



Learner Outcomes of Master of Science (Earth Science)

- Demonstrate the knowledge of physical and chemical properties of the lithosphere and hydrosphere (minerals, rocks, soils, and water); geologic time and earth history; and crustal materials and dynamics in the context of plate tectonics theory.
- Demonstrate competence in fundamental geological skills including: mineral, rock and soil identification; interpretation of topographic maps, geologic maps, structured maps and various forms of imagery; construction of geologic and structured maps and cross sections; three-dimensional conceptualization; and collection of organized field and laboratory data.
- Demonstrate competence in quantitative data analysis including: the construction and reading of graphs; construction and use of spreadsheets; and application of mathematical skills (ranging from algebra to calculus) for analysis of geological systems.
- Make critical and independent inquiry in the geosciences including: the ability to gather and evaluate peer-reviewed literature; identify a research question; design and conduct a research plan to collect laboratory and/or field data; and interpret research results.
- Gain an understanding of the societal relevance of earth systems.
- Effectively communicate ideas, research results, and interpretations using written, oral, and graphical design skills both on a formal and extemporaneous basis.