IB Environmental Systems and Societies (ESS) Syllabus

The IB Environmental Systems and Societies (ESS) Syllabus is composed of 7 Core Topics. Students are responsible for all 7 core topics.

The following Syllabus Overview and Syllabus Details give the suggested class teaching times for covering the material for each section. This adds up to 120 hours. An additional 30 hours is expected to be spent doing experimental lab work that will also include a significant amount of field studies activities to successfully teach Topic 2. This brings the total time to 150 hours, the same as other SL courses in Group 4.

The teaching sequence of the course will ultimately be decided upon by the teacher based on pedagogical philosophy, experience and more practically, based on time, location and climate. It may only be reasonable to do field work in September and October and therefore it may be advisable to teach Topic 2 near the beginning of the course. On the other hand it may be more appropriate, due to your circumstances, to do field work in April and May. These variables will, in part, dictate the sequence of the course. For the purposes of this text I have arranged the sequence as outlined in the IB syllabus, but it is to be understood that the Topics, and even sub-topics, can be moved around to suit the individual teacher's needs, philosophy and constraints.

The preparation of this text is based on several assumptions. It is assumed that the teacher has been to the four day IB Level 1 Teacher Training Workshop (TTW) for ESS, which is widely available during the school year or during the summer months. At these workshops the details of the following areas are addressed:

- syllabus
- IA (internal assessment) rubric
- external exams
- extended essay

It is strongly recommended that every IB teacher attend one of these workshops where valuable information, advice, sample exams, and an introduction to the OCC (Online Curriculum Centre) are shared. For this reason this material does not include past exam papers and other IB material that is normally distributed at these workshops. If it has been a while since you have been to an IB workshop, your IB coordinator has the ability to obtain the most recent documents from IBO.

It is further assumed that the teacher has the most recent IBO Environmental Systems and Societies syllabus and access to the OCC (Online Curriculum Centre), which has much to offer new and experienced IB teachers.

The internal assessment criteria for ESS are different from the preceding course and it is also different from the other group 4 science courses. Since it is a transdisciplinary course, it is important to be aware of the differences, especially for teachers who may be teaching other group 4 sciences. Full details of the criteria can be found on pages 14-20 in the syllabus.

Syllabus Overview

Topics	Teaching hours
1 Systems and Models	5
2 The Ecosystem	31
3 Human Population, Carrying Capacity and Resource Use	39
4 Conservation and Biodiversity	15
5 Pollution Management	18
6 The Issue of Global Warming	6
7 Environmental Value Systems	6

Syllabus Details

	Teaching hours
Topic 1 Systems and Models	[5]
Topic 2 The Ecosystem	[31]
2.1 Structure	4
2.2 Measuring Abiotic Components of the System	1
2.3 Measuring Biotic Components of the System	4
2.4 Biomes	3
2.5 Function	7
2.6 Changes	7
2.7 Measuring Changes in the System	5
Topic 3 Human Population, Carrying Capacity and Resource Use	[39]
3.1 Population Dynamics	5
3.2 Resources.Natural Capital	8
3.3 Energy Resources	4
3.4 The Soil System	4
3.5 Food Resources	6
3.6 Water Resources	3
3.7 Limits to Growth	2.5
3.8 Environmental Demands of Human Populations	6.5
Topic 4 Conservation and Biodiversity	[15]
4.1 Biodiversity in Ecosystems	3
4.2 Evaluating Biodiversity and Vulnerability	6
4.3 Conservation of Biodiversity	6
Topic 5 Pollution Management	[18]

5.1	Nature of Pollution	1
5.2	Detection and Monitoring of Pollution	3
5.3	Approaches to Pollution Management	2
5.4	Eutrophication	3
5.5	Solid Domestic Waste	2
5.6	Depletion of Stratospheric Ozone	3
5.7	Urban Air Pollution	2
5.8	Acid Deposition	2

Topic 6 The Issue of Global Warming [6]
Topic 7 Environmental Value Systems [6]