• This course is for Welsh schools.

• This in-depth course prepares students for the physical fieldwork focusing on the Coastal option, for Section B of Unit 2.

• Covers all the relevant geographical skills, including comprehensive coverage of the six stage enquiry process, ensuring students are fully prepared for the physical section of Section B of Unit 2 exam.
## Example Course Timetable

<table>
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<th>MORNING</th>
<th>AFTERNOON</th>
<th>EVENING</th>
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<tbody>
<tr>
<td>1</td>
<td>Arrive Midday</td>
<td>Coastal Systems</td>
<td>Analysis, Conclusions and Evaluation</td>
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|     | Students will be greeted by FSC staff, with a welcome talk followed by a brief tour of the Centre and the local area. | Visiting a local coastline students will develop an understanding of the operation of the coast as a system, considering the inputs, outputs, stores and transfers of energy and materials. They will be introduced to the six stage enquiry process, focusing in on relevant stages. | Using GIS and statistical tools to give meaning to the fieldwork data on both a global, local and personal scale, students will contextualise the data into the global picture of change, both natural and anthropogenic. Students will:  
- Process and present their data, using graphical and cartographical techniques.  
- Analyse data using statistical techniques.  
- Draw conclusions relating back to the original aims and objectives of the investigation.  
- Review all the stages of the enquiry and how it might be developed further. |
| 2   | Coastal Processes and Landscapes | Depart at Midday | Please note: to ensure safe and quality learning experiences for students, the timetable may alter depending on weather conditions and local factors at Centres. |
|     | Using the enquiry process, students will gain an understanding of the character of a high or low energy coastline and how it has developed in response to the inputs to the coastal system. They will consider the landforms and the distinctive features and distribution that make up the landscape system. Erosional and depositional features will be investigated, as well as processes such as longshore drift. | A final farewell from FSC staff as the students depart at midday. | |
| 3   | Managing Coastal Systems | | |
|     | Students will develop a case study of one management strategy to manage the impacts of human activity on a coastal location. They will consider the positive and negative impacts on coastal processes and landforms, as well as investigating how the management strategy affects human activity. | | |

“By recreating a naturally functioning shoreline we free ourselves from the ‘sea defence cycle’ of construct, fail and reconstruct. This must surely be more cost effective in the long run and more desirable in terms of maintaining the coast’s natural beauty. It does mean making some tough choices, but we can’t just store up the problems for future generations to deal with.” The National Trust

Coastal landscape systems are some of the most dynamic and fascinating in Wales and the UK, showcasing the complex and finely balanced interactions between land, atmosphere and ocean. Coasts can be beautiful, diverse, hospitable and hostile places, they offer rich habitat for a wealth of terrestrial and marine life, and are a part of the global landscape under increasing pressure from human development and climate change. They provide a scintillating backdrop to explore contemporary geographies, our place in a changing world, and the future of human and physical systems on the edge.

Throughout the course the six stages of enquiry will be used, ensuring students are prepared to answer exam questions on any of the six stages.

1. Context and planning – what is the geographical enquiry process?  
2. Data collection – how is data and information (evidence) collected?  
3. Presentation and display – how is the collected data and information presented?  
4. Analysis and interpretation of findings – how can the evidence be analysed?  
5. Conclusion – what conclusions can be drawn and how do these relate to the initial aim of the enquiry?  
6. Evaluation of the whole investigation – what evaluative techniques should be applied to the enquiry process? 

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

“There are no separate systems. The world is a continuum. Where to draw a boundary around a system depends on the purpose of the discussion.” Donella H. Meadows, Environmental Scientist

Students will visit a local coastal landscape and be given the opportunity to interpret this system. Focusing on sources of energy into the system from winds, waves, currents and tides, they will identify the principal processes that shape this complex zone where the land, sea and air interact. By considering the coast as a system that is constantly in flux to balance inputs, transfers and outputs, students will begin to appreciate the environment as a dynamic and constantly changing space. Students will be introduced to both the cliff and beach sub-systems, considering the specific inputs and outputs, including longshore drift, which they will develop further in during the following day.

Students will consider a wide range of secondary data and literature sources to provide a contextual background for a series of research questions, which are appropriate within an ethical and risk framework.

Students will:
• Collect primary data on wind and waves, which may include measuring wind direction and strength and determining wave type.
• Carry out sediment analysis, to include size and shape, which will then be linked to the coastal processes active in the area.
• Geology study, to include investigating the origin of material found on beaches and use of BGS maps to determine local and regional bedrock.
• Use secondary data to interpret long term wind patterns.

Opportunities for progress of geographical skills are:
• Developing cartographic skills in finding distances and areas by calculating the maximum fetch using an atlas and directions of prevailing wind and waves.
• Developing numerical skills by using data to calculate the sediment budgets on the coastline.
• Developing graphical skills such as drawing scattergraphs to show the relationship between wind speed and wave height and rose diagrams of prevailing wind direction.
• Photo interpretation of coastal landforms.

Specification Links

Unit 1 Changing Landscapes

1.1 Coastal Landscapes
1.1.1 The operation of the coast as a system.
1.1.2 Temporal variations and their influence on coastal environments.
1.1.4 Factors affecting coastal processes and landforms.
Learning Opportunities

Following on from the specific fieldwork completed during the day, students will present, analyse and form conclusions for their investigation. They will use secondary data from published sources and the FSC’s own datasets, together with a range of GIS tools to ensure they are placing their findings within a wider context.

Students will have the opportunity to:
• Consider, develop and use appropriate qualitative and / or quantitative data presentation methods.
• Be introduced to a range of cartographic and graphical techniques that relate to the investigation area.
• Analyse their findings in relation to the specific research questions.
• Summarise findings and draw conclusions, using references and secondary information.
• Evaluate all aspects of the investigation and consider improvements to the methods and analysis.

Opportunities for progress of geographical skills are:
• Developing numerical skills by considering how the sampling strategy for pebbles affects the sources of error in data, together with the measurement of errors and misuse of data.
• Developing an understanding of the scale of data sets through considering the samples of beach pebbles and the how to record frequencies through the roundness of the pebbles.
• Developing abilities to handle measures of central tendencies, by considering mean wave frequency or mean rate of cliff retreat per year per rock type, or modal Powers scale of beach pebbles.
• Develop statistical skills by calculating the range, standard deviation and interquartile range from a sample of beach pebbles.
• Develop statistical skills using Spearman Rank to investigate changes in pebble size and shape along a drift aligned beach and / or using Chi-square to test the hypothesis that the distribution of observed pebble shapes between the foreshore and storm ridge.

Specification Links

Unit 1 Changing Landscapes

1.1 Coastal Landscapes

1.1.1 The operation of the coast as a system.
1.1.2 Temporal variations and their influence on coastal environments.
1.1.3 Landforms and landscape systems, their distinctive features and distribution.
1.1.4 Factors affecting coastal processes and landforms.
1.1.5 Processes of coastal weathering, mass movement, erosion and the characteristics and formation of associated landforms.
1.1.6 Processes of coastal transport and deposition and the characteristics and formation of associated landforms.
1.1.8 Variations in coastal processes, coastal landforms and landscapes over different time scales.
Learning Opportunities

“Look deep into nature, and then you will understand everything better.” Albert Einstein

Students will revisit the same coastal landscape to gain detailed understanding of the development of that coastline. By analysing the character of their coastline, they will determine possible reasons behind the development of the distinctive landforms of erosion and deposition present and the links to the input systems previously identified. The work developed on this day will build an in depth knowledge of either a high or low energy coastline. Students will also visit different areas within the same coastline to start to appreciate the differences between the erosional rocky coastlines and depositional sandy or estuarine coastlines. Students will consider the geology, both lithology and structure and how this affects the coastline shape and landforms.

Sampling strategies will be considered, to ensure that various data collection approaches are designed and evaluated within the topic area, enabling students to prepare for questions within the AS paper and/or prepare for the individual investigation at A level.

Primary and secondary data collection and analysis might include:

• Beach profiles, to illustrate the action of longshore drift and/or erosion and consider what this means for the origin and development of landforms.
• Field sketches and/or annotated photographs.
• Use sketches and/or photographs to record the landscape and distinctive landforms that create it.
• Interpretation of the landscape with reference to evidence of sea level change in the area and the resultant landforms in the landscape e.g. relic cliff lines and raised beaches.
• Cliff surveys including cliff height and cliff sketches to record erosional features and processes creating and modifying them.
• Statistical analysis of data.
• Use of GIS to map data, access located secondary data and analyse these data sets.

Opportunities for progress of geographical skills are:

• Developing cartographic skills by tracing a section of coastline at various scales to consider and comment on the influence of scales on the plan of the coastline.
• Developing graphical skills such as cross-sections of sand dune/salt marsh and longshore beach profiles.
• Using qualitative skills to identify coastal landscapes according to landscape character type.

Specification Links

Unit 1 Changing Landscapes

1.1 Coastal Landscapes

1.1.3 Landforms and landscape systems, their distinctive features and distribution.

1.1.5 Processes of coastal weathering, mass movement, erosion and the characteristics and formation of associated landforms.
Learning Opportunities

“The National Strategy represents a change in the way in which flooding and coastal erosion is dealt with in Wales, moving from dealing with defence and drainage alone, to dealing with sustainable and innovative approaches and working with natural processes rather than against them.”

The Welsh Government

Students will use their understanding of coastal features, processes and systems to focus on a local coastal management case study. They will see examples of varying approaches to management and have the opportunity to consider the reasons for this management and its implementation. Students will evaluate the appropriateness of management and consider the suitability of the current schemes in light of future issues such as global sea level change and possible changes that may be seen within their lifetimes.

Students will:

• Investigate one example of coastal processes having a positive impact on human activity and one example of a negative impact, together with the management strategy implemented to mitigate this.
• Investigate one example of human activity having a positive impact on coastal processes through a management strategy and also one negative example.
• Research the Shoreline Management Plan for the local area to develop case study knowledge.
• Calculate flood risk of settlements and/or infrastructure.
• Evaluate hard/soft coastal defences using techniques such as cost-benefit analysis and bipolar evaluations.
• Consider the sustainability of coastal management with reference to climate change and increasing flood risk.
• Use secondary data to inform reasoning on the sustainability of coastal management.

Opportunities for progress of geographical skills are:

• Developing geo-spatial mapping skills using GIS and aerial photos to measure the rates of coastal retreat.
• Field sketching of cliff profiles, sea defences and erosional aspects of the coastal landscape.

Specification Links

Unit 1 Changing Landscapes

1.1 Coastal Landscapes

1.1.5 Processes of coastal weathering, mass movement, erosion and the characteristics and formation of associated landforms.

1.1.9 Coastal processes are a vital context for human activity.

1.1.10 The impact of human activity on the coastal landscape system.
AS Level Geography: Coastal Systems and Landscapes 3 days

Course Options

To book this course, simply:
Choose the time of the year you would like to attend
1. Pick the Centre(s) of interest
2. 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

Please Note: All of our Centres offer this course, just please be aware if you visit a Centre other than the above, you will not be able to visit Welsh Landscapes, as it suggests you do in the specification.

Centres that offer this course

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