
Course Description:

A practical introduction to useful sampling techniques and intermediate level experimental designs.

Outline:

Sampling and experimentation are major components of much modern research, and STAT 403 will develop practical expertise in these areas. This new course is required by students in the proposed Environmental Science program who choose as an area of concentration, one of biology, chemistry, or pollutant transport. Particular emphasis will be placed on environmental applications.

The course is designed to take students beyond the basic concepts introduced in earlier courses, and to generate familiarity with intermediate-level designs that are commonly deployed. Successful graduates would, for example, be able to work with the sampling schemes currently being used to monitor shell fish populations on the B.C. North Coast. They should also have gained practical experience designing experiments that involve more than one level of grouping of experimental units (e.g., nested designs), or that assess the impact of more than one factor in reasonably creative ways (e.g., split-plot designs).

The prerequisite for the course is STAT 302, a course in regression analysis and basic experimental design. STAT 403 will extend and thereby also reinforce this base. Emphasis will be on practical aspects of sampling and experimentation.