret aerial, oblique, ground and satellite photographs from a range of different landscapes

Investigative skills
• use of ICT to manage, collate, process and present information, use of hand-drawn graphical skills to present information in a suitable way
• write descriptively, analytically and critically about findings
• develop extended written arguments, drawing well evidenced and informed conclusions about geographical questions and issues

Mathematics and Statistics Skills

Cartographic skills:
• use and understand gradient, contour and spot height on OS maps and other isoline maps (e.g. weather charts, ocean bathymetric charts)
• interpret cross sections and transects
• use and understand coordinates, scale and distance
• describe and interpret geo-spatial data presented in a GIS framework (e.g. analysis of flood hazard using the interactive maps on the Environment Agency website)

Graphical skills:
• select and construct appropriate graphs and charts to present data, using appropriate scales and including bar charts, pie charts, pictograms, line charts, histograms with equal class intervals
• interpret and extract information from different types of graphs and charts including any of the above and others relevant to the topic (e.g. triangular graphs, radial graphs, wind rose diagrams, proportional symbols)

Statistical skills:
• use appropriate measures of central tendency, spread and cumulative frequency (median, mean, range, quartiles and inter-quartile range, mode and modal class)
• calculate percentage increase or decrease and understand the use of percentiles
• describe relationships in bivariate data: sketch trend lines through scatter plots; draw estimated lines of best fit; make predictions; interpolate and extrapolate trends
• be able to identify weaknesses in selective statistical presentation of data

Please visit http://www.field-studies-council.org/outdoorclassroom/
For alternative courses
Learning Opportunities

In this final session students will consider how human activity and management can lead to changes in the coastal landscape. At this stage of the course students will be familiar with the enquiry process and will be able to suggest suitable questions for investigation and design their own worksheets for data collection. Students will use shoreline management plans and a range of fieldwork methods to consider how human activities have affected landscapes and the effects of coastal recession and flooding on people and the environment. They will build their case study knowledge by forming conclusions about the effectiveness of the coastal defences that are applied to the location and the reasons behind the particular strategies.

Specification Links

Component 1 The Physical Environment

Topic 1 The Changing Landscapes of the UK

1A: Coastal landscapes and processes

1.5 Human activities can lead to changes in coastal landscapes which affect people and the environment

a. How human activities (urbanisation, agriculture and industry) have affected landscapes and the effects of coastal recession and flooding on people and the environment. (8)

b. The advantages and disadvantages of different coastal defences used on the coastline of the UK (hard engineering, sea walls, groynes and rip rap and soft engineering, beach nourishment and offshore reefs) and how they can lead to change in coastal landscapes. (8)
GCSE Geography: Coastal Fieldwork and Case Study 3 days
FSC Centres

To book this course, simply:

1. Choose the time of the year you would like to attend
2. Pick the Centre(s) of interest
3. Check availability online, contact head office to check availability across multiple Centres or contact the Centre(s) of your choice directly

To book this course the minimum size of your group must be 12 students and one member of staff.

Head Office contact details:
Tel: 01743 852100   Email: enquiries@field-studies-council.org

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Centres that offer this course

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