

General Information			
Course name ÚINF/ARP1/15	Computer architecture	ECTS Credits	4
		Semester	2, 4
Aims			
To provide students with knowledge of the basic principles of computer architecture.			
Content			
Milestones in computer organization; fundamental limitations. The representation of numbers and the implementation of floating point arithmetic. Combinatorial and sequential circuits, memory organization, RAMs and ROMs. Digital logic level architecture, data path timing, machine cycle. The microarchitecture level: microinstructions and microinstruction control. The instruction set architecture level: data types, addressing modes, instruction types. Instruction execution, pipelining, cache memory. I/O controllers, ports, interrupts, direct memory access. Device drivers, operating system kernel, device-independent software.			
Assessment Methods and Criteria			
<p>1. Attendance - students are expected to attend each class according to the schedule. Should the student miss three or more classes, he/she will not receive credits for the course no matter what his/her overall results are on the tests(s). The student must be on time for class.</p> <p>2. Active participation - students are required to do their best with respect to active participation in seminar sessions. Students are expected to bring their own copies of the required materials and complete the assigned tasks and exercises.</p> <p>3. Assessment – students will take 2 written tests. There will not be any re-take tests for the students who failed in one or both credit tests.</p> <p>Final assessment – scores of both tests will be summed up and it must be minimum 51%, which is a pass mark for the course. Otherwise, the students will not receive credits for the course. The final grade for the course will be based on the grading scale.</p>			
<p>Grading Scale (in %):</p> <p>A 91-100%</p> <p>B 81-90%</p> <p>C 71-80%</p> <p>D 61-70%</p> <p>E 51-60%</p> <p>FX 50 and less</p> <p>Grading System:</p> <p>The University recognises the following six degrees for the evaluation of the study results:</p> <p>a) A – excellent (excellent results) (numerical value 1)</p> <p>b) B – very good (above average results) (1.5)</p> <p>c) C – good (average results) (2)</p> <p>d) D – satisfactory (acceptable results) (2.5)</p> <p>e) E – sufficient (results meet the minimum criteria) (3)</p> <p>f) FX – failed (requires further work) (4)</p>			

Bibliography

TANENBAUM, A. S.: Structured Computer Organization, 4.ed., Prentice-Hall, 1999
STALLINGS, W.: Computer Organization and Architecture, 4.ed., Prentice-Hall, 1996
BLIEBERGER, J., SCHILDT, G. H., SCHMID, U., STOECKLER, S.: Informatik, Springer-Verlag, 1990

