FSC Course: AS/A2 Techniques – 1 day course

Biodiversity study using random sampling
3.3 OCR AS Unit F213: *Practical Skills in Biology 1*
3.6 OCR A2 Unit F216: *Practical Skills in Biology 2*

PROVISIONAL PROGRAMME

Aim: *To introduce the students to a range of fieldwork techniques from the range below.*

Random Sampling

- Introduction and use random sampling in a habitat, including the limitations and assumptions.
- Use, and discuss the limitations of, a range of quadrats to collect species richness/evenness data.
- Create appropriate data collection tables.
- List all independent and dependent variables and controls.
- Calculate appropriate descriptive statistics (mean, median, mode).

Freshwater Biodiversity

- Sweep sampling of 2 Micro-habitats
- Field identification of invertebrates using dichotomous keys

Analysis of data using Simpson's Diversity Index

Systematic sampling

- Introduction and use of systematic sampling (transect) in a habitat, including the limitations and assumptions.
- Collect biotic and abiotic data on the distribution and abundance of organisms along a transect using open, gridded and point quadrats.
- Identify dependent and independent variables, and controls.

RECOMMENDED DAY LENGTH
9.00-16.30

SAFETY All sites and activities are risk assessed.
Recommended 1 adult per group.

CLOTHING Appropriate outdoor clothing. Indoor and outdoor footwear.

VISITING TEACHER ROLE
Teachers to support FSC staff by circulating the students, keeping them on task. Teachers are responsible for behaviour.

RESOURCES All resources are provided, including secondary data for evaluation PSA task.

ICT There is the option of using a digital camera to record techniques. Photos can be put onto a disk with additional resources.

SPECIFICATION LINKS

3.3 OCR AS Unit F213: *Practical Skills in Biology 1*
Module 3:Biodiversity and evolution

2.3.1 Biodiversity

a) define the terms species, habitat and biodiversity
d) describe how random samples can be taken when measuring biodiversity.
e) describe how to measure species richness, species evenness in a habitat.
f)Use Simpson's Index of diversity (D) to calculate the biodiversity of a habitat.
g) outline the significance of both high and low values of Simpson's Index of diversity (D).

3.6 OCR A2 Unit F216: *Practical Skills in Biology 2*
Practical work:
Collection of quantitative data:

- measure the effect of a changing abiotic factor on distribution and/or abundance of an organism.

ASSESSMENT
Progress assessed by open ended questioning, peer discussions, presentations and use of knowledge and skills in different situations.

PRIOR LEARNING
Students may be required to research a species outlined in the PSA exam paper. Simple definitions and terms, prior knowledge from specifications.

FUTURE LEARNING
Evaluation PSA task using secondary data.

HOW SCIENCE WORKS
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