THE UNIVERSITY OF WINNIPEG

Applied Computer Science

Course Number: **ACS-3909-050**
Course Name: **Advanced Internet Programming**
Course Webpage: http://courses.acs.uwinnipeg.ca/3909-050

Instructor Information

Instructor: Daniel Slack
Class Room No: 3D04
Office Room No: 3C07
Email: d.slack@uwinnipeg.ca
Class Meeting Time: Wed 6:00 – 9:00 pm
Office Hours: Wed 5:00 – 6:00 pm

Important Dates

First Class:	January 4th, 2017
Midterm Test:	February 8, 2017 (in class)
Reading Week:	February 19th – 25th, 2017 (no classes)
Withdrawal date w/o academic penalty[2]:	March 1st, 2017
Last Scheduled Class:	March 29th, 2017
Final Examination (Comprehensive):	April 10th, 2017 6:00 – 9:00 pm (tentative)

[2]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.

Additional Course Related Information

1. When it is necessary to cancel a class due to exceptional circumstances, instructors will make every effort to inform you via uwinnipeg email, as well as the departmental assistant and Chair/Dean so that class cancellation forms can be posted outside classrooms.

2. Your uwinnipeg email address will normally be used for course related correspondence.

3. Please note that withdrawing before the VW date does not result in a fee refund.

4. Class make-up days are scheduled at the end of term for courses that conflict with holidays.

Course Objectives/Learning Outcomes

This course will provide students with a thorough knowledge of the server-side web programming. This course will cover two main server-side technologies. The first part of the course will introduce servlets and JavaServer Pages (JSP), while the latter part of the course will explore the Express Node.js framework. Students will gain considerable knowledge and experience by learning important features needed in e-commerce, applying advanced web application techniques, and utilizing web databases.

Evaluation Criteria

Midterm Examination (25%)

There will be **one** midterm test.

Project (25%)

There will be **one** project for this course. Project details, due date, submission procedure and other requirements will be given in class.

Late Penalties: A late penalty of 15% a day (for a maximum of 3 days) will be imposed. After 3 days the student will receive a 0. NO EXCEPTIONS without medical certificate.

Final Examination (50%)

The final examination is comprehensive.

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

Exam Requirements

- Photo ID is required
- Unless a medical certificate is provided, no accommodation is made for missed exams
- No equipment (*e.g.* calculators, dictionaries, handheld devices) are authorized for use in tests/exams

Student Services and Information

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 786-9771 or accessibilityservices@uwinnipeg.ca to discuss appropriate options. All information about a student's disability or medical condition remains confidential.
http://www.uwinnipeg.ca/accessibility.

Students facing a charge of academic or non-academic misconduct may choose to contact the University of Winnipeg Students' Association (UWSA) where a student advocate will be available to answer any questions about the process, help with building a case, and ensuring students have access to support. For more information or to schedule an appointment, visit our website at www.theuwsa.ca/academic-advocacy or call 204-786-9780.

We ask that you please be respectful of the needs of classmates and instructors/professors by avoiding the use of unnecessary scented products while attending lectures. Exposure to scented

products can trigger serious health reactions in persons with asthma, allergies, migraines or chemical sensitivities. Please consider using unscented necessary products and avoiding unnecessary products that are scented (e.g. perfume).

Required Text Books

Main texts:

- Core Servlets and JavaServer Pages; 2nd Edition; Marty Hall, Larry Brown; Prentice Hall 2004, ISBN: 0-13-009229-0 (online)
- Express in Action; 1st Edition; Evan M. Hahn; Manning Publications 2016, ISBN 1-61-729242-7

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

Prerequisite Information (This information can be found in the UW General Calendar)

A grade of at least C in ACS-1904(3), ACS-2909(3), ACS-2814(3) (or the former ACS-2914(3)).

Misuse of Computer Facilities, Plagiarism, and Cheating

Academic dishonesty is a very serious offense and will be dealt with in accordance with the University's discipline bylaw. Be sure that you have read and understood **Regulations & Policies #8**, starting on page 27, in the 2016-2017 UW Course Calendar available at: http://www.uwinnipeg.ca/index/calendar-calendar.

Course Topics (tentative)

Servlets and JavaServer Pages

1. Understanding Servlet and JSP
2. The structure and development of Web applications
3. The Servlet technology model
4. Using Cookies with Servlets
5. The Web container model
6. Session tracking
7. Designing and developing Servlets to handle server-side exceptions
8. The JavaServer Pages (JSP) technology model
9. JDBC and database connection
10. JavaBeans
11. Model View Controller Architecture

Express Node.js Framework

1. Node.JS overview
2. Express overview
3. Middleware
4. Routing
5. APIs

6. Views and Templates
7. Sessions
8. Data Layer
9. Security

Note: not all of the above topics may be covered.

Recommended Study Habits

Students who do well in this class tend to spend an extra 3-5 hours per week doing the following:

- Read the textbook before coming to class
- Attend lectures
- Take notes
- Attempt the problems and exercises at the end of the chapters
- Submit all the exercises and assignments
- Form study groups to study for the midterm and exam
- Regularly ask questions

Advice: Students who fall behind find it very hard to catch up.