

Trickle or Squelch: Ensuring Drinking Water Quantity and Quality Tutor's Manual

Course Module Syllabus

Overview

This module is part of a series of modules created and run by Bridge Program (www.bridge.ubc.ca) fellows as part of a grant from the Teaching and Learning Enhancement Fund at the University of British Columbia.

This module is interdisciplinary in nature and looks at the interplay of health, engineering, and policy issues as they relate to drinking water both in Canada and Internationally.

During this 6 hour course module, we will examine our drinking water source; the difference between tap water and bottled water; international and health issues associated with drinking water; how guidelines are set for drinking water; and engineering solutions for providing safe potable water.

The cholera outbreak in England during the 18th century and the case of arsenic in the drinking water of Bangladeshi's will be used as case-studies to illustrate the Pressure-Signal-Impact-Response (PSIR) framework for examining problems and to demonstrate the interplay of the various factors at play in these issues.

Topics

Lesson 1 – The sky is falling

This lesson will introduce you to the interdisciplinary nature of exploring issues in drinking water. The drinking water system of the Greater Vancouver Regional District and a discussion of issues relating to use of tap water versus bottled water will be examined.

Lesson 2 – What about the rest of the world?

This lesson will illustrate the international context of drinking water issues. This lesson also introduces an international case study using the analytical approach that will be used by you later on in the course to assess a water quality issue of your choice.

Lesson 3 – Nuts, Bolts, Plumbers, and Drinking Water: Engineering solutions for protection of human health

This lesson will provide an engineering perspective on treatment and policy approaches to improve water quality delivered to your home. Water treatment processes, human health protection, and policy development aspects will be explored.

Lesson 4, 5, and 6 - Case Study Written Assignment and Oral Presentations

The purpose of this assignment is to encourage you to explore a topic of

interest to you in water quality. The Case Study analysis will use a unique framework to analyze a complex water quality issue.

Assignments

There is one assignment for this workshop. Students are to select a relevant case-study (some potential ideas will be provided) and apply the Pressure-Signal-Impact-Response framework to their chosen problem. The case-study should be related to drinking water.

A report (maximum 3-5 pages) will be turned on the last day of the class on the chosen case-study. Students will also be expected to present their case study using the Pressure-Signal-Impact-Response Framework. The format of the presentation is up to the participant. Participants may also work in groups of 2.

Evaluation

This module will be graded based on participation in class discussions, a case study final report, and an in-class presentation of report findings.

Suggested evaluation is the following:

In class participation	20%
Case study written report	50%
Case study final presentation	30%