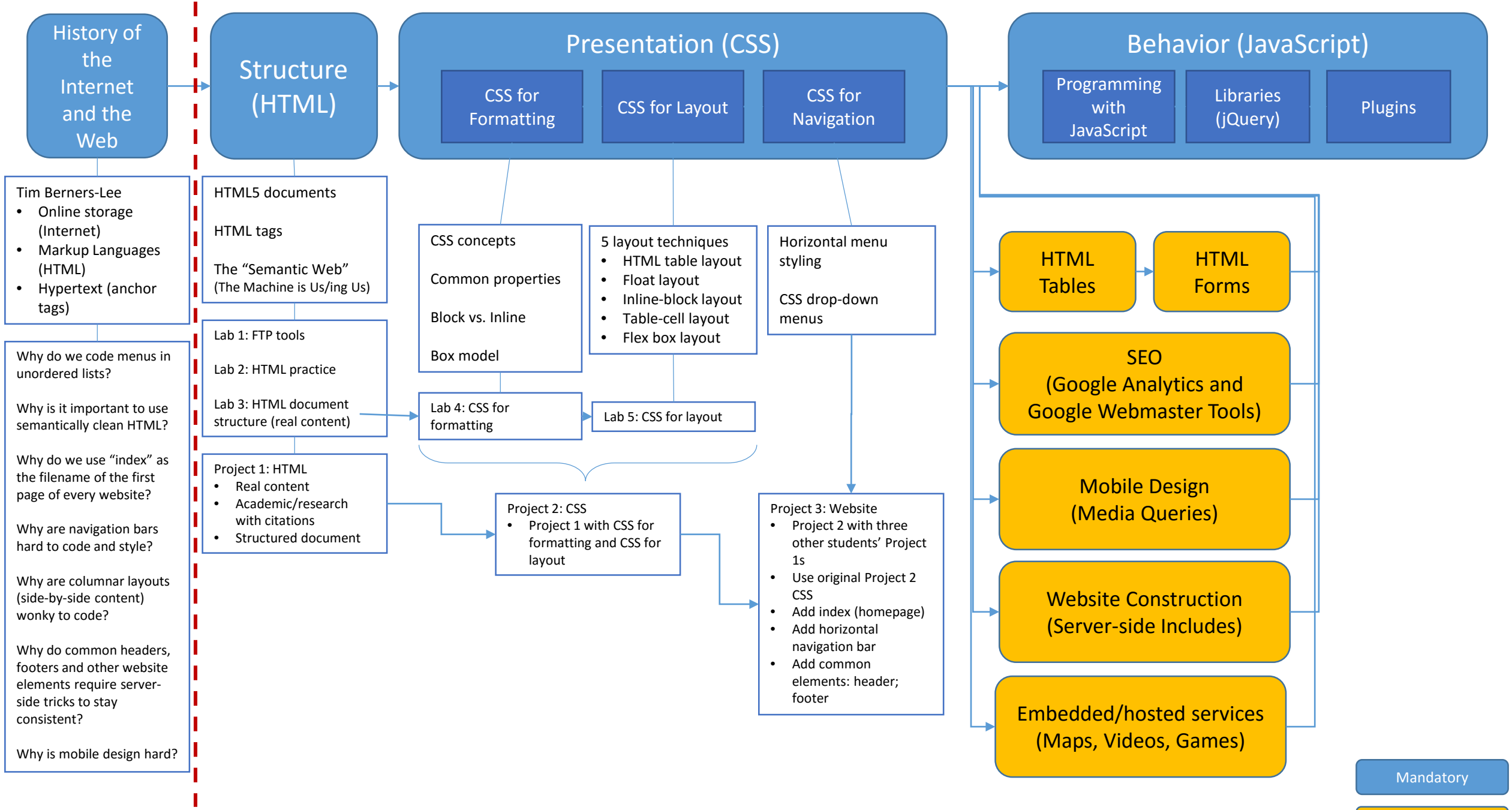
Web Design & Development

CSC 170


History of the Internet and the Web
Structure (HTML)
Presentation (CSS)
CSS for Formatting
CSS for Layout
CSS for Navigation
Behavior (JavaScript)
Programming with JavaScript
Libraries (jQuery)
Plugins
Tim Berners-Lee
Online storage (Internet)
Markup Languages (HTML)
Hypertext (anchor tags)
HTML5 documents
HTML tags
The "Semantic Web" (The Machine is Us/ing Us)
CSS concepts
Common properties
Block vs. Inline
Box model
5 layout techniques
HTML table layout
Float layout
Inline-block layout
Table-cell layout
Flex box layout
Horizontal menu styling
CSS drop-down menus
HTML Tables
HTML Forms
Why do we code menus in unordered lists?
Why is it important to use semantically clean HTML?
Why do we use "index" as the filename of the first page of every website?
Why are navigation bars hard to code and style?
Why are columnar layouts (side-by-side content) wonky to code?
Why do common headers, footers and other website elements require server-side tricks to stay consistent?
Why is mobile design hard?
Lab 1: FTP tools
Lab 2: HTML practice
Lab 3: HTML document structure (real content)
Lab 4: CSS for formatting
Lab 5: CSS for layout
SEO (Google Analytics and Google Webmaster Tools)
Mobile Design (Media Queries)
Website Construction (Server-side Includes)
Embedded/hosted services (Maps, Videos, Games)
Project 1: HTML
Real content
Academic/research with citations
Structured document
Project 2: CSS
Project 1 with CSS for formatting and CSS for layout
Project 3: Website
Project 2 with three other students' Project 1s
Use original Project 2 CSS
Add index (homepage)
Add horizontal navigation bar
Add common elements: header; footer
Mandatory
Optional

About You

1. Future web developers
   - Industry trends
   - Best practices
2. Technology majors
   - Pervasiveness of the Web interface
   - Relationship of the Web with IT
3. Non-technology majors
   - Ability to support and maintain websites
   - Rapid web presence deployment (“website builders”)
   - Teamwork and management

About Professor Kostin

- Professor Kostin
  robert.kostin@rochester.edu
- Visiting Professor at the University of Rochester
- ~~Lecturer at the Rochester Institute of Technology~~
- Office Hours
  - Computer Studies Building, Room 732
  - 1:30 – 2:30 PM, Tuesdays and Thursdays
- My three jobs:
  - Contract consultant: Excellus, Kodak, First Niagara Bank, Xerox, URMC
  - Freelance developer: Google
    “web developer rochester ny”
    “web designer rochester ny”
  - College professor, here and at RIT

About this course

How to get an A

Learn

- Lectures and Demos
- Lab Assignments (graded)

Prove

- Projects (3)
- Exams
  - Midterm exam and practical
  - Final exam

Course Materials

- Internet connected computer
- Platform and software impartial
  - Platform: PC or Mac
  - Web browser Firefox, Chrome
  - FTP software: WinSCP or any
  - Code editor: Sublime Text or any

Lectures and Demos

- No book
  - Lectures and in-class demonstrations only
- In Blackboard…
  - PowerPoint slides available, but provide supplemental info only
  - Demo files available, but don’t explain everything by themselves
- Focus, Hints, and All the Answers
  - What’s important – what’s *not* important
  - “Knock, knock”
  - How-Tos (lab assignment demos)
  - Pre-Exam review sessions

Projects

- 3 Projects over the course of the semester
- Each project builds on the previous
- Creativity encouraged!
- Project 1: basic webpage
  - Content based on a famous contributor to the Internet or Web
  - Goal: prove your ability to semantically markup a document
- Project 2: formatting and layout
  - Copy Project 1 as-is and add formatting and layout
  - Goal: prove your ability to enhance usability with styles and positioning
- Project 3: small website with navigation
  - Copy Project 2 as-is
  - Add three other students' project 1s
  - Add website functionality (an index page, common headers/footers, and navigation)

The Process for Submitting Labs and Projects

- Submissions via Blackboard
  - All labs and projects must be posted on the web server
  - A working link that points directly to the submitted lab or project must be posted in Blackboard
  - Note: updates on the web server do not need to be resubmitted in Blackboard if it hasn't been graded yet
- You can submit any lab or project late for *possible* grading without loss of points
  - Labs and project will only be graded IN ORDER (can't skip any lab)
  - The professor is responsible for grading on-time submissions only
  - Beware the end of the semester
- You can resubmit any lab or project a second time for *possible* re-grading without loss of points
  - Two chances only
  - TAs are only responsible for grading submissions once
  - Beware the end of the semester
- Late submissions and re-grades are graded IN ORDER only
- The Prof will provide feedback is on submitted labs and projects

Grades

- Midterm and Final exams (30%)
  - In the middle and end of the semester: multiple-choice exams (50 to 100 randomized questions)
  - Midterm exam includes a “practical” part: write code in real time using your own notes
  - The final exam will not be cumulative
- Projects (30%)
  - 3 - over the course of the semester
  - Each builds on the previous
  - Creativity encouraged
- Lab Assignments (40%)
  - 10 – 15 labs, total (2.5 – 4.0% each)
  - “Forced practice”
  - Creativity discouraged
  - Generally: one week to finish lab assignments
  - Everything builds on the previous – so don’t fall behind

Introduction to the Web Development Industry

The technology, the industry, and the people who work it

Web Development Parts

- Domain Name
  - Third party companies
  - ICANN (Internet Corporation for Assigned Numbers & Names)
- Web server
  - Computer with server software
  - Connection to the Internet
  - HTTP, FTP
- Web pages (files and database)
  - HTML, CSS, JavaScript
  - PHP, MySQL

- Architecture
- Design
- Graphics
- Copywriting

Where is web development?

Flexibility and Speed
- Customer needs
- Communication
- Sales support

Front-End
- Information Presentation
- HTML, CSS, JavaScript

Back-End
- Applications
- PHP, ASP, SQL

Product Development
- Product Life Cycle
- Project Management, Workflow Management, Quality Control

Command and Control
- Servers
- Connectivity
- Databases

About Web Development

Marketing ← (web development) → IT or engineering

Frontend web development	Backend web development

What you see (and interact with)
• Interface
• Architecture, design
• Usability, accessibility
	VS.
	What you do
	• "application"
	• Programming
	  • Variables
	  • Conditions (if/then)
	  • Loops
	  • Data input, data processing, data output
	• E.g. Facebook, Gmail, any ecommerce site
	• Usually involves databases

Client-side languages • HTML • CSS • JavaScript	Server-side languages • PHP • ASP.NET • Ruby • Python • MySQL