# RC208

# Waste Reduction, Reuse and Recycling

## 3 Credits

Instructor: David Kay

Original Developer: David Kay

Current Developer: David Kay

Reviewer: Mal Dissanayake

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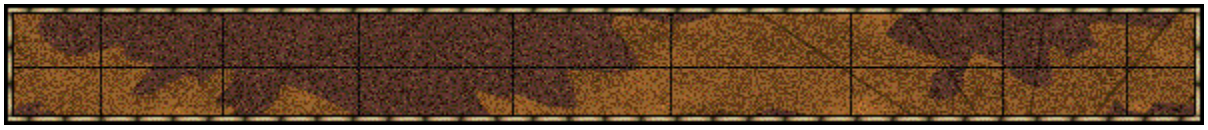
Alternate Delivery: Yes

The Implementation Date for this Outline is 01/05/2019

# RC208 Version: 6



# Waste Reduction, Reuse and Recycling

## Calendar Description

Throughout the world the accumulation of solid waste is a complex and escalating problem. This course introduces methods to reduce, reuse and recycle solid waste.

## Rationale

RC 208 is a required course in Renewable Energy and Conservation.

Effective solid waste management is necessary to maintain human health and reduce the environmental risks of waste accumulation in our society. Also, reuse, recycling and recovery can significantly reduce the resources we consume and the energy we use.

The United Nations state that, "Managing solid waste well and affordably is one of the key challenges of the 21st century..." (United Nations Human Settlement Programme, 2010).

## Prerequisites

None

## Co-Requisites

None

## Course Learning Outcomes

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

1. discuss why effective solid waste management is a key responsibility of society.
2. propose the causes for the massive accumulation of solid waste in a modern society.
3. outline the effect of waste reduction, reuse, and recycling.
4. apply the circular economy concept to the waste management industry.
5. report the steps in recycling a select waste material
6. identify the problems and the possibilities associated with organic waste.
7. explain the operation of a community landfill, based on first-hand observation.

8. identify the problems and challenges caused by e-waste.
9. propose solutions to the problem of plastic waste accumulation in the world's oceans.

## Resource Materials

***Required Text(s)*:**

Environment Canada. 2013. Technical Document on Municipal Solid Waste Organics Processing. Government of Canada, Ottawa, ON.

Miller, G.T., and D. Hackett. 2017. Living in the environment. 4th ed. Canadian edition (Chapter 24 Solid and Hazardous Waste). Nelson Education Ltd. Toronto, Ontario.

***Reference Text(s)*:**

None

In RC 208 there are a considerable number of web sites referenced.

## Conduct of Course

RC 208 consists of 45 credit hours delivered in an online format. In RC 208 there are two discussions, five assignments and eight quizzes.

RC 208 has one partner assignment. (Assignment 3.2) Collaborating with other students promotes learning, improves communication skills, encourages cooperative research, and provides opportunities to share information.

Students are expected to submit their assignments by the designated due dates. The RC 208 calendar shows the due dates for all assignments and discussions.

Module 1 and Module 7 have graded discussions. In RC 208, each discussion requires significant participation over the entire discussion time frame. In RC 208, please consult the Netiquette for appropriate online communications. The Netiquette document is within the Welcome Folder of RC 208.

The quizzes in RC 208 are timed and are either in a matching format or a multiple choice format. Please be aware that all quizzes in RC 208 must be completed by the last day of the course.

## Evaluation Procedures

| | |
|---|---|
| Module 1. The Problems of Waste | |
| Quiz 1.1 | 5% |
| Quiz 1.2 | 5% |
| Discussion 1.3 | 10% |
| Module 2. Causes of Waste | |
| Quiz 2.1 | 5% |
| Assignment 2.2 | 10% |
| Module 3. Waste Reduction, Reuse, and Recycling | |
| Quiz 3.1 | 5% |
| Quiz 3.2 | 5% |
| Assignment 3.3 Textile Waste and the Circular Economy | 10% |
| Module 4. Organic Waste | |
| Quiz 4.1 | 5% |
| Assignment 4.2 Organic Waste in Landfills | 5% |
| Module 5. Landfill Interview | |
| Assignment 5.1 | 15% |
| Module 6. E-Waste | |
| Quiz 6.1 | 5% |
| Module 7. Plastics Pollution | |
| Assignment 7.1 | 5% |
| Discussion 7.2 | 10% |

## 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

Active participation is required in all courses within the Renewable Energy and Conservation certificate and diploma programs. Each facilitator designates these requirements through the use of tools within the Desire to Learn (D2L) and personal contact with learners.

These expectations can be given marks as part of the assessment process. Each course outlines these expectations within the course structure.

For example, learners can be asked to demonstrate their participation/attendance through discussion forums, sharing research results, contributing relevant information, submitting assignments, communicating with colleagues and the facilitator, and participating in synchronous meetings or asynchronous activities.

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.

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.

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

## Course Units/Topics

Module 1: The Problems of Waste

- LA 1.1 Terms and Definitions
- LA 1.2 Problems of Waste

Module 2: The Causes of Waste

- LA 2.1 The Amount and Responsibility for Solid Waste
- LA 2.2 Causes of Solid Waste

Module 3: Waste reduction, reuse, and recycling

- LA 3.1 Waste Reduction, Reuse, Recycling and Composting.
- LA 3.2 Textile Waste and the Circular Economy

Module 4: Composting Organic Waste

- LA 4.1 Conditions for Composting
- LA 4.2 Organic Waste in a Landfill

Module 5: Visit a community landfill

- LA 5.1 Landfill Visit

Module 6: E-waste

- LA 6.1 E-waste

Module 7: Plastics

- LA 7.1 Plastics in Your Home
- LA 7.2 Plastic Pollution in the World's Oceans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