

SC 140
Environmental Sustainability

3 Credits

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Created: 19/01/2010

Revised: 20/08/2021

Approval: 07/09/2021

The Implementation Date for this Outline is 01/09/2018

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SC 140 Version: 5



Environmental Sustainability

Calendar Description

This course focuses on human interactions with the environment. The environmental impacts of food production and agriculture, forestry, mining, energy processing, urbanization, and other land-use activities are explored. Considerable time is spent investigating current environmental issues within the context of society: water quantity and quality, global warming, air pollution, and the biodiversity crisis. National and Provincial environmental policy relating to these issues is also investigated.

Rationale

This course is required for first year students within the Environmental Sciences diploma. This course addresses current environmental issues, with a focus on sustainable practices. Students gain an appreciation for and contextualize environmental issues on a provincial, national, and international level. This course aims at increasing environmental awareness, and highlighting the issues students will face in their upcoming careers as environmental professionals.

Prerequisites

None

Co-Requisites

None

Course Learning Outcomes

Upon successful completion of this course, students will be able to

1. evaluate the basic causes of environmental problems and the solutions to them, taking into consideration human activities (past and present).
2. scrutinize whether current food practices are sustainable, outlining methods to improve them for future generations.
3. evaluate the sustainability of current and future uses of renewable & non-renewable resources and water.

4. explain how natural and human activities have affected and can mitigate air quality and climate change.
5. summarize how biodiversity loss in terrestrial and aquatic environments affects the Earth
6. discuss conservation efforts that can sustain biodiversity
7. outline societal environmental issues and ways to combat them through environmental planning, management, and policy.

Essential Employability Skills

Essential employability skills are critical for workplace success and lifelong learning. Lakeland College prepares its graduates for the workplace and lifelong learning by integrating and promoting essential employability skills development in its curricula. Each credit course offered at Lakeland College emphasizes one or more of the following five essential employability skills:

- A. **Communication Skills** that enable individuals to listen, interpret, express, and convey knowledge and ideas so that they are received and understood.
- B. **Teamwork Skills** that enable individuals to respect the thoughts and opinions of others as they work together to plan activities, meet deadlines, complete projects, and contribute to an organization's goals.
- C. **Critical Thinking Skills** that enable individuals to conceptualize and analyze issues from various perspectives while rationally evaluating the strengths and limitations of each perspective and deciding what action to take.
- D. **Adaptability Skills** that enable individuals to respond quickly, willingly, and positively to new conditions and changing times.
- E. **Positive Attitude and Behavioural Skills** that enable individuals to be confident about themselves and to deal with people, problems, and situations with honesty, integrity, and personal ethics.

Resource Materials

Required Text:

None

Reference Text:

Miller, T.G. Jr., and D. Hackett. 2014. Living in the environment. 3rd Canadian ed.
Nelson Education, Toronto.

Conduct of Course

This course is offered in three formats: the Lakeland College classroom, on-line through E-campus, and dual-credit. The Evaluation Procedures below is the same for each method of

delivery. On-line delivery is facilitated, meaning that there is an on-line facilitator who oversees the course and is available for assistance when needed. The instructor/facilitator, whether in class or online, moderates discussions and marks assessments, and provides constructive feedback to aid learners in their professional and educational development.

Evaluation Procedures

The evaluation procedure in this course consists of written assessments and contributions to discussions. The final grade is an aggregate of the following components:

Test (4-5)	90%
D2L Assignments	10%
TOTAL	100%

Note: The D2L Assignment is determined through the student's participation in discussions devoted to the course. Discussions are posted by the instructor concerning sustainability issues. Students are required to follow instructions in the discussion question, and post responses to topics or questions as indicated by the instructor. Since this is for educational purposes, students are expected to communicate in a professional manner.

Knowledge/Skills Matrix

Students apply and demonstrate their knowledge and skills to use

A. Communication Skills

A1. by listening, reading, interpreting information, and communicating effectively
Evaluation(s)/Goal(s): Assessments: Goals 1-7; D2L Assignments: Goals 1-7
A2. by using written, spoken, and/or visual formats and media to communicate and meet needs of each particular audience
Evaluation(s)/Goal(s): Assessments: Goals 1-7; D2L Assignments: Goals 1-7
A3. by using libraries, Internet, technical publications, journals and other sources to find pertinent information
Evaluation(s)/Goal(s): Assessments: Goals 1-7; D2L Assignments: Goals 1-7

B. Teamwork Skills

B1. by using interpersonal skills to create an atmosphere that maximizes the strengths of group members to accomplish tasks
Evaluation(s)/Goal(s): Assessments: Goals 1-7; D2L Assignments: Goals 1-7
B2. by using interpersonal skills to resolve conflict, relate to others, and assist others
Evaluation(s)/Goal(s): Assessments: Goals 1-7; D2L Assignments: Goals 1-7
B3. by contributing and listening to others as group determines realistic objectives, prioritizes tasks, and identifies resources and timelines
Evaluation(s)/Goal(s): Assessments: Goals 1-7; D2L Assignments: Goals 1-7

B4. by treating other members of the group open-mindedly and fairly
Evaluation(s)/Goal(s): Assessments: Goals 1-7; D2L Assignments: Goals 1-7
B5. by developing tactics/strategies to accomplish tasks
Evaluation(s)/Goal(s): Assessments: Goals 1-7; D2L Assignments: Goals 1-7

C. Critical Thinking Skills

C1. by seeing critical thinking as a lifelong process of self-assessment
Evaluation(s)/Goal(s): Assessments: Goals 1-7; D2L Assignments: Goals 1-7
C2. by examining problems closely
Evaluation(s)/Goal(s): Assessments: Goals 1-7; D2L Assignments: Goals 1-7
C3. by examining beliefs, assumptions, and opinions, and weigh them against the facts
Evaluation(s)/Goal(s): Assessments: Goals 1-7; D2L Assignments: Goals 1-7
C4. by seeking out the truth
Evaluation(s)/Goal(s): Assessments: Goals 1-7; D2L Assignments: Goals 1-7
C5. by finding solutions; make decisions
Evaluation(s)/Goal(s): Assessments: Goals 1-7; D2L Assignments: Goals 1-7
C6. by incorporating new ideas that may not necessarily agree with previous thought on the topic
Evaluation(s)/Goal(s): Assessments: Goals 1-7; D2L Assignments: Goals 1-7
C7. by seeing connections between topics and use knowledge from other disciplines to enhance reading and learning experiences
Evaluation(s)/Goal(s): Assessments: Goals 1-7; D2L Assignments: Goals 1-7

D. Adaptability Skills

D1. by working independently or as part of team
Evaluation(s)/Goal(s): Assessments: Goals 1-7; D2L Assignments: Goals 1-7
D2. by carrying out multiple tasks or projects
Evaluation(s)/Goal(s): Assessments: Goals 1-7; D2L Assignments: Goals 1-7
D3. by being innovative and resourceful: identify and suggest alternative ways to get the job done
Evaluation(s)/Goal(s): Assessments: Goals 1-7; D2L Assignments: Goals 1-7
D4. by being open and respond constructively to change and uncertainty
Evaluation(s)/Goal(s): Assessments: Goals 1-7; D2L Assignments: Goals 1-7

E. Positive Attitude and Behavioural Skills

E1. by dealing with people, problems, and situations with honesty, integrity, and personal ethics
Evaluation(s)/Goal(s): Assessments: Goals 1-7; D2L Assignments: Goals 1-7
E2. by showing interest, initiative, and effort
Evaluation(s)/Goal(s): Assessments: Goals 1-7; D2L Assignments: Goals 1-7
E3. by affirming the need for positive solutions and encourage positive interaction and feedback
Evaluation(s)/Goal(s): Assessments: Goals 1-7; D2L Assignments: Goals 1-7
E4. by balancing personal and family activities with job-related activities
Evaluation(s)/Goal(s): Assessments: Goals 1-7; D2L Assignments: Goals 1-7

Grade Equivalents and Course Pass Requirements

A minimum grade of D (50%) (1.00) is required to pass this course.

Letter	F	D	D+	C-	C	C+	B-	B	B+	A-	A	A+
Percent Range	0-49	50-52	53-56	57-59	60-64	65-69	70-74	75-79	80-84	85-89	90-94	95-100
Points	0.00	1.00	1.30	1.70	2.00	2.30	2.70	3.00	3.30	3.70	4.00	4.00

Students must maintain a cumulative grade of C (GPA - Grade Point Average of 2.00) in order to qualify to graduate.

Attendance

Classroom and laboratory attendance is considered vital to the learning process and as significant to the students' evaluation as examinations and reports, therefore absenteeism is recorded.

- a. Students having a combination of excused and/or unexcused absence of 20 percent or higher for the scheduled course hours can be required to withdraw and would then automatically receive a "RW" (required withdrawal) for the course, regardless of any other evaluation results. (RW is a failing grade).
- b. An excused absence is one that is verified with your instructor. Verification should be prior to the absence or the next class day following the absence. Verification of the absence may take the form of a note from your doctor/College nurse regarding illness, or a note from another instructor regarding a field trip or other activity, or authorization by your instructor following an in-person meeting. Be sure to contact your instructor and ask what they will require from you as verification of each absence. An unexcused absence is anything NOT verified by the instructor prior to the absence or the next class day following the absence.

NOTE: Any exceptions to the above attendance policy (e.g. timetable conflicts, work-related issues) must be approved in writing by the Department Chair prior to the beginning of the course.

It is the students' responsibility to know their own absentee record.

Normal hours are 8:30 a.m. to 6:30 p.m., with potential for evening courses, exams or extended field trips. Students are expected to be available for classes during these times.

On-line Attendance

Active participation is required in the course. The facilitator designates these requirements through the use of tools within the management system and personal contact with learners.

These expectations can be given marks as part of the assessment process.

Learners must demonstrate their participation/attendance through discussion forums where they will share research results, contribute relevant information, and communicate with colleagues and the facilitator.

Attendance is considered vital to the learning process. Absenteeism is recorded. For example, if a discussion forum is organized, the learner is expected to attend as per the guidelines set by the facilitator.

Students can request for an excused absence. An excused absence is one that is verified with your facilitator.

It is the student's responsibility to know their own absentee record.

NOTE: Any exceptions to the above attendance policy (e.g. family or work-related issues) must be approved in writing by the Department Chair prior to the beginning of the course.

Course Units/Topics

The following is a list of the major topics. Topics and the order of delivery may vary due to guest lecture availability, current events and potential field trips.

- Humans and the Environment
 - Environmental History
 - Human Populations
- Biotechnology and Food Resources
 - Agriculture
 - Pest Management

- G.M. Foods
- Fisheries
- Sustaining Resources
 - Non-Renewable Resources
 - Renewable Resources
 - Water Resources
- Air Quality and Climate Change
 - Air Pollution
 - Climate Change
- The Biodiversity Crisis
 - Terrestrial Biodiversity
 - Aquatic Biodiversity
 - Conservation Biology
- Sustaining Human Societies
 - Solid and Hazardous Waste
 - Urban Development and Land Use
 - Environmental Management
 - Laws and Ethics



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