COMPSCI 101, Spring 2013
Introduction to Computer Science
Peter Lorensen

WELCOME

If you haven’t done it yet: Please fill out questionnaire on the course website.
http://www.cs.duke.edu/courses/fall12/compsci101
Agenda

- **Introduction**
  - Me
  - You

- **What is programming? Example**

- **Course requirements**
  - Exams, workload, grading, etc.

- **What CompSci101 is NOT**

- **What ComSci101 is**
What is programming?

- Introduction
- What is programming? Example
- Course requirements
- What CompSci101 is NOT
- What ComSci101 IS
Why is programming fun?

Fred Brooks

- First is the sheer joy of making things
- Second is the pleasure of making things that are useful
- Third is the fascination of fashioning complex puzzle-like objects of interlocking moving parts
- Finally, there is the delight of working in such a tractable medium. The programmer, like the poet, works only slightly removed from pure thought-stuff.
What is programming?
"What’s unique about Sebastian, and all innovators, perhaps, is that they don’t start with the current situation and try to make incrementally better based on what’s been done in the past. They look out and say

‘Given the current state of technology, what can I do radically differently to make a discontinuity—not an incremental change, but put us in a different place?’” says Dean Kamen, the inventor of the Segway. “He is a true innovator...And he has a fantastic vision.”: [http://www.huffingtonpost.com/2012/08/19/a-beautiful-mind_n_1773468.html](http://www.huffingtonpost.com/2012/08/19/a-beautiful-mind_n_1773468.html)
Prerequisites for Compsci 101

- Introduction
- What is programming? Example
- Course requirements
- What CompSci101 is NOT
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Course requirements

- **Course webpage:**

- **Meeting times**
Work load

- Introduction
- What is programming? Example
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APT

Large Assignments

LABS

In-lecture questions
**Grading**

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>APTs (required/all: 30/70)</td>
<td>15%</td>
</tr>
<tr>
<td>Labs</td>
<td>10%</td>
</tr>
<tr>
<td>In-lecture questions</td>
<td>5%</td>
</tr>
<tr>
<td>Large assignments</td>
<td>30%</td>
</tr>
<tr>
<td>Midterm tests (2)</td>
<td>20%</td>
</tr>
<tr>
<td>Final exam</td>
<td>20%</td>
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</tbody>
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“**To receive a grade of A or A+ you must exceed expectations AND do almost perfect on the Final. This means you must do everything required extraordinarily well or you must do more than is required and do this well. In addition you must also complete the Final exam with a very high score!**”

(see course webpage, the About tab)

- Introduction
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# Important dates

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midterm I</td>
<td>Feb 19</td>
</tr>
<tr>
<td>Spring Break</td>
<td>Mar 11 - 15</td>
</tr>
<tr>
<td>Midterm II</td>
<td>Apr 10</td>
</tr>
<tr>
<td>Final</td>
<td>Apr 30</td>
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</tbody>
</table>

- **Introduction**
- **What is programming? Example**
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- **What CompSci101 is NOT**
- **What ComSci101 IS**
What CompSci 101 is NOT
-Graphics
-Webpage
-Mom exe files
-No math
Computer science is getting meaning out of large amount of data.
What IS CompSci101

What is it that distinguishes it from the separate subjects with which it is related? What is the linking thread which gathers these disparate branches into a single discipline? My answer to these questions is simple --- it is the art of programming a computer. It is the art of designing efficient and elegant methods of getting a computer to solve problems, theoretical or practical, small or large, simple or complex.

C.A.R. (Tony) Hoare
What IS CompSci101

Logcal creativity – like a table full of papers, pens, scissor and glue.

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What IS CompSci101

-Half the course is about logic

-The other half is about Python
What language will we learn?

- [http://www.python.org/](http://www.python.org/)
- **Python is a multi-paradigm language**
  - Procedural
  - Functional
  - Object-Oriented
- **Simple, huge libraries, widely used**
- **Guido is BDFL**
What jobs can you get?

- Computer Information Systems Manager
- Tech Entrepreneur
- Cyber Security Specialist
- Medical Imaging Scientist
- Computer Engineer
- Information Technology
- Computer Game Designer
- Network User Support Manager
What jobs can you get?

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