

Discipline	MULTI-USER OPERATING SYSTEMS	code: 40b	winter semester
Specialty	Computer Science and Technologies		
ECTS credits: 7	Form of assessment: exam		
Lecturer	Assoc. Prof. Ventsislav Nikolov, PhD Room 101 TB Phone: +359 52 383 433 E-mail: v.nikolov@tu-varna.bg		
Department	Computer Science and Engineering		
Faculty	Faculty of Computing and Automation		
<p>Learning objectives:</p> <p>In this discipline programming and administration in multi-user operating systems are considered. Main principles are considered of development, functioning and usage of modern multi-user and multi-tasking operating systems. The details are presented of the command line interpreters, file systems, synchronization and communication of processes and the functioning of the input-output system. The concepts are considered of the distributed systems and the main functions of the operating system kernel for network applications development.</p> <p>The discipline is based on the previous disciplines: "Operating systems", "Algorithms and Data Structures", "Computer networks", etc. It provides the basis for "Distributed programming", "Web Applications Development", "Networks Administration" and the graduation work.</p>			
CONTENTS:			
Training Area		Hours lectures	Hours seminar exercises
Details of multi-user operating systems. Users and groups.		4	4
Command line interpreters. Scripts. Script languages.		4	4
File systems		4	4
Management of input-output system. Special files. Management of input-output buffers. Synchronous and asynchronous input-output.		6	6
Management of processes. Synchronization and communication of processes.		6	6
Inter-process communication. Messages, shared memory and semaphores.		6	6
TOTAL: 60 h		30	30