Zurich University of Applied Sciences

School of Engineering

t.PRTMV1 - Prozesstechnik MV 1

Person responsible for the course:	Thomas Spielmann, spta
Credits:	3
Valid for:	2010/2011
Last saved:	15.11.2010 17:59

Learning objectives:

- carrying out processe modelling and computer simulation using Berkeley Madonna
- knowing and applying safety aspects of process engineering
- designing safety processes using caloric data und calculations
- knowing technical reactors and evaluating the suitable one for a given application
- calculating scale-up
- knowing bioreactors and how to use them
- knowing and applying basics of sterilization

Course content:

- residence time distributions and heat and mass transfer modelling, simulations using Berkeley Madonna
- safety analysis and arrangements
- classification and operating modes of reactors
- rough dimensioning of reactors
- scale-up
- bioreactors
- sterilization

Previous knowledge:

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Teaching method:

Type of lesson:	Number of lessons per week:
Lecture	14x2L
Tutorial/Practicum	14x1L
Group teaching	
Block instruction	
Seminar	

Assessment:

According to the table or as specified in writing by the lecture at the beginning of the semester!

Number	Type	Weighting
1	End of term exam	
	Exam during the semester	
1	Report	

Language of instruction:

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Instruction material:

- Script, exercises
- W. L. McCabe, W. L. Smith, P. Harriott, Unit Operations of Chemical Engineering, McGraw Hill, 2001
- R. H. Perry, D. Green, Perry-s Chemical Engineers- Handbook, 7th ed., McGraw Hill, 1997
- J.Ingham, I. J.Dunn, E. Heinzle, J. E. Prenosil, Chemical Engineering Dynamics; Wiley, Weinheim 2000

Comments:

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