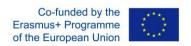
ERASMUS+ CBHE PROJECT



Reinforcing Non-University Sector at the Tertiary Level in Engineering and Technology to Support Thailand Sustainable Smart Industry



Digital Manufacturing

Objectives

This module aims at developing the following competences:

- Apply digital technologies for product design and manufacturing.
- 2. Apply digital technologies for improving industrial performance.

Learning Outcomes

Upon the completion of this module, the trainees will be able to:

- 1. Show understanding of how to use digital technologies for design, simulation and analysis of production systems
- 2. Implement digital technologies for product design and manufacturing
- 3. Simulate specific production cell/ production line
- 4. Explain main characteristics of the additive manufacturing technologies for specific areas of applications and the advantages of the technologies in each of the domains
- 5. Build product specifications for additive manufacturing considering specific technologies and product functions
- 6. Design products for additive manufacturing

Prerequisite: Computer Aided Design, Manufacturing Processes (a plus)

Outline:

Digital Manufacturing – Digital Factory

- Introduction to Digital Manufacturing
- Main areas of Digital Manufacturing
- Advantages of Digital Manufacturing
- Manufacturing simulation
- Digital Twin

Additive Manufacturing (AM) as a key digital manufacturing technology

- Presentation of the facilities and resources
- Introduction to Additive Manufacturing
- Large scale manufacturers
- Additive Manufacturing process flow
- Additive Manufacturing technologies
- Additive Manufacturing industries and applications
- Design for Additive Manufacturing

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Learning Activities:

- Short lectures
- Class discussion
- Group discussion
- Individual work
- Group work
- Oral presentation

Time Distribution and Study Load:

Training: 15 hoursCoaching: 30 hours

Group project: 60 hours

Assessments:

- Class discussion and participation
- Presentations
- Group project

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