

# Introduction to Small Wastewater Systems

## Course Outline

### **Course Description**

This 3 day course is designed to prepare small wastewater system operators to write their Environmental Operators Certification Program (EOCP) exam for Small Wastewater Systems.

The main objective of the course is to provide knowledge to operators regarding the safe and reliable management of wastewater collection and treatment.

### **Course Pre-requisites**

There are no pre-requisites for this course although having high-school level or equivalent math skills would be an asset to students in this course.

### **CEU Credit**

This course is not registered with EOCP at this time.

### **Course Duration**

- 3 days
- 8:30 am to 4:00 pm each day
- 1 hour lunch break
- morning and afternoon break (15 minutes each)

### **Learning Outcomes**

By the end of the course, the students will:

- Be aware of EOCP facility classification and operator certification requirements.
- Be familiar with the Yukon Government (YG) 'Sewage Disposal' guidelines, specifically with the sections titled:
  - Operation and Maintenance of a Septic System;
  - Design Specifications for the Septic Tank and Soil Absorption System;
  - Standards for Transportation of Sewage; and
  - Septic Systems in the Yukon;
    - A Guide to Their Design and Maintenance;

- Guidelines for Soils Investigation and Percolation Tests.
- Understand the roles and responsibilities of YG Environmental Health Officers, as they pertain to the YG ‘Sewage Disposal’ guidelines.
- Be able to describe the roles and responsibilities of small wastewater system operators.
- Be aware of the sources, characteristics, impact and spread of disease in wastewater.
- Understand the types and functions of collection systems, storm sewers, lift stations and manholes.
- Be aware of the operation and maintenance involved with small wastewater systems.
- Understand the primary functions of the components of wastewater treatment, including: primary and secondary treatment, activated sludge treatment and disposal, clarification, disinfection, ponds and lagoons, flow measurement, and water analysis.
- Have a general understanding of hydraulics, valves, cross connection control, and types of pumps used for wastewater.
- Be able to perform math calculations including: area, volume, flow, retention, chlorine dosages, force, and head pressure.
- Understand safety information relating workplace site safety, WHMIS, confined space, and Yukon Workers’ Compensation Health and Safety Board.
- Be aware of emergency response planning.
- Understand record keeping related to small wastewater system activities, operation, maintenance, chemical testing, and disinfection.

### **Three Day Outline**

#### Day One:

Introduction and Expectations  
Chapter 1: Introduction to Wastewater Systems  
Chapter 2: Characteristics of Wastewater  
Chapter 3: Wastewater Collection Systems  
Review and Questions

#### Day Two:

Chapter 4: Wastewater Treatment Systems  
Chapter 5: Sludge Treatment and Disposal  
Chapter 6: Disinfection  
Chapter 7: Wastewater Laboratory  
Review and Questions

Day Three:

- Chapter 8: Pumping Systems
- Chapter 9: Safety
- Chapter 10: Management Considerations
- Chapter 11: Math
- Review and Questions

**Course Requirements:**

Attendance and participation are required. CEUs will be allocated based on attendance and course completion.

**Evaluation:**

There will be a final exam in this course with a passing mark of 50%. Yukon University records will only show a pass or fail result. If anyone fails this exam, arrangements can be made for a re-write.

**Please note that the final exam for the course is NOT the EOCP certification exam. To write your EOCP certification exam, you must apply directly to EOCP.**