COMPUTER SCIENCE E-1

Understanding Computers & the Internet

EXAM II BRIEFING

Our second exam will take place on Monday, April 29 from 5:30pm–7:30pm EST. You will have two hours to complete the exam. This exam is closed-book, so no notes, calculators, phone-a-friend lifelines, or additional aids will be allowed. Distance students should arrange for a proctor per the policies outlined at http://cse1.net/proctors.

The exam will cover the material presented in Lectures 5–9 equally. While no question will draw exclusively from material covered in section, we strongly encourage you to review the section videos as well, as they help cement topics covered in lecture. We also encourage you to review the recaps, which summarize the topics we covered in lecture. Questions on the exam will be similar in spirit to those on the problem sets, and questions will ask you to explain material conceptually as well as apply what you've learned to practical situations. Question formats will include multiple-choice, fill-in-the-blank, and short answer. Just like the last exam, you will **not** be asked what the "V" in SVG stands for, as we're more interested in your understanding of what SVG is and how it relates to the other topics we've seen in the course.

Here is a list of topics from the second half of the course, broken down by week. This is by no means a comprehensive list of everything we could ever possibly ask you on the exam, but these are the major ideas and concepts we've covered so far. When studying, think not only about what each of these ideas is, but also why each matters in terms of making your computer (and the ones powering that Internet thing) tick.

Week 5

- AAC

- Alpha

- Amplitude

- Bitmaps

- Bitrate

- Codecs

- Containers

- Colors

- File formats

- Frequency

- GIF

- GPUs

- Lossless/Lossy compression

- JPEG

- Magic numbers

- Masking

- Metadata

- MP3

- PPM

- PNG

- Raster graphics

- Resolution

- Sampling

- Sound

- Seam carving

- Streaming video

- Subdivision

- Vector graphics

- Wireframes

Week 6

- Asymmetric key encryption

- Caesar cipher

- Ciphertext

- Cookies

- CSRF

- Diffie-Hellman

- Databases

- Encryption

- Escaping

- HTTPS

- Injection

- Packet sniffing

- RSA

- Sanitizing

- Sessions

- Symmetric key encryption

- SQL

- Tokens

- Vigenère

- Wi-Fi security (WEP, WPA, WPA2)

- XSS

Week 7

- Adware

- Analytics

- Anti-virus

- Authentication

- Authorization
- Botnet
- Brute force attack
- Cold boot attack
- Conficker worm
- Cracking
- DDoS
- Design principles
- Deleting files
- Dictionary attack
- DMCA
- Forensics
- GPG
- Hacking
- Hashing
- Logging
- OAuth
- OpenID
- Piracy
- Malware
- Melissa virus
- Passwords
- Proxies
- Spyware
- Targeted advertising
- Trojans
- Usability heuristics

- User agents

- Viruses

- Worms

Week 8

- CSS

- HTML

Week 9

- Arrays

- Boolean expressions

- Conditions

- Events

- Loops

- Javascript

- Programming

- Scratch

- Threads

- Variables