

# Introduction to Digital Systems

## Student Group

First Name	Surname	Matrikel Nr.

## Table of Contents

**Introduction to Digital Systems** ..... 2  
***Tips for the exam*** ..... 2  
***continuing Links*** ..... 2

# Introduction to Digital Systems

No matter, whether you have to deal with a programmable logic controller (PLC) of a robot in the future, or if you just want to know how a mobile phone controls a display (or a microcontroller controls a light emitting diode) - the following chapters are indispensable. The knowledge gained can also be transferred to pure application programming in languages like Java or C.

## Introduction

Or: How to deal with the course?

## 0 Tools

## 1 Boolean Algebra

Or:  $2B + /2B?$

## 2 Number Systems

Or: When is  $1 + 1 = 1?$

## 3 Combinatorial Logic

Or: A different kind of logic puzzles

## 4 Realization of comb. Logic

Or: The logic behind the mensa card

## 5 Storage Elements

Or: The short-term memory of a controller

## 6 Sequential Logic

Or: Inside a vending machine

## Tips for the exam

1. [Tips for the exam](#)

## continuing Links

1. [Digital](#): this tool is used for simulating digital circuits. From Github only the zipfile: Digital.zip is needed.
2. [From NAND to Tetris](#): A course starting at the same point like this course, but developing a full microcontroller, operating system an game onto it.
3. [Digital technology on elektroniktutor.de](#) and [INF-Schule](#): Here you can find further explanations of our chapters on vocational school/gymnasium level in German.

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