

GEO 135

Introduction to Geochemistry

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**Microbial
Geochemistry**



**THE UNIVERSITY
OF VERMONT**

Course Goals

At the end of this course...

- You will be able to utilize thermodynamic to determine if individual reactions are feasible/important under any given condition
- You will be able to design a sampling protocol, analyze key chemical components, apply thermodynamic or kinetic models, and test hypotheses concerning the mobility of elements in any setting
- You will be able to appreciate both the dynamics and complexity of geochemistry yet utilize what you know to ascertain processes important in the stability, movement, and reactivity of elements in the earth

What is Geochemistry??

- Victor Goldschmidt defined the study of geochemistry as: “the laws governing the distribution of the chemical elements and their isotopes throughout the earth”
- What does that mean?
- We are interested in understanding the different ways in which elements move → whether in the core, mantle, crust, oceans, sediments, air, space, or other planets...