Chemical Biology, M Sc in Engineering

300 credits

Civilingenjör i kemisk biologi – med valbar utgång till naturvetenskaplig kandidat

6CKEB

Valid from: 2016 Autumn semester

Determined by
Board of Studies for Chemistry, Biology and Biotechnology

Date determined
2016-01-19

Entry requirements

Degree in Swedish

Civilingenjör 300 hp och Teknologie master 120 hp

Curriculum

Semester 2 (Spring 2017)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
NBIA24	Genetics	6	G1X	2/3	C
NBIA25	Cell Biology	6	G1X	1/3	C
TATA41	Calculus in One Variable 1	6	G1X	4	C
TGTU35	Introduction to University Studies	2*	G1X	-	V
Period 2					
NBIA23	Microbiology	6	G1X	1/3	C
TATA42	Calculus in One Variable 2	6	G1X	2	C
TGTU35	Introduction to University Studies	2*	G1X	-	V

Semester 3 (Autumn 2017)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TATA16	Linear Algebra	6*	G1X	4	C
TDDD87	Programming and Problem Solving	6	G1X	2	C
TFKE06	Organic Chemistry 2	6	G1X	1/3	C
Period 2					
NBIB45	Principles in Physiology and Ethics	6	G1F	1	C
TATA16	Linear Algebra	6*	G1X	3	C
TFYA16	Engineering Mechanics	6	G1X	4	C

Semester 4 (Spring 2018)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TATA83	Calculus, several variables	6	G1X	1	C
TFKE43	Spectroscopy and Kinetics	6	G1X	3	C
TFYY55	Physics	6*	G2X	2	C
Period 2					
NBIC52	Molecular Genetics	6	G2X	2	C
TFKE36	Biochemistry 2	6	G2X	1/4	C
TFYY55	Physics	6*	G2X	3	C
TPTE06	Industrial Placement	6	G1X	-	E

Semester 5 (Autumn 2018)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TFKE37	Biological Measurements	6	G2X	1/2/3	C
TFKE38	Gene Technology	3	G2X	1/2/3	C
TFKE60	Project Course, Chemical Biology	6*	G2X	1/2/3	C
TFTB45	Bioinformatics	3	G2X	4	C
Period 2					
TFKE17	Physical Chemistry	6	G1X	3	C
TFKE60	Project Course, Chemical Biology	6*	G2X	1	C
TSRT03	Biological Automatic Control	6	G2X	4	C

Semester 6 (Spring 2019)

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

Semester 7 (Autumn 2019)

Specialisation: Industrial biotechnology and Production

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TANA21	Scientific Computing	6	G1X	3	E
TAOP88	Engineering Optimization	6	G2X	1	E
TATM38	Mathematical Models in Biology	6	A1X	3	E
TEAE01	Industrial Economics, Basic Course	6	G1X	2	E
TGTU91	Oral and Written Communication	6	G1X	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	A1N	1	E
TVMB17	Immunobiology and Immunological Techniques	6	G2X	1/2	E
Period 2					
TAMS41	Statistical Modelling with Regression Methods	6	A1X	3	C
TFYA32	Industrial Biotechnology	6	A1X	1	C
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	E
TKMJ24	Environmental Engineering	6	G1N	3	E
TMMS07	Biomechanics	6	A1X	4	E

Specialisation: Protein Science and Technology

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TFKE57	Proteomics	6	A1X	3	C
TANA21	Scientific Computing	6	G1X	3	C/E
TAOP88	Engineering Optimization	6	G2X	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	G1X	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
TVMB17	Immunobiology and Immunological Techniques	6	G2X	1/2	E
Period 2					
TAMS41	Statistical Modelling with Regression Methods	6	A1X	3	C
TFKE35	Biostructural Technologies	6	A1X	2	C
TFKE33	Life Scientific Research Review	6*	A1X	4	E
TFKE48	Biomolecular Disease Processes	6	A1X	1	E
TFYA32	Industrial Biotechnology	6	A1X	1	E
TGTU49	History of Technology	6	G1X	3	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

Semester 8 (Spring 2020)

Specialisation: Industrial biotechnology and Production

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TFTB32	Design of Biotechnical Process and Production Systems, Project Course	6*	A1X	1	C
TMMT03	Biotechnical Production Systems	6	A1X	3	C
TMQU46	Quality Management	6	G2X	4	C
TBMI26	Neural Networks and Learning Systems	6	A1X	2	E
TDDE10	Object Oriented Programming in Java	6	G2X	1	E
TFYA85	Alternative Energy Sources and their Applications	6	G2X	4	E
TGTU94	Technology and Ethics	6	G1X	1	E
TKMJ15	Environmental Management Strategies	6	G1F	3	E
TSRT07	Industrial Control Systems	6	A1N	2	E
Period 2					
NKED20	Drug Discovery and Pharmaceutical Development	6	A1X	2	C
TFTB32	Design of Biotechnical Process and Production Systems, Project Course	6*	A1X	1	C
TFTB39	Biotechnology Manufacturing	6	A1X	3/4	C
NKED82	Biomolecular Design	6	A1X	1	E
TGTU95	Philosophy of Science and Technology	6	G1X	4	E

Specialisation: Protein Science and Technology

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TFKE58	Applied Structural Biology	6*	A1X	2	C
TFTB34	Biosensor Technology	6	A1X	3	C
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	A1X	2	E
TDDE10	Object Oriented Programming in Java	6	G2X	1	E
TFTB35	Surface Science	6	A1X	1	E
TFYA85	Alternative Energy Sources and their Applications	6	G2X	4	E
TGTU94	Technology and Ethics	6	G1X	1	E
TSRT07	Industrial Control Systems	6	A1N	2	E
Period 2					
TFKE58	Applied Structural Biology	6*	A1X	4	C
TFKE61	Industrial Enzyme Technology	6	A1X	3	C
NKED20	Drug Discovery and Pharmaceutical Development	6	A1X	2	C/E
NKED82	Biomolecular Design	6	A1X	1	C/E
TGTU95	Philosophy of Science and Technology	6	G1X	4	E

Semester 9 (Autumn 2020)

Specialisation: Industrial biotechnology and Production

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TAMS81	Experimental Design	6	A1X	4	C
TEIO94	Entrepreneurship and Idea Development	6*	G2X	3	C
TDDE18	Programming C++	6*	G2X	2	E
TEIO90	Innovation Management	6	A1X	2	E
TFTB46	Advanced Bioinformatics	6	A1X	2	E
TFYA47	Surfaces and Interfaces	6	A1X	2	E
TRTE18	The Biogas Process	6	A1X	1	E
TSRT92	Modelling and Learning for Dynamical Systems	6	A1X	3	E
TVMB26	Molecular Virology	6	A1X	1	E
Period 2					
TEIO94	Entrepreneurship and Idea Development	6*	G2X	4	C
TAOP61	Optimization of Realistic Complex Systems	6	A1N	3	E
TDDE18	Programming C++	6*	G2X	1	E
TGTU04	Leadership	6	G2X	2	E
TGTU49	History of Technology	6	G1X	3	E
TMQU12	Lean Production	6	A1X	2	E
TVCB13	Stem Cell Engineering	6	A1X	3	E

Specialisation: Protein Science and Technology

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TEIO94	Entrepreneurship and Idea Development	6*	G2X	3	C
TFTB46	Advanced Bioinformatics	6	A1X	2	C
TAMS81	Experimental Design	6	A1X	4	C/E
TATM38	Mathematical Models in Biology	6	A1X	3	C/E
TEAE01	Industrial Economics, Basic Course	6	G1X	2	C/E
TSRT92	Modelling and Learning for Dynamical Systems	6	A1X	3	C/E
TKMJ24	Environmental Engineering	6	G1N	1	E
TRTE18	The Biogas Process	6	A1X	1	E
TVMB26	Molecular Virology	6	A1X	1	E
Period 2					
TEIO94	Entrepreneurship and Idea Development	6*	G2X	4	C
TGTU04	Leadership	6	G2X	2	C/E
TAOP61	Optimization of Realistic Complex Systems	6	A1N	3	E
TFKE30	Analytical Chemistry	6	G1X	4	E
TFYA30	Supramolecular Chemistry	6	A1X	2	E
TVCB13	Stem Cell Engineering	6	A1X	3	E

Semester 10 (Spring 2021)

Specialisation: Industrial biotechnology and Production

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

Specialisation: Protein Science and Technology

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

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