Computer Science & Engineering Department

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The Tower and the Glass Balls

Given a tower of $N$ floors, one wants to find the lowest floor from which a glass ball will break once it falls.

If there is only one such ball, then the search for the “breaking floor” must be linear. That is: throw the ball from the first floor, then from the second, and so on, until the ball breaks.

But, suppose there are two identical balls...

(we will return to this later)
About Us

Computer Science and Engineering Department

- 27 Faculty members (all but one in Storrs)
- Three degree programs for undergraduates
- Integrate research and undergraduate education
- Provide extensive hands-on experience to enhance the material presented in the classroom
Degree Programs

- Computer Science & Engineering (223)
- Computer Science (165)
- Computer Engineering (44)

(plus graduate degrees: M.S., Ph.D) (51,90)
## Enrollment numbers

<table>
<thead>
<tr>
<th>Program</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
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<td>CS &amp; E</td>
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<td>Computer Science</td>
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<tr>
<td>Computer Engineering</td>
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</tbody>
</table>

2014: 500+
Three programs

- Each program includes central areas of computer science: programming, algorithms, mathematical foundations, architecture, and operating systems.

- Programs differ in their emphasis and advanced topics.
Computer Science and Engineering Degree
For students interested in:

- Computing across the spectrum, from organization and architecture to software and theory

- Areas requiring background in either/both hardware and software
  - Graphics and animation systems
  - Robotics
  - Hardware/software co-design
  - Networked and embedded systems
Computer Science Degree
For students interested in

- Theory and practice of computing
- Combining computer science with study/work in other fields
  - Cognitive Science
  - Digital Media & Design
  - Computational physics
  - Business
  - Education
  - etc...

Fairly convenient to do a minor in something else
Computer Engineering Degree
For students interested in:

- Design and manufacture of computer systems
- The physical components of computer networks
- Interfacing devices to computers
- Embedded computer systems
What if I don’t know which program I want?

- All Engineering programs are the same for the first semester*.

- All of the computing programs are the same for the first year, and adjustments to deal with indecision can be made for the sophomore year.

- Engineering 1000 helps students make career decisions.
Other Opportunities

- Undergraduate research
- Minors
  - Bioinformatics
  - Business
  - Cognitive Science
- Study Abroad
- Eurotech Program
- Internships
- Entrepreneurship
- Materials Engineering
- Mathematics …
Accreditation

- ABET accredited
  - Computer Science and Engineering
  - Computer Science
  - Computer Engineering

Ensures that programs meet standards, and are committed to continuous improvement
Recent (and Projected) Improvements

- Enhanced introductory computing course for CS, CSE, and Comp. E.*
- Integration of senior project courses into a full-year course
- New undergraduate courses in Cryptography, Computational Geometry, Systems programming, Systems Biology
How long until I finish?

- The Computer Science curriculum is 120 credits.

- The Computer Engineering and the Computer Science & Engineering degrees are 126 credits.
Why should I choose UConn CSE?

- Flexible offerings
- High-quality faculty and fellow students
- Opportunity to succeed

Ask the students when you tour around!
What about jobs?
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If there is only one such ball, then the search for the “breaking floor” must be linear. That is: throw the ball from the first floor, then from the second, and so on, until the ball breaks.

But, suppose there are two identical balls. Thus, one ball can be used for a “coarse-grain” search until it breaks. Then, the other ball can be used for a “fine-grain” search.

Develop an efficient algorithm for performing the search with minimal number of throws.
Questions?
On with the tours!

- Talk to students
- Ask questions

Thank you!