General Information:

Name of Course: # OPERATING SYSTEMS

Course Code:	PMTRTNB230HA
Semester:	4th
Number of Credits:	5
Allotment of Hours per Week:	**4** Lecture Lessons/Week,
Evaluation:	Two Midterm Theoretical Tests and two practical tests
Prerequisites:	Computer architecture I.

Instructors: Anett Nagyváradi, instructor
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Office Hours: Tuesday 10:15-11:00

Introduction, Learning Outcomes:

After successful completion of the course students will be enlightened upon the main concepts of operating systems. These skills will help them to make their future work better. During the semester, the following topics will be taught: history, fundamentals of OS, scheduling problems and algorithms, deadlock problems and algorithms, memory management, I/O management, file systems, security issues. Basic skills to use a unix-like OS.

General Course Description and Main Content:

Short overview of the subject: main responsibilities of a contemporary operating system, describe the abstractions typical to OSs (processes, resources, files, etc.), identify the most common data structures required in an OS implementation (arrays, queues, lists, stacks, and hierarchical structures), uni- and multitasking, difference between a process and a thread, IPC, kernel, processor modes (kernel mode or user mode), scheduling problems and algorithms (pre-emptive, non pre-emptive), deadlock handling, interrupt handling mechanism, memory management, principles of virtual memory (paging, segmentation), I/O management, describe the layered structure of input/output (I/O) software, I/O interrupt handling, direct memory access (DMA), file systems, functional principles of RAID. In lab time: basic Unix commands, awk programming, shell scripts.

Methodology:
Demonstration of theoretical background in lectures and common solving of tasks on exercises.

Schedule:

week	2018	Lecture – Tuesday 11:15-12:45 A103	Lab – Tuesday 13:00-14:30 A103
1	06.02	Introduction	No lab
2	13.02	Definitions	Putty, rights
3	20.02	Threads, IPC	File , vi
4	27.02	Scheduling	Filter, find
5	06.03	Deadlock and algorithms	Regular expressions
6	13.03	**1st test**	Sed
7	20.03	Memory management 1	Practice
8	27.03	Memory management 2	**1st test**
9	03.04	**Easter - Spring holiday**	**Spring holiday**
10	10.04	Input Output 1	Awk
11	17.04	Input Output 2	Shell scripts
12	24.04	File systems, Secure	Practice
13	01.05	**National holiday**	**National holiday**
14	08.05	**2nd test**	**2nd test**
15	15.05	**Exam**	**Exam**

Attendance:

Attending is required all classes, and will impact the grade (max. 5%). Unexcused absences will adversely affect the grade, and in case of absence from more than 30% of the total number of lesson will be grounds for failing the class. To be in class at the beginning time and stay until the scheduled end of the lesson is required, tardiness of more than 20 minutes will be counted as an absence. In the case of an illness or family emergency, the student must present a valid excuse, such as a doctor's note.

Evaluation + Grading

Midterm Exams (51%)
Satisfactory work: Achieving more than 51% of the total points in the written midterm assessments during the semester. In examination period final exam test: grading scale table will be applied to obtain the final result.

Grading Scale:

Numeric Grade:	5	4	3	2	1
Evaluation in points:	89%-100%	76%-88%	63%-75%	51%-62%	0-50%

PTE Grading Policy:
Information on PTE's grading policy can be found at the following location:

Students with Special Needs:
Students with a disability and needs to request special accommodations, please, notify the Deans Office. Proper documentation of disability will be required. All attempts to provide an equal learning environment for all will be made.

Readings and Reference Materials:
[1] Silberschatz, Galvin, Gagne: Operating systems concepts, John Wiley & Sons, 2009
[2] A.TANENBAUM: Modern Operating Systems, 4th Edition, Pearson, 2015, ISBN-13: 978-0133591620
[3] David A. Solomon: Windows Internals 6th, Microsoft Press, 2012, ISBN-13: 978-0735648739