Course Description Form	
Course Code and Name	CENG484 UNIX PROGRAMMING (TECH.ELECT.)
Course Semester	8
Catalog Content	Network operating systems, Network programming, Multi-purpose, multi-use portable systems, Open source development, Shell programming
Textbook	Advanced Programming in the Unix Environment, 3rd Edition, by Richard Stevens and Steven A Rago, Addison-Wesley, 2013
Supplementary Textbooks	The Linux Programming Interface: A Linux and UNIX System Programming Handbook, Michael Kerrisk, 2010. Advanced UNIX Programming (2nd Edition) (Addison-Wesley Professional Computing Series) by Marc J. Rochkind Understanding UNIX/LINUX Programming: A Guide to Theory and Practice, by Bruce Molay, Prentice Hall, 2002.
Credit	6
Prerequisites of the Course **(** *Attendance Requirements***)**	There is no prerequisite or co-requisite for this course.
Type of the Course	Elective
Instruction Language	English
Course Objectives	This course provides an introduction to UNIX systems and UNIX programming. It covers basic commands in UNIX systems, the fundamentals of UNIX programming, writing shell scripts.
Course Learning Outcomes	Using basic commands in UNIX systems, grasping the fundamentals of UNIX programming, gaining the ability to write shell scripts
Instruction Methods	The mode of delivery of this course is face to face.

<table>
<tr><td>Weekly Schedule</td><td>1. Week: Operating systems
2. Week: Network operating systems
3. Week: Network Programming
4. Week: Network Programming
5. Week: Multi-purpose, multi-use portable systems
6. Week: Shell, shell programming
7. Week: Shell, shell programming
8. Week: Open source development
9. Week: Time-sharing and multi-programming
10. Week: Programs, processes and tracks
11. Week: Input / Output in Unix environment
12. Week: File systems
13. Week: File systems
14. Week: Asynchronous events</td></tr>
<tr><td>Teaching and Learning Methods

(These are examples. Please fill which activities you use in the course)</td><td>Weekly theoretical course hours: 3
Reading Activities
Internet browsing, library work
Material Design and Implementation
Preparation of Midterm and Midterm Exam
Final Exam and Preparation for Final Exam</td></tr>
<tr><td>Assessment Criteria</td><td>
<table>
<tr><th></th><th>Numbers</th><th>Total Weighting (%)</th></tr>
<tr><td>Midterm Exams</td><td>1</td><td>30</td></tr>
<tr><td>Assignment</td><td>2</td><td>10</td></tr>
<tr><td>Application</td><td>5</td><td>20</td></tr>
<tr><td>Projects</td><td></td><td></td></tr>
<tr><td>Practice</td><td></td><td></td></tr>
<tr><td>Quiz</td><td></td><td></td></tr>
<tr><td>Percent of In-term Studies (%)</td><td></td><td>60</td></tr>
<tr><td>Percentage of Final Exam to Total Score (%)</td><td></td><td>40</td></tr>
<tr><td>Attendance</td><td></td><td></td></tr>
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Workload

Activity	Total Number of Weeks	Duration (weekly hour)	Total Period Work Load
Weekly Theoretical Course Hours	14	3	42
Weekly Tutorial Hours			
Reading Tasks	12	2	24
Studies	10	3	30
Material Design and Implementation	6	4	24
Report Preparing			
Preparing a Presentation			
Presentations			
Midterm Exam and Preparation for Midterm Exam	1	15	15
Final Exam and Preparation for Final Exam	1	15	15
Other (should be emphasized)			
Total Workload			150
Total Workload / 25			6
Course Credit (ECTS)			6

Contribution Level Between Course Learning Outcomes and Program Outcomes

No	Program Outcomes	1	2	3	4	5
1	Sufficient knowledge on mathematics, science and computer engineering; ability to apply theoretical and practical knowledge in these areas to model and solve engineering problems				X	
2	Ability to identify, define, formulate and solve complex engineering problems; ability to choose and apply appropriate analysis and modelling methods for these purposes				X	
3	Ability to design a complex system, process, device, software, algorithm, or product under realistic constraints and circumstances to meet certain requirements; ability to apply modern design techniques for this purpose					X
4	Ability to choose, develop and use modern techniques and tools necessary for engineering applications; ability to effectively use computing technologies					X
5	Ability to design and implement systems or experiments to solve engineering problems, collect and interpret data to evaluate and analyze the results of solutions					X
6	Ability to work effectively in intradisciplinary and interdisciplinary teams or individually					X
7	Ability to efficiently prepare, evaluate and interpret reports				X	
8	Ability to make presentations and conduct effective verbal and written communication in Turkish and English			X		
9	Awareness of the necessity of lifelong learning; ability to access information, follow scientific and technological developments; ability to perpetually renew oneself			X		
10	Awareness of professional and ethical responsibility, ability to act in accordance with ethical principles				X	

	11	Ability to apply knowledge on project management, risk management and change management					X
	12	Awareness of entrepreneurship and innovation, ability to design and build sustainable systems			X		
	13	Ability to devise local and global solutions to contemporary issues considering the effects of engineering applications on health, environment and security			X		
	14	Awareness of the legal consequences of engineering solutions	X				
	15	Ability to apply knowledge on software development process and documentation rules		X			
	16	Knowledge on standards used in engineering applications				X	
	17	Awareness of occupational health and security, information security and privacy		X			
The Course's Lecturer(s) and Contact Information		Computer Engineering Department Chair bmbb@gazi.edu.tr					