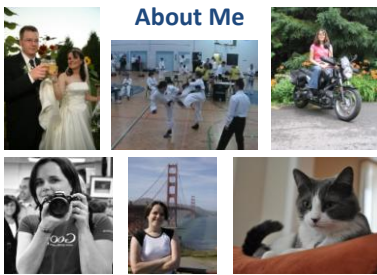Slide 1

Introduction to Computer Science and This Class

Monday, May 10, 2010

COMP 1001: Introduction to Computers for Arts and Social Sciences

Slide 2

About Me

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Slide 3

About Me
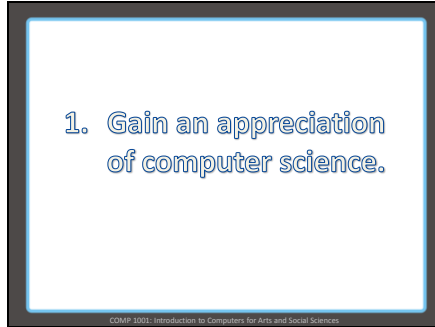
Bachelor of Computer Science (2002-2007)
Masters of Computer Science (2007-2009)
PhD Computer Science (2009-now)

Carleton
UNIVERSITY
Canada's Capital University

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Slide 4

About Me

Slide 5

Line Game

1. I am a knowledgeable computer user.
2. I use a variety of software applications throughout each day.
3. I know what computer science is.

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Did you say computer science?!

-This class is meant for everybody.
    -No prior experience is needed.
-If you have never used a computer before, don't be embarrassed.
    -Check out the detailed how-to slides and tutorials on WebCT and please please please come to office hours if you need any help at all.

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1. Gain an appreciation of computer science.

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-The first objective of this course is to see what computer science is and hopefully learn to appreciate it.
-Nobody expects you to switch majors, but it's important to understand how computer science can help you.
    -For instance, there may be opportunities to work with someone from computer science on an interdisciplinary project!

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2. Practice computational thinking.

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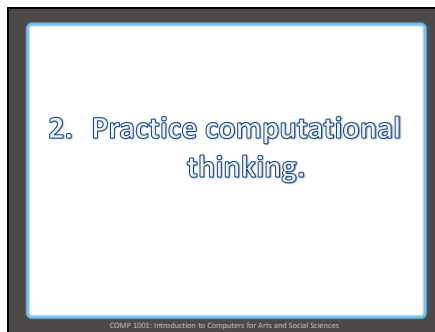
-The next objective is to practice computational thinking.
    -This just means thinking logically, or in a concrete, step-by-step way.
-University is a place of higher learning, and I believe that learning to think in different ways is important!
    -That's why I took arts classes with lots of writing opportunities in my undergrad. ;)
-Learning a simple programming language like Scratch will help exercise other parts of our brain.

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> 3. Learn useful software.
>
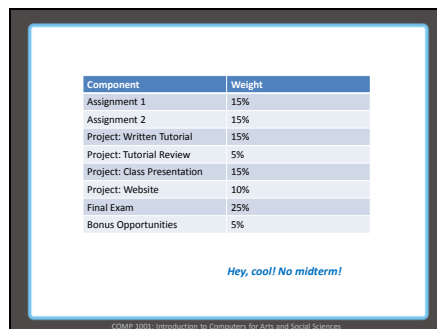> COMP 1001: Introduction to Computers for Arts and Social Sciences
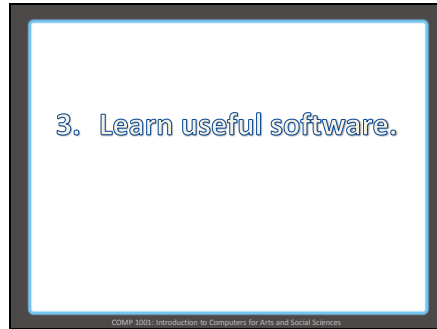
-The last objective is what this course has typically covered in the past.
-The aim is to expose you to as many useful computer tools as possible.
    -Ranging from online stuff to free and commercial software to install on your computer.

Slide 10

> http://www.scs.carleton.ca/courses
> http://webct.carleton.ca
>
> COMP 1001: Introduction to Computers for Arts and Social Sciences

-The School of Computer Science (SCS) course page is a good place to go if you want to quickly find the outline
-The course will be completely contained in WebCT though, and the link to the course webpage just goes there
    -(Give quick tour of WebCT in class)

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Component	Weight
Assignment 1	15%
Assignment 2	15%
Project: Written Tutorial	15%
Project: Tutorial Review	5%
Project: Class Presentation	15%
Project: Website	10%
Final Exam	25%
Bonus Opportunities	5%

Hey, cool! No midterm!

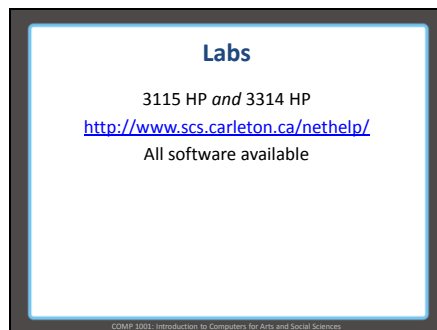> COMP 1001: Introduction to Computers for Arts and Social Sciences

-The first assignment and bonus opportunities are already posted on WebCT
    -Can do up to two bonus assignments worth 2.5% each
    -Try to choose bonus assignments that will help you the most, either in project or in everyday life
    -Bonuses will not be marked as stringently as the original marking schemes
-Will talk about first assignment later tonight
-Second assignment will use Scratch – will give a preview of this tonight, too
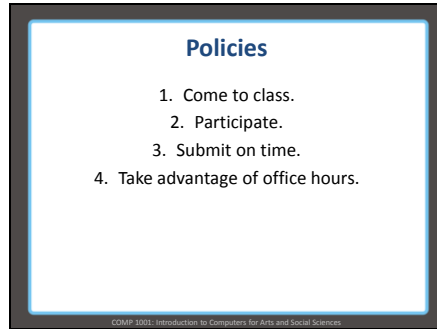
-Project:

    - will be done in groups of 2-3 (maybe more since we have a bigger class than expected – will let you know)

    -Each group will pick a piece of software that will be useful at some point in their academic lives

    -First part will be writing a tutorial for software in MS Word using more advanced formatting techniques

    -Second part will involve reviewing someone else's tutorial using Word's built-in "track changes" feature

    -Third part will be a class presentation (length to be determined).

    -Fourth and final part will be creating a website version of the tutorial.

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Labs

3115 HP *and* 3314 HP

http://www.scs.carleton.ca/nethelp/

All software available

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-Create an account once you get to the lab

-All required software should be available, but let me know if it's not

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Policies

1. Come to class.
2. Participate.
3. Submit on time.
4. Take advantage of office hours.

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-The goal is to make this an interactive class. As such, it will be difficult to understand the concepts if you don't attend class.
    -Remember, each class you miss is like missing two in a row during the rest of the year!
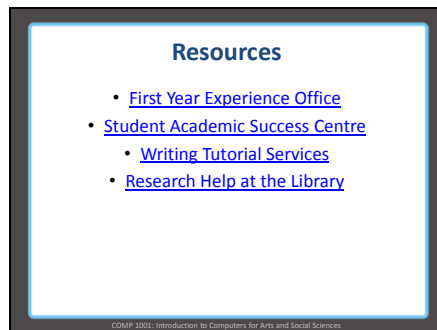-The exam will be based on evaluating how well you understand the concepts discussed in class.
    -It will NOT test your ability to memorize.
    -This is another reason to come to class and to participate when given the opportunity.
-If you do miss a class, don't panic – just take advantage of me and the TA's by attending our office hours.

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Resources

- First Year Experience Office
- Student Academic Success Centre
- Writing Tutorial Services
- Research Help at the Library

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SO WHAT EXACTLY IS COMPUTER SCIENCE ANYWAY?

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What is computer science?

- Discuss what you think computer science is with a partner.
- Exchange your ideas with another pair.
- A few volunteers can write their definition(s) on the board.

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What is computer science?

The big fancy definition:

Computer science (or computing science) is the study of the theoretical foundations of information and computation and their implementation and application in computer systems.

http://en.wikpedia.org/wiki/Computer_science

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What is computer science?

It's all about finding ways to figure stuff out.

What can be computed automatically?
How hard is it to compute?
What cool applications are there?
(Like games!)
What's the best way to set up a computer so it can do all this stuff fast?

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Thinking Computationally

How do you tell a computer to do what you want it to do?

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-CS Unplugged activity: Programming languages

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Computer science goes well with…
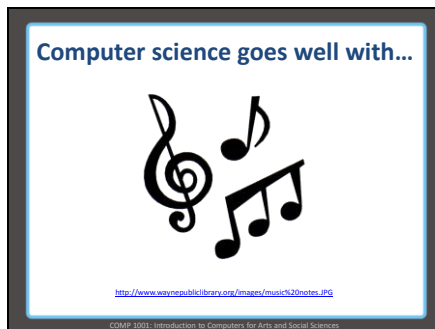
http://www.dailygalaxy.com/photos/uncategorized/2007/10/30/robot_5.jpg

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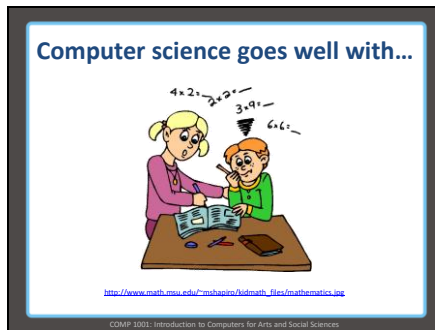
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Computer science goes well with…

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Computer science goes well with…

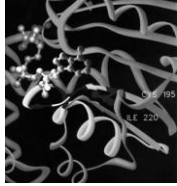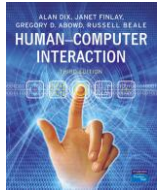COMP 1001: Introduction to Computers for Arts and Social Sciences

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Computer science goes well with…

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Computer science goes well with...

http://www.wadsworth.org/cores/images/stats.jpg

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Computer science goes well with...

http://departments.weber.edu/psychology/Psychology.gif

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Computer science goes well with...

http://images.pearsoned-ema.com/jpeg/large/9780130461094.jpg

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Computer science goes well with...

http://hornbillunleashed.files.wordpress.com/2009/10/law.jpg
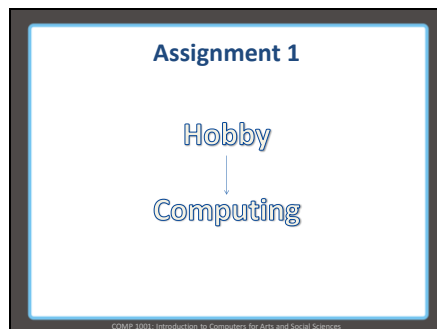
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Pathways in Computer Science video from University of Washington Computer Science and Engineering http://www.cs.washington.edu/whyCSE

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Assignment 1

Hobby

Computing

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-Connect a hobby (or other topic of interest) to computing
  -What problems exist for people with that hobby?
  -What is done manually that could be automated by a computer?
  -What kinds of algorithms and computer systems/software exist to help solve the problem?
-You will be assessed on:
  -Creativity
  -Writing style
  -Description of topic/hobby
  -Links to computing
  -Bibliography

-Give a chance to discuss in groups of three or four ideas for what topics might be good choices

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SCRATCH

http://scratch.mit.edu

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-Demo of Scratch:
    -Website
    -Sample projects
    -How to download and look at other peoples' projects
    -Software in action