

COMP2406 – Course Outline

Fundamentals of Web Applications

Description

The course covers the principles involved in the design and implementation of web applications. Our primary programming language in this offering will be Javascript (on both client and server side). The course will examine programming concepts as they relate to building web applications and will emphasize the computer science fundamentals.

Topics Covered

Here is a list of the main topics covered:

- Web Concepts, HTTP
- Javascript
- Markup Languages (HTML, CSS)
- Client and Server side coding (in javascript)
- Javascript execution environments: Browser, Node.js, and Express.js
- Node.js and NPM
- Functional Programming and Closures
- Synchronous and Asynchronous programming
- JSON databases (using MongoDB)
- Server side templating (using Pug)
- Sessions, Cookies, Ajax, and Web Sockets

Textbook

This course will be taught from many sources and much of the content is available freely on the internet. Some recommended texts are available on the [main course page](#). Resources will be added to this page as the course proceeds.

Software

The main programming language for this course is Javascript. This will be run via the Node.js and Express.js frameworks, as well as through web browsers (Firefox, Chrome, IE/Edge, Safari). You can find links to required software on the [main course page](#). Resources will be added to this page as the course proceeds.

Evaluation

Students will be evaluated in this course according to the following measures:

Component	Weight
Tutorials (x10)	10% (1% each)
Assignments (x5)	35% (7% each)
Mid-term exam	15%
Final Exam	40%

Assignments

- There will be 5 assignments in this course which will be available on the course web page.
- All assignments should be completed on an individual basis (no working in pairs or groups).
- All assignments are counted equally towards the final grade.
- Assignments must be handed in before or on the due date and time.
- You will be using Carleton's cuLearn system to submit your assignments and view your grades throughout the term.
- Always keep a backup of your work. Online backups such as email or [Dropbox](#) are recommended. That way you can access your code from anywhere.
- You should take the time to ensure that assignments are neat, legible and easy to understand. A portion of your grade for assignments will be given for the readability of them and for your demonstration that you have completed the assigned tasks.
- Any instructions required by the teaching assistants (for example any assumptions you made about the assignment) should be clearly indicated on a separate README.TXT file, included with the assignment.
- Remember, it is YOUR responsibility to demonstrate that you have understood and completed the assignment. Pay special attention to the submission guidelines included at the bottom of each assignment.
- The cuLearn system allows you to view your marks on-line. You should ensure that the posted marks are correct.
- Any complaints regarding assignment marks should be brought to the attention of the TA who marked it (only if the TA does not address the problem to your satisfaction should you bring the matter to the instructor).
- This should be done **no later than two weeks** after the assignment has been returned to you. After this time, no remarking will be done.
- You will be given ample time to complete each assignment. Start early and keep submitting partially completed versions. That way, if you get sick, your partially completed version will be marked, and you will not get 0.
- Being "sick" on the day an assignment is due is not an excuse for not doing it. Last minute issues such as a home internet failure are not considered acceptable excuses.
- Late assignments may be marked at the instructor/TA's discretion with a **penalty of 25% per day**.
- DO NOT email your assignments to any TAs unless requested to do so.
- If you are sick for an extended period of time, please inform the instructor (not the TAs). You will need to have official documentation of illness. At this point, it will be up to the instructor's discretion as to how to handle the situation.

Midterm

The midterm will be closed-book and will cover material discussed up to the lecture prior to the midterm. The date for the midterm is tentatively scheduled for October 22nd during regularly scheduled lecture. Your test must be handed back immediately when completed in order to be graded. You must attend and write the midterm. If sick, you must inform the instructor via email by the day before at the latest, and you will need official documentation as well. Exceptions are only granted at the discretion of the instructor.

Tutorials

Attendance and completion of tutorials for this course are mandatory. It is strongly recommended that you attend and attempt each tutorial. Completed tutorials must be demonstrated to the TA during your scheduled tutorial in order to receive credit for each tutorial. The tutorial tasks will be provided on the course website. The topics covered in a given tutorial span those taught in lecture for the same week, and will benefit your requisite understanding for the assignments and tests.

SCS Computer Labs

Any student taking an SCS course qualifies to have an SCS account. SCS accounts can be created at the following URL: <http://www.scs.carleton.ca/newacct>. SCS students can access one of the designated labs for your course. Laboratory machines will not accept your MyCarletonOne login, you must make an account for the labs. The labs are operational 7 days a week 24 hours per day, please be advised that the building will be closed overnight, Mon.-Fri. 23:00-8:00 and on weekends from 17:00-8:00. Technical support is available in room HP5161 Monday to Friday from 9:00 until 17:00. All SCS account related information is accessible at the following URL: <http://www.scs.carleton.ca/nethelp>.

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/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.

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 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.

Students with Disabilities Requiring Academic Accommodations

Register with the Paul Menton Centre for Students with Disabilities (PMC) for a formal evaluation of disability-related needs. Documented disabilities could include but are not limited to mobility/physical impairments, specific Learning Disabilities (LD), psychiatric/psychological disabilities, sensory disabilities, Attention Deficit Hyperactivity Disorder (ADHD), and chronic medical conditions. Registered PMC students are required to contact the PMC, 613-520-6608, every term to ensure that I receive your Letter of Accommodation, no later than two weeks before the first assignment is due or the first in-class test/midterm requiring accommodations. If you only require accommodations for your formally scheduled exam(s) in this course, please submit your request for accommodations to PMC by the deadlines published on the PMC website: <http://www.carleton.ca/pmc/new-and-current-students/dates-and-deadlines/>

Religious Obligation

Write to me concerning 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 <http://www.carleton.ca/equity/accommodation>

Pregnancy Obligation

Write to me concerning 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 <http://www.carleton.ca/equity/accommodation>

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/forms>