



## I. COURSE DESCRIPTION:

Global Environmental Issues will give students a background on the effects of human population on the landscape considering concepts like food production, water, energy, biodiversity, etc., in relation to global sustainability. It will include discussion on the basic principles of system stress, and the earth's carrying capacity looking towards the principles of Sustainable Development as the optimal management technique.

The course will then evolve into a comprehensive discussion on climate change, its major drivers and impacts. Strategies will be discussed for adaptation and mitigation to this global challenge. We will conclude by identifying steps people can take to insure a transition to a more sustainable lifestyle that can build community resilience and self-reliance, while stimulating economic development, and mitigating environmental damage.

## II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

Upon successful completion of this course, the student will demonstrate the ability to:

1. Understand the key issues affecting the earth and the threats associated with the present trends in resource consumption.

### Potential Elements of the Performance:

- Understand the cause and effect relationships of the major contributing factors leading to the #1 Environmental Issue affecting the planet.
- Describe world energy production and consumption and Canada's role including tar sands and offshore oil.
- Introduction to alternative energy sources and their potential impacts, good and bad.

2. Introduce students to the history, present and future of population growth and its effect on the Earth.

### Potential Elements of the Performance:

- Identify and describe how population growth and food production are major contributors to increased CO<sub>2</sub> production.
- Discuss human impacts on large terrestrial and marine landscapes for food production, including fish stocks, land conversion, pollution.

- Relate how these transformations contribute to failing agricultural production, impacts on fish stocks from warming/acidification, and describe how oil production, water quality/quantity and food production are interrelated.
  - Assess what factors need attention sooner than later and what action is required.
3. Identify the main drivers of climate change and what actions can and need to be taken to address it.

Potential Elements of the Performance:

- Identify and describe the main contributors and effects of climate change such as increased CO<sub>2</sub> concentrations, pollution, tropical forest deforestation and land use changes.
  - Outline how climate change is affecting water supply, warming and acidification of the oceans.
  - Learn what and how various alternative energy sources have the potential to reduce the continuing increase in CO<sub>2</sub> concentrations and their relative cost benefit and potential for contributing to a brighter future.
4. Describe the major efforts available to support the mediation of climate change, including policy and legislation, education and guidelines, economic development, grassroots movements, scientific rigor, etc., and be able to assess what course of action stands the best chance of success.

Potential Elements of the Performance:

- Outline the major policy initiatives, like the Kyoto and Copenhagen accords and describe how they are progressing.
  - Identify different legislated or volunteer approaches to limiting carbon emissions regionally/nationally and internationally and understand the pros and cons. (cap and trade, carbon tax, conservation measures, etc.)
  - Be aware of key technologies and/or processes in use, or being considered to 'save the planet', including renewable energy alternatives, geo-engineering, nano-technology, etc.
5. Demonstrate an understanding of what needs to be done to rectify what some would say is an 'already too late scenario'.

Potential Elements of the Performance:

- Students will learn how a variety of misinformation, greed and politics are contributing to a relatively slow response in addressing climate change.

- Demonstrate an understanding of what can and needs to be done by individuals, corporations and countries in dealing with climate change.
- Understand the major components, timelines and players in the climate change war.
- Learn what's being done by the scientific community and the world at large to address climate change.
- Understand and employ some of the planning tools available such as Community/ Regional Green Maps.

### **III. TOPICS:**

1. How Global Population Growth Trends are affecting our ability to sustain the Earth.
2. Natural Hazards
3. Land Use Changes and biodiversity.
4. Impacts on Aquatic environments, food chains and diversity.
5. Climate Change, history, present status, future predictions and remedial actions.
6. The need to shift from globalization to localization.
7. Transition from a culture of consumption to one of conservation and sustainability.

### **IV. REQUIRED RESOURCES/TEXTS/MATERIALS:**

All text and other written resources will be provided to students or will be available on line.

**V. EVALUATION PROCESS/GRADING SYSTEM:**

|                          |            |
|--------------------------|------------|
| 7 Assignments @ 5% each: | 35%        |
| Mid term Test            | 15%        |
| Final Report             | 25%        |
| Final Test               | <u>25%</u> |
| Total                    | 100%       |

The following semester grades will be assigned to students:

| <b>Grade</b> | <b><u>Definition</u></b>   | <i>Grade Point Equivalent</i> |
|--------------|--|-------------------------------|
| A+           | 90 – 100%  | 4.00                          |
| A            | 80 – 89%   | 3.00                          |
| B            | 70 - 79%   | 3.00                          |
| C            | 60 - 69%   | 2.00                          |
| D            | 50 – 59%   | 1.00                          |
| F (Fail)     | 49% and below  | 0.00                          |
| CR (Credit)  | Credit for diploma requirements has been awarded.  |                               |
| S            | Satisfactory achievement in field /clinical placement or non-graded subject area.  |                               |
| U            | Unsatisfactory achievement in field/clinical placement or non-graded subject area.   |                               |
| X            | A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course. |                               |
| NR           | Grade not reported to Registrar's office.  |                               |
| W            | Student has withdrawn from the course without academic penalty.  |                               |

**VI. SPECIAL NOTES:**Attendance:

Sault College is committed to student success. There is a direct correlation between academic performance and class attendance; therefore, for the benefit of all its constituents, all students are encouraged to attend all of their scheduled learning and evaluation sessions. This implies arriving on time and remaining for the duration of the scheduled session.

**VII. COURSE OUTLINE ADDENDUM:**

The provisions contained in the addendum located on the portal form part of this course outline.