



THE UNIVERSITY OF WINNIPEG

APPLIED COMPUTER SCIENCE

Course Number:	ACS-3909-002
Course Name:	Advanced Internet Programming
Course Webpage:	https://nexus.uwinnipeg.ca/d2l/home/67678

Instructor Information

Instructor: Prof. Yaser Al Mtawa **Office:** 3D06B **E-mail:** y.almtawa@uwinnipeg.ca

Office Hours: Tuesday 1:30 pm - 2:30 pm (3D06B)

Class Meeting Time: Friday 2:45 pm-5:45 pm (Room: 3D01)

Instructor's Home Page: <https://acs.uwinnipeg.ca/yalmtawa/>

Important Dates

First Class:	Friday, January 10, 2025
Reading Week (no classes):	February 16-22, 2025
Midterm Test:	Friday, March 7, 2025
Final Withdrawal Date w/o academic penalty:	Friday, March 14, 2025*
Last Class:	Friday, April 4, 2025
Final Exam (Comprehensive):	TBD
University closures:	Louis Riel Day Monday, February 17, 2025
	Good Friday Friday, April 18, 2025

* A minimum of 20% of the work on which the final grade is based will be evaluated and available to the student before the voluntary withdrawal date.

Course Objectives/Learning Outcomes

This course provides students with a thorough knowledge of server-side web programming. Topics include n-tiered systems, session tracking, interfaces and stereotypes, dynamic web page design, database connections, and XML processing. Students gain considerable knowledge and experience by learning important features needed for e-commerce, applying advanced web application techniques, and utilizing web databases.

Evaluation Criteria

- Assignments (20%)
 - Three assignments, worth 6, 7, and 7%, respectively.
 - Due date will be posted on Nexus
 - Due at 11:59:00 pm (Nexus clock) on due dates
 - No late assignment will be accepted, or under special circumstances accepted with 20% off for each late day.
 - All assignments are to be completed individually and only submitted via Nexus
 - Students are responsible for ensuring the correct files are submitted on Nexus.
- Midterm Exam (30%)
 - The midterm test is during class time
- Final Exam (50%)
 - The final exam covers all material discussed in the course

Test / Exam Requirements

- Photo ID is required for the exams
- Exams will be delivered in person.
- The use of computers, calculators, phones, or other electronic devices is not permitted during exams
- Midterm and final exams are closed book

Students should contact the instructor as soon as possible if extenuating circumstances require missing a lab, assignment, test or examination. A medical certificate from a practicing physician may be required before any adjustments are considered.

Student Services and Information

Students should contact the instructor as soon as possible if extenuating circumstances require missing a lab, assignment, test or examination. A medical certificate from a practicing physician may be required before any adjustments are considered.

Students with documented disabilities, temporary or chronic medical conditions, requiring academic accommodations for tests/exams (e.g., private space) or during lectures/laboratories (e.g., note-takers) are encouraged to contact Accessibility Services (AS) at 204-786-9771 or accessibilityservices@uwinnipeg.ca to discuss appropriate options. All information about a student's disability or medical condition remains confidential.

<https://www.uwinnipeg.ca/accessibility-services>

Students may choose not to attend classes or write examinations on holy days of their religion, but they must notify their instructors at least two weeks in advance. Instructors will then provide opportunity for students to make up work examinations without penalty. A list of religious holidays can be found in the 2024-25 Undergraduate Academic Calendar online at <http://uwinnipeg.ca/academics/calendar/docs/important-notes.pdf>

Final Letter Grade Assignment

Historically, numerical percentages have been converted to letter grades using the following scale. However, instructors can deviate from these values based on pedagogical nuances of a particular class, and final grades are subject to approval by the Department Review Committee.

A+	90 - 100%	B+	75 - 79%	C	60 - 64%
A	85 - 89%	B	70 - 74%	D	50 - 59%
A-	80 - 84%	C+	65 - 69%	F	below 50%

Prerequisite and Restriction Information

(This information can be found in the UW Undergraduate Academic Calendar)

- Requisite courses: A grade of at least C in ACS-2909/3, ACS-2814/3, and ACS-1904.

Regulations, Policies, and Academic Integrity

Students are encouraged to familiarize themselves with the Academic Regulations and Policies found in the University Academic Calendar at:

<https://uwinnipeg.ca/academics/calendar/docs/regulationsandpolicies.pdf>

Particular attention should be given to subsections 8 (Student Discipline), 9 (Senate Appeals) and 10 (Grade Appeals).

Avoiding Academic Misconduct: Academic dishonesty is a very serious offense and will be dealt in accordance with the University's policies.

Detailed information can be found at the following:

- Academic Misconduct Policy and Procedures:
<https://www.uwinnipeg.ca/policies/docs/policies/academic-misconduct-policy.pdf> and
<https://www.uwinnipeg.ca/policies/docs/procedures/academic-misconduct-procedures.pdf>
- About Academic Integrity and Misconduct, Resources and FAQs:
<https://library.uwinnipeg.ca/use-the-library/help-with-research/academic-integrity.html>

Uploading essays and other assignments to essay vendor or trader sites (filesharing sites that are known providers of essays for use by others who submit them to instructors as their own work) involves "aiding and abetting" plagiarism. Students who do this can be charged with Academic Misconduct.

Academic Integrity and AI Text-generating Tools: Students must follow principles of academic integrity (e.g., honesty, respect, fairness, and responsibility) in their use of material obtained through AI text-generating tools (e.g., ChatGPT, Bing, Notion AI). The use of AI-generative tools to generate solutions for assignments in this course is prohibited, and students may face an allegation of academic misconduct.

Non-academic misconduct: Students are expected to conduct themselves in a respectful manner on campus and in the learning environment irrespective of platform being used. Behaviour, communication, or acts that are inconsistent with a number of UW policies could be considered "non-academic" misconduct. More detailed information can be found here:

- Respectful Working and Learning Environment Policy
<https://www.uwinnipeg.ca/respect/respect-policy.html>,
- Acceptable Use of Information Technology Policy
- <https://www.uwinnipeg.ca/policies/docs/policies/acceptable-use-of-information-technology-policy.pdf>
- Non-Academic Misconduct Policy and Procedures:
<https://www.uwinnipeg.ca/policies/docs/policies/student-non-academic-misconduct-policy.pdf> and
<https://www.uwinnipeg.ca/policies/docs/procedures/student-non-academic-misconduct-procedures.pdf>

Copyright and Intellectual Property: Course materials are the property of the instructor who developed them. Examples of such materials are course outlines, assignment descriptions, lecture notes, test questions, and presentation slides—irrespective of format. Students who upload these materials to filesharing sites, or in any other way share these materials with others outside the class without prior permission of the instructor/presenter, are in violation of copyright law and University policy. Students must also seek prior permission of the instructor/presenter before, for example, photographing, recording, or taking screenshots of slides, presentations, lectures, and notes on the board. Students found to be in violation of an instructor’s intellectual property rights could face serious consequences pursuant to the Academic Misconduct or Non-Academic Misconduct Policy; such consequences could possibly involve legal sanction under the Copyright Policy:
<https://copyright.uwinnipeg.ca/basics/copyright-policy.html>

Privacy

Students have rights in relation of the collecting of personal data the University of Winnipeg

- Student Privacy: <https://www.uwinnipeg.ca/privacy/admissions-privacy-notice.html>
- Zoom Privacy: <https://www.uwinnipeg.ca/privacy/zoom-privacy-notice.html>
-

Class Cancellation, Correspondence with Students and Withdrawing from Course

When it is necessary to cancel a class due to exceptional circumstances, the course instructor will make every effort to inform students via UWinnipeg email and Nexus.

Students are reminded that they have a responsibility to regularly check their UWinnipeg e-mail addresses to ensure timely receipt of correspondence from the University and/or the course instructor.

Please let the course instructor know if you plan on withdrawing from the course. Note that withdrawing before the VW date does not necessarily result in a fee refund.

Text Book / Reading List / Tools

We will use the following books as guide, supplemented with readings throughout the course:

Recommended Textbooks:

- Web Programming and Internet Technologies: An E-Commerce Approach” Porter Scobey and Pawan Lingras
Publisher: Jones & Bartlett Learning; 2nd Edition (Sept. 22 2016)
ISBN 9781284070682
- B. A. Syed, Beginning Node.js.
Cambridge: O’Reilly, 2014.

- E. Brown, Web Development with Node & Express.

Besides the information contained in the main texts, I may also distribute papers, and discuss appropriate material and examples from other sources. Students are responsible for all material covered in the class.

Topics to be covered (Tentative)

Node.js

1. Understanding Node.js
2. Core Node.js
3. Node.js Packages
4. Events and Streams
5. Getting Started with HTTP

Express

1. Introducing Express
2. Saving Time with Express
3. Quality Assurance
4. The Request and Response Objects
5. Templating with Handlebars
6. Form Handling
7. Cookies and Sessions
8. Middleware
9. Sending Email
10. Production Concerns
11. Persisting Data
12. Rest APIs and JSON
13. Static Content
14. Implementing MVC in Express
15. Security
16. Debugging
17. Deployment and Scalability

Note that all topics listed may not be covered and may be offered in a slightly different time order. A permitted or necessary change in the mode of delivery may require adjustments to important aspects of course outlines, like class schedule and the number, nature, and weighting of assignments and/or exams.