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.