CIST-107 – Introduction to Linux Operating Systems

Technology

Effective Term & Year: Fall 2027
Course Outline Review Date: 2032-03-01

Program Area: Information Technology

Description:

The Introduction to Linux Operating Systems course focuses on the basic Linux skills needed in preparation for the Linux Professional Institute LPIC-1 LPI certification. Learners will gain proficiency performing maintenance tasks on the command line, installing and configuring a computer running Linux and configuring basic networking. The course objectives align to the LPI LPIC-1 industry exam topics including System Architecture, Linux Installation and Package Management, GNU and Unix commands and Devices, Linux Filesystems, Filesystem Hierarchy Standard.

Program Information:

This course is required for the first year of the Computer Information Systems Technology program.

Delivery Methods: Hybrid – On-campus (Face-to-Face) and Online

Credit Type: College of the Rockies Credits

Credits: 3

Instructional Activity and Hours:

Activity	Hours
Classroom, Directed Studies or Online Instruction	25
Seminar/Tutorials	

Laboratory/Studio	35
Practicum/Field Experience	
Co-op/Work Experience	
Other	
Total	60

Course Requisites:

- Admission to the Computer Information Systems Technology Diploma or Cybersecurity Operations Diploma Program

Prior Learning and Recognition: Yes

Students are able to request formal recognition of their prior learning or experience outside the classroom. Challenge examination, portfolio-assisted assessment, work-based assessment or a combination of assessments that is appropriate to identify, assess, and recognize prior skills, competencies, and knowledge to achieve course credit. Tuition fees apply, refer to Policy 2.5.5 Prior Learning Assessment and Recognition (PLAR) or contact an education advisor for more information.

Course Transfer Credit:

For information about receiving transfer credit for courses taken at either British Columbia or Alberta institutions, please see https://www.bctransferguide.ca/ or https://transferalberta.alberta.ca . For more transfer credit information, please visit https://www.cotr.bc.ca/Transfer

All requests for course transfer credit from institutions in British Columba or elsewhere should go to the College of the Rockies Enrolment Services office.

Textbook Resources:

Cisco Networking Academy (NetAcad)

Learning Outcomes:

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

- demonstrate Linux boot process, runlevels, kernel modules, BIOS/UEFI interaction, and hardware monitoring;

- install, manage, and troubleshoot software using Debian (dpkg, apt) and RPM/YUM package managers;
- effectively navigate and utilize the bash shell, process text, manage files/permissions, and use basic editors;
- create, configure, mount, maintain, and troubleshoot Linux filesystems, understanding the FHS;
- customize the shell environment and write simple bash scripts for automation;
- set up display managers and configure basic desktop accessibility;
- manage user/group accounts and automate administrative tasks using cron and at;
- maintain system time, manage logs, understand mail transfer agents, and handle printing;
- explain IP addressing, configure network interfaces, and use basic network troubleshooting tools; and
- perform secure administrative tasks with sudo/su, manage file permissions/ACLs, and understand basic encryption and SSH.

Course Topics:

- System Architecture
- Linux Installation and Package Management
- GNU and Unix Commands
- Devices, Linux Filesystems, Filesystem Hierarchy Standard (FHS)
- Shells and Shell Scripting
- User Interfaces and Desktops
- Administrative Tasks
- Essential System Services
- Networking Fundamentals
- Filesystem Security

See instructor's syllabus for the detailed outline of weekly readings, activities and assignments.

Evaluation and Assessments

Assessment Type: On-Campus (face-to-face)

Assessment Type	% of Total Grade
Project	20%
Participation	10%
Final Exam	30%
Quizzes	40%
Total	100%

Grade Scheme

A+	A	A-	B+	B	B-	C+	C	C-	D	F
>=90	89-85	84-80	79-76	75-72	71-68	67-64	63-60	59-55	54-50	<50

Evaluation Notes: A grade of “D” grants credit, but may not be sufficient as a prerequisite for sequential courses.

Evaluation Notes Comments:

Please see the instructor’s syllabus for specific classroom policies related to this course, such as details of evaluation, penalties for late assignments and use of electronic aids.

Exam Attendance:

Students must attend all scheduled exams at the appointed time and place. Instructors may approve an alternate exam to accommodate an illness or personal crisis. Department heads will consider other written requests. Any student who misses a scheduled exam without prior approval will receive a “0” on the exam.

Academic Policies:

College of the Rockies policies related to courses can be found at https://cotr.bc.ca/about-us/college-policies/ and include the following:

- Policy 2.1.4 Course Audit
- Policy 2.4.1 Credential Framework
- Policy 2.4.3 Students with Documented Disabilities
- Policy 2.4.4 Student Rights, Responsibilities and Conduct
- Policy 2.4.8 Academic Performance
- Policy 2.4.9 Student Feedback and Concerns
- Policy 2.4.11 Storage of Academic Works
- Policy 2.5.3 Student Appeal
- Policy 2.5.5 Prior Learning Assessment and Recognition (PLAR)

Course Changes:

The College of the Rockies updates course outlines regularly to meet changing educational, employment and marketing needs. The instructor will notify students in writing of any updates to this outline during the semester. The instructor reserves the right to revise, add or delete material while meeting the learning outcomes of this course outline.