

IDENTIFICATION

Course code : ESI-SPI-CI-AG4-S7-UE1-EC5
ECTS : 2

DURATION

Lectures : 4
Tutorial classes : 14
Labs : 8
Total : 26

Project :
Personnal work :

ASSESSMENT

TEACHING MATERIALS

LANGUAGE

English

CONTACT

Philippe LAURET Loïc MAILLOT (CEV Pro)
philippe.lauret@univ-reunion.fr

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UE : UE7-PROD

COURSE : Control of Systems and Maintenance Management 2

SCOPE OF THE COURSE

OBJECTIVES

Control of Systems 2 : Taught over 2 years, this course aims to enable the future Agri-food Engineer to :

- Analyze in detail tenders related to the automation of processes in the agri-food industry.
- Draft a specification for the automation of a process.
- Propose technical and/or organizational solutions for process control in the agri-food industry.

Maintenance Management 2 : Taught over 2 years, this course aims to enable the future Agri-food Engineer to :

- Analyze technical documentation of a machine and define the machine's maintenance and control plan.
- Implement and define the safety control plan
- Analyze maintenance history data to implement continuous improvement actions
- Gain a foundation in the Total Productive Maintenance method

COMPETENCE AND SKILLS

to be completed

PROGRAM

For the Control of Systems 2 part, the proposed program is as follows :

- Quick recap of the components of a control loop
- Analysis of the stability of a control loop (Routh criterion)
- Study of the performance (speed/accuracy) of a control loop
- Design and implementation of PID controllers.
- Application to the control of a process in the Agri-food industry
- Control of physical quantities such as temperature, motor speed will be proposed in practical work.

For the Maintenance Management 2 part :

- Recap of different types of maintenance in industry
- Defining what falls under preventive, corrective, and improvement maintenance
- Updating a preventive maintenance plan from maintenance history
- Implementing an improvement based on maintenance history
- Understanding the operation of safety on a machine and creating a control plan

BIBLIOGRAPHY

REQUIREMENTS

Course (S6) Control and Maintenance Management 1