

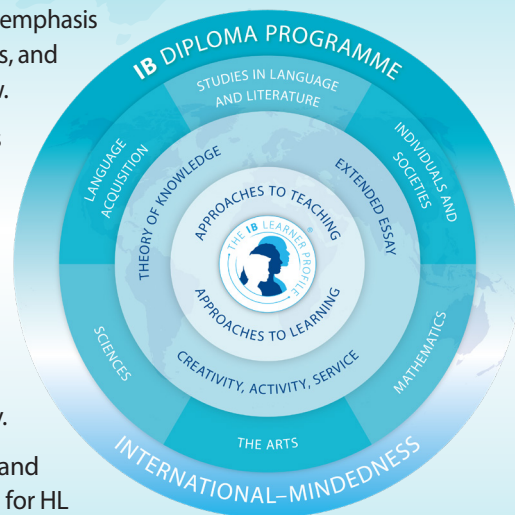
## Environmental systems and societies

First assessment 2026

The Diploma Programme (DP) is a rigorous pre-university course of study designed for students in the 16 to 19 age range. It is a broad-based two-year course that aims to encourage students to be knowledgeable and inquiring, but also caring and compassionate. There is a strong emphasis on encouraging students to develop intercultural understanding, open-mindedness, and the attitudes necessary for them to respect and evaluate a range of points of view.

The course is presented as six academic areas enclosing a central core. Students study two modern languages (or a modern language and a classical language), a humanities or social science subject, an experimental science, mathematics and one of the creative arts. Instead of an arts subject, students can choose two subjects from another area. It is this comprehensive range of subjects that makes the Diploma Programme a demanding course of study designed to prepare students effectively for university entrance. In each of the academic areas students have flexibility in making their choices, which means they can choose subjects that particularly interest them and that they may wish to study further at university.

Normally, three subjects (and not more than four) are taken at higher level (HL), and the others are taken at standard level (SL). The IB recommends 240 teaching hours for HL subjects and 150 hours for SL. Subjects at HL are studied in greater depth and breadth than at SL. In addition, three core elements—the extended essay, theory of knowledge and creativity, activity, service—are compulsory and central to the philosophy of the programme.



### I. Course description and aims

Environmental systems and societies (ESS) is an interdisciplinary course, encompassing both the sciences and individuals and societies and is offered at both standard level (SL) and higher level (HL). As such, ESS combines a mixture of methodologies, techniques and knowledge associated with both the sciences and individuals and societies.

ESS is both a complex and contemporary course that engages students in the challenges of 21st century environmental issues. Consequently, it requires its students to develop a diverse set of skills, knowledge and understanding from different disciplines. Students develop a scientific approach through explorations of environmental systems. They also acquire understandings and methods from individuals and societies subjects whilst studying sustainability issues within social, cultural, economic, political, and ethical contexts. The interdisciplinary nature of the course means students produce a synthesis of understanding from the various topics studied. It also emphasizes the ability to perform research and investigations and to participate in philosophical, ethical, and pragmatic discussions of the issues involved from the local through to the global level.

ESS aims to empower and equip students to:

1. develop understanding of their own environmental impact, in the broader context of the impact of humanity on the Earth and its biosphere
2. develop knowledge of diverse perspectives to address issues of sustainability
3. engage and evaluate the tensions around environmental issues using critical thinking
4. develop a systems approach that provides a holistic lens for the exploration of environmental issues
5. be inspired to engage in environmental issues across local and global contexts.

Because of the interdisciplinary nature of the subject, students can choose to study ESS to count as either a sciences or individuals and societies course, or as both. In this latter option, students have the opportunity to study an additional subject from any other subject group, including the sciences and individuals and societies subjects.

## II. Curriculum model overview

The ESS course has at its heart the intention of providing students with the capacity to understand and make informed decisions regarding the pressing environmental issues we face. A conceptual, interdisciplinary approach is essential to problem solving in ESS as this allows for truly holistic thinking about impending sustainability challenges.

The ESS course engages students and teachers with a conceptual approach. All students are encouraged to integrate the three key concepts of perspectives, systems and sustainability throughout the course. These concepts are given special focus within the foundation's unit.

Students at SL and HL share the following:

- the study of a concept-based syllabus
- a course which promotes holistic thinking about environmental issues and their solutions
- a foundations unit which introduces and explores the three concepts: perspectives, systems and sustainability
- one piece of internally assessed work, the internal assessment (IA)
- the collaborative sciences project.

The SL course provides students with a fundamental understanding of environmental studies and experience of the associated concepts and skills. The HL course requires students to extend their knowledge and understanding of the subject, exploring the complexity of issues with additional breadth and depth, providing a solid foundation for further study at university level.

The foundations unit is designed to be the starting point for both standard and higher level courses. Other topics contain additional HL content, which provide both greater breadth and depth. The SL course has a recommended 150 teaching hours and the HL course 240 hours. This difference is reflected in the additional content studied by HL students.

The HL course has three HL only lenses—environmental law, environmental and ecological economics, and environmental ethics. The conceptually more demanding HL lenses allow for far more sophisticated processing and balanced viewpoints. The additional HL content requires the student to make more connections between diverse areas of the syllabus, resulting in increased networked knowledge and a comprehensive understanding of the complexities of environmental issues as well as possible strategies, solutions and management. HL students are required to demonstrate critical evaluation and to synthesize material in the core content (common to both SL and HL), HL extension material and HL lenses, facilitating a more complete view of a problem with analysis at greater breadth and depth.

Syllabus component	Recommended teaching hours	
	SL	HL
<b>Syllabus content</b>	<b>100</b>	<b>190</b>
<b>Topic 1 Foundation</b>	<b>16</b>	
1.1 Perspectives	3	
1.2 Systems	5	
1.3 Sustainability	8	
Topic 2 Ecology	<b>22</b>	<b>35</b>
Topic 3 Biodiversity and conservation	<b>13</b>	<b>26</b>
Topic 4 Water	<b>12</b>	<b>25</b>
Topic 5 Land	<b>8</b>	<b>15</b>
Topic 6 Atmosphere and climate change	<b>10</b>	<b>23</b>
Topic 7 Natural resources	<b>10</b>	<b>18</b>
Topic 8 Human populations and urban systems	<b>9</b>	<b>15</b>
<b>Higher level (HL) lens</b>		
HL.a Environmental law		<b>5</b>
HL.b Environmental and ecological economics		<b>7</b>
HL.c Environmental ethics		<b>5</b>
<b>Experimental programme</b>	<b>50</b>	
Practical work	30	
Collaborative sciences project	10	
Scientific investigation	10	

### Skills in the study of environmental systems and societies

The skills and techniques students must experience through the course are encompassed within the tools. These support the application and development of the inquiry process in the delivery of the ESS course.

#### Tools

- Experimental techniques
- Mathematics
- Technology
- Systems and models

#### Inquiry process

- Inquiring and designing
- Collecting and processing data
- Concluding and evaluating

Teachers are encouraged to provide opportunities for students to encounter and practise the skills throughout the programme. Rather than being taught as stand-alone topics, these skills should be integrated into the teaching of the syllabus when they are relevant to the syllabus topics being covered.

### III. Assessment model

There are four assessment objectives for the DP ESS course. Having studied the course, students are expected to demonstrate the following assessment objectives.

#### Assessment objective 1

Demonstrate knowledge and understanding of relevant:

- terminology, facts, and concepts
- methodologies and techniques
- perspectives and worldviews.

#### Assessment objective 2

Apply this knowledge and understanding in the analysis of:

- explanations, concepts, and theories
- primary and secondary data and models
- case studies and examples
- arguments and values.

#### Assessment objective 3

Evaluate, justify, and synthesize, as appropriate:

- explanations, concepts, theories, and models
- arguments and proposed solutions
- methods of fieldwork and investigation
- political, economic, ethical and sociocultural contexts of issues.

#### Assessment objective 4

Investigate sustainability issues at the local or global level through:

- identifying an appropriate environmental issue and research question for investigation
- selecting and demonstrate the use of appropriate methods and skills to carry out insightful and ethical investigations into environmental issues.

### Assessment at a glance

Type of assessment	Format of assessment	Time (hours)		Weighting of final grade %
		SL	HL	
<b>External</b>		<b>3.0</b>	<b>4.5</b>	<b>75 (SL)</b>
				<b>80 (HL)</b>
Paper 1	Students will be provided with data in a variety of forms relating to a specific, previously unseen case study. Questions will be based on the analysis and evaluation of the data in the case study. All questions are compulsory.	1.0	2.0	25 (SL)
				30 (HL)
Paper 2	Section A is made up of short-answer and data-based questions. Section B requires students to answer structured essay questions. There is a limited amount of choice.	2.0	2.5	50 (SL/HL)

Internal		10	25 (SL)
			20 (HL)
Individual investigation	The individual investigation is an open-ended task in which the student gathers and analyses data to answer their own formulated research question. The outcome of the Individual investigation will be assessed through the form of a written report. The maximum overall word count for the report is 3,000 words.	10	25 (SL)
			20 (HL)

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