

COURSE SYLLABUS AND COURSE REQUIREMENTS

ACADEMIC YEAR 2022/2023 SEMESTER 1

Course title	Computer Architectures 1
Course Code	IVB366ANMI
Hours/Week: le/pr/lab	2/0/0
Credits	4
Degree Programme	Computer Science Engineering BSc
Study Mode	Full time
Requirements	Final examination
Teaching Period	2022/2023-1
Prerequisites	
Department(s)	System and Software Technologies
Course Director	Péter NOVÁK
Teaching Staff	Péter NOVÁK

COURSE DESCRIPTION

A short description of the course (max. 10 sentences).

Neptun: Instruction/Subjects/Subject Details/Basic data/Subject description

Foundations, typical computer architecture, Neumann – Harvard architecture, microcontroller, microprocessor, microcomputer, CISC, RISC, memories, buses, peripherals, basics of operating systems.

SYLLABUS

Neptun: Instruction/Subjects/Subject Details/Syllabus

1. GOALS AND OBJECTIVES

Goals, student learning outcome.

Neptun: Instruction/Subjects/Subject Details/Syllabus/Goal of Instruction

The course deals with the theoretical and practical operation of computers. The lectures are based around the detailed discussion of the multi-level computer architecture, the central components of computers and peripherals.

2. COURSE CONTENT

Neptun: Instruction/Subjects/Subject Details/Syllabus/Subject content

TOPICS

	TOPICS
LECTURE	<ol style="list-style-type: none"> 1. topic 2. topic 3. topic 4. etc.
PRACTICE	<ol style="list-style-type: none"> 1. topic 2. topic 3. topic 4. etc.
LABORATORY PRACTICE	<ol style="list-style-type: none"> 1. topic 2. topic 3. topic 4. etc.

DETAILED SYLLABUS AND COURSE SCHEDULE

ACADEMIC HOLIDAYS INCLUDED

LECTURE

week	Topic	Compulsory reading; page number (from ... to ...)	Required tasks (assignments, tests, etc.)	Completion date, due date
1.
2.	Foundations, typical computer architecture. Neumann - Harvard architecture. Precursor computers and their tasks.			
3.	Computer components - CPU, Bus, RAM, Peripherals			
4.	Microcontroller, microprocessor, microcomputer, CISC, RISC			
5.	Advancement of microcomputers, current parameters, properties of superscalar processors			
6.	Types of memories and their operations			
7.	Bus properties			
8.	Peripherals: storages			
9.	Autumn break			
10.	Digital logic			
11.	Digital logic			
12.	Microarchitecture			
13.	Microarchitecture			
14.	Microarchitecture			
15.	Exam information, consultation			

PRACTICE, LABORATORY PRACTICE

week	Topic	Compulsory reading; page number (from ... to ...)	Required tasks (assignments, tests, etc.)	Completion date, due date
1.	...			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				

3. ASSESSMENT AND EVALUATION

(Neptun: Instruction/Subjects/Subject Details/Syllabus/Examination and Evaluation System)

ATTENDANCE

In accordance with the Code of Studies and Examinations of the University of Pécs, Article 45 (2) and Annex 9. (Article 3) a student may be refused a grade or qualification in the given full-time course if the number of class absences exceeds 30% of the contact hours stipulated in the course description.

Method for monitoring attendance (e.g.: attendance sheet / online test/ register, etc.)

attendance sheet

ASSESSMENT

Cells of the appropriate type of requirement is to be filled out (course-units resulting in mid-term grade or examination). Cells of the other type can be deleted.

Course-unit with final examination

Requirements for the end-of-semester signature

(Eg.: mid-term assessment of 40%)

Attendance requirements

Re-takes for the end-of-semester signature (PTE TVSz 50§(2))

The specific regulations for grade betterment and re-take must be read and applied according to the general Code of Studies and Examinations. E.g.: all the tests and the records to be submitted can be repeated/improved each at least once every semester, and the tests and home assignments can be repeated/improved at least once in the first two weeks of the examination period.

No retake

Type of examination (written, oral): written

The exam is successful if the result is minimum 40 %. (The minimum cannot exceed 40%.)

Calculation of the grade (TVSz 47§ (3))

The mid-term performance accounts for 0 %, the performance at the exam accounts for 100 % in the calculation of the final grade.

Calculation of the final grade based on aggregate performance in percentage.

Course grade	Performance in %
excellent (5)	85 % ...
good (4)	70 % ... 85 %
satisfactory (3)	55 % ... 70 %
pass (2)	40 % ... 55 %
fail (1)	below 40 %

The lower limit given at each grade belongs to that grade.

4. SPECIFIED LITERATURE

In order of relevance. (In Neptun ES: Instruction/Subject/Subject details/Syllabus/Literature)

COMPULSORY READING AND AVAILABILITY

[1.] Students will be provided with the PDF version of all slides and classroom presentations of the course.

RECOMMENDED LITERATURE AND AVAILABILITY

[2.] TANENBAUM, Andrew S.: Structured Computer Organisation