1003-M1-51 **Catherine A Roberts*** (`croberts@holycross.edu`), Department of Mathematics & Computer Science, College of the Holy Cross, 1 College Street, Worcester, MA 01610. *Community-based Projects for Environmental Mathematics.*

This presentation is about a liberal-studies community-based learning course, Environmental Mathematics. This algebra-based course introduced the quantitative aspects of contemporary environmental issues. The goal of the course was to illustrate how the tools of mathematics can provide insight into the long-term environmental implications of pollution. Each student participated in a research project connected to a local non-profit environmental advocacy organization.

These projects enhanced the student connection to their local community. For example, students who examined the health impacts of asthma subsequently delivered their report to children in urban classrooms and to the Mayor's office. Other students assisted a local ecology museum by tracking and analyzing visitor use. Their results became part of the museum's master plan. Students also gave posters at the city's Earth Day festival, which was considered by many to be a highlight of the semester.

This presentation will discuss how to initiate contacts with community agencies, how to develop appropriate projects, and how to execute them successfully. The logistics of juggling student schedules for off-campus service work will be addressed. The benefits of these efforts will be described, as well as the challenges. (Received July 15, 2004)