 Huron High School Ann Arbor Public Schools

IB Diploma Programme Instructor:

Environmental Systems Mrs. Lemon

and Societies (SL)

Room: 5205

Hours: 3rd / 6th / 7th

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*At Huron High School, the community of sciences promotes a culture of exploration through the development of inquiry, critical thinking, and a sustainable global perspective.*

**IB Learner Profile:**

*The aim of all IB programmes is to develop internationally minded people who, recognizing their*

*common humanity and shared guardianship of the planet, help to create a better and more peaceful world***.**

As IB learners we strive to be:

**Inquirers**. We develop our natural curiosity. We acquire the skills necessary to conduct inquiry and research and show independence in learning. We actively enjoy learning and this love of learning will be sustained throughout our lives.

**Knowledgeable**. We explore concepts, ideas and issues that have local and global significance. In so doing, we acquire in-depth knowledge and develop understanding across a broad and balanced range of disciplines.

**Thinkers**. We exercise initiative in applying thinking skills critically and creatively to recognize and approach complex problems, and make reasoned, ethical decisions.

**Communicators**. We understand and express ideas and information confidently and creatively in more than one language and in a variety of modes of communication. We work effectively and willingly in collaboration with others.

**Principled**. We act with integrity and honesty, with a strong sense of fairness, justice and respect for the dignity of the individual, groups and communities. We take responsibility for their own actions and the consequences that accompany them.

**Open-minded**. We understand and appreciate their own cultures and personal histories, and are open to the perspectives, values and traditions of other individuals and communities. We are accustomed to seeking and evaluating a range of points of view, and are willing to grow from the experience.

**Caring**. We show empathy, compassion and respect towards the needs and feelings of others. We have a personal commitment to service, and act to make a positive difference to the lives of others and to the environment.

**Risk-takers**. We approach unfamiliar situations and uncertainty with courage and forethought, and have the independence of spirit to explore new roles, ideas and strategies. We are brave and articulate in defending our beliefs.

**Balanced**. We understand the importance of intellectual, physical and emotional balance to achieve personal well-being for ourselves and others.

**Reflective**. We give thoughtful consideration to our own learning and experience. We are able to assess and understand our strengths and limitations in order to support our learning and personal development.

**Course Description and Aims (from the International Baccalaureate Diploma Programme Subject Brief):**

Environmental systems and societies (ESS) is an interdisciplinary course offered only at standard level (SL). This course can fulfill either the individuals and societies or the sciences requirement. Alternatively, this course enables students to satisfy the requirements of both subjects groups simultaneously while studying one course. ESS is firmly grounded in both a scientific exploration of environmental systems in their structure and function, and in the exploration of cultural, economic, ethical, political and social interactions of societies with the environment. As a result of studying this course, students will become equipped with the ability to recognize and evaluate the impact of our complex system of societies on the natural world. The interdisciplinary nature of the DP course requires a broad skill set from students, including the ability to perform research and investigations, participation in philosophical discussion and problem-solving. The course requires a systems approach to environmental understanding and promotes holistic thinking about environmental issues. Teachers explicitly teach thinking and research skills such as comprehension, text analysis, knowledge transfer and use of primary sources. They encourage students to develop solutions at the personal, community and global levels.

The **aims** of the DP environmental systems and societies course are to enable students to:

• acquire the knowledge and understandings of environmental systems and issues at a variety of scales

• apply the knowledge, methodologies and skills to analyse environmental systems and issues at a variety of scales

• appreciate the dynamic interconnectedness between environmental systems and societies

• value the combination of personal, local and global perspectives in making informed decisions and taking responsible actions on environmental issues

• be critically aware that resources are finite, that these could be inequitably distributed and exploited, and that management of these inequities is the key to sustainability

• develop awareness of the diversity of environmental value systems

• develop critical awareness that environmental problems are caused and solved by decisions made by individuals and societies that are based on different areas of knowledge

• engage with the controversies that surround a variety of environmental issues

• create innovative solutions to environmental issues by engaging actively in local and global contexts.

**Course Topics:**

1. Foundations of environmental systems and societies [16 hours]

2. Ecosystems and ecology [25 hours]

3. Biodiversity and conservation [13 hours]

4. Water and aquatic food production systems and societies [15 hours]

5. Soil systems and terrestrial food production systems and societies [12 hours]

6. Atmospheric systems and societies [10 hours]

7. Climate change and energy production [13 hours]

8. Human systems and resource use [16 hours]

9. Internal Assessment (topic of your choice but approved by instructor) [10 hours]

**Text and Recommended Supplies:**

Environmental Science for AP\*

Andrew Friedland, Rick Relyea and David Courard-Hauri

W.H. Freeman and Company, 2012

Three ring binder

Lined paper

Composition notebook

Scientific calculator

**Rules of Conduct/Safety:**

1. Be on time.
2. Be prepared.
3. Be respectful.
4. Be safe.
	* Safety in the science lab is crucially important! Please refer to the Carolina Student Biology Laboratory Safety Agreement for lab safety information and guidelines!

These rules are in conjunction with the Huron High School Guide for Students and Parents, students are to be properly attired for class. For a complete list of specific rules, please refer to the Huron High School Guide for Students and Parents, by which all students must abide.

**Attendance:**

Students are expected to arrive in class on time. Being on time is defined as being seated in a chair with all required materials before the starting time. Students presenting themselves to the class after the start time are only accepted with a pass from the principal, or are tardy. Students should make all reasonable attempts to resolve personal needs (Bathroom, water, or material needs) outside of class time.

Students are responsible for obtaining and completing any class items covered in their absence. To obtain missed daily classwork, students should obtain such missing items at the end of the class period from the file crate. In the event that a test has been missed, it will be the student’s responsibility to approach the instructor to schedule a time to make up any missing items.

Knowledge in this class is often cumulative, meaning consistent attendance is required to fully understand the course material. All students are expected to be in his/her seat, quiet and prepared to begin class when the bell rings. This includes having your notebook, textbook, paper, calculator, and pencil/eraser with you every day.

**Class Procedures:**

Diploma Programme Environmental Systems and Societies is an active and fast paced course. As such, students are expected to submit assignments at the indicated due date and time. Assignments not submitted by the indicated time due will receive a 10% reduction in score. Classwork/Homework will not be accepted late if it has already been graded and returned or gone over in class.

Students are expected to maintain mature, safe, and responsible conduct while in class. Students are expected to regard and treat lab equipment and supplies with diligent care and safe conduct at all times. Failing to follow safety guidelines and instructions will result in dismissal from laboratory activities.

Plagiarism, the presenting of another’s work as your own, will be reported to both parents and administrators.

Students will not be given credit for items submitted involving academic dishonesty. Refer to Huron’s Code of Ethical Behavior and the IB Ethics Document regarding plagiarism and its ramifications.

All concerns in regard to either grades or attendance records should be in writing and submitted directly to me via email. Verbally expressed concerns regarding such grades or attendance during class time will not be addressed.

**Grades**

* Test/Quiz/Project – 60%
* Labs/ Classwork/Participation – 30%
* Homework – 10%

100-97% = A+ 96-93% = A 92-90% = A-

89-87% = B+ 86-83% = B 82-80% = B-

79-77% = C+ 76-73% = C 72-70% = C-

69-67% = D+ 66-63% = D 62-60% = D- Below 60% will not receive credit in the class.

**Testing / Internal and External Assessments:**

Students scoring below a 70% on a test may request a retake option.

Retakes must be pre-arranged with me (Mrs. Lemon) within one week of a returned test.

Retest may only replace the previous grade to a maximum of a C (70%)

The above policy **ONLY** applies to unit tests within the course.

The above policy does not apply to Final Exams at the end of the semesters.

The above policy regarding test retakes does not apply to any IB Internal or External Assessments.

In addition to assessments consisting of chapter tests and quizzes, The Diploma Programme Environmental Systems and Societies (ESS) course will encompass both the Group 4 Project and the IB ESS Internal Assessment.

The **group 4 project** is a collaborative activity where students from different group 4 subjects, within or between schools, work together. It allows for concepts and perceptions from across disciplines to be shared while appreciating the environmental, social and ethical implications of science and technology. It can be practically or theoretically based and aims to develop an understanding of the relationships between scientific disciplines and their influence on other areas. The emphasis is on interdisciplinary cooperation and the scientific processes.

The **internal assessment** task will be an individual investigation taking about 10 hours and the report should be 1,500 to 2,250 words. The internal assessment will apply to the lab section of your grade in the first semester and in the projects section of your grade in the second semester. Students should be aware that neither the teacher (Mrs. Lemon) nor the external moderator will read past 2,250 words.

The internal assessment investigation consists of:

• identifying an ESS issue and focusing on one of its specific aspects

• developing methodologies to generate data that are analysed to produce knowledge and understanding of this focused aspect

• applying the outcomes of the focused investigation to provide understanding or solutions in the broader ESS context.

It is important to stress that the focused research question should arise from a broader area of environmental interest (the context), so that in conjunction with evaluating the research process and findings of their study, students will be able to discuss the extent to which their study applies to the environmental issue that interests them at a local, regional or global level (the application). This broader Environmental systems and societies guide 80 discussion does not have to be in direct relation to their findings, because the quality of data collected is not always good enough to use for this application, and this should not be an expectation. However, it is intended that this discussion will lead students to develop creative thinking and novel solutions, or to inform current political and management decisions relating to the issue. For example, if a student carries out a study on the impact of wind turbines that have been erected in the vicinity of their school, he or she may suggest solutions for the erection of wind turbines in other areas based on their findings. This style of investigation reflects the interdisciplinary nature of the task. The investigation produced should be commensurate with the level of the course and may draw on methodologies and analytical techniques used in either experimental or human science studies.

The assessment model uses six criteria to assess the final report of the individual investigation with the following raw marks and weightings assigned:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Identifying the context | Planning | Results, analysis and conclusion | Discussion and evaluation | Applications | Communication | Total |
| 6 (20%) | 6 (20%) | 6 (20%) | 6 (20%) | 3 (10%) | 3 (10%) | 30 (100%) |

At the end of this year, students will participate in an **external assessment** that consists of 2 papers. Paper 1 will consist of a case study and will contribute to 25% of your final DP grade. Paper 2 will consist of short answers and structured essays and will contribute to 50% of your final DP grade. Finally, Internal Individual investigation Written report (IA) as described above will contribute to 25% of your final DP grade.

**Student and Parent/Guardian**: Please print and sign below to confirm that you have read the procedures and guidelines.

 *Thank you!*

Student Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Student Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_

Parent Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Parent Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_