

Process Optimization					AR-207
Rota	Duration	Semester	SWS	Credit Points	Workload
annually SS	1 Term	2nd (Semester)	3 SWS	4	105 h
1	Modul structure				
	Course (Abbreviation)	Type/ SWS	Presence	Self study	Credits
	a) Process Optimization (PO)	Lecture/ 1 SWS	15 h	30 h	2
	b) Process Optimization (PO)	Tutorial/ 1 SWS	15 h	30 h	1
	c) Process Optimization (PO)	Lab / 1 SWS	15 h	0 h	1
2	Language English				
3	Content The course gives an overview of state-of-the-art process optimization techniques and of their application. The following topics are dealt with: <ul style="list-style-type: none"> • Scalar and multivariable optimization • Linear and nonlinear programming, direct and indirect methods • Constrained Optimization • Evolutionary Algorithms • Nonlinear Programming with Equality and Inequality Constraints The course takes place in the second half of the semester.				
4	Goals The students acquire an in-depth knowledge of methods and technologies for the improvement of chemical and biochemical production processes by optimization. The students acquire a comprehensive overview of the industrial practice in this area.				
5	Examination Requirements The final exam will be an oral (20 minutes) or written (1.5 hours) exam, depending on the number of participants (form will be announced in the second week of the course). In addition, the lab must be passed.				
6	Formality of Examination <input checked="" type="checkbox"/> Module Finals <input type="checkbox"/> Accumulated Grade				
7	Module Requirements (Prerequisites) This module is mutually exclusive with the module “Process Performance Optimization”. By receiving credit points for the module “Process Optimization” you cannot receive credit points the module “Process Performance Optimization”.				
8	Allocation to Curriculum: Program: Automation & Robotics, Field of study: Process Automation Robotics , Cognitive Systems				
9	Responsibility/ Lecturer <i>Prof. Dr. S. Engell/Prof. Dr. S. Engell</i>				