



# THE UNIVERSITY OF WINNIPEG

## APPLIED COMPUTER SCIENCE

**Course Number:** ACS-2941-001  
**Course Name:** Unix  
**Course Webpage:** <https://nexus.uwinnipeg.ca/d2l/home/71880>

### Instructor Information

**Instructor:** Sergio G. Camorlinga  
**E-mail:** [s.camorlinga@uwinnipeg.ca](mailto:s.camorlinga@uwinnipeg.ca)  
**Office Hours:** Thursdays 4:00 - 5:00 pm 3D29  
**Class meeting time:** Tuesdays/Thursdays 1:00 pm - 2:15 pm 3D04

### Important Dates

- |   |                              |
|---|------------------------------|
| 1. First Class:                                     | Tuesday, September 2, 2025   |
| 2. Reading week (no classes):                       | October 12 – 18, 2025        |
| 3. Midterm Test:                                    | Tuesday, October 21, 2025    |
| 4. Final Withdrawal Date without academic penalty*: | Wednesday, November 12, 2025 |
| 5. Last Class:                                      | Wednesday, December 3, 2025  |
| 6. Final Exam:                                      | TBD                          |
| 7. Final Exam Period:                               | December 8 – 20, 2025        |
| 8. University closures:                             |                              |
| Truth and Reconciliation Day                        | Tuesday, September 30, 2025  |
| Thanksgiving  | Monday, October 13, 2025     |
| Remembrance Day                                     | Tuesday, November 11, 2025   |
| 9. Make-up class on holiday closures:               | Wednesday, December 3, 2025  |

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

### Course Objectives / Learning Outcomes

This course provides students with advanced concepts and knowledge of Unix/Linux, one of the most widely used operating systems. The course introduces students to such topics as shells, filters and pipelines, the file system, processes and job control, and communications. Emphasis is placed on shell programming, which provides valuable tools for developing powerful applications with a minimal amount of written code.

## **Evaluation Criteria**

- Assignment labs: 15%
  - All assignment labs are to be completed individually.
  - There are 3 assignment labs
    - Each can include theory, programming, testing and/or analysis exercises.
  - Each assignment lab is worth 5%.
  - Assignment lab work results are submitted via Nexus in one zip file.
  - Due at 23:59:00 pm (Nexus clock) sharp on due dates, which are posted in Nexus.
  - No late assignment will be accepted, or under special circumstances accepted with 20% off for each late day.
  - Assignment lab reports are only submitted as PDF (Portable Document Format) files and code in the format requested in the assignment lab description. Submit all files in one zip file.
  - The details of submission procedure will be stated in each assignment lab.
  - Multiple submissions are not permitted. A student may submit a partially completed assignment lab, and will receive credit for those attempted problems.
  - Combination of functionality, quality of design, programming style and documentations are considered for programming parts of the assignment labs.
  - Problem solving, and programming parts of the assignment labs are time consuming. Start early.
  - Each student is responsible for maintaining backups and protecting their work.
  - Each student is responsible to review their assignments before submission to make sure the correct files are attached to the submission.
- Midterm: 35%
  - The midterm is during class time.
- Final Exam: 50%
  - Cumulative, i.e. it includes all material discussed in the course including assignments.

## **Test / Exam Requirements**

- Exams will be delivered in person.
- Photo ID is required for the final exam.
- The use of computers, calculators, phones, or other electronic devices is not permitted during exams.
- Midterm and final exams are closed-book.

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

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](mailto: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 2025-26 Undergraduate Academic Calendar online at <http://uwinnipeg.ca/academics/calendar/docs/important-notes.pdf>

### **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**

The following textbook is required for this class.

- Linux with Operating Systems Concepts  
Fox, Richard  
CRC Press, Taylor & Francis Group, 2<sup>nd</sup> Edition 2022  
ISBN 978-1-032-06345-4 (pbk)  
ISBN 978-1-003-20332-2 (ebk)

We will use the following book as recommended complementary books, supplemented with some readings & class notes available on Nexus.

- Linux, the Textbook  
Sarwar Syed & Koretsky, Robert  
CRC Press, Taylor & Francis Group, 2<sup>nd</sup> Edition 2019  
ISBN 978-1-138-71008-5

### **Prerequisite Information**

(This information can be found in the UW Undergraduate Academic Calendar)

- Requisite courses: ACS-1903 or ACS-1805 with a minimum grade of C

## **Regulations, Policies, and Academic Integrity**

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).

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

Detailed information can be found at the following:

- Academic Misconduct Policy and Procedures:  
<https://www.uwinnipeg.ca/policies/docs/policies/academic-misconduct-policy.pdf> and  
<https://www.uwinnipeg.ca/policies/docs/procedures/academic-misconduct-procedures.pdf>
- About Academic Integrity and Misconduct, Resources and FAQs:  
<https://library.uwinnipeg.ca/use-the-library/help-with-research/academic-integrity.html>

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.

***Academic Integrity and AI Text-generating Tools:*** Students must follow principles of academic integrity (e.g., honesty, respect, fairness, and responsibility) in their use of material obtained through AI text-generating tools (e.g., ChatGPT, Bing, Notion AI). Suspected misuse of AI may result in a report to the Senate Academic Standards and Misconduct Committee. If AI tools are used, students must cite them. According to the MLA (<https://style.mla.org/citing-generative-ai/>), “you should

- a. cite a generative AI tool whenever you paraphrase, quote, or incorporate into your own work any content (whether text, image, data, or other) that was created by it
- b. acknowledge all functional uses of the tool (like editing your prose or translating words) in a note, your text, or another suitable location
- c. take care to vet the secondary sources it cites.”

***Non-academic misconduct:*** Students are expected to conduct themselves in a respectful manner on campus and in the learning environment, irrespective of the 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/policies/docs/policies/acceptable-use-of-information-technology-policy.pdf>

- Non-Academic Misconduct Policy and Procedures:  
<https://www.uwinnipeg.ca/policies/docs/policies/student-non-academic-misconduct-policy.pdf> and <https://www.uwinnipeg.ca/policies/docs/procedures/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://www.uwinnipeg.ca/policies/docs/policies/copyright-policy.pdf>

## **Privacy**

Students have rights in relation to the collection of personal data by the University of Winnipeg.

- Student Privacy: <https://www.uwinnipeg.ca/privacy/admissions-privacy-notice.html>
- Zoom Privacy: <https://www.uwinnipeg.ca/privacy/zoom-privacy-notice.html>
- Exam and 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.

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

I. Introduction - What, Why, Who and When, and How.

II. Bash.

III. File Commands.

IV. Managing Processes.

V. Regular Expressions.

VI. Shell Scripting.

VII. User Accounts.

VIII. Administering File Systems.

IX. System Initialization and Services.

X. Network Configuration.

XI. Software Installation and Maintenance.

XII. Maintenance and Troubleshooting

Note that all topics listed may not be covered and may be offered in a slightly different time order.

### **Additional Course Related Information**

1. The following class will be recorded (i.e. no in-person class) and made available VOD in Nexus. Date is tentative.

- Thursday November 13, 2025

2. 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.

3. In order to ensure a safe and comfortable learning environment for everyone, we kindly ask that all students refrain from wearing or using scented products while attending class.