Chemical Biology, M Sc in Engineering

300 credits

Civilingenjör i kemisk biologi - med valbar utgång till naturvetenskaplig kandidat

6CKEB

Valid from: 2015 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 4 (Spring 2017)

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 2017)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TFKE37	Biological Measurements	6	G2X	-	C
TFKE38	Gene Technology	3	G2X	-	C
TFKE39	Project Course; Chemical Biology	6	G2X	-	C
Period 2					
TFKE17	Physical Chemistry	6	G1X	3	C
TFTB45	Bioinformatics	3	G2X	1	C
TSRT03	Biological Automatic Control	6	G2X	4	C

Semester 6 (Spring 2018)

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 2018)

Specialisation: Industrial Biotechnology and Production

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TANA21	Scientific Computing	6	G1X	3	C/E
TAOP88	Engineering Optimization	6	G2X	1	C/E
TATM38	Mathematical Models in Biology	6	A1X	3	C/E
TEAE01	Industrial Economics, Basic Course	6	G1X	2	E
TGTU91	Oral and Written Communication	6	G1X	2	E
THEN18	English	6*	G1N	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
TVCB12	Genome Analysis	6	A1X	4	E
TVMB17	Immunobiology and Immunological Techniques	6	G2X	1/2	E
Period 2					
TAMS38	Experimental Design and Biostatistics	6	A1X	3	C
TFYA32	Industrial Biotechnology	6	A1X	1	C
TFKE30	Analytical Chemistry	6	G1X	4	E
THEN18	English	6*	G1N	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*	G1N	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					
TAMS38	Experimental Design and Biostatistics	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*	G1N	4	E
THFR05	Communicative French	6*	G1X	4	E
THSP05	Spanish	6*	G1X	4	E
THTY05	German	6*	G1X	4	E

Semester 8 (Spring 2019)

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
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	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

Specialisation: Protein Science and Technology

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TFKE58	Applied Structural Biology	6*	A1X	3	C
TFTB34	Biosensor Technology	6	A1X	2	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
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	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
TGTU83	Philosophy of Science	6	G1X	4	E

Semester 9 (Autumn 2019)

Specialisation: Industrial Biotechnology and Production

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TEIO94	Entrepreneurship and Idea Development	6*	G2X	3	C
TDDC76	Programming and Data Structures	8*	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
TSRT62	Modelling and Simulation	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
TDDC76	Programming and Data Structures	8*	G2X	2	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
TATM38	Mathematical Models in Biology	6	A1X	3	C/E
TEAE01	Industrial Economics, Basic Course	6	G1X	2	C/E
TSRT62	Modelling and Simulation	6	A1X	3	C/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
TKMJ24	Environmental Engineering	6	G1N	3	E
TVCB13	Stem Cell Engineering	6	A1X	3	E

Semester 10 (Spring 2020)

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