

How Populations and Environments Work, 8days



At A2, the specification places considerable emphasis on practical work including fieldwork (A2 Module 3 and A2 Unit F216 – Practical skills in Biology). FSC courses will use fieldwork to allow students to gain a strong understanding of “How Science Works”; through the development and practice of investigative skills and through the consideration of how scientific evidence may be used to assess man’s impact on the environment.

COURSE LENGTH

8 Days (7 nights with 19 teaching sessions)

Wednesday / Friday	Thursday / Saturday	Friday / Sunday	Saturday / Monday	Sunday / Tuesday	Monday / Wednesday	Tuesday / Thursday	Wednesday / Friday
Arrive for evening meal. Evening session	Morning, afternoon and evening sessions	Morning, afternoon and evening sessions	Morning, afternoon and evening sessions	Morning, afternoon and evening sessions	Morning, afternoon and evening sessions	Morning, afternoon and evening sessions	Depart after breakfast

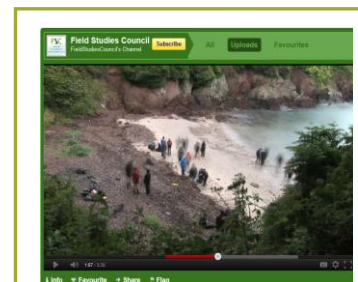
COURSE CONTENT

Definitions and Concepts <i>(revisited AS content in italics)</i>	Sampling and Experimental Techniques	Data Analysis and Presentation Skills <i>(revisited AS content in italics)</i>	How Science Works (these areas will either be linked to fieldwork or discussion sessions)
<ul style="list-style-type: none"> • <i>Species concept</i> • <i>Taxonomy</i> • <i>Species Diversity</i> • Habitat, population • Community, ecosystem • Niche, abiotic/biotic • Population size effected by: abiotic factors • Inter/intraspecific competition and predation • Energy transfer /trophic levels • Net/gross productivity • Succession (pioneer to climax) 	<ul style="list-style-type: none"> • Random sampling • Transect sampling • Percentage cover & frequency • Mark-Release-Recapture • Quantitative data on energy transfer 	<ul style="list-style-type: none"> • Construction of pyramids of no/biomass/energy • Species Diversity Index • Graphical techniques • Mean, normal distribution and Standard deviation • <i>Null Hypotheses</i> • <i>Standard Error (95% confidence)</i> • <i>Spearman's Rank and/or Chi-squared</i> 	<ul style="list-style-type: none"> • Effect of farming practices on energy efficiency & productivity such as: <ul style="list-style-type: none"> - Fertilisers (inc leaching/eutrophication) - Pesticides - Biological control - Intensive farming • Global warming and effect on such as: <ul style="list-style-type: none"> - Crop yield - Insects no.s/life cycles - Distribution of spp • Conservation of spp/habitat and management of succession (use of scientific evidence and conflicts of interest)

This longer course covers the same content as the 5 day course, but enables students to gain further practice in fieldwork and analytical techniques and to experience a wider range of habitats and organisms. There is also the opportunity to explore 'How Science Works' in more depth.

By the end of this course students will also have developed the following practical skills needed to carry out an A2 (Unit F216) Practical Skills Assessment (Qualitative, Quantitative and/or Evaluation tasks):

- Measure the effect of a changing abiotic factor on the distribution/abundance of an organism
- Demonstrate skilful and safe practical techniques using qualitative and quantitative methods with appropriate risk management
- Make and record valid observations and measurements to the appropriate degree of precision
- Process results quantitatively
- Interpret results to explain patterns and trends and to reach valid conclusions using scientific knowledge and understanding
- Comment on reliability and validity of data
- Assess the limitations of data collection strategies and suggest simple improvements



[Click to view our coastal fieldwork video](#)

LEARNING OUTCOMES/OBJECTIVES

Learning Objectives	Learning Outcomes
<ul style="list-style-type: none"> • Provide students with an understanding of key ecological concepts • Provide students with experience of the ecological techniques and emphasise the justification and limitations of those techniques • Give opportunities for students to apply those skills in a variety of habitats including one terrestrial and one aquatic habitat • Show how skills and concepts can be transferred to other habitats and allow students to experience a range of experimental designs and establish the need for replication and controls • Explore a range of graphical and statistical techniques for the analysis of ecological data and make clear the links between experimental design and methods of analysis • Emphasise the justification and limitations of different techniques for the presentation and analysis of data • Give students increasing responsibility for the design of the sampling to be undertaken each day • Explore the synoptic links between ecological studies and other areas of the specification 	<p>By the end of a course we expect all students to:</p> <ul style="list-style-type: none"> • Have gained an understanding of the appropriate terminology used in ecological questions • Have demonstrated an ability to analyse and interpret ecological data using a variety of graphical and mathematical skills • Be able to use their findings in the context of standard ecological concepts and make synoptic links to other areas of their specification • Be able to transfer their skills and knowledge to the study of new habitats and new ecological questions <p>We also hope that students will:</p> <ul style="list-style-type: none"> • Have developed an understanding of, and respect for, living organisms in their natural habitats • Be able to appreciate the rich biodiversity of life within all types of habitats in the UK. • Explore how personal, social, moral and cultural issues can be put into a wider environmental context

**External Recognition of Quality**

All our centres have been awarded the Quality Badge by The Council for Learning Outside the Classroom. The badge is awarded to organisations that have demonstrated that they consistently deliver high quality teaching and learning experiences and manage risk effectively. This means that you will have to complete less paperwork when visiting our centres

Protecting fieldwork opportunities for everybody

Growing pressures on outdoor learning has led the FSC to take on an important role; championing the rights and opportunities for people of all ages to experience the environment at first hand.

The FSC has led in campaigns to reverse the continuing decline in fieldwork within secondary schools and to build opportunities for out-of-classroom learning.

As a registered charity, the FSC receives no statutory funding. It relies solely on fees charged for courses and membership. Therefore, by visiting an FSC Centre not only are you receiving a high quality educational experience for your students, you are also you are helping to protect fieldwork opportunities for everybody.

FSC CENTRES

This course is offered at our residential centres listed below, set in some of the most stunning locations in the UK.



FSC Centres that offer this course:

BL	Blencathra	Tel: 01768 779 601
DF	Dale Fort	Tel: 0845 330 7365
DG	Derrygonnelly	Tel: 028 686 41673
FM	Flatford Mill	Tel: 0845 330 7368
JH	Juniper Hall	Tel: 0845 458 3507
KD	Kindrogan	Tel: 01250 870 150
MT	Malham Tarn	Tel: 01729 830 331
NC	Nettlecombe	Tel: 01984 640 320
OR	Orielton	Tel: 0845 330 7372
PM	Preston Montford	Tel: 0845 330 7378
RC	Rhyd-y-creuau	Tel: 01690 710 494
SL	Slapton Ley	Tel: 01548 580 466

TO BOOK THIS COURSE, SIMPLY:

1. Choose the time of the year you would like to attend
2. Pick the centre/centres of interest
3. [Check availability online](#) or contact head office using the details at the bottom of the page or contact the centre of your choice

**Please note to book this course the minimum size of your group must be 12 students and 1 member of staff*

Please visit

<http://www.field-studies-council.org/outdoorclassroom/biology/aqa/>

for alternative [biology fieldwork](#) courses covering [A-level aqa biology fieldwork](#)

COURSE PRICES

The cost of this course is shown below. The fee varies depending on time of year, arrival and departure days/times and course content. The FSC prides itself on being flexible; the course content can be tailored to meet your needs. Alternatively, we can work with you to create a fully bespoke course to meet your exact requirements.

8 day timetable, 2012, prices from: Band A: £231 Band B: £268 Band C: £310 Band D: £357 Band E: £374
 8 day timetable, 2013, prices from: Band A: £231 Band B: £268 Band C: £310 Band D: £357 Band E: £374

Week Beginning	Band	Week Beginning	Band	Week Beginning	Band
03 September 2012	D	25 February 2013	D	19 August 2013	B
10 September 2012	D	04 March 2013	D	26 August 2013	B
17 September 2012	D	11 March 2013	D	2 September 2013	C
24 September 2012	D	18 March 2013	D	9 September 2013	D
01 October 2012	E	25 March 2013	D	16 September 2013	D
08 October 2012	E	01 April 2013	B	23 September 2013	D
15 October 2012	D	08 April 2013	B	30 September 2013	E
22 October 2012	D	15 April 2013	D	7 October 2013	E
29 October 2012	B	22 April 2013	C	14 October 2013	D
05 November 2012	D	29 April 2013	C	21 October 2013	C
12 November 2012	D	06 May 2013	C	28 October 2013	B
19 November 2012	C	13 May 2013	C	4 November 2013	D
26 November 2012	C	20 May 2013	C	11 November 2013	D
03 December 2012	A	27 May 2013	B	18 November 2013	C
10 December 2012	A	03 June 2013	D	25 November 2013	C
17 December 2012	A	10 June 2013	E	2 December 2013	A
24 December 2012	A	17 June 2013	E	9 December 2013	A
31 December 2012	A	24 June 2013	E	16 December 2013	A
07 January 2013	A	01 July 2013	E	23 December 2013	A
14 January 2013	A	08 July 2013	E	30 December 2013	A
21 January 2013	B	15 July 2013	C		
28 January 2013	C	22 July 2013	C		
04 February 2013	C	29 July 2013	A		
11 February 2013	C	5 August 2013	A		
18 February 2013	B	12 August 2013	A		

FSC courses are classed as educational by HMRC and are therefore VAT exempt; **we don't charge you VAT**. This can save you time and effort paying it and then attempting to claim it back, if you are eligible to do so.

Included within the course price:

- Expert tuition by fully trained staff
- Rigorous and proven health and safety procedures including 24 hour emergency cover
- Access to risk assessments
- Full board (residential visits)
- Specialist equipment and exclusive access to specially developed resources
- Free places for visiting staff in a ratio of 1 to 12 students
- E-mail support before and after the course (on request)
- Personal and travel insurance

Please remember travel to the field centre and to fieldwork sites is not included in the course fee.

FSC offers a number of courses covering [Science field trips](#), [biology fieldwork](#), [AS / A level biology fieldwork](#) as well as [geography field trips](#) and [geography fieldwork](#). Please visit our website for further information.