ROBOSTEM Project

Agreement no: 2019-1-RO01-KA202-063965

Lesson Plan Introduction to microcontrollers

Topic/Subject:

Topic Introduction to microcontrollers
Subject Electrical Fundamentals, Microcontrollers, Robotics, Industrial Automation

Target Group:

Students from 1st to 4th grade, aged between 15 - 18.

Students are of different technical occupations:

- mechatronics,
- CNC operators,
- mechanical technicians and
- mechanical computer technicians.

Objectives:

Obj1. The increase in the level of educational digitalization
Obj2. Raising student motivation and awareness through usage of modern technology
Obj3. Integrating the new technologies in the educational process
Obj4. Increasing the students' skills for insertion on the labour market.

Approach/Methodology used:

Dialogical
Research
Simulation

Means/Tools/Educational technology

Computers, the Internet, technical books, mobile phones, applications, IDE Arduino, Arduino uno, electrical components : LED lights, seven-segment digital display, electric motors, thermal sensors ...soldering iron, acid

Plan for work

Time	Activities	Methods/ means
10min	Basic understanding of the arduino uno microcontroller, all its parts and electronic devices that connect to the arduino.	Presentation
10min	Use and where microcontrollers are applied.	Presentation Dialogical
25min	Stimulations of many different internet examples and school laboratory exercises to inspire and to explain how useful it is to know working with microcontrollers and how wide knowledge they can achieve by making projects with the use of microcontrollers	Simulation Presentation Dialogical

Assessment/Feedback:

The assessment is based on how much the students will be interested in the first lectures and after the lecture how much the student will be interested in asking questions and trying to work independently on examples of laboratory exercises.

Bibliography:

https://croatianmakers.hr/hr/stvaralastvo/
https://www.arduino.cc/