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# Chernihiv Polytechnic National University



**Erasmus+ Project 101127683**

**Digital transformation of HEIs education process in Ukraine and Moldova for  
sustainable engagement with enterprises  
D2.2 report**

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<https://stu.cn.ua/en/>

2nd Management meeting and 2nd workshop of WP1  
April 12, 2024, NKUA, Athens, Greece



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## **WP2: Development of a practical and students-oriented curricula and innovative teaching /learning methods**

### **D2.2 Learning and teaching materials including digital tools and methods. Text 4 ebooks for teachers and students.**

**CPNU is leader of e-book: “Design of Digital Control Systems”**

#### **CONTENT**

##### **Part 1: Digital Control Systems: Introduction and Fundamentals**

Chapter 1: Introduction to Digital Control Systems

Chapter 2: Fundamentals of Control Systems

Chapter 3: Sampling and Quantization

Chapter 4: Stability Analysis of Digital Control Systems

##### **Part 2 Digital Control Systems: Design Techniques and Implementation**

Chapter 5: Methods of Digital Controllers Design

Chapter 6: Digital Control System Implementation

Chapter 7. Working with the Quartus IDE

Chapter 8: MATLAB/Simulink in Digital Control Systems Design

Chapter 9: Case study: Application of Digital Control Systems Design



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## **D2.2 Learning and teaching materials including digital tools and methods. Text 4 ebooks for teachers and students.**

### **CPNU proposed in e-book DIGITALISATION IN ENTREPRENEURSHIP (leader - RTU)**

#### Content

1. Digitization and economic activity
2. Business planning information systems in the automotive industry
3. Systems for organizing economic activity in the automotive sector
4. Motivation and coordination of activities
5. The function of control and evaluation in entrepreneurship
6. The importance of communication and feed-back in the digitization process
  - a. Information security ,
  - b. chapter 7 Information security, we can contribute with the topics of computer and network security: Confidentiality and integrity : Christos Manasis <[cmana62@gmail.com](mailto:cmana62@gmail.com)>
  - c. **Cybersecurity of SOHO and SMB computer networks – CPNU**
7. Integrated (digital) information systems
  - a. **On-line Marketplaces platforms – CPNU**



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## **D2.2 Learning and teaching materials including digital tools and methods. Text 4 ebooks for teachers and students.**

**CPNU proposed in e-book**

### **ELECTRIC DRIVE, AUTOMOTIVE ELECTRONICS AND ENERGY-SAVING TECHNOLOGIES FOR MODERN TRANSPORT (leader - KhNAHU)**

#### **Content**

CHAPTER 1 ELECTRIC DRIVE, ITS VARIETIES AND ELEMENT

CHAPTER 2 MECHANICAL CHARACTERISTICS OF THE ELECTRIC DRIVE

CHAPTER 3 ELECTRIC DRIVE WITH AC ELECTRIC MOTOR

CHAPTER 4 ADJUSTMENT OF THE ROTATION SPEED OF THE ELECTRIC DRIVE WITH DC  
MOTORS

CHAPTER 5 ADJUSTMENT OF THE ROTATION SPEED OF AN ELECTRIC DRIVE WITH AC  
MOTORS

CHAPTER 6 TRANSIENT PROCESSES IN THE ELECTRICAL DRIVE

**CHAPTER 7 *Modern electric drive of electric vehicles - CPNU***

**7.1 BLDC motor**

**7.2 IPM motor**

**7.3 SynRM motor**

**7.4 IPM-SynRM motor**



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