Engineering Biology, M Sc in Engineering

300 credits

Civilingenjör i teknisk biologi

6CTBI

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

Curriculum

Semester 6 (Spring 2017)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TBMT19	Models in System Biology	2	G2F	3	C
TBMT33	System Biology and Modelling, Bachelor Project	16*	G2E	3	C
TFMT14	Measurement Technology	6	G2X	2	C
TVCB11	Cellbiological Methodology	6	G2X	1/4	C
Period 2					
TBMT33	System Biology and Modelling, Bachelor Project	16*	G2E	2/3/4	C

Semester 7 (Autumn 2017)

Specialisation: Devices and Materials in Biomedicine

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TFYA31	Materials and Nanotechnology	6*	A1X	4	C
TFYA47	Surfaces and Interfaces	6	A1X	2	C
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
TBMT36	Biomedical Optics	6	A1X	1	E
TEAE01	Industrial Economics, Basic Course	6	G1X	2	E
TGTU91	Oral and Written Communication	6	G1F	2	E
THFR05	Communicative French	6*	G1X	4	E
THSP05	Spanish	6*	G1X	4	E
THTY05	German	6*	G1X	4	E
Period 2					
TAMS38	Experimental Design and Biostatistics	6	A1X	3	C
TFYA30	Supramolecular Chemistry	6	A1N	1	C
TFYA31	Materials and Nanotechnology	6*	A1X	2	C
THFR05	Communicative French	6*	G1X	4	E
THSP05	Spanish	6*	G1X	4	E
THTY05	German	6*	G1X	4	E
TMMS07	Biomechanics	6	A1X	4	E

Specialisation: Industrial biotechnology and production

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TEIO20	Entrepreneurship and New Business Development	6*	G2X	3	C
TVCB12	Genome Analysis	6	A1X	4	C
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
Period 2					
TAMS38	Experimental Design and Biostatistics	6	A1X	3	C
TEIO20	Entrepreneurship and New Business Development	6*	G2X	4	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
TMMS07	Biomechanics	6	A1X	4	E

Semester 8 (Spring 2018)

Specialisation: Devices and Materials in Biomedicine

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TFTB34	Biosensor Technology	6	A1X	2	C
TFTB35	Surface Science	6	A1X	1	C
TFTB43	Materials in Medicine (CDIO-Project)	6*	A1X	3	C
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
THEN18	English	6*	G1N	1	E
TMQU46	Quality Management	6	G2X	4	E
TSRT07	Industrial Control Systems	6	A1X	2	E
Period 2					
TFTB40	Biomedical Materials	6	A1X	1	C
TFTB43	Materials in Medicine (CDIO-Project)	6*	A1X	2	C
TBME08	Biomedical Modeling and Simulation	6	A1N	3	E
TFMT19	Chemical Sensor Systems	6	A1X	4	E
THEN18	English	6*	G1N	3	E

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	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	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

Semester 9 (Autumn 2018)

Specialisation: Devices and Materials in Biomedicine

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TEIO20	Entrepreneurship and New Business Development	6*	G2X	3	C
TFTB33	Microsystems and Nanobiology	6	A1X	1	C
TSRT62	Modelling and Simulation	6	A1X	3	C/E
TDDC76	Programming and Data Structures	8*	G2X	2	E
TEAE01	Industrial Economics, Basic Course	6	G1X	2	E
TFTB46	Advanced Bioinformatics	6	A1X	2	E
TFYA43	Nanotechnology	6	G2X	3	E
TMQU03	Quality Management and Engineering	6	G2X	2	E
Period 2					
TEIO20	Entrepreneurship and New Business Development	6*	G2X	4	C
TFTB38	Imaging and Ubiquitous Biosensing	6	A1F	2	C
TBMT01	Biomedical Signal Processing	6	A1F	1	E
TDDC76	Programming and Data Structures	8*	G2X	2	E
TFKE30	Analytical Chemistry	6	G1X	4	E
TFYA32	Industrial Biotechnology	6	A1X	1	E
TFYA37	Soft Condensed Matter Physics	6	A1X	1	E
TGTU04	Leadership	6	G2X	2	E
TGTU49	History of Technology	6	G1F	3	E
TKMJ24	Environmental Engineering	6	G1N	3	E
TVCB13	Stem Cell Engineering	6	A1X	3	E

Specialisation: Industrial biotechnology and production

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TEIO20	Entrepreneurship and New Business Development	6*	G2X	3	C
TSRT62	Modelling and Simulation	6	A1X	3	C/E
TBMT36	Biomedical Optics	6	A1X	1	E
TDDC76	Programming and Data Structures	8*	G2X	2	E
TEAE01	Industrial Economics, Basic Course	6	G1X	2	E
TEIO90	Innovation Management	6	A1N	2	E
TFTB46	Advanced Bioinformatics	6	A1X	2	E
TFYA47	Surfaces and Interfaces	6	A1X	2	E
TRTE18	The Biogas Process	6	A1N	1	E
TVMB26	Molecular Virology	6	A1X	1	E
Period 2					
TEIO20	Entrepreneurship and New Business Development	6*	G2X	4	C
TAOP61	Optimization of Realistic Complex Systems	6	A1N	3	E
TBMT01	Biomedical Signal Processing	6	A1F	1	E
TDDC76	Programming and Data Structures	8*	G2X	2	E
TGTU04	Leadership	6	G2X	2	E
TGTU49	History of Technology	6	G1F	3	E
TKMJ24	Environmental Engineering	6	G1N	3	E
TMQU12	Lean Production	6	A1X	2	E
TVCB13	Stem Cell Engineering	6	A1X	3	E

Semester 10 (Spring 2019)

Specialisation: Devices and Materials in Biomedicine

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: 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

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