



Co-funded by the
Erasmus+ Programme
of the European Union



Summary of the Report “Course Support”

Mechatronics plays an important role in most technical universities. MIND project is focused on how to respond to the needs of “industry 4.0” or the fourth industrial revolution. The future of learning will be dramatically different from today's approach. Industry 4.0 is an important trajectory on the way to the future of production. Global connectivity, smart machines and robots are just some of the drivers reshaping how we think about work, what constitutes work, and how we learn and develop the skills to work in the future.

The course support is minimum 160 and the number of training hours is minimum 18 hours. The difference from the existent one is the skills that can be gain in shorter terms to a variety of situations. The trainees will learn about manufacturing and using Mechatronics 4.0 technologies such as WLAN, IoT, RFID and QR codes. These examples will be accompanied together with now classic mechatronics subjects like embedded programming, electrical or mechanical technology. This will provide the opportunity to introduce fundamental information and interfaces with a range of technologies, including rapid prototyping methods based on 3D printers.

By including all these aspects in the training program, this ensures a bottom-up approach when applying the concept of Industry 4.0 in businesses.

The objective of achieving this course support is to develop critical thinking systems, to develop soft skills of team working, to learn affective by practical based approach.

The target group for this output are professors and the beneficiaries will be students willing to learn more about Mechatronics 4.0.

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The following list represents the lectures that will be part of the course.

Lecture 1 – “PLC based Project on Mechatronics System for Industry 4.0” Syllabus

Lecture 2 – “Vision technology” Syllabus

Lecture 3 – “Internet of Things, Digitalization, Industry 4.0, Cyber Physical Systems and Mechatronics” Syllabus

Lecture 4 – “Virtual reality as a new trend in mechatronics engineering education” Syllabus

Lecture 5 – “Smart Manufacturing and Automation with Industry 4.0” Syllabus

Lecture 6 – “Implementation of new manufacturing technologies and systems for Industry 4.0” Syllabus

Lecture 7 – “Digitalization and Industry 4.0” Syllabus

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