

MATHEMATICS ASSESSMENT
Department of Geology
University of Puerto Rico at Mayagüez

This questionnaire is intended for geology professors. The results of this assessment will help the Department to design and modify the curriculum to meet the graduating student profile. Do not write your name.

Years working at the UPRM-Department of Geology: _____

Which mathematic courses you think the Geology students must take?

Mate 3171 (Pre-Calculus I) _____ Mate 3031 (Calculus I) _____

Mate 3172 (Pre-Calculus II) _____ Mate 3032 (Calculus II) _____

None _____

Rate the importance (1=high, 4=low) of the reasons for the Geology students having problems with mathematics.

_____ Lack of background in Mathematics

_____ Math courses don't apply to Geology

_____ Lack of background in Engineering

_____ Other (specify): _____

Do you consider mathematics is important in Geology? Yes _____ No _____

Do you like mathematics? Yes _____ No _____

Do you consider yourself good in mathematics? Yes _____ No _____

As student, did you feel phobia toward mathematics? Yes _____ No _____

As student, did you feel anxiety when answering mathematical problems?

Yes _____ No _____

A new mathematics course for geologists must be developed? Yes _____ No _____

Provide Additional Comments: _____

Based on your experience or rationale indicate the level of importance of the following mathematical topics in the field of Geology:

Topics	Very High	High	Low	Very Low	None	Don't know
Polynomials and Factoring						
Solutions of Equations						
Functions						
Graphical representation of functions						
Modeling with Mathematics						
Quadratics Functions						
Complex numbers						
Rational Functions						
Partial Fractions						
Exponential and Logarithmic Equations						
Measurements of Angle						
Triangle and Rectangle Trigonometry						
Cosine and Sine Graphics						
Graphics for Different Trigonometric Functions						
Inverse Trigonometric Functions						
Trigonometric Equations						
Matrix Operations						
Ellipses						
Hyperbolas						
Binomial Theorem						
Derivatives						
The Chain Rule						
Linear Approximations and Differentials						
Optimization Problems						
Newton's Method						
Anti-derivatives						
Areas and Distances						
The Fundamental Theorem of Calculus						
Areas Between Curves						
Volumes						
Exponential Growth and Decay						
Power Series						
The Binomial Series						
Tree – Dimensional Coordinate Systems						
Vectors						
Equations of Lines and Planes						
Curves Defined by Parametric Equations						
Polar Coordinates						
Cylinders and Quadric Surfaces						
Cylindrical and Spherical Coordinates						