

COURSE INFORMATION

This course is designed to introduce the user to the Linux/Unix operating system environment through administering workstation or client based operating systems. Administration skills will be developed from both the graphical user interface (GUI) as well as the command line. [32-32-64] Lab Fee

Credits: 3

Pre/Corequisites:

- Prerequisite: ACCUPLACER® reading score of 60, or at least a grade of C in TSRE 55

CLASS INFORMATION

Section Number: 1250

Term: Spring Year: 2024 Start Date: 1/16/2024 End Date: 4/30/2024

Meeting Times: 5:30p-9:30

Meeting Location: OITC-05

Delivery Mode: Face to Face

INSTRUCTOR

Ruth Schultz

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Office Phone: (269) 965-3931 ext 2271

Office Location: OITC Room 201C Often in OITC Room 05 or Room 06

Office Hours:

M & W 11a-11:30a, 2:00p-2:30p Tu 3:30p-5:30p Virtual Office Hours Tu, Th & Fri 7:30a-8:30a

TEXTBOOKS

Ubuntu Unleashed 2021 Edition covering 20.04, 20.10, and 21.04, Matthew Helmke with Andrew Hudson and Paul Hudson: ISBN-13: 987-0-13-677885-1

GENERAL EDUCATION LEARNING OUTCOMES

Effective Communication

Criteria

- Graduates will demonstrate effective communication appropriate to audience and purpose.

Critical Thinking

Criteria

- Graduates will analyze arguments and evaluate evidence, draw conclusions, make decisions, and solve problems from a variety of perspectives.

Personal & Cultural Engagement

Criteria

- Graduates will engage through exploration of civic, intercultural, and ethical issues, making connections between their knowledge, choices, and actions.

PROGRAM/STUDENT LEARNING OUTCOMES

An ability to design, implement, and evaluate a network-based system, process, component, or program to meet desired needs.

An understanding of professional, ethical, security and social issues and responsibilities.

To conceptualize multiple views of problems, to develop computational solutions grounded in theory, and to evaluate their solutions using a range of metrics.

Students will be able to communicate technical information both orally and in writing.

COURSE LEARNING OUTCOMES

1. Demonstrate the Installation and removal of applications using both the appropriate command line interface and graphical user interface interacting with the current application package toolkit.
2. Demonstrate the use and design of shell scripts.
3. Demonstrate the management of users and groups.
4. Demonstrate management of network interfaces applying best practices in security in the workstation environment.
5. Demonstrate knowledge and use of the file system organization, permissions and access.

GRADING INFORMATION

The final grade is computed from the average of tests, completion of assigned problems, and/or special assignments in the following weighted manor:

Quizzes	35%
Lab Assignment	50%
Final Exam	12.5%
*Class Engagement	2.5%
Total Grade	100%

* The Class Engagement Evaluation will be calculated based primarily on the following factors: collaborative participation in classroom discussion and laboratories, attendance, professional work habits, cooperation with other students, etc.. It is NOT the same as attendance. It includes intelligent statements and sincere questions, and clear preparation for class.

KCC Institutional Grading Chart

Because of the variety of grading scales used by the different programs at KCC, contact your program for the specific grading scale information.

Percentage	Grade	GPA
100.00 – 93.00	A	4.00
92.99 – 90.00	A-	3.67
89.99 – 87.00	B+	3.33
86.99 – 83.00	B	3.00
82.99 – 80.00	B-	2.67
79.99 – 77.00	C+	2.33
76.99 – 73.00	C	2.00
72.99 – 70.00	C-	1.67
69.99 – 67.00	D+	1.33
66.99 – 63.00	D	1.00
62.99 – 60.00	D-	0.67
59.99 – 0.00	F	0.00

Additional Grades

G	Progress
X	Audit
I	Incomplete
W	Withdrawal
P	Pass (grade of C or higher)
N	No Credit

*These grades are not computed in either the semester or cumulative grade point averages. **Contact Financial Aid for more information on financial impact.

INSTITUTIONAL GUIDELINES AND POLICIES

Academic Support Services

Kellogg Community College is committed to your academic success. If for any reason you are struggling with a class, speak to your Professor immediately. They are the best resource. Additional resources, including tutoring are available at the [Center for Student Success](#).

Students enter each class with various skill sets and learn course material at different paces. As such, faculty have the option of requiring individual students to seek tutoring assistance in the [Center for Student Success](#) based on academic performance. These early interventions will be tailored to the needs of each student.

Academic Integrity Policies

Ethical conduct is the obligation of every member of the KCC community. Breaches of academic integrity constitute serious breaches of ethical conduct. Academic integrity requires that all academic work be wholly the product of an identified individual or individuals. This policy demonstrates KCC's concern for academic integrity and guarantees a fair procedure for handling these concerns. For more information regarding KCC's Academic Integrity Policy is found in the [KCC College Catalog](#) or [KCC Operating Policies & Procedures](#) under Instruction - Students.

American with Disabilities Act and Section 504

Kellogg Community College does not discriminate in the admission or treatment of students on the basis of disability. KCC is committed to compliance with the American Disabilities Act and Section 504 of the Rehabilitation Act. See Student Handbook for information about student services.

Attendance

Regular attendance is an essential part of the educational experience and a requirement for an adequate evaluation of each student's academic progress. Excessive absence is reported to the Academic Advising department. An Advisor will reach out to students to discuss options for success. Continued absenteeism may lead to administration action. Faculty are required to report to the Financial Aid office students who have never attended class. Federal aid may be reduced if a student does not begin attendance in all classes. This includes online courses. For more information, please refer to the KCC Student Handbook.

Code of Conduct

Kellogg Community College students are expected to model the skills and behaviors of working professionals. This includes exhibiting behaviors which support respect and courtesy in the class environment. For more information regarding KCC's Student Code of Conduct, please refer to the KCC Student Handbook.

Disability Services

While ensuring the academic integrity of its programs, Kellogg Community College is dedicated to providing the reasonable accommodations needed to ensure equal access to educational opportunities for individuals with verified disabilities. Disability services are provided to students who self-disclose a disability to the Center for Student Success and provide appropriate documentation. [The Center for Student Success](#) may be reached at 269.965.4150.

Drop/Add

The drop/add dates for every course may be found on the [KCC Catalog - Class Schedule](#).

Incomplete Grade and Additional Grading Policies

For information regarding additional grading policies, please refer to the KCC Academic Catalog.

Instructional Policies

Instructional policies provide informed guidance to college faculty, staff, and students. Becoming familiar with [KCC Instructional Policies & Procedures](#) will support individual academic success and will provide students vital resources to resolve problems.

Retain this Syllabus & Syllabus Disclaimer

This syllabus is a record of learning outcomes associated with this course. Many institutions will require a copy of this syllabus to grant transfer credit. It is the student's responsibility to retain a copy for future use.

Information contained in this syllabus was, to the best knowledge of the instructor, considered correct and complete when distributed for use at the beginning of the semester. However, this syllabus should not be considered a contract between Kellogg Community College and any student, nor between the instructor and any student. The instructor reserves the right, acting within the policies and procedures of Kellogg Community College, to make changes in course content or instructional techniques without notice or obligation.

Textbook Statement

There are multiple choices for purchasing textbooks, including the Kellogg Community College bookstore (www.kellogg.edu - follow the on campus link to the bookstore). Please be advised that each student should fully investigate the refund policies of book retail stores, including the Kellogg Community College bookstore, PRIOR to purchasing a book for any course. When purchasing a book from the Kellogg Community College bookstore, students are encouraged not to break a textbook's binding, or open a book in shrink-wrap covering, prior to attending the first course session in order to verify that a correct book has been purchased. Students are advised to keep all receipts from book purchases.

Some KCC courses utilize Inclusive Access (I.A.) textbooks. This does not apply to all course sections. This applies only to course sections using digital access/inclusive access.

If students have already purchased a code for digital access from textbook publishers such as Cengage, Pearson, or McGraw-Hill, they should OPT OUT of the I.A. textbook attached to the course section (for example, a code for Cengage Unlimited). Students will be able to OPT OUT via the Moodle learning management shell associated with the course section. Students have until the drop/add date of the course section to OPT OUT. KCC will issue a refund back to the student account if the student OPTs Out during the allowed time frame. For more information, contact the course instructor.

Use of Technology & Student Email Accounts

The College has a variety of computer systems which are provided for the use of students and are to be used for education, research, academic development, and public service only. You are responsible for seeing that the computing facilities are used in an effective, efficient, ethical, and lawful manner. Computer systems, such as e-mail, are intended for college related activities only. Inappropriate messages and/or materials are not to be sent or stored. For more information, visit the KCC web page at: www.kellogg.edu.

Safe and Successful Campus Environment

KCC is dedicated to providing a safe environment which is conducive to success for all students. When faculty and staff notice that a student is struggling emotionally, intellectually, or behaviorally with classroom expectations, they may notify the appropriate College personnel to intervene; in such cases, students may be contacted by College personnel who will offer support and assistance.

If you have a safety concern(s) about others' behavior in class or on campus, please report those concerns online at [Report an Incident](#). KCC Public Safety is located in the walkway across from the Ohm building or by notifying Public Safety by using one of the yellow emergency call boxes on campus, or calling 269.965.4147.

KCC does not tolerate sexual harassment or sexual misconduct of any kind and is legally obligated to investigate such concerns. Sexual harassment includes sexual assault, dating violence, domestic violence, and stalking. KCC is an equal opportunity educator and employer, and does not discriminate on the basis of national or ethnic origin, ethnicity, race, ancestry, color, sex (sex or gender, affiliation, expression or orientation), marital/family status, age, physical or mental ability or attributes, genetic information, political affiliation, veterans status, religion, or any other characteristic covered by law in its admission policy, education programs, activities, or employment policies. KCC also prohibits relation against any person participating in good faith in any investigation or complaint process internal or external to the institution; for bringing a complaint of harassment or misconduct; for assisting someone with such a complaint; for attempting to stop harassment or misconduct. Students should report concerns at [Report an Incident](#). Learn more at www.kellogg.edu/titleix.

Sense of Belonging

KCC is committed to creating a supportive environment where students, faculty, and staff feel safe and included; have a voice; and can learn, grow, and achieve success without barriers.

Service Learning

Incoming students enrolled in any degree seeking program will be required to complete a service-learning endorsement to qualify for graduation. KCC instructors must be Service-Learning Certified in order to offer it as an option in their course section. If this section is offering service-learning opportunities, the instructor will provide further details about how to pursue service-learning in this course.

STUDENT LEARNING OBJECTIVES

- Identify names, locations, purposes, and contents of major system files
- Demonstrate the ability to use command-line functions and utilities to manage the operating system, including the proper syntax and switches
- Identify basic concepts and procedures for creating, viewing, and managing disks, directories and files. This includes procedures for changing file attributes and the ramifications of those changes (for example, security issues).
- Identify the major operating system utilities, their purpose, location, and available switches.
- Identify the procedures for installing Linux, and bringing the operating system to a basic operational level.
- Construct, debug and execute common shell scripts
- Identify procedures for installing/adding a device, including loading, adding, and configuring device drivers, and required software.

- Identify procedures necessary to optimize the operating system and major operating system subsystems.
- Be able to use both vi and nano text editors in a proficient manner
- Recognize common operational and usability problems and determine how to resolve them.
- Identify the networking capabilities of the operating system. Given configuration parameters, configure the operating system to connect to a network.
- Identify the basic Internet protocols and terminologies. Identify procedures for establishing Internet connectivity. In a given scenario, configure the operating system to connect to and use Internet resources
- Construct and use appropriate commands using regular expressions
- Identify the frequently used shell commands and how to get more information on the usage

SCHEDULE

Date/Session	Notes			
	1	History of Unix/Linux & Installation	Ch 1 Installing Ubuntu and Post Installation Configuration Pg. 1-22 Ch 2 Background Information and Resources Pg. 23-30	Lb#152-1 Installation and Setup (27.5) Qz 152-1
	2	X-Windows/Gnome GUI interface and commonly used applications	Ch 3 Foundations of the Linux GUI Pg. 31-40 Ch 5 On the Internet Pg. 51-54 Ch 6 Productivity Applications Pg. 55-61 Ch 7 Multimedia Applications Pg. 63-77	Lb#152-2 Using GNOME and Common Applications (22.5) Qz 152-2
	3	Software Installation and Alternative Desktops	Ch 4 Ubuntu Desktop Options Pg 41-50 Ch 9 Managing Software Pg. 91-104	Lb#152-3.1 Software Installation (25) Lb#152-3.2 Looking at alternative Desktops(22.5) Qz 152-3
	4	File System and command line fundamentals	Ch 10 Command-Line Beginner's Class Pg. 105-140	Lb#152-4 Applying the fundamentals (25) Qz 152-4
	5	More with command line and files	Ch 11 Command-Line Master Class, Part 1 Pg. 141-166	Lb#152-5 Command line usage (27.5) Qz 152-5

Date/Session	Notes			
		Ch 12 Command-Line Master Class, Part 2 Pg. 167-184		
6	Editing Files, simple System fixing, CUPS(printing)	Ch 12 Command-Line Master Class, Part 2 Pg. 185-200	Lb#152-6.1 Text file editing (25) Lb#152-6.2 System fixing and Printer usage (22.5)	Qz 152-6
7	Users/Groups, Quotas	Ch 13 Managing Users Pg. 201-224	Lb#152-7.1 Managing users and groups (27.5) Lb#152-7.2 Quota Management (22.5)	Qz 152-7
8	Fundamentals of Scripting, automating tasks and regular expression use	Ch 14 Automating Tasks and Shell Scripting Pg. 225-250	Lb#152-8.1 Scripting Fundamentals (25) Lb#152-8.2 Task Automation (25) Lb#152-8.3 Regular Expression usage (22.5)	Qz 152-8
9	Use of control structures and advanced scripting	Ch 14 Automating Tasks and Shell Scripting Pg. 250-270	Lb#152-9 Advanced shell scripting (30)	Qz 152-9
10	Booting, System Performance & Backing up	Ch 15 The Boot Process Pg. 271-280 Ch 16 System-Monitoring Tools Pg. 281-301 Ch 17 Backing Up Pg. 301-324	Lb#152-10.1 System Monitoring and Performance (25) Lb#152-10.2 Backing up (25)	Qz 152-10
11	Networking Management	Ch 18 Networking Pg. 325-370	Lb#152-11 Network Management (30)	Qz 152-11
12	Remote Access and Security	Ch 19 Remote Access with SSH and VNC Pg. 371-379 Ch 20 Securing Your Machines Pg. 379- 392	Lb#152-12 Remote Access and firewall management (30)	Qz 152-12
13	Virtual Machines & the Cloud	Ch 30 Virtualization on Ubuntu Pg. 521-530 Ch 31 Containers and Ubuntu Pg. 531-534 Ch 32 Ubuntu and Cloud Computing Pg. 535-541	Lb#152-13 Virtual Machine setup and use (25)	Qz 152-13
14	Performance Tuning & Kernel Management	Ch 21 Performance Tuning Pg. 393-400 Ch 22 Kernel and Module	Lb#152-14 Tuning and kernel management (15)	Qz 152-14

Date/Session	Notes			
			Management Pg. 401-420	
	15	Review & Final Exam	Final Exam	