Buckswood School

IB Diploma Programme

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| Subject | Environmental Systems and Societies |
| HL / SL | SL |
| Text book | Environmental Systems and Societies (OUP) |
| Lesson per week | 3 hours |
| Teacher | Mr Lawless |
| Students | TBC |

**Christmas Term**

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| **Week** | **Topics covered** | **TOK Question** | **Connections** | **Recommended Extra Reading** |
| 1  (11 Sept) | 1.1 Environmental value systems  1.2 Systems and models | EVSs shape the way we perceive the environment—which other value systems shape the way we view the world?  Models are simplified constructions of reality—in the construction of a model, how can we know which aspects of the world to include and which to ignore? | Geography  (option G)  Biology  (topic 4) |  |
| 2  (18 Sept) | 1.3 Energy and equilibria  1.4 Sustainability | The laws of thermodynamics are examples of scientific laws—in which ways  do scientific laws differ from the laws of human science subjects, such as economics?  EIAs incorporate baseline studies before a development project is  undertaken—to what extent should environmental concerns limit our pursuit  of knowledge? | 1.3 -  Physics  (topic 2 and option B);  Chemistry (topics 5, 7 and 15; option C);  Biology  (topic 6)  1.4  Geography (topic 3, options C and G |  |
| 3  (25 Sep) | 1.5 Humans and pollution  2.1 Species and populations | Experts sometimes disagree about pollution management strategies—on what basis might we decide between the judgments of the experts if they  disagree?  Through the use of specialized vocabulary, is the shaping of knowledge more dramatic in  some areas of knowledge compared to others? | 1.5  Geography (option G)  2.1 biology (topic 4) |  |
| 4  (02 Oct) | 2.2 Communities and ecosystems  2.3 Flows of energy and matter | Feeding relationships can be represented by different models—how can we decide when one model is better than another?  The Sun’s energy drives energy flows, and throughout history there have been “myths” about the importance of the Sun—what role can mythology and anecdotes play in the passing on of scientific knowledge? | 2.2 Biology (topics 4 and 9; option C)  2.3 Biology (topics 4 and 9; option C); chemistry (option C);  geography (topic 3); physics (sub-topic 2.8) |  |
| 5  (09 Oct) | 2.4 Biomes, zonation and succession | Ecosystems are studied by measuring biotic and abiotic factors—how can you know in advance which of these factors are significant to the study? | Geography (topic 3)  Biology (topic 4) |  |
| 6  (16 Oct) | **Assessment week** | | | |
| 7  (23 Oct) | **Half term** | | | |
| 8  (30 Oct) | 2.4 Biomes, zonation and succession | Ecosystems are studied by measuring biotic and abiotic factors—how can you know in advance which of these factors are significant to the study? | Geography (topic 3)  Biology (topic 4) |  |
| 9  (06 Nov) | 2.5 Investigating ecosystems | When is quantitative data superior to qualitative data in giving us knowledge about the world? | Biology (topic 4)  Chemistry (topic 11) |  |
| 10  (20 Nov) | 2.5 Investigating ecosystems | Controlled laboratory experiments are often seen as the hallmark of the scientific method, but are not possible in fieldwork—to what extent is the knowledge obtained by observational natural experiment less scientific than the manipulated laboratory experiment? | Biology (topic 4)  Chemistry (topic 11) |  |
| 11  (20 Nov) | 2.5 Investigating ecosystems |  | Biology (topic 4)  Chemistry (topic 11) |  |
| 12  (27 Nov) |  |  |  |  |
| 13  (04 Dec) | Revision |  |  |  |
| 14  (11 Dec) | **Assessment Week** | | | |

**Spring Term**

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| **Week** | **Topics covered** | **TOK Question** | **Connections** | **Recommended Extra Reading** |
| 1  (08 Jan) | 3.1 An introduction to biodiversity | The term “biodiversity” has replaced the term “nature” in much literature on conservation issues—does this represent a paradigm shift? | Biology (topics 5 and 10) |  |
| 2  (15 Jan) | 3.2 Origins of biodiversity | The theory of evolution by natural selection tells us that change in populations is achieved through the process of natural selection—is there a difference between a convincing theory and a correct one? | Biology (topic 5) |  |
| 3  (22 Jan) | 3.3 Threats to biodiversity | There may be long- term consequences when biodiversity is lost—should people be held morally responsible for the long-term consequences of their actions? | Geography (topic 3)  Biology (topic 5 and option C) |  |
| 4  (29 Jan) | 3.4 Conservation of biodiversity | There are various approaches to the conservation of biodiversity—how can we determine when we should be disposed to act on what we know? | Geography (topic 3);  Biology (option C) |  |
| 5  (05 Feb) | Assessment Week | | | |
| 6  (12 Feb) | **Half Term** | | | |
| 7  (19 Feb) | 4.1 Introduction to water systems | The hydrological cycle is represented as a systems model—to what extent can systems diagrams effectively model reality, given that they are only based on limited observable features? | Geography (options A and  D) |  |
| 8  (26 Feb) | 4.2 Access to fresh water | Aid agencies often use emotive advertisements around the water security issue—to what extent can emotion be used to manipulate knowledge and actions? | Geography (topic 3; options  A, B and F); |  |
| 9  (05 Mar) | 4.3 Aquatic food production systems | The Inuit people have an historical tradition of whaling to what extent does our culture determine or shape our ethical judgments? | Geography (option B) |  |
| 10  (12 Mar) | 4.4 Water pollution  Revision | A wide range of parameters are used to test the quality of water and judgments are made about causes and effects of water quality—how can we effectively identify cause–effect relationships, given that we can only ever observe correlation? | Chemistry  (topic 9; options  B and D |  |
| 11  (19 Mar) | **Assessment Week** | | | |

**Summer Term**

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| **Week** | **Topics covered** | **TOK Question** | **Connections** | **Recommended Extra Reading** |
| 1  (16 April) | 5.1 Introduction to soil systems | The soil system may be represented by a soil profile—since a model is, strictly speaking, not real, how can it lead to knowledge? | Geography (topic 3) |  |
| 2  (23 Apr) | 5.2 Terrestrial food production systems and food choices | Consumer behaviour plays an important role in food production systems are there general laws that can describe human behaviour? | Biology  (options B and C)  Chemistry  (options B and C  Geography  (option F); |  |
| 3  (30 Apr) | 5.3 Soil degradation and conservation | Our understanding of soil conservation has progressed in recent years—what constitutes progress in different areas of knowledge? |  |  |
| 4  (07 May) | 5.3 Soil degradation and conservation | Fertile soil can be considered as a non renewable resource because once depleted, it can take significant time to restore the fertility how does our perception of time influence our understanding of change? | Chemistry  (options A and C)  Geography  (topic 3) |  |
| 5  (14 May) | 6.1 Introduction to the atmosphere | The atmosphere is a dynamic system—how should we react when we have  evidence that does not fit with an existing theory? | Geography (topic 3)  Physics (sub-topic 8.2) |  |
| 6  (21 May) | **Assessment week** | | | |
| 7  (28 May) | **Half term** | | | |
| 8  (04 Jun) | 6.2 Stratospheric ozone | The Montreal Protocol was an international agreement created by the UN—can one group or organization decide what is best for the rest of the world? | Chemistry (topics 5 and 14)  Geography (option G); |  |
| 9  (11 Jun) | 6.3 Photochemical smog  6.4 Acid deposition | Environmental problems are often emotive—under what circumstances should we maintain a detached relationship with the subject matter under investigation? | Chemistry  (topic 5)  Geography  (option G), |  |
| 10  (18 Jun) | Revision | | | |
| 11  (25 Jun) | School Exam week | | | |