Implementation of Industrial Process Control

The course will present real-world applications of control methods for energy processes and power plants. Practical considerations will be made on selecting the best control architecture and including modifications to improve control response.

LEARNING OUTCOMES

Be in control of your energy! How is the operation of a power plant controlled? Energy plants run in autopilot. Designing the control systems that form the “autopilot” is not only critical to ensure safety, but also to operate the plant efficiently, reducing the emissions and increasing the economic revenues.

This course will deal with real world applications of control systems and with all the practical aspects that need to be considered before hitting the “start button” and running the plant. You will learn how to make the controller faster, more robust, and closer to the desired response for different applications.

YOU WILL LEARN

• Describe the influence of sensors and data acquisition on control of energy processes and apply different methods to include them in the control design.

• Apply state-of-practice control techniques to improve the response of a traditional PID controller.

• Compare different control types and structures, and motivate the selection of the most suitable for a specific process.

• Design and test a control system in a simulation environment.

A MODERN UNIVERSITY AT THE HEART OF SOCIETY

Mälardalen University (MDH), was founded in 1977 and has 16 000 and 1000 employees. MDH emphasises strong links between education and research, with value and applicability as key concepts.

MDH offers our student knowledge, tools and possibilities to create their own future. Active cooperation with business and society is the core of the University´s endeavours, and we continuously takes new steps to achieve the vision of a strong MDH – the co-producing university.

TEACHER - VALENTINA ZACCARIA

I am an assistant professor within the SOFIA (Simulation and Optimization for Future Industrial Applications) research group in the Future Energy Center at Mälardalen University. My main research areas are control and diagnostics of gas turbine systems, modelling and control of advanced power systems, and cyber-physical systems applications in energy.

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SPECIFICATIONS

Start date: 2 September, 2019
End date: 10 November, 2019
Study pace: 50%
Main area: Energy Engineering
Level: Advanced
Language: English
Credits: 2.5
Fee: May apply for international students

ENTRY REQUIRMENTS

120 credits of which 90 credits engineering or natural science and 7,5 credits mathematics. In addition English course A/English course 6 is required.

CONTACT

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