Department of Computer Science

https://www.cosc.brocku.ca/

Course Outline

Course Name:	Internet Technologies COSC/APCO/IASC 2P89 – Fall 2024

Instructor:

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Office: TBA   Office hours: TBA

Prerequisite: COSC 1P03 or APCO 1P00 and 1P01 (minimum 60 percent for each).

Format: Lectures, 3 hours per week; lab/seminar, 2 hours per week.

Time & Location

Lectures: 19:00 – 22:00 (Tuesday), STH 204.

Labs: Mandatory in person lab sessions

Motivation: Developing the front and back-end of web sites, together with comprehending the various paradigms, theories and current technologies involved in web development is an important and relevant skill to have for students planning to work as programmers.

Course Objectives: Aspiring web site developers will need to understand the concepts behind server-side execution, client-side execution, security, language paradigms, distributed processing, interpreters, deployment methods, web frameworks, the architecture of the Internet, and some of the latest techniques and technologies. This would include common practices and common programming languages.

Primary learning outcome: To get a clear understanding of the major principles & algorithms that underlie web development and receive practical hands-on experience through labs.

Secondary learning outcomes: After taking this course, the student should be able to: (1) identify the core technologies in web development and how they are architected, (2) explain the paradigms and principles on which the core functions are built on, (3) be able to discuss major performance issues (data storage and run-time load), and (4) discuss the web technologies and techniques required for a particular target application.

Course Description: The course discusses the major principles, algorithms, languages and technologies that underlie web development. Students receive practical hands-on experience through a project. Concepts and techniques for building and maintaining advanced interactive Web sites. Topics include XML and SGML, database connectivity and forms handling, basic animation, graphics optimization for the Web, scripting, advanced searching and Web design for accessibility.

Primary Text: Internet & World Wide Web: How to Program; Pearson; ISBN 978-0-13-215100-9

Evaluation:

- 4 Assignments (note 4, 5) 25%
- 8 Labs (4% each, note 6) 32%
- Progress Test (note 7) 10%
- Final Exam (note 8) 33%
  A final grade of at least 40% is required for the final exam in order to receive credit for the course.

Late work: You will be notified in advance of homework due dates. All assignments are due on Brightspace at the indicated time and date. Assignments beyond 2 days late will not be reviewed.

Re-grading: Mistakes can occur when grading. Not surprisingly, requests for re-grading always involve those mistakes in which the student received fewer points than they deserved, rather than more points than they deserved. With that in mind: if you wish me to re-grade a question on an exam or test, I will do so. I reserve the right to re-grade other questions as well. Also, you may only request a re-grade within a 7-day window after the mark has been released.

Cheating/Collaboration: Collaboration is encouraged but your discussions should be public in the sense that anyone including the professor should be allowed to listen in. Assignments are original works created by the student alone. You are permitted and encouraged to have conversations with other students concerning the contents of the Assignments and how to do them, but your work must be original.

Academic misconduct: Academic misconduct (which includes plagiarism and contract cheating) is NOT acceptable and will not be condoned. All borrowed work or ideas must be acknowledged. Work may be submitted to a phrase checking site. If you do not want your work to be submitted to a phrase checking site, alternative arrangements are available. More information on academic integrity is available here, and in the lectures. If convicted of academic misconduct, the penalty is normally zero for the submission (test, seminar, final examination) for a first infraction. If the academic misconduct occurs in one (or more) question(s) in the test or examination, a mark of zero will be given for the test or examination.

Grading: All software solutions must compile with zero errors and must run to be graded. It does not need to run correctly for grading but it must run. If your program compiles with errors or does not run at all then you will receive zero points. The grader will not fix your code or look at the source code to give you partial grades.

Communication   Brightspace**:** All official communication, including announcements, lecture material, assignment, grades will be found on Brightspace.

Private Email: The professor and TA have private email accounts that you may also use, however these communication channels are for personal queries. For example: if you have a problem with your grade then email the TA who graded you directly, do not email the prof and do not use the course email address.

Appointments: Please email directly the one you want to communicate with to book at appointment outside office hours.

Office Hours: Please take a look at all posted office hours. Come to those times without appointment.
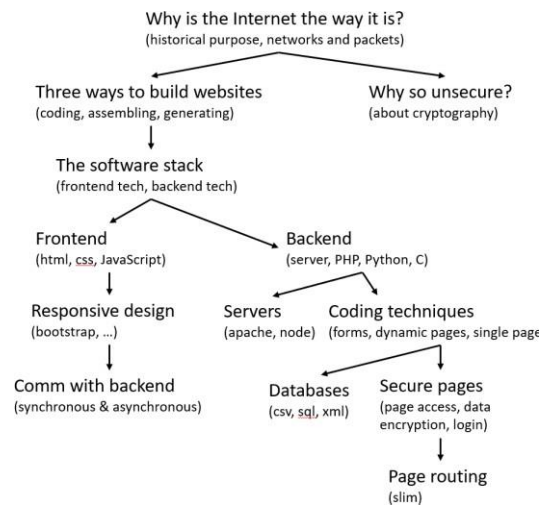
After lecture: Some optional time will be available just after class to ask questions. I do not guarantee the length of this time since other constraints may interfere

Tentative Schedule   Note that the following schedule is tentative at the moment, and subject to change. Weeks are labelled as being Monday–Friday, rather than the official Wednesday–Tuesday.

Week	Lecture	Lab	Assignments
1: Sept 9-13	Introduction + The Web Landscape		
2: Sept 16–20	Development Stacks + HTML		
3: Sept 23–27	CSS	Sandcastle + Writing Local HTML Code	
4: Sept 30 – Oct 4	JS and DOM	Writing Local CSS Code	A1 Assigned
5: Oct 7-11	Responsive Design	JS and DOM	
(Oct 14 -18) -- Fall Break Week)			
6: Oct 21-25	Review + In-Class Progress Test		A2 Assigned (A1 Due)
7: Oct 28 - Nov 1	Inter-process communication	Canvas, forms, and JS	
8: Nov 4 - 8	Apache, PHP, SQL	XAMPP and SQL	A3 Assigned (A2 Due)
9: Nov 11–15	C, Python	C and Python	
10: Nov 18–22	Responsive Backend	Responsive Backend	A4 Assigned (A3 Due)
11: Nov 25–29	Security	Security	
12: Dec 2 - 13	Final Exam Review		A4 Due

Flowchart of Schedule:

Important Notes:

1. If contacting via email, please include "COSC 2P89" in the subject line.
2. All official correspondence for this course will be sent to your Brock email address. Please check this account regularly.
3. Lectures will be conducted in the classroom, and the slides will be uploaded on Brightspace.
4. Assignments will be released online on Brightspace. These will be due at the times and dates that accompany their postings and marked and returned within 7 working days. Note that not all assignments are equally-weighted.
5. Your submissions (for the assignments, and labs) will be hosted on **sandcastle**. If you try hosting it on, e.g., a laptop, and then try submitting *that*, the marker is not allocated enough hours to fix everyone's submissions.
6. Lab attendance will be checked by the TA conducting the lab, and upon completing the Lab, with the finished work.
7. The progress test will be in-class during Week 6. Collaboration or the use of any unapproved aids (e.g. internet site, book, email, cell phone etc.) will be treated as academic misconduct.
8. The final exam will be scheduled by the administration, with a date and time to be determined. Please refer to Brock's official listings once they're up. Failure to write due to losing track (or expecting personalized reminders that you need to actually attend your exams) will not be accommodated.
9. A mark of at least 40% on the Final Exam is required to achieve a passing grade in this course.
10. Please read the department's policy on medical notes on the COSC home page. Other reasons may be used for granting extensions or other accommodations, at the instructor's discretion, but only if the instructor is contacted *in advance* of due dates. Also, if you missed work/test/exam due to illness, please submit a medical note to Amber Cecchini, acecchini2@brocku.ca, within 7 days of missing the work/test/exam. Here is the form that you may use: http://www.cosc.brocku.ca/archive/sites/all/files/downloads/department/Medical_Form.pdf
11. http://www.cosc.brocku.ca/archive/sites/all/files/downloads/department/Medical_Form.pdf
12. Plagiarism is a serious offense and will be treated accordingly. Phrase-matching software, such as MOSS, will be applied to compare submissions. For more information, please see https://brocku.ca/mathematics-science/computer-science/policies/#plagiarism for details.
    a. Conviction on a second (or higher) offense will result in a suspension, and/or permanent removal from Computer Science
    b. Uploading course materials that have been provided to you to unauthorized sites may be treated as both academic *and* non-academic misconduct, and will be prosecuted severely. Additionally, your Brightspace access will be *immediately* revoked
    c. Submission of assignments that interfere with our ability to grade the works of others will be summarily deleted. There will be no alternate arrangements
13. Students will be granted a 72-hour 'grace period' to request that their submissions be completely withdrawn and assigned a zero. Such submissions will not be eligible for evaluation or resubmission, nor subject to misconduct investigation. Anyone wishing to make use of this option should email the instructor within the allotted time window
14. As part of Brock University's commitment to a respectful work and learning environment, the university will make every reasonable effort to accommodate all members of the university community with disabilities. If you require academic accommodations related to a permanent

disability to participate in this course, you are encouraged to contact the Student Development Centre Services for Students with Disabilities (4th Floor Schmon Tower ext. 3240) and also to discuss these accommodations with the instructor.

15. **November 5th is the last day for voluntary withdrawal without academic penalty.** At least 15% of your final grade will be available by November 3rd.