

Organisms, Mathematics, and the Environment

A Pairing of Math for the Liberal Arts and Environmental Science

Spokane Falls Community College

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Learning Community

- Liberal arts mathematics and environmental science
- Intermediate algebra pre-requisite
- 10 credits total
- 12 Hours per week in class
- Technology

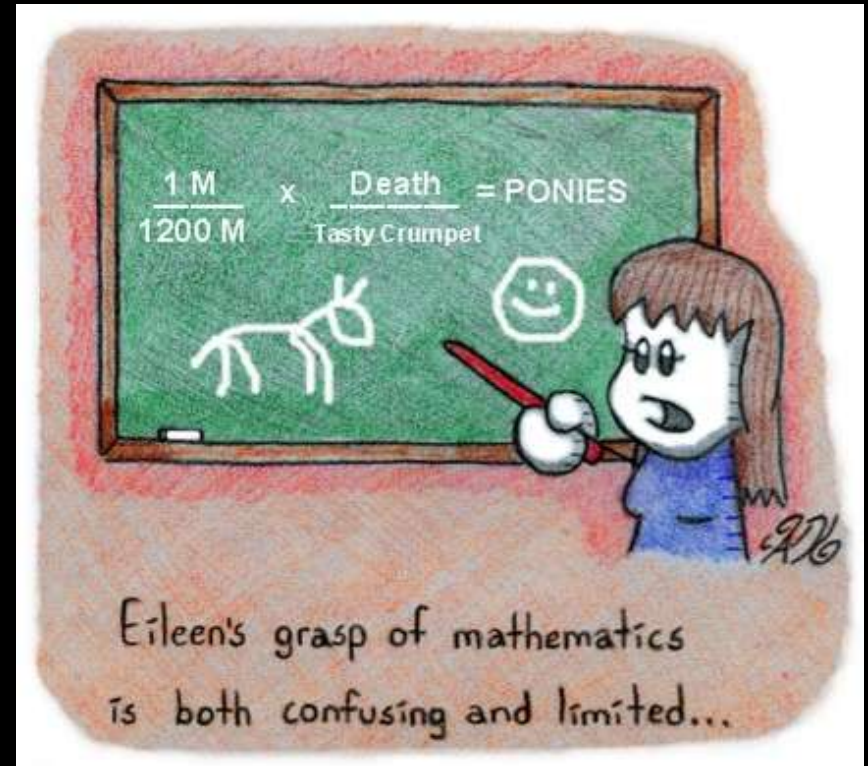


The primary goals of the course are for students to . . .

- Use and interpret numbers that describe scientific issues
- Interpret and develop discrete models
- Use and understand statistics that summarize and display data
- Be able to interpret and evaluate the relevance and accuracy of environmental information from a scientific perspective
- Understand how the scientific method is applied to environmental problems
- Communicate scientific information in written, oral, and graphical forms

Attractions

- Real-world mathematics in context
 - Work outside, data collection, etc.
- Fulfills graduation requirements
 - Quantitative Reasoning
 - Lab Science
- Early exposure to quantitative science



Mode of Instruction

- Math and science lectures
 - just-in-time approach
- An integrated capstone research project
- Traditional math homework
- Traditional environmental readings
- Excel labs
- Traditional labs
- Real-world datasets

Capstone Research Project

- Students choose their own focus within a water quality theme
- Field data collected
- Develop and test their own hypotheses
- Graded stages
- Final paper and presentation
 - Guidance/rubric on writing and presenting scientific research



Why connect math and environmental science?

- Increase student motivation and success
- Quantitative reasoning examples galore
- Socially relevant mathematics
- Deeper math/science connections
- Converts! New math/science majors