

GEOCHEMICAL INVESTIGATION OF HEAVY METALS AND RADIOACTIVE ELEMENTS IN THE EAST RIVER AND GOWANUS CANAL IN NEW YORK, NY

**Environmental Research- Independent Study-One Credit
SPRING'09**

Advisor: Dr. Mossbah M. Kolkas

The purpose of this research is to investigate the concentration heavy metals and the radioactive elements in the East river and the Gowanus Canal, New York City.

Through this research, students learn the methods of and independently conduct original environmental research. Students endeavor to determine the occurrence and source of heavy metals and the radioactive elements in the watershed system and the underlying soils. This research require significant library and database searching for a variety of literatures, including books, periodicals, newspapers, and authoritative digital sources. Prior to conducting original research, students write an initial proposal stating their purpose and justifying their methods of analysis. Students then perform field work, collecting samples from the selected sites in order to conduct laboratory works and to perform geochemical analyses to learn about the existence and concentration levels of various chemical elements. After completing their chemical analysis, each student must submit a written thesis that includes his/her interpretations and conclusions concerning the occurrence and the origin of heavy metals in the waters and soils of the East River and the Gowanus Canal. The findings of this research will be presented at professional scientific meetings and will be published in a scientific journal.

Throughout the research, Students spend a significant amount of time (approximately six hours a week) outside the class working independently to gather information, conduct fieldwork, analyze the results, write the report, and prepare and give multiple professional presentations to academic and scientific communities. Students meet once a week with me as an advisor during the scheduled class time or we may schedule independent meetings as needed.

Grades: the final grade of this course will be based on the integrity and the quality of the submitted thesis.

A = Outstanding work

A- = Excellent

B = Good

F = unsatisfactory work