Frequency
Every 2 years

Remarque
Every two years. Next time: Spring 2020

Summary

Content
The course will cover the following topics:

NLPs and optimal control
- Brief review on static optimization
- Pontryagin's maximum principle and necessary conditions of optimality (NCO)
- Turnpike and dissipativity properties in Optimal Control

Solution methods
- Analytical solution approach (type and sequence of arcs in optimal solutions)
- Indirect and direct solution techniques
- Direct sequential and simultaneous solution techniques

From optimal to sampled-data predictive control
- Stability and convergence properties
- Economic MPC approaches
- Case studies from mechatronics, process systems and climate economics

Assessment methods
Project Report.