

**Subject name: Digital Technologies**

**Credits: 2**

**Lecturer: Dr. Oniga István**

**Code: INBK831**

**Semester: 2**

**Classes per week: Theoretical: 2**

**Objective:**

The students will be able to understand the most important theoretical and practical aspects of digital electronics. They will be able to analyse and design simple digital networks.

**Content:**

1. Digital Concepts.
2. Number Systems, Operations, and Codes.
3. Logic Gates.
4. Boolean Algebra and Logic Simplification.
5. Combinational Logic Analysis.
6. Functions of Combinational Logic.
7. Latches, Flip-Flops, and Timers.
8. Shift Registers.
9. Counters.
10. Programmable Logic.
11. Data Storage
12. Signal Conversion and Processing.
13. Integrated Circuit Technologies.

**Compulsory/Recommended Readings:**

- Thomas L. Floyd, Digital Fundamentals, Pearson Prentice Hall, 2009
- Horowitz-Hill : The Art of Electronics, Cambridge University Press, 1989
- Logic and Computer Design Fundamentals - M. Morris Mano; Charles R. Kime, Prentice Hall, 1997;
- Digital Design principles and Computer Architecture - Edward Karalis, Prentice Hall, 1999.

Dr. Oniga István  
Associate professor