THE UNIVERSITY OF WINNIPEG

APPLIED COMPUTER SCIENCE

Course Number: ACS-2941-050
Course Name: Unix
Course Webpage: http://luiz.guidolin.net

Instructor Information

Instructor: Dr. Luiz Guidolin
E-mail: l.guidolin@uwinnipeg.ca
Office Hours: 4:45 to 5:45 p.m. Thursdays   **Office:** 3C07
Class Meeting Time: 6:00 to 9:00 p.m. Thursdays   **Room No:** 3D04

Important Dates

1. **First Class Date:** Thursday, September 5, 2019
2. **Midterm Test:** Thursday, October 31, 2019
3. **Final Exam:** Thursday, December 5, 2019.
4. **Final Withdrawal Date without academic penalty*:** Tuesday, November 12, 2019
5. **Last Class Date:** Thursday, November 28, 2019.
6. **University closures:**
     Thanksgiving: Monday, October 14, 2019
     Remembrance Day: Monday, November 11, 2019

*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.

Evaluation Criteria

1. Assignments (30%):
   - Number of Assignments: 2
   - (10% and 20% for assignments 1 and 2 respectively);
   - All assignments are to be completed individually;
   - All commands and scripts must run successfully on **pearl.acs.uwinnipeg.ca;**
   - No assignment will be accepted after the due date;
   - Students may submit a partially completed assignment, and will receive credit for those attempted problems. Do not submit individual problems separately;
   - All assignments will be submitted electronically in the form of a bash script.
   - Assignment parameters and details of submission procedure will be stated in each assignment;
   - Students are responsible for maintaining backups of their work.
2. Midterm Test (20%)
   - During the regular class time.
3. Final Exam (50%)
   - 3 hours duration

Computer Resources

The official computer for this course is **pearl.acs.uwinnipeg.ca**.
Mr. Adebayo is the system administrator (b.adedayo@uwinnipeg.ca).

Final Letter Grade Assignment

A+	95 – 100%	B+	80 – 84%	C	60 – 69%
A	90 – 94%	B	75 – 79%	D	50 – 59%
A-	85 – 89%	C+	70 – 74%	F	below 50%

Test / Exam Requirements

- Photo ID is required for the final exam.
- The use of computers, calculators, phones, or other electronic devices is not permitted on exams.
- Midterm and final exams are closed book

Text Book / Reading List

1. Luiz Guidolin, An Introduction to Unix Systems, 2019.
   Available at http://luiz.guidolin.net
2. Class notes/slides will be available at http://luiz.guidolin.net

3. Reference book: *Beginning Unix* by Paul Love, *et. al.* (ISBN 978-0764579943).

Other books:
4. *Harley Hahn's Student Guide to Unix* by Harley Hahn (ISBN 0-07-025492-3);
5. *Modern Operation Systems* by Andrew S. Tanenbaum, 3rd Edition (ISBN 978-81-203-3904-0)

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

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

***Make sure that you have the necessary prerequisites to take this course. If you have not successfully completed the above listed courses, it is in your interest to go to student registration office and officially drop the course.

Services for Students

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

All students, faculty and staff have the right to participate, learn, and work in an environment that is free of harassment and discrimination. The UW

Respectful Working and Learning Environment Policy may be found online at https://www.uwinnpeg.ca/respect.

Misuse of Computer Facilities, Plagiarism, and Cheating

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

Avoiding Academic Misconduct and Non-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

- 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

Misuse of Filesharing Sites. 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.

Avoiding Copyright Violation. Course materials are owned by the instructor who developed them. Examples of such materials are course outlines, assignment descriptions, lecture notes, test questions, and presentation slides. 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 photographing or recording slides, presentations, lectures, and notes on the board.

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/or using the preferred form of communication, as designated in this outline), as well as the Departmental Assistant and Chair/Dean so that class cancellation forms can be posted outside classrooms.

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 logging
- Unix networking
- Installing software
- Compiling software
- Shell programming