In this course students will: (1) develop essential skills for understanding crustal structures in three spatial dimensional dimensions, and how those structures change with time; (2) learn how to describe and explain geologic structures to others; (3) build upon and forge links between geology, mathematics, and physics; (4) develop the ability to integrate theory, laboratory results, and field observations; (5) be introduced to how the earth's crust can be treated as a predictable mechanical system; (6) become more proficient in understanding the Earth; and (7) see new ways that geologists can contribute to the solution of key social problems.