

**University of Puerto Rico at Mayaguez
Faculty of Arts and Sciences
Department of Geology**

Instructions: As part of our assessment of student learning we have prepared this questionnaire for the Geology Professors in order to find out which of the following topics are covered in the courses.

1. List the codes of all the courses that you offer in the Department of Geology.

2. Read the topic and place a mark (X) in the appropriate column considering all the courses that you listed in question #1.

Phase diagrams / Phase equilibria			
Sub-Topic	Not covered	Briefly mentioned	Covered in detail
Binary Phase Diagram			
Ternary Phase Diagram			
Gibbs Phase Rule			
Bowen's Reaction Series			
Shreinemaker's Analysis			
Solid Solution			
Lever Rule			
Basalt Tetrahedron			
Solidus			
Liquidus			
Eutectic			
Co-tectic			
Binary Eutectic			
Equilibrium Melting			
Clapeyron Equation			
Coeff. of Thermal Expansion			
Invariant Reaction			
Univariant Reaction			
Divariant Reaction			
Diffusion			
Thermodynamic Variance			
Degrees of Freedom			

Thermodynamics			
Sub-Topic	Not covered	Briefly mentioned	Covered in detail
Equilibrium Thermodynamics			
Gibb's Free Energy			
Ideal Gas Law			
Law's of Thermodynamics			
Equilibrium Constant			
Entropy			
Enthalpy			
Activity			
Fugacity			

Igneous / Metamorphic Petrology			
Sub-Topic	Not covered	Briefly mentioned	Covered in detail
Metamorphic Facies Diagram			
Fractional Crystallization			
Geothermometry			
Geobarometry			
Decompression Melting			
Adiabatic Melting			
Dehydration Reaction			
Isograd			
Fourier's Law			
Bragg's Law			
AFM Diagrams			
AFC Diagrams			
Exchange Reaction			
Closure Temperature			
Geothermal Gradient			
Stokes Law			
Bulk Modulus			
Radioactive Decay Equation			
Surface Heat Flux			
Silica Tetrahedron			
Supercritical Fluid			
Devolatilization			
Partition Coefficient			
Rare Earth Elements			
Oscillatory Zoning			
Fugacity			

Stable Isotope Geochemistry			
Sub-Topic	Not covered	Briefly mentioned	Covered in detail
Definition of delta, δ			
Definition of delta, Δ			
Isotopomer			
Isotope Exchange Reactions			
Fractionation Factor, α			
Isotope Exchange Reactions			
Definition of PDB, VPDB			
SMOW, VSMOW			
Isotope thermometry			
Kinetic vs. Equilibrium Fractionation			