

PROCESS CHEMISTRY

1.1. Identification

University:	Kungliga Tekniska Högskolan (Stockholm)										
School:	School of Chemical, Science and Technology										
Course:	Process Chemistry										
ECTS:	7.5										
Semester:	<i>Winter</i>					<i>Summer</i>				X	
Category	<i>Fundamental course</i>				X	<i>Specialisation course</i>					
Module	<i>MFI</i>	X	<i>MFII</i>		<i>MFIII</i>		<i>MSI</i>		<i>MSII</i>		<i>MSIII</i>
Teachers:	Per Alvfors										
Language:	<i>English</i>	X	<i>Italian</i>		<i>Swedish</i>	X	<i>Spanish</i>				

1.2. Learning-outcomes

- knowledge about production processes and products, in order to identify analytical methods for the control of industrial chemical processes
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1.3. Competencies

▪ General

- to analyse and solve complex problems on environmental issues of industrial processes
- to have critical understanding of technical and scientific tools
- to work and manage teams
- communication skills (both written and oral)
- to work in an international context

▪ Specific

- To develop skills in analysis of process chemistry problems
- To design creative solutions for industrial chemistry processes
- to determine the parameters that allow the design of industrial processes
- to use PBL (problem based learning) in order to deal with real process problems in the technical front lines

1.4. Contents

Methods for analyses of industrial chemical processes: traditional inorganic or petrochemical processes for production of bulk chemicals, processes for production of

pharmaceutical and fine chemicals as well as new types of processes in the technical front line, such as environmentally friendly utilization of the fuels.

1.5. Teaching Methodology

- Lecture sessions
- Practical sessions: “problem based learning” for solving process problems
- laboratory sessions

1.6. Evaluation

- written exams
- oral evaluation of the problems solved by “problem based learning”

1.7. Bibliography

- Chemical Process Technology, J.A. Moulijn, M. Makkee and A. van Diepen, John Wiley and Sons, Chichester, New York, Weinheim, Brisbane, Singapore, Toronto, 2001
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- Additional material