CIS 115 - Introduction to Computing Science

Spring 2015

Abridged Syllabus

Sections A & B
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Teaching Assistants

A 1-6: Chris Piggott (cpiggott)
A 7-12: Josh Reed (joshua25)
B 1-6: Naveena Bellam (naveena)
B 7-12: Connor Elliott (connorelliott11)

Grading

Team Assignments
10% - Wiki Article*
10% - Topic Research*
10% - Video Project*
* Team projects include +/- 50% peer review.
* 10% of grade depends on turning in review.

Individual Assignments
14% - Programming Assignments (2% each, 7 total) (drop 1 lowest)
4% - Final Programming Assignment
28% - Class Attendance and Participation (1% each) (drop 2 lowest)
24% - Online Blog (2% each) (drop 2 lowest)

Late Work

Late work will receive penalty of 10% of the possible points for each day it is late. Missed work cannot be made up except under extenuating circumstances.

Required Texts

- "The Pattern on the Stone: The Simple Ideas that Make Computers Work" by W. Daniel Hillis.
  ISBN 046502596X - http://www.amazon.com/dp/046502596X/
- "Tubes: A Journey to the Center of the Internet" by Andrew Blum.
  ISBN 0061994952 - http://www.amazon.com/dp/0061994952 Kindle edition available
- "Blown to Bits: Your Life, Liberty, and Happiness After the Digital Explosion" by Hal Abelson, Ken Ledeen, and Harry Lewis.
  ISBN 0137135599 - http://www.amazon.com/dp/0137135599/
  Creative Commons digital edition available **FREE** at http://www.bitsbook.com/

Software

Scratch 2.0: http://scratch.mit.edu - Available online, requires Adobe Flash

Academic Honesty

The honor system website can be reached at: http://www.ksu.edu/honor.

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Schedule (as of 1/18/2015)

Date	Lecture	Topic / Blog Article	Reading (Before Class)	Activity
1/20/2015	1	What is Computing Science?		Get a CIS Account
1/22/2015	2	Teams, Projects, and Success	Syllabus & Assignments	Team Resume
1/27/2015	3	Early Computing Machines	POTS 1 - Nuts and Bolts	Scratch Introduction
1/29/2015	4	Bits and Boolean Algebra	POTS 2 - Universal Building Blocks	Loops & Conditionals
2/2/2015	**Blog 1**	**Personal Biography**		
2/3/2015	5	Programming	POTS 3 - Programming	**1 - Loops & Conditionals**
2/5/2015	6	Universal Computers	POTS 4 - How Universal are Turing Machines	Variables - Turing Machine
2/9/2015	**Blog 2**	**Historical Figure in Computing**		
2/10/2015	7	Algorithms	POTS 5 - Algorithms & Heuristics	**2 - Lists - Sorting**
2/12/2015	8	Encoding Data	POTS 6 - Memory: Information and Secret Codes	Binary Numbers
2/16/2015	**Blog 3**	**Algorithms**		
2/17/2015	9	Embedded Systems, Architecture, & FSMs	POTS 7 - Speed: Parallel Computers	**3 - Finite State Machine**
2/19/2015	10	High Performance Computing	POTS 8 - Computers that Learn and Adapt	HPC Examples
2/23/2015	**Blog 4**	**Computer Systems in Daily Life**		
2/24/2015	11	Human Computer Interaction	POTS 9 - Beyond Engineering	**4 - Parallel Programming**
2/26/2015	12	Cryptography	TUBES 1 - The Map	Strings
2/27/2015	**VIDEO**	**Video Project Due**		
3/2/2015	**Blog 5**	**Making Meaning - POTS**		
3/3/2015	13	History of the Internet	TUBES 2 - A Network of Networks	**5 - Cryptography**
3/5/2015	14	How the Internet Works	TUBES 3 - Only Connect	Packet Switched Network
3/9/2015	**Blog 6**	**TBD**		
3/10/2015	15	HTML & CSS	TUBES 4 - The Whole Internet	**6 - HTML & CSS**
3/12/2015	16	***Video Interview Presentations***	TUBES 5 - Cities of Light	<none>
3/17/2015		*No School - Spring Break*		
3/19/2015		*No School - Spring Break*		
3/23/2015	**Blog 7**	**TBD**		
3/24/2015	17	Artificial Intelligence	TUBES 6 - The Longest Tubes	**7 - Mars Rover**
3/26/2015	18	Big Data	TUBES 7 - Where Data Sleeps	Map Reduce Activity
3/30/2015	**Blog 8**	**TBD**		
3/31/2015	19	Computer Graphics	BITS 1 - Digital Explosion	Drawing in Scratch
4/2/2015	20	Video Game Design	BITS 2 - Naked in the Sunlight	Video Game Project
4/3/2015	**TOPIC**	**Topic Research Project / Presentation Due**		
4/6/2015	**Blog 9**	**TBD**		
4/7/2015	21	***Topic Research Presentations***	<none>	<none>
4/9/2015	22	***Topic Research Presentations***	<none>	<none>
4/11/2015		**OPEN HOUSE**		
4/13/2015	**Blog 10**	**TBD**		
4/14/2015	23	***Topic Research Presentations***	<none>	**Final Scratch Project Assign.**
4/16/2015	24	Robotics	BITS 3 - Ghosts in the Machine	Lego Robots
4/20/2015	**Blog 11**	**Topic Research Response**		
4/21/2015	25	Informatics and Social Media	BITS 4 - Needles in the Haystack	Databases
4/23/2015	26	Software Engineering	BITS 5 - Secret Bits	Software Diagrams
4/24/2015	**DRAFT**	**Wiki Article Draft Due**		
4/27/2015	**Blog 12**	**TBD**		
4/28/2015	27	Cybersecurity	BITS 6 - Balance Toppled	<work time>
4/30/2015	28	Cybersecurity	BITS 7 - You Can't Say That on the Internet	<work time>
5/4/2015	**Blog 13**	**TBD**		
5/5/2015	29	Leftovers	BITS 8 - Bits in the Air	**SCRATCH PROJECT DUE**
5/7/2015	30	The Future	<none>	<none>
5/8/2015	**FINAL**	**Wiki Article Due**		
5/11/2015	**Blog 14**	**Where Do I Go from Here?**		