General Information:

Name of Course:	**DIGITAL LOGIC DESIGN**
Course Code:	IVB033AN
Semester:	1st
Number of Credits:	4
Allotment of Hours per Week:	2 lectures, 2 practices
Evaluation:	Exam (with grade)
Prerequisites:	-
Instructors:	**Dr. Tukora Balázs, associate professor**
	Office: 7624 Hungary, Pécs, Boszorkány u. 2. Office Nº B105
	E-mail: balazs.tukora@mik.pte.hu
	Office Phone: +36 72 503650/23913

Introduction, Learning Outcomes

The majority of the instruments in information technology are digital systems. The course helps the students to understand the mathematical and electronic basics of these systems and gives instructions for the planning and creation of them. Starting from the simplest building elements, the level of digital computers is reached systematically.

General Course Description and Main Content:

Tasks, operation and architecture of the logic systems. Boole algebra, logic functions, two- and more-valued logic. Planning of combinational networks. Minimizing of logical functions, hazards, elimination of them. Combinational networks from memory elements and programmable logic circuits. Sequential networks: types and description modes of them. Elemental and complex sequential networks. Basics of microprocessor systems, main parts and tasks. Introduction to the assembly programming.

Methodology:

Presentation and practice

Schedule:

1.	Introduction
2.	Digital and analogue signals. Number systems. Boolean algebra. Logic operations.
3.	Logic diagram. Logic gates. Normal forms.
4.	Simplification of logic functions with Karnaugh-maps
5.	Characteristics of digital circuits
6.	Common combinational logic circuits: Comparators, encoders, adders, multiplexers
7.	Hazards in the combinational logic
8.	Sequential logics. State table, state diagram.
9.	Autumn holiday
10.	Flip-flops: D, SR, JK, T
11.	Common sequential logic circuits: Debouncing, frequency dividers, counters, registers.
12.	Semiconductor memory. Creating combinational logic using memory circuits.
13.	Basics of microprocessor systems
14.	Test
15.	Repeat test

Attendance:
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
Passing the test is required to get the final grade. In case of failed test the grade can be improved at the repeat test. Final grade is offered after passed test. This grade can be accepted or improved at an exam in the exam period.

Grading scale

Numeric Grade:	5	4	3	2	1
Evaluation in points:	85%-100%	70%-84%	55%-69%	40%-54%	0-39%

Students with special needs:
Students with special physical needs and requiring special assistance must first register with the Dean of the Students Office. All reasonable requests to provide an equal learning environment for all students is to be assured.

Required Reading and other Materials will be equivalent to:
Lecture notes on Neptun Meet Street