

Instructor Information

Instructor: Dr. Bonnie MacKay

Online Office Hours: TBA

E-mail: bmackay@cs.dal.ca

Brightspace: <https://dal.brightspace.com/d2l/login> (sign in with your Dalhousie ID and password)

Class Times: Tuesday, Thursday 2:35-3:55 (SIR JAMES DUNN BUILDING 117)

Lab Times: Friday 11:35-12:55 (Carleton TUPPER BLDG THTR B) - Students must take their laptops to these labs

Important Dates (check all dates with Dalhousie: https://www.dal.ca/academics/important_dates.html)

- Test 1: Thurs. Feb. 8, Test 2: Thurs. Mr. 7, Test 3: Thurs. Mr. 28 (all tests are in person in class)
- Assignment due dates are in the Class Schedule Section
- Munro Day (university closed): Friday Feb 2, 2024
- Good Friday (university closed): Friday March 29, 2024
- Last day to add classes/drop without financial implications: Jan. 22, 2024
- Final Withdrawal Date without academic penalty (without a 'W'): Feb. 6, 2024
- Final Withdrawal Date with financial penalty (with a 'W'): March 6, 2024
- Reading Week (no classes): Feb 19-23, 2024

Course Evaluation

- **45% Assignments** - There will be tentatively 5 assignments over the course (each worth 9%). There is a three-day late policy for assignments (10% deduction per day – max. 30% deduction).
 - Late marks will be automatically assigned 5 minutes past the due date so make sure to submit early.
 - Assignments will not be accepted after three days late.
 - **Assignments are to be your work and no collaboration is permitted on the assignments.**
 - Assignments must be submitted on Brightspace. Email submissions will not be accepted.
 - It is your responsibility to *ensure that the proper files* are submitted on Brightspace (e.g., don't submit other assignments) and that they have been submitted on time. Assignments that have not been submitted on time (even if you have a 'timestamp' for an assignment) will not be accepted. **Also note, you can't stack late days/extensions/accommodations with SDAs.**
- **10% Lab Assignments**
 - Some labs will have small lab assignments to hand in (most will directly relate to the assignments) and late lab assignments will NOT be accepted. **Lab Assignments are to be your work and no collaboration is permitted on the labs.**
 - These will be graded out of 3 points.
- **45% Term Tests** – There will be three in person tests during class time each worth 15% (note, there will be no online tests).
Test Requirements
 - Photo ID is required
 - Closed book. Dictionaries, notes, calculators, cell phones, watches, PDAs, talking slide rulers, or other electronic aids **not** allowed.
 - Absolutely NO TALKING DURING TESTS (or it may be assumed that you are cheating).

To pass the course

- A passing grade (overall) in the assignments (i.e., a pass in assignments and a pass in labs)
- A passing grade (overall) in the test portion of the assessment
- A passing grade overall (e.g., C grade)
- **Academic Integrity Module:** <https://dal.brightspace.com/d2l/home/178166>
 - Must be completed by Jan 28 to pass the course (if you haven't done it already).
 - Must receive 75% or better on each of the four quizzes in the module.

Other Notes:

- As of 2015, a minimum grade of C must be achieved in all required CS courses.
To pass the course students must pass have:
 - a passing grade in the assignment portion of the assessment
 - a passing grade in the test portion of the assessment
 - a passing grade overall (e.g., C grade if a required course)
- The grade conversion scale in Section 17.1 of the Academic Regulations, Undergraduate Calendar will be used.
- No assignments will be accepted passed the three-day late period and no late labs will be accepted.
- The instructor reserves the right to change the grading scheme for a student (with their permission) if it is in their interest.

- **Statute of Limitations**

- Any concerns about grading of assignments, labs, or midterm must be brought to the attention of the course instructor within **2 weeks** of the return of the graded assessment. Any concerns brought up after this will not be considered.

Course Description and Tentative Topics

A server-side scripting language is used to create web pages with dynamic content. The course provides the technology necessary for connecting client web pages to web servers, and processing and storing information obtained using forms during web sessions. Topics may include: 1) Design: (HTML/CSS (recap), Design patterns (e.g. MVC), Template engines) 2) Processing web requests and working with the related software & protocols (e.g. HTTP) 3) Server-side programming concepts: Scripting using PHP and Databases (e.g. MySQL) 4) Interactions between client-side and server-side (JavaScript, XML, JSON (JavaScript Object Notation), Ajax, Processing, storage, and presentation of form submission data) 5) Pattern Matching (e.g. Regular Expressions) 6) Web application security 7) Content management systems – design and development

Course Rational

This course provides the backend knowledge from CSCI 1170 (Intro to Web Design & Dev.) in order to provide a foundation for third and fourth year web-based courses and content.

Learning Objectives

By the end of this class students should:

- Have a general understanding of way the web works, as it pertains to website/web application building, linking, and hosting.
- Be familiar with the software necessary to construct and deploy a web application.
- Be able to author scripts that can accept, manipulate, and display persisted user data.
- Know the principles of building web applications that are secure and resistant to attack.
- Know programming conventions and development styles typical of web scripting languages.
- Be able to develop and customize content management systems.

Tentative Class Schedule (note, changes may be made)

| Week | Topic | Assignments and Labs |
|---------------|--|---|
| W1 Jan 8-14 | Intro to course Front-end web design elements review | <ul style="list-style-type: none"> ▪ No Labs |
| W2 Jan15-21 | Installing Mamp Client-server architecture & web servers | <ul style="list-style-type: none"> ▪ Lab 0 – get MAMP set up |
| W3 Jan22-28 | HTTP Protocols and server side MVC, Templates and CMS, Intro PHP (Ch3) | <ul style="list-style-type: none"> ▪ Lab 1 – activity for A1 (submit after lab). ▪ A1 out, due Sun Feb 4 at 11:59pm |
| W4 Jan29-Feb4 | PHP (Ch4) PHP – loops, file I/O (Ch 5) | <ul style="list-style-type: none"> ▪ No LAB - Munro Day on Friday ▪ A1 due Sun Feb. 4 |
| W5 Feb5-11 | Finish PHP – loops, file I/O (Ch 5)/review Test 1 Thursday Feb 8 class | <ul style="list-style-type: none"> ▪ Lab 2a - activity for A2 (submit after lab) ▪ A2 out, due Mon Feb 26 |
| W6 Feb12-18 | PHP Intro Databases (8,9) | <ul style="list-style-type: none"> ▪ Lab 2b - help with A2 |
| W7 Feb19-25 | BREAK | |
| W8 Feb26-Mr3 | PHP Databases (CH 10, 11) | <ul style="list-style-type: none"> ▪ Lab 3a – activity for A3 (submit after lab) ▪ A2 due Monday Feb. 26 11:59pm ▪ A3 out, due March 10 |
| W9 Mr4-10 | Cookies and Sessions, APIs (CH 13) Test 2 – Thursday Mr 7 class | <ul style="list-style-type: none"> ▪ Lab 3b – help with A3 ▪ A3 due Sun Mr 10 11:59pm ▪ A4 out, due Sun Mr 24 |
| W10 Mr11-17 | Cookie, Sessions cont'd API | <ul style="list-style-type: none"> ▪ Lab 4a – activity for A4 (submit after lab) |
| W11 Mr18-24 | JSON and Ajax (CH 18) Regress | <ul style="list-style-type: none"> ▪ Lab 4b – help on A4 ▪ A4 due Sun Mr 24 11:59pm ▪ A5 out, due Tues. March 9 |
| W12 Mr25-31 | Security Test 3 – Thursday Mr 28 class | <ul style="list-style-type: none"> ▪ NO Lab - Good Friday |
| W13 Ap1-7 | Tuesday April 2 → Lab 5a in class (submit after lab) | <ul style="list-style-type: none"> ▪ Lab 5b - help on A5 |
| April 8-9 | No classes | <ul style="list-style-type: none"> ▪ A5 due (Tuesday April 9) |

*Note, Assignments are due at 11:59pm. Lab assignments are due after the lab but will be open till the next day at 11:59 (unless otherwise noted).

COREQUISITES: CSCI 2141 may be taken as a co-requisite

PREREQUISITES: (CSCI 1206 or CSCI 1170 or INFX 1606) and CSCI 2141

CROSS-LISTING: INFX 2670

Class Format and Course Communication

- Content will be delivered via a combination of lectures and interactive exercises in labs.
- Students must ask the instructor permission before recording class lectures.
- Course announcements will be posted to Brightspace. It is the student's responsibility to check the course Brightspace and their Dal e-mail on a daily basis. To access your Dal e-mail see: <https://www.dal.ca/dept/its/o365/services/email.html>

Student Declaration of Absence (SDA):

The Student Declaration of Absence policy shall apply. A student may submit a maximum of 2 (two) x SDA per term per course. **You MUST contact your instructor(s) by email BEFORE** an assignment is due to use an SDA and to discuss accommodations. Submitted SDA's alone (i.e., in Brightspace as an alternative to a due assignment) will not be accepted. Please **do not** use Teams to communicate about SDAs.

Required Texts and Resources

- There is no required textbook for this course. The lecture slides will be posted on Brightspace and are important. Students are encouraged to refer to the following recommended book and other online resources to learn key concepts:
 - **Learning PHP, MySQL, JavaScript, CSS & HTML5:**
A step-by-step guide to creating dynamic websites by R. Nixon, O'Reilly, 2021 5th Edition
 - [note: the 2018 and the 3RD Edition (with HTML5), O'Reilly, 2014 can be found online]
- Additional online readings and handouts may be assigned.
- Course TAs will be available during lab time. Additional assistance is available from the Student Learning Centre (2nd floor, Goldberg CS Building).

Academic Standards

Failure to properly attribute sources in your work will be treated as an academic standard issue and points may be deducted for not following citation requirements. For example, forgetting to quote text taken from other sources, failure to include in-text citations, or a failure to include required information in the citations or references. Please see the resources on proper citation provided by the Dalhousie Writing Center (<https://dal.ca.libguides.com/c.php?g=257176&p=5001261>).

Please note that if it appears that the error was made with intent to claim other people's work as your own such as a lack of both citations and references, an allegation of plagiarism will be submitted to the Faculty Academic Integrity Officer, which could result in consequences such as a course failure.

Use of Artificial Intelligence Tools

You may use AI-driven tools to assist you in learning but remember that your objective is to understand, achieve, and apply the course competencies and outcomes. While you may use tools for learning, specific assessments in this course will disallow the use of AI-driven tools to assert that you have attained course learning outcomes. This is because a graduate must be able to analyze, assess and produce work unassisted by AI technology. Where tools are allowed: you must acknowledge all tools used to assist you. *If used, you must provide links to chat logs.* **Using AI-driven tools where prohibited constitutes an academic offense.**

Responsible Computing Policy

Usage of all computing resources in the Faculty of Computer Science must be within the Dalhousie Acceptable Use Policies (<http://its.dal.ca/policies/>) and the Faculty of Computer Science Responsible Computing Policy. For more information please see https://www.cs.dal.ca/downloads/fcs_policy_local.pdf

Culture of Respect¹

Every person has a right to be respected and safe. We believe inclusiveness is fundamental to education and learning. Misogyny and disrespectful behavior in our classrooms, on our campus, on social media, and in our community is unacceptable. We stand for equality. We hold ourselves to a higher standard. What we all need to do:

- 1 **Be ready:** promise yourself to not remain silent, know that it will happen again, summon your courage whatever it takes. Practice things to say, open ended is good: "Why did you say that?" or "How did you develop that belief?"
- 2 **Identify the behaviour:** Use reflective listening, avoid labeling, name-calling or blame. Describe the behaviour, don't label the person: "Kim, what I hear you saying is that ..."
- 3 **Appeal to principles:** this works well if the person is known to you like a friend, sibling, co-worker etc. "Joe, I have always thought of you as a fair-minded person, so it shocks me when I hear you say something like that."
- 4 **Set limits:** you cannot control another person, but you can control what happens in your space. "Please don't tell racist jokes in my presence anymore" or "This classroom is not a place where I allow homophobia to occur" and then follow through.
- 5 **Find an ally/be an ally:** seek out like-minded people for support or support others in their challenges. Lead by example and inspire others to do the same.
- 6 **Be vigilant:** change happens slowly, but be prepared, and keep speaking up. Don't let yourself be silenced.

Student Health and Wellness

Taking care of your health is important. As a Dalhousie student, you have access to a wide range of resources to support your health and wellbeing. Students looking to access physical or mental health & wellness services at Dalhousie can go to the Student Health & Wellness Centre in the LeMarchant Building. The team includes: registered nurses, doctors, counsellors and a social worker. Visit dal.ca/student-health to learn more and book an appointment today.

Students also have access to a variety of online mental health resources, including telephone/texting counselling and workshops/training programs. Learn more and access these resources at dal.ca/mental-health.

Software/Plagiarism Detection Software

The course instructor may use Dalhousie's approved originality checking software and Google to check the originality of any work submitted for credit, in accordance with the Student Submission of Assignments and Use of Turnitin Checking Software Policy. Students are free, without penalty of grade, to choose an alternative method of attesting to the authenticity of their work, and must inform the instructor no later than the last day to add/drop classes of their intent to choose an alternate method. All submitted code may be passed through a plagiarism detection software, such as the plagiarism detector embedded in Codio, the Moss (<https://theory.stanford.edu/~aiken/moss/>) Software Similarity Detection System, or similar systems. If a student does not wish to have their assignments passed through plagiarism detection software, they should contact the instructor for an alternative. Please note, that code not passed through plagiarism detection software will necessarily receive closer scrutiny.

University Statements

This course is governed by the academic rules and regulations set forth in the University Calendar and the Senate.

<https://academiccalendar.dal.ca/Catalog/ViewCatalog.aspx?pageid=viewcatalog&catalogid=69&chapterid=3457&loaduseredits=False>

Territorial Acknowledgement

Dalhousie University is located in Mi'kma'ki, the ancestral and unceded territory of the Mi'kmaq. We are all Treaty people.

Dalhousie acknowledges the histories, contributions, and legacies of the African Nova Scotia people and communities who have been here for over 400 years.

Internationalization

At Dalhousie, 'thinking and acting globally' enhances the quality and impact of education, supporting learning that is "interdisciplinary, cross-cultural, global in reach, and orientated toward solving problems that extend across national borders." <http://www.dal.ca/about-dal/internationalization.html>

Academic Integrity

At Dalhousie University, we are guided in all of our work by the values of academic integrity: honesty, trust, fairness, responsibility and respect (The Center for Academic Integrity, Duke University, 1999). As a student, you are required to demonstrate these values in all of the work you do. The University provides policies and procedures that every member of the university community is required to follow to ensure academic integrity. http://www.dal.ca/dept/university_secretariat/academic-integrity.html

Accessibility

The Advising and Access Services Centre is Dalhousie's centre of expertise for student accessibility and accommodation. The advising team works with students who request accommodation as a result of: a disability, religious obligation, or any barrier related to any other characteristic protected under Human Rights legislation (NS, NB, PEI, NFLD).

http://www.dal.ca/campus_life/student_services/academic-support/accessibility.html

Student Code of Conduct

Everyone at Dalhousie is expected to treat others with dignity and respect. The Code of Student Conduct allows Dalhousie to take disciplinary action if students don't follow this community expectation. When appropriate, violations of the code can be resolved in a reasonable and informal manner perhaps through a restorative justice process. If an informal resolution can't be reached, or would be inappropriate, procedures exist for formal dispute resolution.

https://www.dal.ca/campus_life/safety-respect/student-rights-and-responsibilities/student-life-policies/code-of-student-conduct.html

Diversity and Inclusion – Culture of Respect

Every person at Dalhousie has a right to be respected and safe. We believe inclusiveness is fundamental to education. We stand for equality. Dalhousie is strengthened in our diversity. We are a respectful and inclusive community. We are committed to being a place where everyone feels welcome and supported, which is why our Strategic Direction prioritizes fostering a culture of diversity and inclusiveness (Strategic Priority 5.2). <http://www.dal.ca/cultureofrespect.html>

Conduct in the Classroom — Culture of Respect

Substantial and constructive dialogue on challenging issues is an important part of academic inquiry and exchange. It requires willingness to listen and tolerance of opposing points of view. Consideration of individual differences and alternative viewpoints is required of all class members, towards each other, towards instructors, and towards guest speakers. While expressions of differing perspectives are welcome and encouraged, the words and language used should remain within acceptable bounds of civility and respect.

Recognition of Mikmaq Territory

Dalhousie University would like to acknowledge that the University is on Traditional Mikmaq Territory. The Elders in Residence program provides students with access to First Nations elders for guidance, counsel and support. Visit the office in the McCain Building (room 3037) or contact the programs at elders@dal.ca or 902-494-6803 (leave a message).

Fair Dealing Policy

The Dalhousie University Fair Dealing Policy provides guidance for the limited use of copyright protected material without the risk of infringement and without having to seek the permission of copyright owners. It is intended to provide a balance between the rights of creators and the rights of users at Dalhousie. (read more:

https://www.dal.ca/dept/university_secretariat/policies/academic/fair-dealing-policy-.html)

Student Use of Course Materials

These course materials are designed for use as part of the CSCI courses at Dalhousie University and are the property of the instructor unless otherwise stated. Third party copyrighted materials (such as books, journal articles, music, videos, etc.) have either been licensed for use in this course or fall under an exception or limitation in Canadian Copyright law. Copying this course material for distribution (e.g. uploading material to a commercial third party website) may lead to a violation of Copyright law.

Learning and Support Resources

- Please see https://www.dal.ca/campus_life/academic-support.html
- Dalhousie University Library <http://libraries.dal.ca/>