Diploma Program Outline (2025-2027)

Environmental Systems and Societies SL and HL

Week	Week of…	Topic / Unit / Text	Content / Skill Development	Graded Assessments
Year 1 Semester 1				
1	**August 18**	1.1 Perspectives	• Environmental value system	
2	**August 25**	1.1 Perspectives	• Environmental perspectives • Environmental movement	
3	**September 2**	1.1 Perspectives 1.2 Systems	• Values surveys • Systems diagrams	Draw a systems diagram
4	**September 8**	1.2 Systems	• Gaia hypothesis • Models • Emergency properties	Summative - Unit 1.1 test
5	**September 15**	1.2 Systems	• Feedback loops • Tipping points • Resiliency	Draw positive and negative feedback loops
6	**September 22**	1.3 Sustainability	• Environmental and social sustainability • Sustainable development • Planetary boundary model • GDP and Green GDP	
7	**September 29**	**National Holiday**		
8	**October 6**	1.3 Sustainability	• Environmental justice	Presentation on case study of environmental injustice
9	**October 13**	1.3 Sustainability	• Ecological and carbon footprint • United Nations Sustainable Development Goals • Circular economy • Doughnut economics model • Citizen science	
10	**October 20**	2.1 Individuals, populations, communities and ecosystems	• Biosphere • Biotic and abiotic factors	Summative - Unit 1 test
11	**October 27**	2.1 Individuals, populations, communities and ecosystems	• Classification of organisms • Keystone species • Ecological niche	Create a dichotomous key
12	**November 3**	2.1 Individuals, populations, communities and ecosystems	• Population interactions • Carrying capacity and population size • Random sampling, systematic sampling, transect sampling	Model feeding relationships Use quadrat sampling
13	**November 10**	2.1 Individuals, populations, communities and ecosystems 2.2 Energy and biomass in ecosystems	• Capture-mark-release-recapture • Lincoln index • Energy transformations • Laws of thermodynamics	Use the Lincoln index to estimate population size
14	**November 17**	2.2 Energy and biomass in ecosystems	• Photosynthesis • Cellular respiration • Trophic levels	Create a food chain from given data Create a food web from given data
15	**November 24**	**Week Without Walls**		
16	**December 1**	2.2 Energy and biomass in ecosystems	• Gross productivity and net productivity • Ecological pyramids • Bioaccumulation and biomagnification	Create pyramids of numbers, biomass, and energy
17	**December 8**	2.3 Biogeochemical cycles	• Carbon cycle	Systems diagram of the carbon cycle
18	**December 15**	Review	• Practice questions	Summative - Unit 2.1-2.3 test
19	**December 22**	**Christmas & New Year**		
20	**December 30**	**Christmas & New Year**		
21	**January 5**	2.4 Climate and biomes	•	
22	**January 12**	6.1 Introduction to the Atmosphere	• Differential heating through the tricellular model • Greenhouse effect	Systems diagram of the atmosphere
23	**January 19**	6.2 Climate change – causes and impacts	• Anthropogenic contributions to climate change • Enhanced greenhouse effect • Impact of climate change on human societies	Analysis of paleoclimatology and contemporary data Model climate change through feedback loops
Year 1 Semester 2				
1	**January 26**	6.3 Climate change – mitigation and adaptation	• Decarbonisation • Strategies to mitigate climate change • Strategies to adapt to climate change	Case studies of mitigation and adaptation efforts
2	**February 2**	6.3 Climate change –	• National Adaptation Programmes of Action	Create a survey to investigate attitudes

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		mitigation and adaptation 6.4 Stratospheric ozone	• Ultraviolet radiation	toward mitigation efforts
3	**February 9**	6.4 Stratospheric ozone	• Ozone-depleting substances • The Montreal Protocol	Evaluate the impact of the Montreal Protocol
4	**February 16**	**Chinese New Year**		
5	**February 23**	**Chinese New Year**		
6	**March 2**	Review	• Practice questions	Summative - Unit 2.4 + 6 test
7	**March 9**	5.1 Land	• Components and composition of soil • Soil inputs, outputs, transfers and transformations • Soil's contributions to biodiversity	Soil sample analysis Systems flow diagrams
8	**March 16**	5.1 Land	• Role of soil in nutrient and carbon cycling • Soil texture	
9	**March 23**	2.5 Zonation, succession and change in ecosystems	• Zonation • Succession	Kite diagrams Map succession
10	**March 30**	5.2 Agriculture and food	• Land use decisions and marginalised groups • Agricultural systems • The Green Revolution • Soil conservation	Debate about land use decisions Case study of contrasting agricultural systems Survey on diet and food waste
11	**April 6**	**Easter Holiday**		
12	**April 13**	5.2 Agriculture and food	• Sustainable agriculture • Food security, loss and waste	
13	**April 20**	Review	• Practice questions	Summative - Unit 5 and 2.5 test
14	**April 27**	8.1 Human populations	• Inputs and outputs of human population • Model the future of the human population • Age-sex pyramids • Demographic transition model	Data analysis
15	**May 4**	8.1 Human populations	• Direct and indirect management of human populations • Calculations related to population dynamics	Debate issues of population change
16	**May 11**	8.2 Urban systems and urban planning	• Urban ecosystems • Trends in urbanization and deurbanization • Sustainability in urban planning	Investigate maps showing urban change over time
17	**May 18**	8.3 Urban air pollution	• Causes of air pollution • Management and intervention strategies to reduce air pollution • Chemistry and impact of acid rain	Plan an experiment using an indicator species
18	**May 25**	**Final Exam Week**		
19	**June 1**	IA Preparation	• IA format • IA criterion • Sample IA grading • Formulating a research question	
20	**June 8**	IA Preparation		**IA – INTRODUCTION DUE**
21	**June 15**	**Collaborative Science Project**		
Year 2 Semester 1				
1	**August**	IA Preparation	• IA format • IA criterion • Sample IA grading	**IA – STRATEGY AND METHODS DUE**
2	**August**	3.1 Biodiversity and evolution	• Evolution • Biodiversity management strategies	Case study of local measures to protect biodiversity
3	**September**	3.1 Biodiversity and evolution 3.2 Human impact on biodiversity	• Simpson's reciprocal index • Direct and indirect harms to biodiversity • Invasive species	Data analysis using Simpson's reciprocal index Investigate change in species diversity along a transect
4	**September**	3.2 Human impact on biodiversity	• International Union for the Conservation of Nature's Red List • Tragedy of the commons	Education campaign for an endangered species
5	**September**	3.3 Conservation and regeneration	• Species-based and habitat-based conservation strategies • The Convention on Biological Diversity	Evaluate how perspectives influence conservation strategies
6	**September**	3.3 Conservation and regeneration		**IA – TREATMENT OF DATA AND ANALYSIS DUE**
7	**October**	**National Holiday**		
8	**October**	Review	• Practice questions	Summative - Unit 3 test
9	**October**	4.1 Water systems	• Water cycle	Systems flow diagrams Advocate for water-saving behaviours
10	**October**	4.2 Water access, use and security	• Water security • Water conservation techniques and strategies	Case study of water security mitigation
11	**October**	4.3 Aquatic food production systems	• Freshwater and marine food webs • Overexploitation of fisheries and maximum sustainable yield	Evaluate the impacts of policy legislation on

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			• Aquaculture and Marine Protected Areas	
12	**November**	4.3 Aquatic food production systems 4.4 Water pollution	• Ocean acidification • Plastic pollution	Plan an experiment to investigate the impact of ocean acidification on shelled organisms Measure abiotic factors in water systems
13	**November**	4.4 Water pollution	• Eutrophication • Biochemical oxygen demand	
14	**November**	4.4 Water pollution		
15	**November**	Review	• Practice questions	Summative - Unit 4 test
16	**December**	IA Feedback	• Formal feedback on IA	**IA – CONCLUSION AND EVALUATION COMPLETE DRAFT DUE**
17	**December**	7.1 Natural resources – use and management	• Natural capital and natural income • Ecosystem services • Resource security	Investigate perspectives and value of natural capital
18	**December**	7.1 Natural resources – use and management 7.2 Energy sources – use and management	• Sustainable management of natural capital • Sustainability of energy sources	Case study of resource security
19	**December**	**Christmas & New Year**		
20	**January**	**Christmas & New Year**		
21	**January**	7.2 Energy sources – use and management	• Energy production, conservation and efficiency	Case study of energy choices
1	**January**	7.3 Solid waste	• Production, treatment, and management of waste • Environmental and social impacts of waste • Evaluate waste disposal options	Education campaign promoting a circular economy
2	**January**	Review	Practice questions	Summative - Unit 7 test
3	**January**	**Chinese New Year**		
4	**February**	**Chinese New Year**		
5	**February**	**DP Mock Examination Review**		
6	**February**	**DP Mock Examination**		
7	**February**	Review	• Mock Examination take up	
8	**March**	Review		
9	**March**	Review		
10	**March**	Review		
11	**March**	Review		
12	**March**	Review		
13	**March**	Review		
14	**April**	**Easter Holiday**		
15	**April**	Review		
16	**April - May**	**IB DP May Examination**		