

Course Outline

WMDD 4950 - M01 – Security and Cloud & Server Administration

Credits:	3
Format:	Mixed Mode
Transfer Credit:	For information, visit bctransferguide.ca
Instructor:	Ivan Wong
Email:	ivanwong@langara.ca
Office Hours:	Thursday, 9:30am – 10:30am (Zoom by appointment)
Lecture:	Thursday, 1:30pm – 3:20pm
Location:	B018

Course Description

Most websites and many mobile apps require some type of customized backend; that is, hardware and software hosted on a server that ultimately serves up the content to the user. Students install and configure a Linux server along with services for websites and mobile apps. Topics include network and Internet infrastructure, including configuration tools, and cloud-based server management. Security will be emphasized and applied throughout.

Prerequisites: A minimum grade of "C" in WMDD 4921 and 4936.

Learning Outcomes:

Upon successful completion of this course, students will be able to

- Install, configure, patch and administer a Linux server on the cloud
- Install, configure, patch and administer the various services on a server, such as secure shell, web server, programming languages, DNS, email, and databases.
- Configure cloud infrastructure tools to optimize the server and its services
- Create and implement security procedures to keep the server and its services “safe”
- Deploy a web application using a commercially shared and a cloud-based host

Textbook and Course Materials:

Access to the following online Langara resources

- Brightspace (<https://d2l.langara.bc.ca>)
- LinkedIn Learning
- Safari Books Online
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Required: Earbuds or headphones for watching videos in the Langara computer labs.

Note: This course may use an electronic (online) instructional resource that is located outside of Canada for mandatory graded class work. You may be required to enter personal information, such as your name and email address, to log in to this resource. This means that your personal information could be stored on servers located outside of Canada and may be accessed by U.S. authorities, subject to federal laws. Where possible, you may log in with an email pseudonym if you provide the pseudonym to me so I can identify you when reviewing your class work.

Assessments and Weighting:

• Assignments and Quizzes	20%
• Project	15%
• Midterm exam	30%
• Final Written Examination	35%

Grading:

Letter	Percent%	GP
A+	95-100	4.33
A	90-94	4.00
A-	85-89	3.67
B+	80-84	3.33
B	75-79	3.00
B-	70-74	2.67
C+	65-69	2.33
C	60-64	2.00
C-	55-59	1.67
D	50-54	1.00
F	0-49	0.00

Detailed Course Schedule

This schedule is subject to change. Please check D2L for schedule changes.

Week 1: Sept 04-10

Introduction to Linux

Week 2: Sept 11-17

Bash scripting

Week 3: Sept 18-24

The Apache Web Server

Week 4: Sept 25-Oct 01

Deploying Web Applications

Week 5: Oct 02-08

HTTPS and Midterm Prep

Week 6: Oct 09-15

MIDTERM EXAM

Week 7: Oct 16-22

Encryption

Week 8: Oct 23-29

Introduction to OAuth2.0

Week 9: Oct 30-Nov 05

Json Web Token

Week 10: Nov 06-12

Password and Hashing

Week 11: Nov 13-19

Authentication and Cookies

Week 12: Nov 20-26

Web Application Security

Week 13: Nov 27-Dec 01

Web Application Security and Final Prep

Week 33-15: Dec 03-15

FINAL EXAM

College Policies:

[E1003 - Student Code of Conduct](#)

[F1004 - Academic Integrity](#)

[E2008 - Academic Standing - Academic Probation and Academic Suspension](#)

[E2006 - Appeal of Final Grade](#)

[F1002 - Concerns about Instruction](#)

[E2011 - Withdrawal from Courses and Deferred Standing](#)

Departmental/Course Policies:**Cheating and Plagiarism**

Studying similar projects for inspiration and guidance, as well as discussing projects with your peers, is encouraged; however, what you submit must be entirely your own work. You may not use or copy the work of any other person. Please review the college policy F1004, Code of Academic Conduct. One may use code from other sources only with permission from the instructor, and the code must be properly cited and referenced. Please consult your instructor if you have any uncertainty about these policies.

Late Assignments

One day late will result in a penalty of -10%; after the first day, the mark will be recorded as zero. Weekends count as one day.

Minimum Achievement

WMDD program policy does not allow students to advance from one semester to the next after having received a C-, D, F, N, U or W in any WMDD course. A student who receives such a grade must successfully repeat the course before proceeding in the program.

In order to receive a final grade, students must write and submit the final exam; otherwise, a grade of N will be assigned.

Digital Files

You are required to keep a copy of all files that are submitted as part of the assignments in this class until you receive your final grade. It is your responsibility to maintain backups of your files.

Concerns About Instruction

If you have any concerns about the instruction in the class, please contact your instructor directly to discuss the matter with them. If you're not able to resolve the issue by talking to them, please consult the following policy: [F1002 - Concerns about Instruction](#)