

Bulk Water Delivery

Course Outline

Course Description

This 3.5 day (21 hour) course is designed to prepare the participants to write their Environmental Operators Certification Program (EOCP) exam for Bulk Water Delivery (required by Yukon Government Regulation).

Course Pre-requisites

There are no specific pre-requisites for this course. However, Grade 12 (or equivalent) math skills are an asset. Math upgrades are available –contact us.

Participants that are rusty/uncomfortable with their math skills are advised to take 'WO 026 – Math Review for Small Water Systems and Bulk Water Delivery' prior to attending this course.

Continuing Education Units (CEUs)

This course is recognized by EOCP for 2.1 CEUs (core for SWS, BWD, WT and WD certifications, and related for WWT, WWC and SWWS certifications).

Course Duration

- 3.5 days
- 8:30 am to 4:00 pm each day, except last day from 8:30 am to 12:00 pm
- 1 hour lunch break
- morning and afternoon break (15 minutes each)

Course Topics and Learning Outcomes

Upon successful completion of the course, the participants will be able to:

- Understand the operations and maintenance requirements for bulk water delivery, and the importance of following proper practices and procedures;
- Recognize Operator Responsibility, Negligence and Due Diligence;
- Apply skills to be competent, diligent, knowledgeable and safe operators
- Recognize the legislative requirements of the *Yukon Drinking Water Regulations* and the respective roles of Yukon Government's Environmental Health Services (EHS), the Environmental Operator Certification Program (EOCP), and the Yukon Water and Wastewater Operator Program (YWWOP) at Yukon University;
- Perform water operator math calculations;
- Demonstrate Water Quality Sampling and Testing.

Delivery Method/Format

Instructional Method	Percentage of Class Time
Hands-on/Q & A	15%
Examples/Case Study	10%
Presentation/Lecture Slides	50%
Demonstration	15%
Tutoring	10%

Material/Handouts (supplied)

- Student Binder: Yukon University. Bulk Water Delivery; a core –EOCP Exam Preparation– course. Whitehorse, Yukon.
- EOCP Course Completion and Evaluation Form.
 - every student needs to complete and return this form for any CEU allocation
- Calculators are provided but students are welcome to use their own.
 - please return

Course Requirements

Attendance and participation in class are required. It is the student’s responsibility to attend all classes.

CEUs will be allocated based on attendance and course completion; Yukon University records will show a pass or fail result. If the participant doesn’t attend the class, Yukon University records will show a “no show” result and no CEUs will be allocated.

Evaluation

There will be a quantifiable evaluation at the end of this course with a passing mark of 70%. Please note that this evaluation is for self-assessment purpose only.

The final evaluation for this course is NOT an EOCP certification exam. To challenge a certification exam, register separately with EOCP at least 3 weeks in advance: 1-866-552-3627 or crm.eocp.ca.

Appropriate Language

In all areas of the University environment, students are responsible for showing respect for others. Swearing, or language that is discriminatory or derogatory in relation to race, sex, ethnic background, religious beliefs, age, and physical condition is not appropriate.

Computer classes can be particularly frustrating for students; therefore, students are encouraged to manage their stress in such a way that it does not disturb

others. There may be times it is best for the student to step out of the classroom to manage stress and minimize the disruption of others in the class.

Electronic Devices

In order to be successful in classes and minimize distractions for others, cell phones, iPods, and other electronic devices must be turned off while students are in class. In an emergency situation, the instructor may give a student permission to use a cell phone or pager.

Academic and Student Conduct

Information on academic standing and student rights and responsibilities can be found in the current Academic Regulations that are posted on the Student Services/Admissions & Registrations web page.

Plagiarism

Plagiarism is a serious academic offence. Plagiarism occurs when students present the words of someone else as their own. Plagiarism can be the deliberate use of a whole piece of another person's writing, but more frequently it occurs when students fail to acknowledge and document sources from which they have taken material. Whenever the words, research or ideas of others are directly quoted or paraphrased, they must be documented according to an accepted manuscript style (e.g., APA, CSE, MLA, etc.). Resubmitting a paper which has previously received credit is also considered plagiarism. Students who plagiarize material for assignments will receive a mark of zero (F) on the assignment and may fail the course. Plagiarism may also result in dismissal from a program of study or the University

Academic Accommodation

Reasonable accommodations are available for students requiring an academic accommodation to fully participate in this class. These accommodations are available for students with a documented disability, chronic condition or any other grounds specified in section 8.0 of the Yukon University Academic Regulations (available on the Yukon University website). It is the student's responsibility to seek these accommodations. If a student requires an academic accommodation, they should contact the Learning Assistance Centre (LAC) at LearningAssistanceCentre@yukonu.ca.

Class Outline

Day One:

Introduction and Expectations

Module 1: Roles and Responsibilities

- * Operator Roles and Responsibility
- * Good Practices and Guidelines
- * Environmental Health Officers – Roles and Responsibilities

Module 2: Math

- * The metric system
- * Area calculation
- * Volume calculation
- * Flow rate
- * Chlorine dosage
- * Pumping rates

Module 3: Water Sources

- * Surface water sources
- * Protecting surface water sources
- * Groundwater sources
- * Protecting well water sources
- * Well maintenance

Day Two:

Day One Review

Module 4: Water Quality and Treatment

- * Water treatment objectives
- * Multi-barrier approach
- * Surface water treatment: turbidity and filtration
- * Groundwater treatment

Module 5: Sampling and Testing

- * Operator sampling and testing
- * Bacteriological monitoring
- * Chemical water quality
- * Guidelines for Canadian Drinking Water Quality

Module 6: Storage Tanks, Pumps and Appurtenances

- * Water storage tanks
- * Hydraulics
- * Force
- * Pumps
- * Appurtenances
- * Cross connection control
- * Household tanks and fill points

Day Three:

Day Two Review

Module 7: Disinfection

- * Types of disinfection
- * Chlorine
- * Disinfection and the CT concept
- * Hypochlorination
- * Dosage calculations
- * Disinfection technology

Module 8: Truck Delivery Systems

- * Personal Health and Hygiene
- * Good delivery practices
- * Delivery truck protocols
- * Top hatch
- * Nozzle and hose usage
- * Freeze protection

Module 9: Workplace Safety

- * Importance of Safety
- * Yukon Workers' Compensation Health and Safety Board
- * Workplace and site safety
- * Chlorine safety
- * Safety equipment and first aid
- * WHMIS
- * Confined space

Module 10: Emergency Response Planning

- * Notification responsibility
- * Emergency response planning

Day Four:

Day Three Review

Module 11: Recordkeeping and Reporting

* Basic operator reports

* Additional reports

Module 12: Exam Tips

Final Course Evaluation (Exam)

Course Paperwork