

# Chemical Biology, M Sc in Engineering

300 credits

Civilingenjör i kemisk biologi - med valbar utgång till naturvetenskaplig kandidat

6CKEB

Valid from: 2014 Spring semester

**Determined by**Board of Studies for Chemistry, Biology and Biotechnology

**Date determined** 

## **Entry requirements**

# Degree in Swedish

Civilingenjör 300 hp och Teknologie master 120 hp alt. Naturvetenskaplig kandidat, 180 hp



## Curriculum

### Semester 6 (Spring 2017)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TAMS28	Mathematical Statistics, First Course	6	G2X	4	С
TBMT37	Models in System Biology	2	G2F	3	С
TFKE46	Protein Chemistry	6	A1X	1/2	С
TFKE55	Protein Engineering and Project Management, Bachelor Project	16*	G2X	1/2	С
Period 2					
TFKE55	Protein Engineering and Project Management, Bachelor Project	16*	G2X	1/2/3/4	С

### Semester 7 (Autumn 2017)



Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TVCB12	Genome Analysis	6	A1X	4	С
TANA21	Scientific Computing	6	G1F	3	C/E
TAOP88	Engineering Optimization	6	G2F	1	C/E
TATM38	Mathematical Models in Biology	6	A1N	3	C/E
TEAE01	Industrial Economics, Basic Course	6	G1X	2	E
TGTU91	Oral and Written Communication	6	G1F	2	E
THEN18	English	6*	G1X	4	E
THFR05	Communicative French	6*	G1X	4	E
THSP05	Spanish	6*	G1X	4	E
THTY05	German	6*	G1X	4	E
TKMJ31	Biofuels for Transportation	6	A1X	1	E
TVMB17	Immunobiology and Immunological Techniques	6	G2X	1/2	E
Period 2					
TAMS38	Experimental Design and Biostatistics	6	A1X	3	С
TFYA32	Industrial Biotechnology	6	A1X	1	С
TFKE30	Analytical Chemistry	6	G1X	4	E
THEN18	English	6*	G1X	4	E
THFR05	Communicative French	6*	G1X	4	E
THSP05	Spanish	6*	G1X	4	E
THTY05	German	6*	G1X	4	Е
TKMJ24	Environmental Engineering	6	G1X	3	Е
TMMS07	Biomechanics	6	A1X	4	E



Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TFKE57	Proteomics	6	A1X	3	С
TANA21	Scientific Computing	6	G1F	3	C/E
TAOP88	Engineering Optimization	6	G2F	1	C/E
TEAE01	Industrial Economics, Basic Course	6	G1X	2	C/E
TFKE33	Life Scientific Research Review	6*	A1X	4	E
TGTU91	Oral and Written Communication	6	G1F	2	E
THEN18	English	6*	G1X	4	E
THFR05	Communicative French	6*	G1X	4	Е
THSP05	Spanish	6*	G1X	4	E
THTY05	German	6*	G1X	4	Е
TVMB17	Immunobiology and Immunological Techniques	6	G2X	1/2	Е
Period 2					
TAMS38	Experimental Design and Biostatistics	6	A1X	3	С
TFKE35	Biostructural Technologies	6	A1X	2	С
TFKE33	Life Scientific Research Review	6*	A1X	4	E
TFKE48	Biomolecular Disease Processes	6	A1X	1	Е
TFYA32	Industrial Biotechnology	6	A1X	1	Е
TGTU49	History of Technology	6	G1F	3	Е
THEN18	English	6*	G1X	4	E
THFR05	Communicative French	6*	G1X	4	E
THSP05	Spanish	6*	G1X	4	E
THTY05	German	6*	G1X	4	E



## Semester 8 (Spring 2018)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TFTB32	Design of Biotechnical Process and Production Systems, Project Course	6*	A1X	1	С
TMMT03	Biotechnical Production Systems	6	A1X	3	С
TMQU46	Quality Management	6	G2X	4	С
TBMI26	Neural Networks and Learning Systems	6	A1N	2	E
TFYA85	Alternative Energy Sources and their Applications	6	G2X	4	E
TGTU01	Technology and Ethics	6	G1X	1	E
TSRT07	Industrial Control Systems	6	A1X	2	Е
Period 2					
NKED20	Drug discovery and Pharmaceutical Development	6	A1X	2	С
TFTB32	Design of Biotechnical Process and Production Systems, Project Course	6*	A1X	1	С
TFTB39	Biotechnology Manufacturing	6	A1X	3/4	С
NKED82	Biomolecular Design	6	A1X	1	E



Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TFKE58	Applied Structural Biology	6*	A1X	3	С
TFTB34	Biosensor Technology	6	A1X	2	С
TMQU46	Quality Management	6	G2X	4	C/E
NBID64	Molecular Physiology and Cell Signaling Mechanisms	6	A1N	2	E
TBMI26	Neural Networks and Learning Systems	6	A1N	2	E
TFTB35	Surface Science	6	A1X	1	E
TFYA85	Alternative Energy Sources and their Applications	6	G2X	4	E
TGTU01	Technology and Ethics	6	G1X	1	E
TSRT07	Industrial Control Systems	6	A1X	2	Е
Period 2					
TFKE56	Industrial Enzyme Engineering	6	A1X	3	С
TFKE58	Applied Structural Biology	6*	A1X	4	С
NKED20	Drug discovery and Pharmaceutical Development	6	A1X	2	C/E
NKED82	Biomolecular Design	6	A1X	1	C/E
TGTU76	Philosophy of Science	6	G1X	4	E



## Semester 9 (Autumn 2018)

	Specialisation. Industrial Biolectino	logg and I	, oauc	tion	
Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TEIO20	Entrepreneurship and New Business Development	6*	G2X	3	С
TSRT62	Modelling and Simulation	6	A1X	3	C/E
TDDC76	Programming and Data Structures	8*	G2X	2	E
TEIO90	Innovation Management	6	A1N	2	Е
TFTB46	Advanced Bioinformatics	6	A1X	2	E
TFYA47	Surfaces and Interfaces	6	A1X	2	E
TRTE18	The Biogas Process	6	A1N	1	Е
TVMB26	Molecular Virology	6	A1X	1	E
Period 2					
TEIO20	Entrepreneurship and New Business Development	6*	G2X	4	С
TAOP61	Optimization of Realistic Complex Systems	6	A1N	3	E
TDDC76	Programming and Data Structures	8*	G2X	2	E
TGTU04	Leadership	6	G2X	2	E
TGTU49	History of Technology	6	G1F	3	E
TMQU12	Lean Production	6	A1X	2	E
TVCB13	Stem Cell Engineering	6	A1X	3	E



Course name	Credits	Level	Timetable module	ECV
Entrepreneurship and New Business Development	6*	G2X	3	С
Advanced Bioinformatics	6	A1X	2	С
Mathematical Models in Biology	6	A1N	3	C/E
Industrial Economics, Basic Course	6	G1X	2	C/E
Modelling and Simulation	6	A1X	3	C/E
The Biogas Process	6	A1N	1	Е
Molecular Virology	6	A1X	1	E
Entrepreneurship and New Business Development	6*	G2X	4	С
Leadership	6	G2X	2	C/E
Optimization of Realistic Complex Systems	6	A1N	3	Е
Analytical Chemistry	6	G1X	4	E
Supramolecular Chemistry	6	A1X	1	E
Environmental Engineering	6	G1N	3	E
Stem Cell Engineering	6	A1X	3	E
	Entrepreneurship and New Business Development  Advanced Bioinformatics  Mathematical Models in Biology Industrial Economics, Basic Course  Modelling and Simulation  The Biogas Process Molecular Virology  Entrepreneurship and New Business Development  Leadership  Optimization of Realistic Complex Systems  Analytical Chemistry  Supramolecular Chemistry  Environmental Engineering	Entrepreneurship and New Business Development  Advanced Bioinformatics 6  Mathematical Models in Biology 6  Industrial Economics, Basic Course 6  Modelling and Simulation 6  The Biogas Process 6  Molecular Virology 6  Entrepreneurship and New Business Development  Leadership 6  Optimization of Realistic Complex Systems 6  Analytical Chemistry 6  Supramolecular Chemistry 6  Environmental Engineering 6	Entrepreneurship and New Business Development  Advanced Bioinformatics 6 A1X  Mathematical Models in Biology 6 A1N  Industrial Economics, Basic Course 6 G1X  Modelling and Simulation 6 A1X  The Biogas Process 6 A1N  Molecular Virology 6 A1X  Entrepreneurship and New Business Development 6 G2X  Optimization of Realistic Complex Systems 6 A1N  Analytical Chemistry 6 G1X  Supramolecular Chemistry 6 G1X  Environmental Engineering 6 G1N	Course name  Credits Level module  Entrepreneurship and New Business Development  Advanced Bioinformatics  Mathematical Models in Biology  Industrial Economics, Basic Course  Modelling and Simulation  The Biogas Process  Molecular Virology  Entrepreneurship and New Business Development  Leadership  Optimization of Realistic Complex Systems  Analytical Chemistry  Environmental Engineering  6* G1X 4  Evel module  6* A1X 2  A1X 3  Analytical Chemistry  6 G1X 4  Environmental Engineering  6* G2X 2  A1X 1  Evel module  6* A1X 3  A1X 1  A1 A

## Semester 10 (Spring 2019)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TQXX33	Degree project - Master's Thesis	30*	A1X	-	С
Period 2					
TQXX33	Degree project - Master's Thesis	30*	A1X	-	С



Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TQXX33	Degree project - Master's Thesis	30*	A1X	-	С
Period 2					
TQXX33	Degree project - Master's Thesis	30*	A1X	-	С



ECV = Elective / Compulsory /Voluntary
\*The course is divided into several semesters and/or periods