Deliver two days of fieldwork within an inspiring physical environment.
Prepare AS level students for Section B of Paper 2: Geography fieldwork investigation and geographical skills, worth 12.5% of their total marks.
Cover specification content for AS fieldwork in 3.1 Physical geography; 3.1.2 Coastal systems and landscapes.
For those going on to A level, this course will contribute two of the four days of fieldwork requirements and provide contextualised learning in inspiring real world environments to develop their geographical understanding for the A level examinations.
### Example Course Timetable

#### Day 1

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<th>MORNING</th>
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<td><strong>Arrive Midday</strong>&lt;br&gt;Students will be greeted by FSC staff, with a welcome talk followed by a brief tour of the Centre and the local area.</td>
<td><strong>Coastal Systems and Landscapes</strong>&lt;br&gt;By considering the coast as a system that is constantly in flux to balance inputs, transfers and outputs, students will explore a coastal landscape and begin to appreciate the environment as a dynamic and constantly changing space.</td>
<td><strong>Data Analysis and Evaluation</strong>&lt;br&gt;Students will process and present their field data, interpreting their fieldwork observations and using statistical techniques to analyse and draw conclusions. The findings will be set into the context of understanding 'coasts as dynamic environments', thus enabling students to apply a systems approach to their conclusions.</td>
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<td><strong>Outline of the Course</strong>&lt;br&gt;Allocation of wellies/waterproofs.</td>
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#### Day 2

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<td><strong>Coastal Landscape Development</strong>&lt;br&gt;In this session students will visit the coastal landscape to gain detailed knowledge of the development of that coastline. By analysis of the character of their coastline they will to determine possible reasons behind the development of the landform features present and the links to the system processes already studied.</td>
<td><strong>Data Analysis and Evaluation</strong>&lt;br&gt;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. They will:</td>
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<td>• Process and present their data, using graphical and cartographical techniques&lt;br&gt;• Analyse data using statistical techniques&lt;br&gt;• Draw conclusions relating back to the original aims and objectives of the investigation&lt;br&gt;• Review all the stages of the enquiry and how it might be developed further</td>
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#### Day 3

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<td><strong>Coastal Management</strong>&lt;br&gt;Students will use their understanding of coastal features, processes and systems to focus on a local coastal management case study. They will consider possible sustainable approaches to coastal flood risk and erosion management and place these within a systems framework.</td>
<td><strong>Depart at Midday</strong>&lt;br&gt;A final farewell from FSC staff as the students depart at midday.</td>
<td><strong>Please note:</strong> to ensure safe and quality learning experiences for students, the timetable may alter depending on weather conditions and local factors at Centres.</td>
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*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 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.
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

The world is fundamentally a complex sphere of systems - inputs and outputs, feedbacks and thresholds - all in a delicate yet dynamic equilibrium that creates a home for each of us. Anthropogenic action can influence these systems for our gain or protection, but essentially the natural systems ebb and flow to create the whole variety of spaces with which we are familiar. For the purpose of this session, our attention will focus on the natural systems operating at the coast; a story of energy and process written out in this characteristic landscape.

Learners will explore the coastal space and be given the opportunity to interpret it as a 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:
• 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.
• Use sketches and/or photographs to record the landscape and distinctive landforms that create it.
• Use secondary data to interpret long term wind patterns.

Specification Links

3.1 Physical geography

3.1.2 Coastal systems and landscapes

3.1.2.1 Coasts as natural systems
Systems concepts and their application to the development of coastal landscapes - inputs, outputs, energy, stores/components, flows/transfers, positive/negative feedback, dynamic equilibrium. The concepts of landform and landscape and how related landforms combine to form characteristic landscapes.

3.1.2.2 Systems and processes
Sources of energy in coastal environments: winds, waves (constructive and destructive), currents and tides. Low energy and high energy coasts.

Sediment sources, cells and budgets.

Geomorphological processes: weathering, mass movement, erosion, transportation and deposition.

Distinctively coastal processes: marine: erosion – hydraulic action, wave quarrying, corrosion/abrasion, cavitation, solution, attrition; transportation: traction, suspension (longshore/littoral drift) and deposition; Sub-aerial weathering, mass movement and runoff.
Learning Opportunities

In these sessions students will begin to collate and present their data.

Students may:
• Review their data presentation techniques and research others
• Identify which data would be more appropriate presented in basic and simple ways
• Identify which data sets would be more appropriately combined or presented more sophisticatedly
• Use digital technologies to present and start to set-up representations for further analysis
• Start to develop conclusions linked to their aims and questions
• Research more secondary data, to provide depth to the conclusions
• Extend their geographical understanding by using FSC research and data facilities
• Start to evaluate the success of the investigation, looking at the reliability of the data sources and collection methods
• Present and analyse digital data using Geographical Information Systems (GIS)
Learning Opportunities

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

The present shares deeply entrenched links both with the past and the future and maintaining the essential balance between systems across time requires taking and giving back: a critical principle in all systems at every temporal and spatial scale. While evident in our own complex lives of social, economic and environmental influence, a deep understanding of this truism can be gained everywhere in nature, not least within the coastal system. Shaped over time by the interaction of inputs, transfers, stores and outputs that we readily see in our distinctive coastal landscape, it reflects the systems concepts that work across geography and can support learners’ understanding of a wide range of concepts, even beyond the day’s study.

In this session students will visit the coastal landscape to gain detailed knowledge of the development of that coastline. By analysis of the character of their coastline they will to determine possible reasons behind the development of the landform features present and the links to the system processes already studied.

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.
- Geology study, to include investigating the origin of material found on beaches and use of BGS maps to determine local and regional bedrock.
- 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.

Specification Links

3.1 Physical geography

3.1.2 Coastal systems and landscapes

3.1.2.3 Coastal landscape development
Origin and development of landforms of coastal erosion: cliffs and wave cut platforms, cliff profile features including caves, arches and stacks; factors and processes in their development.

Origin and development of landforms of coastal deposition: beaches in cross section and plan, swash and drift aligned beaches, simple and compound spits, tombolos, offshore bars, barrier beaches and islands; factors and processes in their development.

Estuarine mudflat/saltmarsh landforms and associated landscapes; factors and processes in their development.

The relationship between process, time, landforms and landscapes in coastal settings.

3.1.2.6 Case studies
Case study(ies) of local coastal environment(s) at a local scale to illustrate and analyse fundamental coastal processes, their landscape outcomes as set out above and engage with field data and challenges represented in their sustainable management.

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

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 management, and evaluate the appropriateness of management approaches and consider the suitability of the current schemes in light of future issues such as global sea level change.

Students will:
- Research the Shoreline Management Plan for the local area to develop case study knowledge.
- Evaluate coastal defences using techniques such as cost-benefit analysis and bipolar evaluations.
- Calculate flood risk of settlements and/or infrastructure.
- 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.

Specification Links

3.1 Physical geography

3.1.2 Coastal systems and landscapes

3.1.2.4 Coastal management

Human intervention in coastal landscapes to include: traditional approaches to coastal flood and erosion risk: hard and soft engineering sustainable approaches to coastal flood risk and coastal erosion management anticipating climate change: shoreline management / Integrated coastal zone management.

3.1.2.6 Case Study

Case study(ies) of local coastal environment(s) at a local scale to illustrate and analyse fundamental coastal processes, their landscape outcomes as set out above and engage with field data and challenges represented in their sustainable management.
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