COURSE SYLLABUS AND COURSE REQUIREMENTS
ACADEMIC YEAR 2023/2024 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	***2023/2024-1***
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, peripherials, 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 peripherials.

2. COURSE CONTENT

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

	TOPICS
LECTURE	*1. topic* *2. topic* *3. topic* *4. etc.*
PRACTICE	*1. topic* *2. topic* *3. topic* *4. etc.*

LABORATORY PRACTICE	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.	[2] 1-36		
3.	Computer components – CPU, Bus, RAM, Peripherials			
4.	Microcontroller, microprocessor, microcomputer, CISC, RISC	[2] 51-58		
5.	Advancement of microcomputers, current parameters, properties of superscalar processors	[2] 59-68		
6.	Types of memories and their operations	[2] 69-80		
7.	Bus properties	[2] 173-188		
8.	Peripherials: storages	[2] 81-102		
9.	Digital logic	[2] 135-225		
10.	Digital logic	[2] 135-225		
11.	Microarchitecture	[2] 231-260		
12.	Microarchitecture	[2] 231-260		
13.	Microarchitecture	[2] 231-260		

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