



BSc program Chemical Engineering

Integration of Sustainable Development on a Program Level

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BSc Chemical Engineering, 180hp, KTH



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	Per 1	Per 2	Per 3	Per 4
Yr 1	Mathematics 12hp	General and Physical Chemistry 15 hp	Organic Chemistry 9 hp	Analytical Chemistry 7,5 hp
	Engineering Skills 9hp			Chem Eng and Tecnology 1 7,5 hp

	Per 1	Per 2	Per 3	Per 4
Yr 2	Chem Eng and 21 hp	Tecnno logy 2	Biotechnology 7,5 hp	Business Administration 4,5hp
	Sustainable Development and the Chem Engineer 6hp			
	Statistics 4,5 hp			

	Per 1	Per 2	Per 3	Per 4
Yr 3	Environmental Technology 7,5 hp	Ananaly tical Chemist ry 2 7,5 hp	Chem Eng and Technology 3 7,5hp	Degree project 15 hp
	Ch E 3/litt 1,5p	Elec tive 6 hp	Organisational Development and Leadership 7,5 hp	
	Elective 6 hp			

Integration!

- Chemistry and Chemical Engineering
 - Safety – laboratory and process
 - Projects
 - Seminars
 - Elective courses
 - The professional Engineer
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Engineering Skills (yr1)

- Seminar -Introduction to Sustainable Development
 - The Professional Role – Chemistry in Society
 - Projects
 - Fungerar kall fusion?
 - En nyans grönare?
 - Kan man minska sopberget genom att övergå till nedbrytbara produkter?
 - Kan man bota drogberoende?
 - Har kärnkraft någon framtid?
 - Vad är det för speciellt med små partiklar?
 - Vad är carbon footprint för en ny bil?
 - Alkoholfritt öl
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Lab work

- Safe handling of chemicals
- Risk assessment
- Environmental analytical techniques
- KLARA

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Sustainable Development Courses

- Sustainable Development and the Chemical Engineer
- Environmental Technology

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	Per 1	Per 2	Per 3	Per 4
Yr 2	Chem Eng and 21 hp	Tecnno logy 2	Biotechnology 7,5 hp	Business Administration 4,5hp
	Sustainable Development and the Chem Engineer 6hp	Electric meas- urements and Control 6 hp		
	Statistics 4,5 hp			Elective 6 hp

	Per 1	Per 2	Per 3	Per 4
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Process Safety

- Introduction
- Seminar
- Web course – IPS ?
- Integration in projects

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	Engineering Skills 9hp			Chem Eng and Technology 1 7,5 hp

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	Sustainable Development and the Chem Engineer 6hp			
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	Elective 6 hp			



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Economy

- Business Administration
- Cost Engineering
- Projects

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Social

- Ethics
- Projects – group dynamics

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	Elective 6 hp			

Degree projects

- Ecological Analysis of Hydrogen Production by Photovoltaic Electrolysis (The State University of Sao Paulo)
 - Förnyelsebar plast från rapshalm (KTH Fiber- och polymerteknologi)
 - Utveckling av metod för bestämning av låga halter metan i rötslam (Himmerfjärdsverket)
 - Kvalitetssäkring av provtagningen vid Käppala reningsverk
 - Näringsläckage till Södra fladen på Utö (Skärgårdsstiftelsen)
 - En studie av temperaturens påverkan på biologisk kvävereduktion (Hammarby Sjöstadsverk)
 - Avvattning av fettavskiljarslam (Ragn-Sells AB)
 - Luftrening för industriella processer – dimensionering av ett luftreningssystem i pilotskala (Ozone Tech Systems)
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Empolyers

- AstraZeneca
 - Octapharma
 - Nynäs Petroleum
 - Castrol
 - AGA GAS
 - SWECO Wiak
 - Miljödepartementet
 - Boliden
 - Tetrapack
 - Käppala
 - RagnSells
 - Sandvik
 - STFI Packforsk
 - Stockholm Vatten
 - Mälarenergi
 - Alcro Beckers
 - Fortum
 - Telge Miljöteknik
 - Forsmark
 - Statoil
 - Skanska
 - ...
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