



Course Presentation

Smart production	
Engineering School of Gafsa	Manufacturing 4.0
FOCAL AREA	Industry 4.0
Level	2 nd year
Semester	S3
Semester hourly volume	Integrated course: (21,5h=15h lecture + 7,5h tutorials)
Teacher	Mr Anas Bouguecha

Objectives

The aim of the module is to present an overview of smart manufacturing (SM) which relies heavily on the most recent technologies in terms of connected production.

- Data acquisition and interpretation;
- Intelligent automation;
- Online monitoring
- controlled production.

INTENDED LEARNING OUTCOMES

To develop students' ability to evaluate the computer-integration in different manufacturing technologies and the implementation of SM in industry

PREREQUISITES/ASSUMED KNOWLEDGE

- Manufacturing Systems and Technologies
- Computer sciences

Outline of the lecture (15h)

Chapter 1 (2h): Interoperable systems

Chapter 2 (2h): Strong cyber security

Chapter 3 (3h): Intelligent automation and networked sensors

Chapter 4 (5h): Multi-scale dynamic modelling and simulation

Chapter 5 (3h): Implementation of SM in industry

References

Masoud Soroush McKetta Michael Baldea Thomas Edgar (2020) “**Smart Manufacturing**”, ISBN 978-01-28-20027-8.

Anand Nayyar and Akshi Kumar (2020) “**A Roadmap to Industry 4.0: Smart Production, Sharp Business and Sustainable Development**”, ISBN 978-3-030-14544-6