
Course Outline

Introduction to Internet application development; emphasis on computer science fundamentals of technologies underlying web applications. Topics include: scripting and functional languages, language-based virtual machines, database query languages, remote procedure calls over the Internet, and performance and security concerns in modern distributed applications.

Course Information

Instructor Name	Dave McKenney
Instructor Email	david.mckenney@carleton.ca
Lecture Hours	Office Hours
Tuesday and Thursday	https://www.carleton.ca/culearn/
16:35 – 17:55	
Minto Centre 2000	
Course Website	Course Forum
https://www.carleton.ca/culearn/	https://www.carleton.ca/culearn/

Textbook

There will be no required textbook for this course. A good introductory resource for the basics of the Javascript, HTML, and CSS that we will be using in the course is <https://www.w3schools.com/>. Additional resources will be posted as we cover the course material. If you are looking for a good introductory Javascript/Node.js book, I would recommend the most recent editions of either:

- "Eloquent Javascript" by Marijn Haverbeke (focus is largely on Javascript and functional programming)
- "Beginning Node.js" by Basarat Ali Syed (more relevant to this course, a bit out of date)

Assessment Scheme

Your performance in this course will be assessed using several components. These include a collection of **four (4) assignments, one (1) in-class midterm**, and a **final examination**. The grades you achieve on these components will be weighted using the following scheme:

Assignments (4 × 15% each)	60%
Midterm	15%
Final Examination	25%

Assignments are mandatory and must be completed individually without the assistance of other students. You will use cuLearn to submit your assignments and **you must ensure that the marks posted to cuLearn are correct within one week** of the date the assignment grading was completed. Concerns or complaints about the grading of the assignments must be communicated to the teaching assistant who graded your assignment within that time – after one week, no assignment remarking is possible.

This course uses a **double pass rule** – **you must have a passing grade on the course work (assignments and midterm combined) as well as the final exam to pass the course. No exceptions will be made.**

Course Outline

Topics Covered

- Web Concepts, HTTP
- Javascript
- Functional Programming and Closures
- Markup Languages (HTML, CSS, XML, Bootstrap)
- Synchronous vs Asynchronous function calls.
- Client- and Server-side coding (in Javascript)
- Javascript execution environments: Browser and Node.js.
- Node.js and the NPM system.
- JSON databases (using MongoDB), SQL databases (using SQLite)
- Server-side templating (using JADE, etc.)
- Sessions and Cookies, AJAX, Web Sockets

Important Considerations Regarding Illness

Late assignments are accepted for 8 hours after the posted deadline, but they incur a penalty of 2.5% / hour. Assignment submissions are handled electronically, so there is no "grace period" with respect to the deadline. Eight hours after the official submission deadline, you will not be able to submit your work.

Technical problems do not exempt you from this requirement, so if you wait until the last minute and then have issues with your connection, you will still receive a mark of zero. Consequently, you are advised to:

- periodically upload your progress (i.e., upload partially completed submissions)
- attempt to submit your final submission at least 30 minutes in advance of the due date and time
- download your submission and verify the contents after submitting

For each assignment, you will be submitting one or more files that contain source code. These files must be compressed into a "zip" file. If you do not compress your source code files or if you compress your files into another format (e.g., "rar", "tar", etc.), then your assignment will be rejected and will receive a mark of zero.

If a source code file you submit does not run, it may receive a mark of zero. You are responsible for including sufficient instructions within your submission to get the code running. Consequently, after you upload your submission to cuLearn you should re-download it immediately and ensure that:

- your submission is a "zip" file that is not corrupt (i.e., it can be opened properly)
- following your provided instructions will allow the code to execute properly
- each of your source code files can be viewed in a text editor (for marking purposes)

You are expected to demonstrate good programming practices at all times and **your code may be penalized if it is poorly written.**

Students with an **illness on the day of a midterm or tutorial might be granted an exemption** if and only if they provide a **Carleton University Medical Certificate** (http://carleton.ca/registrar/wp-content/uploads/med_cert.pdf) that has been completed and signed by a physician. Since assignment specifications are posted well in advance of their due dates, **illness does not excuse a student from completing an assignment.** No provision is made for missed assignments, and **no extra credit assignments will be available.**

Course Outline

University Policies

Student Academic Integrity Policy

Every student should be familiar with the Carleton University student academic integrity policy. A student found in violation of academic integrity standards may be awarded penalties, which range from a reprimand to receiving a grade of F in the course or even being expelled from the program or University. Some examples of offences are plagiarism and unauthorized co-operation or collaboration. Information on this policy may be found in the Undergraduate Calendar.

Plagiarism

As defined by the Senate, "plagiarism is presenting, whether intentional or not, the ideas, expression of ideas or work of others as one's own". Such reported offences will be reviewed by the office of the Dean of Science.

Unauthorized Co-operation or Collaboration

Senate policy states that "to ensure fairness and equity in assessment of term work, students shall not co-operate or collaborate in the completion of an academic assignment, in whole or in part, when the instructor has indicated that the assignment is to be completed on an individual basis". Please refer to the course outline statement or the instructor concerning this issue.

Academic Accommodations for Students with Disabilities

If you have a documented disability requiring academic accommodations in this course, please contact the Paul Menton Centre for Students with Disabilities (PMC) at 613-520-6608 or pmc@carleton.ca for a formal evaluation or contact your PMC coordinator to send your instructor your Letter of Accommodation at the beginning of the term. You must also contact the PMC no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with your instructor as soon as possible to ensure accommodation arrangements are made. carleton.ca/pmc

Religious Obligation

Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Equity Services website: carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf

Pregnancy Obligation

Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Equity Services website: carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf

Survivors of Sexual Violence

As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated, and is survivors are supported through academic accommodations as per Carleton's Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit: carleton.ca/sexual-violence-support

Course Outline

Accommodation for Student Activities

Carleton University recognizes the substantial benefits, both to the individual student and for the university, that result from a student participating in activities beyond the classroom experience. Reasonable accommodation must be provided to students who compete or perform at the national or international level. Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. <https://carleton.ca/senate/wp-content/uploads/Accommodation-for-Student-Activities-1.pdf>

Medical Certificate

The following is a link to the official medical certificate accepted by Carleton University for the deferral of final examinations or assignments in undergraduate courses. To access the form, please go to <http://www.carleton.ca/registrar/form>

For more information on academic accommodation, please contact the departmental administrator or visit: students.carleton.ca/course-outline

Undergraduate Academic Advisor

The Undergraduate Advisor for the School of Computer Science is available in Room 5302C HP, by telephone at 520-2600, ext. 4364 or by email at undergraduate_advisor@scs.carleton.ca. The undergraduate advisor can assist with information about prerequisites and preclusions, course substitutions or equivalencies, understanding your academic audit and the remaining requirements for graduation. The undergraduate advisor will also refer students to appropriate resources such as the Science Student Success Centre, Learning Support Services and the Writing Tutorial Services.

You must also read: <http://calendar.carleton.ca/undergrad/regulations/academicregulationsoftheuniversity/>

Additional Notes

Including the time spent attending lectures and completing tutorials, **students can expect to spend at least ten (10) hours per week on this course**. Students are responsible for all course materials, including lecture notes, tutorial exercises, and all materials discussed in class and on any of the official discussion boards.

Students are asked to **pose all questions related to course content using the official discussion boards on cuLearn**; students should not email the instructor directly unless the question contains confidential information or is of a personal nature.

The **instructor will attempt to answer every student email received within 48 hours** of the time the message was received, unless the email requests information already posted on cuLearn or in the course outline. All emails regarding the course should be sent from your Carleton email account. To ensure that all announcements are received, **students are expected to check their Carleton email on a daily basis**.

All materials created for this course (including, but not limited to, lecture notes, in-class examples, tutorial exercises, assignments, examinations, and posted solutions) **remain the intellectual property of the instructor**. These materials are intended for the personal and non-transferable use of students registered in the current

Course Outline

offering of the course. **Reposting, reproducing, or redistributing any course materials, in part or in whole, without the written consent of the Instructor, is strictly prohibited.**

Plagiarism Policy

There is a separate plagiarism policy document for this course that is located on the main cuLearn page for the course. Students must read this document thoroughly and must agree to adhere to this policy (and to all policies stated in this course outline) before the assignment resources will be made available.

Students are invited to discuss any concerns with the Instructor at the earliest opportunity.