

# CSCI 0020

## The Digital World – Fall 2024

Fall Semester H: Hour  
Tuesday and Thursday 9AM-  
10:20AM

Metcalf Auditorium

Instructor: Don Stanford  
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Office Hours: By Appointment Tues and  
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Classroom: Metcalf Auditorium

And via recorded lectures

Website: [cs.brown.edu/courses/csci0020](https://cs.brown.edu/courses/csci0020)

### Introduction

#### Welcome to CS2!

CS2 removes the mystery surrounding computers and the ever-pervasive digital world!

In this class, you will be introduced to a wide range of topics, including the World Wide Web and many aspects of multimedia, along with the underlying digital technology and its relevance to our society. Other topics include artificial intelligence, IT security, ethics and economics of computing, as well as the effects of its pervasiveness in today's world.

Introductory programming and analytic skills are developed through Excel, HTML, CSS, and Python assignments. CS2 is a good introduction to a wide range of CS topics that have broad relevance in our society.

#### Course Goals

The course provides a broad overview of the history, technology and social issues around 20+ topics that are an increasing part of our digital lives. These topics are presented in a

manner that makes them relevant to all students regardless of their academic or career pursuits. Students are given introductory hands on training with a variety of analytical and programming tools that provide both context for the lecture topics and teach useful skills that can be applied in a wide variety of problem solving. Students will leave the course with a much clearer understanding of how the digital world works and evolves and will understand the impact of some of the accompanying social, economic and legal issues.

## Teaching Assistants

**Head TAs:** John Farrell (john\_farrell@brown.edu)

Yifan Zhang (yifan\_Zhang@brown.edu)

## Undergraduate TAs:

Cameron Sikich, Emily Perelman, Gaby (Carmen) Choi, Earth (Jitpuwapat) Mokkalakkul, Justin Hickey, Liam Capozza, Logan Hines, Samantha Shulman

## Requirements

Students are encouraged to attend two lectures per week, each lasting 80 minutes. In addition, all students are **required** to complete lab sessions as assigned. The lab session is necessary to prepare for the project assignments. Each lab section has a homework component that must be completed as part of the project preparation. There are 5 projects that must be completed based on the preparatory work done in the labs. Projects must be executed without any collaboration with other students.

The time commitment for the course varies depending upon whether or not a Project is due. Lectures take 3 hours per week and recommended additional reading 1 hour per week. Lab homework assignments together with their associated projects average 10 hours per week. There is a 90 minute Midterm Exam and Final Exam.

All documentation, lab notes and project work are downloaded from the course website when it is released and are uploaded into the course Canvas site prior to the deadline. Projects increase in difficulty and time commitment as the semester progresses. Late projects are assessed a point penalty if an excuse has not been previously submitted and granted. Ten points will be deducted for each day that an assignment is late if a late excuse has not been granted by the Professor prior to the due date.

## **Grading**

All grading is done on a 100-point scale.

Projects account for 70% of the final grade

Lab completion accounts for 15%

Midterm and Final Combine for 15%

Final letter grades are assigned as follows:

90-100 = A

80-89 = B

70-79 = C

<70 = No Credit

## **Prerequisites**

There are no prerequisites for CS0020. Students from all concentrations and classes are welcome and encouraged to participate.

## **TEXT**

There is no text for this course. All materials are downloaded from the website and Canvas or available through assigned readings on the Internet.

## **Accommodations**

If you feel you have physical, psychological, or learning disabilities that could affect your performance in the course, we urge you to contact SEAS (<https://www.brown.edu/campus-life/support/accessibility-services/>). We will do whatever we can to support accommodations recommended by SEAS.

## **Mental Health**

Being a student can be very stressful. If you feel you are under too much pressure or there are psychological issues that are keeping you from performing well at Brown, we encourage you to contact Brown's Counseling and Psychological Services (CAPS: <https://www.brown.edu/campus-life/support/counseling-andpsychological-services/>). They provide confidential counseling and can provide notes supporting extensions on assignments for health reasons.

## Lectures, Labs and Projects

<b>Date</b>	<b>Lecture Topic</b>
9/05	Introduction to the Digital World
9/10	A Short History of Computing
9/12	The Rise of the Internet – “Revenge of the Nerds”
9/17	Introduction to Data and Graphics
9/19	Computer Architecture
9/24	Software and Operating Systems
9/26	Data Input/Output and Storage
10/1	Legal Issues in Computing
10/3	Cyber Crime
10/8	Cyber Security/Midterm Review
10/10	TBD
10/15	Multimedia: Digital Audio
10/17	Multimedia: Digital Imaging
10/22	Multimedia: Digital Video

<b>Date</b>	<b>Lecture Topic</b>
10/24	Databases and Privacy Issues
10/29	Writing a Program
10/31	Intro to Python
11/05	Digital Networks
11/07	Artificial Intelligence
11/12	The Computer Hierarchy
11/14	Crypto, Non Fungible Tokens and Blockchain
11/19	Computer Gaming
11/21	No Lecture
11/26	No Lecture Thanksgiving Holiday
11/28	No Lecture Thanksgiving Holiday
12/03	The Internet of Things – Final Lecture
12/10	Early Optional Exam
12/16	Final Exam

## **Projects**

All projects must be handed in a zipped file through Canvas by midnight on the due date specified. For anonymized grading purposes, please DO NOT include your name or any other identifying information in your handed in files. All release and due dates will be posted on the website, [cs.brown.edu/courses/csci0020](https://cs.brown.edu/courses/csci0020) and on Canvas.

<b>Title</b>	<b>Release Date</b>	<b>Due Date</b>
Excel	9/14	9/26
HTML	9/28	10/10
CSS	10/12	10/24
JavaScript	10/26	11/7
Python	11/16	12/3

### **Labs**

All labs must be checked off by a TA to receive full credit. Check offs may occur during TA hours.

<b>Title</b>	<b>Release Date</b>	
Getting Started	9/9	9/19
Excel	9/14	9/19
HTML	9/28	10/3
CSS	10/12	10/17
JavaScript	10/26	10/31
Python I	11/9	11/14
Python II	11/9	11/21