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|  |  | **Fall Semester H: Hour** **Tuesday and Thursday 9AM-10:20AM**  **Metcalf Auditorium** |
| **CSCI 0020**  **The Digital World – Fall 2023** |  | **Instructor: Don Stanford** **E-Mail: donald\_stanford@brown.edu** **Phone: 401 996 3486** **Office: CIT 223** **Office Hours: By Appointment Tues and Thurs**  **Classroom:  Metcalf Auditorium**  **And via recorded lectures**  **Website:**[**cs.brown.edu/courses/csci0020**](http://cs.brown.edu/courses/csci0020) |
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**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 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:**

tyler\_gurth@brown.edu,  
alana\_cho@brown.edu

**Undergraduate TAs:**

Nitin Sreekumar (nsreekum) <[nitin\_sreekumar@brown.edu](mailto:nitin_sreekumar@brown.edu)>  
John Farrell (jsfarrel) <[john\_farrell@brown.edu](mailto:john_farrell@brown.edu)>  
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Brandon Wu (bwu29) <[brandon\_wu1@brown.edu](mailto:brandon_wu1@brown.edu)>  
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TA office hours are posted on the course website    cs.brown.edu/courses/csci0020

**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 6 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 labs approximately 1 hour per week.  Lab homework assignments require another 1-2 hours for completion on average.  A Project may consume between 5-15 hours depending on its level of difficulty.  Additional reading should take approximately 1 hour per week.

All documentation, lab notes and project work is downloaded from the course website when it is released and is 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 Combined 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**

| **Date** | **Topic** | **Slides** |
| --- | --- | --- |
| 9/07 | Introduction to the Digital World |  |
| 9/12 | A Short History of Computing |  |
| 9/14 | The Rise of the Internet – “Revenge of the Nerds” |  |
| 9/19 | Introduction to Data and Graphics |  |
| 9/21 | Computer Architecture |  |
| 9/26 | Software and Operating Systems |  |
| 9/28 | **TBD** |  |
| 10/03 | Legal Issues in Computing |  |
| 10/05 | Cyber Crime |  |
| 10/10 | Cyber Security/Midterm Review |  |
| 10/12 | **TBD** |  |
| 10/17 | Multimedia: Digital Audio |  |
| 10/19 | Multimedia: Digital Imaging |  |
| 10/24 | Multimedia: Digital Video |  |
| 10/26 | Databases and Privacy Issues |  |
| 10/31 | Writing a Program |  |
| 11/2 | Intro to Python |  |
| 11/7 | Digital Networks |  |
| 11/9 | Artificial Intelligence |  |
| 11/14 | The Computing Hierarchy |  |
| 11/16 | Crypto Currency, Non Fungible Tokens and The Blockchain |  |
| 11/21 | **No Lecture Thanksgiving Holiday** |  |
| 11/23 | **No Lecture Thanksgiving Holiday** |  |
| 11/28 | Computer Gaming |  |
| 11/30 | The Internet of Things |  |
| 12/07    **Final Exam TBD** | Optional Early Final Exam |  |
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**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 and on Canvas.

| **Title** | **Release Date** | **Due Date** |
| --- | --- | --- |
| Excel | 9/16 | 9/28 |
| HTML | 9/30 | 10/12 |
| CSS | 10/14 | 10/26 |
| JavaScript | 10/28 | 11/09 |
| Python | 11/20 | 12/05 |

**Labs**

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

| **Title**  Getting Started | **Release Date**  9/11 | **Due Date**  9/21 |
| --- | --- | --- |
| Excel | 9/16 | 9/21 |
| HTML | 9/30 | 10/5 |
| CSS | 10/14 | 10/19 |
| JavaScript | 10/28 | 11/02 |
| Python I  Python II | 11/11  11/11 | 11/16  11/23 |