

Rose-Hulman Institute of Technology

From the Selected Works of S. Allen Broughton

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The Role of Technology in Enhancing Learning in Various Disciplines

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Available at: https://works.bepress.com/allen_broughton/98/

The Role of Technology in Enhancing Learning in Various Disciplines

- Sam Hulbert
- Allen Broughton
- Julia Williams
- Ed Doering

Presenters

- Sam Hulbert - President - RHIT Overview
- Allen Broughton - Tech Overview & Mathematics
- Julia Williams - Freshman Composition
- Ed Doering - Electrical Engineering
- All Four - Questions and Answers

RHIT Technology Overview

Allen Broughton

Rose-Hulman Institute of Technology

The Three Components

- the laptop computer
- classrooms and infrastructure
- faculty commitment

Laptop Computing

- All freshman, sophomores and juniors have laptops and extensive software suites
- 23 classrooms equipped for laptop use
 - network and power for students
 - computer projection for faculty
- network connections and resources in many convenient locations

New Olin Classroom

Faculty -student interaction



Student - Student interaction



Faculty Commitment

- 10+ years of in-class development
- many courses make use of the technology
- Watch the demos!

Software in Mathematics Teaching

Mathematics software used

- **Maple** - Calculus and differential equations
- **Matlab** - being introduced in sophomore, used in Electrical, Mechanical and Chemical Engineering
- **Minitab** - sophomore statistics
- **Magma** - Discrete math classes (math and computer science)

Why we do it

- better conceptualizing, especially visualization
- concentrate on concepts and problem solving,
- not “by hands” computation
- work on computationally intensive problems that are not feasible with paper and pencil
- discovery learning and projects
- computers and advanced software will be the tools that students use

Discussion Issues

- What do we gain?
- What do we lose?
- Is it really better?
- Is it feasible on a large scale?
- How to integrate technology with other innovations?