what employers want

PROFICIENCY in critical thinking/problem solving skills.

PROFICIENCY in communicating effectively to scientists and non-scientists.

MASTERY of solving problems, especially those requiring spatial and temporal (i.e. 3D and 4D) interpretations.

MASTERY of making inferences about the Earth system from observations of the natural world combined with experimentation and modeling.

MASTERY of working with uncertainty, non-uniqueness, incompleteness, ambiguity and indirect observations.

MASTERY of the ability to access and integrate information from different sources and to continue to learn.

PROFICIENCY in understanding and using scientific research methods.

PROFICIENCY in quantitative skills and the ability to apply them.

PROFICIENCY in integrating data from different disciplines and applying systems thinking.

PROFICIENCY in and MASTERY of strong field skills and a working knowledge of GIS.

PROFICIENCY in working in interdisciplinary teams and across cultures.

PROFICIENCY in computational skills and the ability to manage and analyze large datasets.

MASTERY of technology and versatility in its use (i.e. Google Earth, tablets, smartphones, apps).

here's how we can help
**TOOLS**
Statistics/Uncertainty/Probability; Cartography; Geography and spatial thinking; Field Methods; Remote Sensing; Age Dating; Analytical/Numerical Modeling; Seismology/Geophysical sensing

**NONLINEAR COMPLEX SYSTEMS**
Size of systems – complexity of scale and interactions; Feedback loops, interactions, forcings; Implications and predictions

**PROCESSES**
- Geo-mechanics/Stress State/Rheology; Geological Time/Earth Evolution; Plate Tectonics/Geodynamics; Depositional Processes: Crystalization Processes; Geochemical Cycles – C, H, O, N, P

**CONVENTIONAL CONCEPTS OF GEOLOGIC TIME**
Paleontology, superposition; Relative vs absolute age; Tools to determine absolute age (radioisotopes, stable isotopes, etc.), precision of data, limitations

**SURFACE PROCESSES**
Stream/River flow, morphology, deposition, erosion, effect of floods; Transport relationships (all surface processes); Surface mechanical processes; Karst formation; Glacial till and overburden thickness

**EARTH MATERIALS**
How to measure, scale of measurement; Mechanical characteristics; Scales of heterogeneity; Processes and conditions of formation; Localizing mechanisms for deposits; Fluid dynamics, flow and fluid chemistry

**EARTH STRUCTURE**
Mechanical and compositional layers; Tools for defining Earth structure (seismic waves, analysis of earthquakes, etc.); Stress and strain; Rock mechanics and deformation processes; Fractures, faults, folds, other structural features, etc.; Basin formation; Episodic nature, planning perspectives, uncertainty; Structural controls on resource accumulations

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**GEOSCIENCE THINKING**
- Temporal and spatial thinking: Systems thinking; Geologic reasoning and synthesis; Asking appropriate questions; Understand context of problems; Problem solving in 3-D and 4-D; Ability to work on problems with no clear answers; Managing uncertainty in problem solving: Working by analogy, inference and the limits of certainty; Intellectually flexible - applying skills in new scenarios

**TECHNICAL SKILLS**
Data collection and interpretation, use of data and application; Evaluation of data, data quality, purpose of collecting data, understanding of how data will answer questions; Understanding data and uncertainties; Make predictions with limited data; Use of appropriate methods, reading and interpreting graphs; Probability and statistics (to understand risk); Understanding of scale; Encourage critical thinking; Experience with authentic research, collection of new information

**FIELD AND TECHNOLOGY SKILLS**
Field camp and/or field mapping experiences; Improves spatial cognition, creative problem solving; Teamwork, geoscience synthesis; Data-supported field skills are unique and essential, difficult to replicate or substitute; Technological diversity (need skills and training beyond point, click, and type) - i.e. not just black box

**NON-TECHNICAL SKILLS**
Science writing and verbal communication; knowing your audience; Listening skills; Goal setting; Managing problems on the front end; Solution-oriented approaches; Time management; Ethics, ethical awareness and conduct; Emotional literacy, learning styles, awareness of implicit bias

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**contact us**
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