

GE 4930 (1 credit)  
**Field Excursion to the Lerma-Chapala Basin, Mexico**  
April 30 – May 8, 2005 (tentative)

The Lerma-Chapala basin is situated in central Mexico, covering a total area of more than 54,000 km<sup>2</sup>. The main branch of the Rio Lerma has a total length of more than 700 km. As of 2001, there were 405 dams in the basin. The current basin population is 9.35 million, including 18 cities that have a population greater than 50,000 inhabitants. The basin contains 6,400 industries, generating one third of the GNP and 20 per cent of all national commerce in Mexico. Furthermore, it currently comprises one eighth of all the irrigated land in Mexico. The agriculture in this area is of such importance that national farm produce exports rely heavily on the performance of this tiny region.

Extractions from the river for agricultural and municipal uses produce extreme low flow events during the dry season. The combination of low flows and insufficient waste water treatment has led to severe water quality problems in the river and a continuing drop in the level of Lake Chapala, currently the largest natural lake in Mexico.

We will tour the length of the Rio Lerma, from its source in the city of Almoloya to its terminus in Lake Chapala. We will learn from experts how flows in the river are managed and what the sources of the water quality problems are in the basin. We will also learn about the difficulties of managing a trans-boundary watershed under intensive pressures from growing municipal populations and an expanding agro-industry. We will stay primarily in the city of Guanajuato, which is a UNESCO world heritage site.

No Spanish language proficiency is required, there are no prerequisites, and the course is open to all majors, undergraduate and graduate students. In addition to the week-long field trip, students registering for the course will be responsible for several readings from books and articles and will be required to write a short paper before the trip. The course fee will likely be around \$100, but students will be responsible for airfare. To indicate your interest in the course, please send an email to Alex Mayer, Department of Geological & Mining Engineering & Sciences ([asmayer@mtu.edu](mailto:asmayer@mtu.edu)). To register, sign up for GE4930, Spring 2005, 1 credit, CRN# 13877.

