BIOLOGICAL SCIENCES 312
ENVIRONMENTAL TOXICOLOGY I
95-3

Instructor: Dr. A.P. Farrell (SSB6151)

Role: This course serves as an introduction to the field of environmental
toxicology, which has grown in importance over the past 10-15 years. The course
can be taken as an elective, as well as the first in a series of courses required for a
minor in Environmental Toxicology and as a part of a major in Environmental
Science.

Instructional Method: Students are expected to attend three lectures and one
tutorial per week. Guest lecturers will supplement the lecture material given by
the instructor.

Course Textbook: There is no required textbook. A small fee for a booklet of
lecture summaries may be levied.
Recommended books include:
Lewis Pub.

Prerequisites: BISC101 and BISC102 are required. CHEM102, CHEM103 and
BISC204 are recommended.

Course Evaluation: Grades will be assigned based on performance in two mid-term
exams and a final exam. The mid-term exams (both 50 min. duration; each worth
20% of final grade) will exam the first and second parts of the lecture material.
The final exam (180 min. duration; 60% of marks) will exam the entire course
with extra emphasis on the final one third of lecture material.

Lecture Framework:
PART I What is the Toxicology component? Basic principles and concepts in
toxicology; Exposure, uptake, distribution, metabolism, storage, excretion; Factors
modifying toxicity; Modes to action of toxicants, toxic endpoints and basic testing.

PART II What is the Environmental component? Ecosystems; Geochemical
cycling; single species vs ecosystem monitoring; Global, Macro and Micro issues;
Special concerns of the aerial environment; Special concerns of the aquatic
environment.

PART III What can we learn from what went wrong? Case studies of
provincial, national and international importance.