

CSCI 571 – Web Technologies

Syllabus

Course Description

This course focuses on the phenomenon known as the World Wide Web (WWW or Web). Its focus is to present many of the core technologies that the Web is based upon. These core technologies include:

- HTML and CSS (HyperText Markup Language and Cascading Style Sheets)
- HTTP (HyperText Transfer Protocol) 1.1/2/3
- Web servers, their configuration and performance properties
- Client-side Programming Using JavaScript
- Ajax (Asynchronous JavaScript & XML) and JSON (JavaScript Object Notation)
- Server-side Programming Using Python and JavaScript

In addition, the course will also cover the following subsidiary topics:

- Web Services (REST)
- Web Security and Privacy Tools
- Web Technologies for Mobile Phones (Android and iOS)
- Responsive Website Design
- Cloud Computing (Amazon Web Services, Google Cloud Platform and Microsoft Azure)
- Angular, React and Node.js
- Serverless Applications, Microservices, Containers
- AWS Lambda, Google Cloud Functions, and Azure Functions

Learning Objectives

By the end of the course, you should have acquired the following skills:

- Ability to write RESTful API applications
- Ability to set up Cloud services



- Ability to design and code back-end scripts in Python and JavaScript
- Ability to design and code front-end Web Applications
- Ability to design and code Mobile Apps in Swift/SwiftUI or Java/Kotlin
- Ability to design and code web front-end asynchronous applications using AJAX technologies
- Ability to design and code responsive web apps
- Ability to read Web Services API documentation and use it in building Web applications
- Ability to write Microservices and Containers

Two Exams

- Exam #1 around mid-session.
- Exam #2 at the end of the course.

Final Comprehensive Project

- Cloud + Mobile application project, submitted by video during Finals Week, in lieu of Final Exam.

Grading Breakdown

| | |
|-------------|-----|
| Assignments | 60% |
| Exam 1 | 20% |
| Exam 2 | 20% |

Assignments Weights

| | |
|--------------|--------|
| Assignment 3 | 10 pts |
| Assignment 6 | 10 pts |
| Assignment 8 | 15 pts |
| Assignment 9 | 15 pts |

Grading Scale

Grades will be based on a curve that operates in favor of the students, with at least the following grades for a given percentage x . If the average in the class is lower than 80%, the average will become the cut-off between a B- and a C+. (Important Note: this grading scale is subject to change before the start of classes).

| | | | |
|------------------|----|------------------|----|
| $x \geq 93$ | A | $73 \leq x < 77$ | C |
| $90 \leq x < 93$ | A- | $70 \leq x < 73$ | C- |
| $87 \leq x < 90$ | B+ | $67 \leq x < 70$ | D+ |
| $83 \leq x < 87$ | B | $63 \leq x < 67$ | D |
| $80 \leq x < 83$ | B- | $60 \leq x < 63$ | D- |
| $77 \leq x < 80$ | C+ | $x < 60$ | F |

Please note that for graduate students pursuing Master and Doctoral degrees, B or higher should become a Pass, when the student is on a P/NP instead of Letter grade.

For undergraduate students pursuing a Bachelor of Science degree, C- or higher should become a Pass, when the student is on a P/NP instead of Letter grade.

Sometimes, the University changes these rules for P/NP, so contact your student advisor for details.

For additional information on:

- In-class Exam Rules
- Online Exam Rules
- Regrading
- Final Grade

Please go to:

<https://csci571.com/courseinfo.html>

The Fall 2022 lecture schedule is available here:

<https://csci571.com/lectures.html>