

The Literate Engineer: Infusing Information Literacy Skills Throughout an Engineering Curriculum

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Outline

- Instruction efforts thus far at NCSU
- Courses and assignments in Chemical Engineering
 - Introduction to Engineering
 - Chemical Process Principles
 - Professional Development Seminar
 - Capstone Senior Design
- Assessment
- Conclusions

What We've Done...

- 8 of 11 engineering departments
- Chemical Engineering as a model

...and what we've learned....

Our Goal

Thinking
“Beyond The Brickyard”



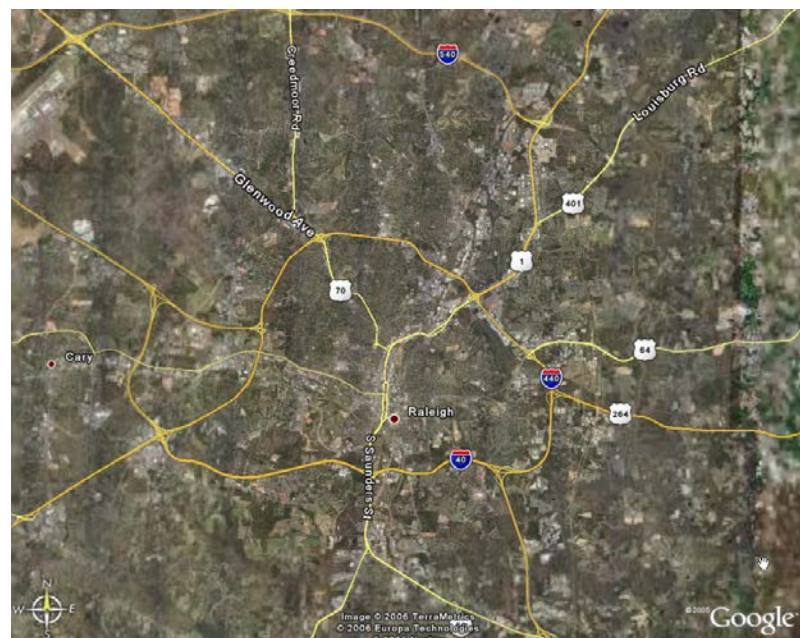
Freshman Year: Introduction to Engineering

- 1200 students per year
- Presentation by engineering librarians and exercises on library web site, catalog searching, key databases, and citation
- Assignment: Freshman Engineering Design Project (trebuchet, water rocket, bubble blowing machine, fountain, pop-up book, etc.)



Sophomore Year: Chemical Process Principles

- 150 students per year
- Introduction to discipline-specific resources that CHE's use
- Assignment: select a chemical and provide basic physical properties, industrial applications, toxicity data, environmental hazards, manufacturers, demand/sales, and unit pricing



Junior Year: Professional Development Seminar

- 1-2 small sections of 16 students
- Focus on writing, speaking, ethics, professional development skills
- Assignment: Choose a technical topic that has an ethical dimension.



- Prepare a 10-15 page paper and 15 minute oral presentation summarizing the technical and ethical issues.

Senior Year: Capstone Senior Design

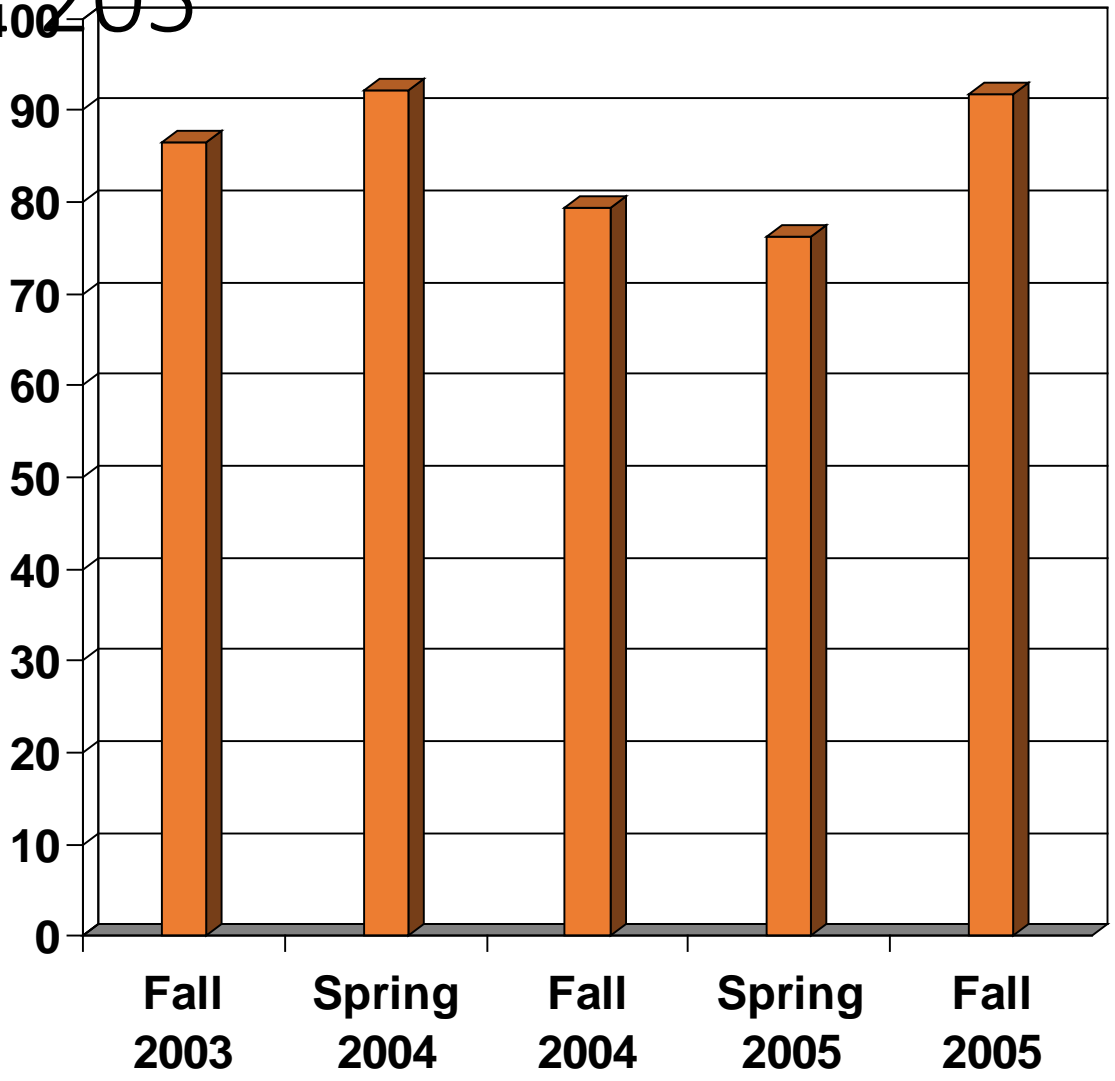
- 60-90 students per year
- Assignment: research map based on senior design project
 - Scope of project
 - Books
 - Journals
 - Internet resources
 - Engineering standards
 - Patents



Assessment

- Integrated into the course using assignment grades
- Grading done using information literacy rubric (presented at ASEE 2003)
- Data still new – still collecting and figuring out what it means

CHE 205



Conclusions

- Linkage of information competencies to existing or new assignments
- Need-based content
- Challenge: persuading students that there is valuable, discipline-specific information beyond Wikipedia and Google.com sources

Questions?

Thank you!