



T-104
2022

Course Specification

Course Title: Unix OS Environment
Course Code: CS1513
Program: Bachelor of Computer Science Program
Department: Computer Science
College: Computer Science and Information Technology
Institution: Al Baha University
Version: V1.0
Last Revision Date: 3/4/2023



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A. General information about the course:

Course Identification	
1. Credit hours:	3 hours
2. Course type	
a.	University <input type="checkbox"/> College <input checked="" type="checkbox"/> Department <input type="checkbox"/> Track <input type="checkbox"/> Others <input type="checkbox"/>
b.	Required <input type="checkbox"/> Elective <input checked="" type="checkbox"/>
3. Level/year at which this course is offered:	6 th Level (2 nd Year)
4. Course general Description	
<p>This course aims to introduce to the fundamental concepts, principles, and abstractions that underlie the design and architecture of Unix systems. Students will learn how a Unix system works from the hardware level all the way up to the application level. The course will also focus on teaching students develop a command of the Unix shell environment by ensuring a basic understanding of Unix commands and utilities, and networking capabilities. Students will also be able to learn about the fundamentals of systems programming in Unix.</p>	
5. Pre-requirements for this course (if any):	
None	
6. Co- requirements for this course (if any):	
None	
7. Course Main Objective(s)	
<p>The main purpose for this course is to teach students how to:</p> <ul style="list-style-type: none"> ● Describe the UNIX system and how it works. ● Communicate electronically with users. ● Discuss the current use of UNIX and its advantages. ● Describe and use the UNIX file system. ● Describe and use filters and pattern matching. ● Describe and use Shell programming. ● Describe and use compilers, linkers and awk programming. ● Describe and use processes (scheduling, monitoring, prioritizing and canceling). ● Describe and use system administration. Compare the Unix system with other similar operating systems. 	

1. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1.	Traditional classroom	3 hours / week	100 %



No	Mode of Instruction	Contact Hours	Percentage
2.	E-learning		
3.	Hybrid <ul style="list-style-type: none"> • Traditional classroom • E-learning 		
4.	Distance learning		

2. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	(3 hours) x (11 weeks)
2.	Laboratory/Studio	
3.	Field	
4.	Tutorial	
5.	Others (specify)	
	Total	33 hours



B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	Knowledge and understanding			
1.1	Describe the UNIX system and how it works.	K1	Lectures Assignments	Homework Midterm Exam Quiz
1.2	Describe and use the UNIX file system, filters and pattern matching, Shell programming, awk programming, processes, and system administration	K2	Lectures Assignments	Homework Midterm Quiz Final Exam
1.3	Discuss the current use of UNIX and its advantages	K3	Lectures Assignments	Homework Midterm Quiz Final Exam
2.0	Skills			
2.1	Compare the Unix system with other similar operating systems	S1	Lectures Assignments	Homework Midterm Quiz Final Exam
2.2	Manipulate files using a text editor from the command line	S2	Lectures Assignments	Homework Midterm Quiz Final Exam
3.0	Values, autonomy, and responsibility			
3.1	Work both independently and collaboratively	V1	Assignments	Class Discussion

C. Course Content

No	List of Topics	Contact Hours
1.	Introduction to the UNIX/Linux Operating System (OS)	3
2.	Basic Linux Commands	3
3.	The Hierarchy and Related Commands	3
4.	File Processing/Manipulation - Manipulating File Contents	4
5.	Understanding Redirection and Pattern Matching (Regex)	3
6.	Introduction to Shell Scripting	3





7.	Advanced Shell Scripting	4
8.	Sed and Awk	3
9.	Processes and Programming	4
10.	Remote Connectivity	3
Total		33

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Homework	Bi-Weekly	10%
2.	Midterm	6	20 %
3.	Quiz	8	10 %
4.	Class Discussion	Every week	10 %
5.	Final Exam	12	50 %

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.)

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	<ul style="list-style-type: none"> Sobell, Mark G. A practical guide to Linux. Addison-Wesley Longman Publishing Co., Inc., 1997. Sobell, Mark G. A practical guide to Linux commands, editors, and shell programming. Prentice Hall, 2013.
Supportive References	<ul style="list-style-type: none"> Sobell, Mark G. A practical guide to Red Hat Linux 8. Addison-Wesley Professional, 2003.
Electronic Materials	Course Homepage on Rafid
Other Learning Materials	

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	<ul style="list-style-type: none"> A classroom or lecture hall with whiteboard for 25 students.
Technology equipment (projector, smart board, software)	<ul style="list-style-type: none"> Projector Updated version of subject syllabus is uploaded for student reference. An instructor computer station with High-speed Internet connection



Items	Resources
	<ul style="list-style-type: none"> • A desktop computer with a Linux operating System. • Power outlets for instructor's laptop plug-in
Other equipment (depending on the nature of the specialty)	

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	<ul style="list-style-type: none"> • Course Coordinator • Students • Program Chair • Peer Reviewers 	<ul style="list-style-type: none"> • Survey (indirect) • Exam Review (direct) • Course evaluation by Peer Reviewers (indirect). • Comprehensive Course report (where we can find information about teaching difficulties and action plan, ...)
Effectiveness of students assessment	<ul style="list-style-type: none"> • Students • Exam Evaluation Committee • Course Coordinator 	<ul style="list-style-type: none"> • Survey (indirect) • Exam Review (direct) • Review of course file (direct) • Direct feedback from students (interview between Program leader and students). • Exam evaluation by the Exam Evaluation Committee (indirect)
Quality of learning resources	<ul style="list-style-type: none"> • Faculty • Students 	<ul style="list-style-type: none"> • Survey (indicator)
The extent to which CLOs have been achieved	<ul style="list-style-type: none"> • Faculty • Program Leaders • Course Coordinator 	<ul style="list-style-type: none"> • Exam Exit Exam (direct) • Student Results (direct)



Assessment Areas/Issues	Assessor	Assessment Methods
		<ul style="list-style-type: none"> Comprehensive Course report (where we can find the CLO assessment results)
Other		

Assessor (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

G. Specification Approval Data

COUNCIL /COMMITTEE	
REFERENCE NO.	
DATE	

