APPLIED COMPUTER SCIENCE

Course Number: ACS-2941-050
Course Name: Unix
Course Webpage: https://nexus.uwinnipeg.ca/d2l/home/34047

Instructor Information

Instructor: Dr. Luiz Guidolin
E-mail: l.guidolin@uwinnipeg.ca
Office Hours: Tuesdays   5:00 am - 6:00 pm

Class meeting time: Tuesdays   6:00 - 9:00 pm   via Zoom

Meeting info for office hours, and class time will be posted on Nexus.

Important Dates

1. First Class: Tuesday, January 12, 2021
2. Midterm Test: Tuesday, February 23, 2021
3. Reading Week (no classes):   February 14-20, 2021
4. Final Withdrawal Date w/o academic penalty*: Tuesday, March 16, 2021
5. Last Class: Monday, April 6, 2021
6. Final Exam (Comprehensive):   TBD
7. University closures: Louis Riel Day   Monday, February 15, 2021
                          Good Friday   Friday, April 2, 2021

*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 will provide students a comprehensive introduction to Unix operating systems, the most widely used operating systems that runs on virtually all types of computers and devices. The course will first introduce students to topics such as shells, filters and pipelines, the Unix file system, processes and job control, and Internet communications. Then the attention will be

paid to the Unix shell programming, which provides valuable tools for developing powerful applications while writing a minimal amount of code.

Remote Learning

All course material including videos, lecture notes, slides, sample code, assignments will be available on Nexus.

Lectures will be a mix of pre-recorded content and class time for discussion, Q&A, etc as needed. Live classes will be delivered via Zoom during scheduled time. Recording is not permitted.
- Students must display their real/full name
- Use of video is optional
- Participants must be muted when not speaking
- Students may interact via chat, voice or gestures

Students can find answers to frequently asked questions related to remote learning here: https://www.uwinnipeg.ca/covid-19/remote-learning-faq.html.

Evaluation Criteria

1. Quizzes (4 quizzes, 5% each)
   - Quizzes will be administered via Nexus.
   - Individual due dates will be posted on Nexus

3. Midterm Test (1 test, 30%)
   - During the regular class time (see Important Dates)

4. Final Exam (50%)
   - Cumulative
   - 3 hours in duration

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

Test / Exam Requirements

- Photo ID is required for midterm tests and the final exam.
- Midterm and final exams will be delivered via Nexus and proctored via Zoom. Students must have video capability, and video must be turned on for the duration of the exam for proctoring.

- Midterm and final exams are open book.
  - Students are permitted to view only the following authorized course material:
    - Lecture notes, slides, recordings, and sample code posted by the instructor;
    - Linux man/info pages and command's built in help;
    - Student's own course notes.
  - Students may access **pearl.acs.uwinnipeg.ca** to write answers to questions before entering them into the exam, unless otherwise specified.
  - Students may contact the instructor to ask questions
  - External resources (or any material not listed above) are NOT PERMITTED
  - Communication with others (except the instructor) is NOT PERMITTED
  - All work must be entirely the students' own. Collaboration or sharing of work is NOT PERMITTED.

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 2019-20 Undergraduate Academic Calendar online at http://uwinnipeg.ca/academics/calendar/docs/important-notes.pdf

Notice Regarding Remote Test and Exam Proctoring

Tests/exams are proctored through a live Zoom meeting and may also be recorded locally for later review. Proctors will be monitoring for any evidence of academic dishonesty. Each proctor will monitor a small group of students simultaneously. Students must sit and face an engaged camera to enable monitoring. Microphones can be muted. After being reviewed for academic dishonesty, any recordings made will be promptly deleted if no such evidence is found.

As part of this monitoring, please note:

Each student's name and everything within their camera's view, including their face, body and background, will be visible to the proctor and to the other students within the group.
If a student uses the chat feature, anything written will be visible to all meeting participants.
If a student chooses to un-mute their microphone, anything said will be heard by all meeting participants.

Zoom has been configured to disable students from recording the test/exam. Information regarding Zoom's data collection, including a link to its privacy policy, can be found at https://www.uwinnipeg.ca/privacy/zoom-privacy-notice.html. Student personal information is collected under the University of Winnipeg Act and 36(1)(b) of the Freedom of Information and

Protection of Privacy Act. For information regarding privacy at UWinnipeg, contact Dan Elves, Senior Information and Privacy Officer, at da.elves@uwinnipeg.ca or 204.988.7538.

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%

Required Text Book / Reading List

1. **An Introduction to Unix Systems** by Luiz Guidolin.
   - Available on Nexus
2. Class notes/slides/videos will be available on Nexus
3. Reference book (not required): *Linux Essentials* by Roderick W. Smith. (ISBN 978-1-118-10679-2).

Additional Resources:
4. **Beginning Unix** by Paul Love et. Al. (ISBN 978-0-7645-7994-3);
5. *Harley Hahn's Student Guide to Unix* by Harley Hahn (ISBN 0-07- 025492-3);
6. *Modern Operation Systems* by Andrew S. Tanenbaum, 3rd Edition (ISBN 978-81-203-3904-0).

Prerequisite Information

- ACS-1903 or ACS-1805 with a minimum grade of C.

Regulations, Policies, and Academic Integrity

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

Avoiding Academic Misconduct: 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). Please note, in particular, the subsection of Student Discipline pertaining to plagiarism and other forms of cheating.

Detailed information can be found at the following:

- Academic Misconduct Policy and Procedures: https://www.uwinnipeg.ca/institutional-analysis/docs/policies/academic-misconduct-policy.pdf and https://www.uwinnipeg.ca/institutional-analysis/docs/policies/academic-misconduct-procedures.pdf
- UW Library video tutorial "Avoiding Plagiarism" https://www.youtube.com/watch?v=UvFdxRU9a8g

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.

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/institutional-analysis/docs/policies/acceptable-use-of-information-technology-policy.pdf
- Non-Academic Misconduct Policy and Procedures: https://www.uwinnipeg.ca/institutional-analysis/docs/student-non-academic-misconduct-policy.pdf and https://www.uwinnipeg.ca/institutional-analysis/docs/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/docs/copyright_policy_2017.pdf

Privacy

Students have rights in relation of the collecting of personal data the University of Winnipeg: https://www.uwinnipeg.ca/privacy/admissions-privacy-notice.html.

More information:

- Zoom and Privacy: https://www.uwinnipeg.ca/privacy/zoom-privacy-notice.html
- Testing/Proctoring: https://www.uwinnipeg.ca/privacy/zoom-test-and-exam-proctoring.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 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.

Topics to be covered (tentative)

- Brief history of Unix systems
- Unix versions
- Operating system components
- First steps
- Getting help with man pages
- File system concepts
- Editing files with vi
- Customizing the work environment
- Useful Unix commands
- Understanding users & groups
- Advanced tools
- Advanced commands
- Job control & process management
- Backup tools
- System log
- Unix networking
- Installing software
- Compiling software
- Shell programming

A permitted or necessary change in 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.