

Welcome to CMSC 122

Programming via the Web

Please put laptops and electronic
devices away... 🙄

Primary Objectives

- Basic Programming
- Procedural solutions
- Web design
 - HTML (defines “structure” of web pages)
 - CSS (defines “style” of web pages)
 - Javascript (makes web pages DO things)

What Can You Expect?

- Significant work load
- Challenging projects
- Analytical thinking required
- You may surprise yourself...

Course Syllabus

<Queue Elevator Music....>

Ways to Succeed

- Come to EVERY class
- Study
- Ask questions
- Come to office hours
- Start projects **immediately**
- **Do not procrastinate!**

More Things to Discuss

- Lecture slides
- Office Hours
- Project deadlines
- Classroom Etiquette
- Emailing your instructor and TAs
- Class announcements

Networks

- The “Internet” is a network... What’s a network?

IP Addresses

- Unique address for each machine
 - E.g: 128.85.117.163
 - Gradually switching to “IPv6”, e.g:
6262:5117:31711:17:1177:9165:17177:850

Ports

- Each network application (program) has its own “Port Number”
 - Range is 0 to 65535
- Some port numbers are reserved:
 - 21 ftp (transferring files)
 - 23 telnet (remote terminal)
 - 80 http (web servers)

Packets

- What are packets?
- What's in one?
 - Destination address and port
 - Sender address and port
 - Data

Internet Protocols (2 Kinds)

1. UDP (User Datagram Protocol)

- “Packet Oriented”
- Simple
- Fast
- Unreliable... Problems with packets:
 - They never arrive.
 - They are garbled/corrupted
 - They arrive in the wrong order

Internet Protocols (2 Kinds)

2. TCP (Transmission Control Protocol)

- “Connection Oriented”
- Complex
- Lots of overhead
- Reliable