



# THE UNIVERSITY OF WINNIPEG

## APPLIED COMPUTER SCIENCE

**Course Number:** ACS-2941-050

**Course Name:** Unix

### **Instructor Information**

**Instructor:** Dr. Luiz Guidolin

**E-mail:** [l.guidolin@uwinnipeg.ca](mailto:l.guidolin@uwinnipeg.ca)

**Teaching Web Page:** <http://courses.acs.uwinnipeg.ca/2941-050/>

**Office:** 3C07

**Office Hours:** 4:45 to 5:45 p.m. Thursdays

**Class Meeting Time:** 6:00 to 9:00 p.m. Thursdays

**Room No:** 3D03

### **Important Dates**

1. **First Class Date:** September 7, 2017
2. **Midterm Test:** November 2, 2017
3. **Final Exam:** December 7, 2017 – 6:00 p.m.
4. **Final Withdrawal Date without academic penalty:** November 10, 2017

### **Course Objectives/Learning Outcomes**

This course will provide students a comprehensive introduction to Unix operating systems, one of 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.

### **Computer Resources**

The official computer for this course is [pearl.acs.uwinnipeg.ca](http://pearl.acs.uwinnipeg.ca).

Daniel Sheppard is the system administrator ([da.sheppard@uwinnipeg.ca](mailto:da.sheppard@uwinnipeg.ca)).

## **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 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;
  - The details of submission procedure will be stated in each assignment;
  - Students are responsible for maintaining backups of their work.
2. Midterm Test (20%)
3. Final Exam (50%)

## **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., access to volunteer note-takers) are encouraged to contact Accessibility Services (AS) at 786-9771 or email [accessibilityservices@uwinnipeg.ca](mailto:accessibilityservices@uwinnipeg.ca) to discuss appropriate options. Specific information about AS is available on-line at <http://www.uwinnipeg.ca/accessibility>. All information about a student's disability or medical condition remains confidential.

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 2017-18 Undergraduate Academic Calendar.

The University of Winnipeg promotes a scent-free environment. Please be respectful of the needs of fellow classmates and the instructor by avoiding the use of scented products while attending lectures. Exposure to perfumes and other scented products (such as lotion) can trigger serious health reactions in persons with asthma, allergies, migraines or chemical sensitivities.

## **Text Book / Reading List**

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

Other books:

2. **Harley Hahn's Student Guide to Unix** by Harley Hahn (ISBN 0-07- 025492-3);
3. **Modern Operation Systems** by Andrew S. Tanenbaum, 3<sup>rd</sup> Edition (ISBN 978-81-203-3904-0)
4. Instructor's lecture notes.

**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.

### **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 policies. Be sure that you have read and understood Regulations & Policies #8, in the 2017-2018 UW Undergraduate Academic Calendar available at <http://uwinnipeg.ca/academics/calendar/docs/regulationsandpolicies.pdf>.

Additional information is available at University of Winnipeg library video tutorial "Avoiding Plagiarism" <https://www.youtube.com/watch?v=UvFdxRU9a8g>

### **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 necessarily result in a fee refund.
4. April 5, 2018 is the class make-up date for courses that conflict with Good Friday, March 30.
5. No classes: Oct. 8 – 14 Mid-term reading week; Feb. 18-24 Winter Mid-term reading week; Friday, March 30 (Good Friday).

## **Topics to be covered (tentative)**

### Week 1 (Sep. 7)

- Brief history
- Unix versions
- Operating system components
- First steps

### Week 2 (Sep. 14)

- Getting help with man pages
- File system concepts

### Week 3 (Sep. 21)

- Editing files with vi
- Customizing the work environment
- Useful Unix commands

### Week 4 (Sep. 28)

- Understanding users & groups
- Advanced tools

### Week 5 (Oct. 5)

- Advanced commands
- Job control & process management
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### Week 6 (Oct. 19)

- Midterm test
- Backup tools
- System logging

### Week 7 (Oct. 26)

- Unix networking

### Week 8 (Nov. 2)

- Installing software
- Compiling software

### Weeks 9 to 12 (from Nov. 16, 23, & 30)

- Shell programming