

My Advice:

- Read through all the lecture slides since exam 3 is cumulative, which generally follow the textbook. Also be sure to review additional notes on board (if you missed a class, connect with a classmate)
- Read the book
- Look over all the labs
- Practice, practice, practice – write out key concepts.
- Form a study group
- Attend the CS tutoring sessions (Mon, Thurs 5:30-8:30 PM - Will Killian, Kyle Toth)

Overview

The test will consist of approximately 50 Multiple Choice questions.
Below is an outline of the key concepts we have covered so far

Forms

Conversions of weight, height, temperature – as shown in class and slides
What is CSS with respect to Web pages?

Chapter 16

Differences between Tables and Databases

- Comparing Tables
- The Database's Advantage

XML: A Language for Metadata Tags

- The line that is found on the top of every xml file
- An Example from Tahiti
- Expanding the Use of XML
- Attributes in XML
- Effective Design with XML Tags
- The XML Tree

Tables and Entities

- Entities
- Properties of Entities
- Database Schemes
- XML Trees and Entities

Chapter 18

Overview: Programming Concepts

Names, Values, and Variables

- Names Have Changing Values
- Names in a Program Are Called Variables
- Identifiers and Their Rules

A Variable Declaration Statement

- The Statement Terminator
- Rules for Declaring Variables

Three Basic Data Types of JavaScript

- Rules for Writing Numbers
- Strings
- Boolean Values
- Nested if/else Statements

Chapter 12

Understand:

Improving the Effectiveness of Email

- Problems with Email
- Netiquette

Creating Good Passwords

- The Role of Passwords
- Guidelines for Selecting a Password
- Changing Passwords
- Managing Passwords

Viruses and Worms

- It's a Zoo Out There
- How to "Catch" a Virus
- Virus-Checking Software
- Phishing

Protecting Intellectual Property

- Licensing of Software
- Open Source Software
- Copyright on the Web
- Violating Copyright Law

Chapter 13

Understand:

Privacy:

- Whose Information Is It?
- How Can the Information Be Used?
- Modern Devices and Privacy
- Controlling the Use of Information
- Threats to Privacy
- Voluntary Disclosure

Fair Information Practices

- OECD Fair Information Practices

Comparing Privacy across the Atlantic

- U.S. Laws Protecting Privacy
- Privacy Principles: European Union

The Cookie Monster

- Identity Theft
- Managing Your Privacy

Encryption and Decryption

- Encryption Terminology
- Symmetric Key encryption
- Public Key Cryptosystems

Chapter 8

Understand:

Digitizing Discrete Information

- Limitation of Digits
- Alternative Representations
- Symbols,

Fundamental Information Representation

- The Panda Representation
- Bits in Computer Memory

Binary and Decimal

- Conversions

Hex Explained

- The 16 Hex Digits
- Changing Hex Digits to Bits and Back Again

Digitizing Text

- Assigning Symbols
- Extended ASCII: An 8-bit Code

Chapter 10

Understand:

Algorithm: A Familiar Idea

- Algorithms in Everyday Life
- Five Essential Properties of Algorithms
- Language in Algorithms
- The Context of a Program
- Program Versus Algorithm

Abstraction in Algorithmic Thinking

- Abstracting for Other Algorithms and Programs
- Looking to the Future

Chapter 11

Understand:

Digitizing Color

- RGB Colors: Binary Representation
- Black and White Colors

Changing a Decimal Number to a Binary Number

- Lighten Up: Changing Color by Addition
- To Increase Intensity: Add in Binary
- Lighter Still: Adding with Carry Digits

Computing on Representations

- Changing the Colors of a Moon Photo
- Image Processing Summary

Digitizing Sound

- Analog to Digital
- Advantages of Digital Sound

Digital Images and Video

- Image Compression
- MPEG Compression Scheme

Optical Character Recognition

- OCR Technology

Virtual Reality: Fooling the Senses

- Haptic Devices
- The Challenge of Latency
- The Challenge of Bandwidth

Bits Are It

- Bits: The Universal Medium

Chapter 5

Understand:

the benefits of searching in obvious websites and in libraries

how Web site information is organized

how a Web search engine works.

how to find information by using a search engine:

how to identify whether Web information is truth or fiction

how a search engine uses page ranking

Chapter 4

Understand:

the meaning of and use hypertext terms

HTML tags to structure a document:

- produce bold, italic words
- create headings
- vary spacing
- introduce line breaks
- designate a Web page file