

Applied Engineering BSc - 210 ECTS programs - emphasis on practical projects in cooperation with industry

Students in their 5th-6th semesters can optionally take a part of their studies as specialized internships instead of specialized electives

All courses are 6 ECTS credits unless otherwise specified

	Applied Civil Engineering BT	Applied Electrical Engineering RT	Applied Mechanical/Energy Engineering VT
1.önn	AT STM 1002/2004 Mathematics and Matlab (12 ECTS) AT EDL 1003 Physics BT BUP 1013 Structural Mechanics I T-100-HUGM Brain Storming (1 ECTS) AT TÆK 1002 Introduction to Engineering Design/CAD (5 ECTS)	AT STM 1002/2004 Mathematics and Matlab (12 ECTS) AT EDL 1003 Physics RT STA 1003 Digital Logic Design and Microcontroller T-100-HUGM Brain Storming (1 ECTS) AT TÆK 1002 Introduction to Engineering Design/CAD (5 ECTS)	AT STM 1002/2004 Mathematics and Matlab (12 ECTS) AT EDL 1003 Physics BT BUP 1013 Structural Mechanics I T-100-HUGM Brain Storming (1 ECTS) AT TÆK 1002 Introduction to Engineering Design/CAD (5 ECTS)
2.önn	AT STÆ 2003 Mathematics II BT BUR 2003 Mechanics of Materials and Structural Analysis BI EBE 1003 Construction Materials AT ADF 1013 Statistics and Methodology BT HVB 1003 The Design Process**	AT STÆ 2003 Mathematics II RT EDL 2003 Physics II RT RAS 1003 Electric Circuit Analysis AT ADF 1013 Statistics and Methodology RT HVR 1003 Robots - practical project	AT STÆ 2003 Mathematics II T-401-VELH Machine Elements VT EFV 1003 Metallurgi, Metal Processes I AT ADF 1013 Statistics and Methodology VT HVV 1003 Practical Project in Computer Aided Design
3.önn	AT STÆ 3003 Mathematics III BT BUR 3003 Finite Element Method and Structural Analysis BI EFN 1013 Concrete - Material Properties and Maintenance BT JTÆ 1003 Soil Mechanics and Engineering Geology** AT VST 1003 Project Management**	AT STÆ 3003 Mathematics III RT EXH 1013 Electromagnetics and Semi-conductors RT RAS 2003 Electric Circuit Design T-208-FOR2 Programming in C++ AT VST 1003 Project Management	AT STÆ 3003 Mathematics III VT FEM 1003 Finite Element Analysis VT VAR 1013 Thermodynamics I VT AFL 1003 Dynamics VT VHF 2013 Machine Element Design
4.önn	BT BUP 4002 Structural Analysis (4 ECTS) BF BRU 1001 Fire Resistant Design (2 ECTS) BT BYG 1003 Design in Timber and Steel** BT REN 1003 Hydraulics BT BED 1003 Building Physics** BT LAM 1013 Surveying and GIS**	RT RAT 1003 Electronics I RT RAK 1003 Electrical Systems I T-306-MERK Signal Processing RI RLH 1003 Electric Installations Design*** or T-201-GSK1 Data Structures*** RT HVR 2013 Measurement Techniques - practical project	VT VAR 2013 Thermodynamics II VT SVF 1003 Theory of Vibrations** VT STV 1003 Fluid Mechanics/Heat Transfer VT RAR 1003 Electric Circuits and Power VT HVV 2003 Thermo and Hydraulics Lab
5.önn	BT SST 1013 Reinforced Concrete I AT INT 1006 Internship (12 ECTS, mandatory) BT VEG 1013 Road Design - Urban and Rural** BT UVB 1003 Urban Development**	RT PWR 1003 Power Electronics** VT REG 1003 Feedback Control Systems RT FSK 1003 Communication Systems I Specialized electives: Electric Power or Electronics/Mechatronics RI LYR 1003 Lighting and Regulations* T-863-EIIP Energy in Industrial Processes* T-411-MECH Mechatronics I* T-301-REIR Algorithms* AT INT 1003 Internship (elective) RT HVR 3003 Practical Project in Electronics or Electric Power	VT STY 1003 Control Engineering VT REG 1003 Feedback Control Systems VT EFV 2003 Metals and Manufact. Processes VT STR 1003 Turbomachinery AT VST 1003 Project Management
6.önn	BT FRS 1003 Construction Management** BT LAG 1013 Installation Systems** Specialized electives: Structures or Construction or Installations BT BYG 2013 Timber and Steel Design* BT SST 2013 Reinforced Concrete II* T-806-UMFE Traffic and Road Construction Management* BT JTÆ 2013 Geotechnical Engineering** T-803-VERK Project Management and Strategic Planning* BT LAG 3003 Water Supply and Wastewater* BT LOF 1003 Ventilation Systems BT HVB 3013 Practical Project in Design/BIM	RT IDN 1003 Industrial Controllers & Robots Specialized electives: Electric Power or Electronics/Mechatronics RT RVE 1003 Electrical Machines* RT RAK 2003 Electrical Systems II* RI RLH 1003 Electric Installations Design* T-535-MECH Mechatronics II* RT FSK 2003 Communication Systems II* RT RAT 2003 Electronics II* AT INT 1003 Internship I (elective) AT INT 2003 Internship II (elective) AT INT 3003 Internship III (elective) RT HVR 4003 Practical Project in Electronics or Electric Power	VT HUN 1013 Design VI TEI 2013 Computer Aided Design II** Specialized electives: Energy or Mechanical Design VT JAH 1003 Geothermal Energy* SE B15 PPE Power Plant Design* (3-week course) RT IDN 1003 Industrial Controllers & Robots* RT RVE 1003 Electrical Machines* VT KÆL 1013 Refrigeration and Heat Pumps* AT INT 1003 Internship I (elective) AT INT 2003 Internship II (elective) VT HVV 3003 Practical Project in Energy or Mechanics
7.önn	BT LOK 1012 Final Project in Civil Engineering, in cooperation with an industrial firm (24 ECTS) AT RSN 1003 Management and Innovation	RT LOK 1002 Final Project in Electrical Engineering, in cooperation with an industrial firm (24 ECTS) AT RSN 1003 Management and Innovation	VT LOK 1012 Final Project in Mechanical/Energy Engineering, in cooperation with an industrial firm (24 ECTS) AT RSN 1003 Management and Innovation

*Recommended electives, other elective are also offered. In some cases, specialized internship is optional instead of a specialized elective course.

** These courses are taught every other year, each time for a combined group of 2nd and 3rd year students, or 1st and 2nd, year students, see each groups study plan.

***Students in their 4th semester must take either Electric Installations Design or Data Structures (they may take the other course as an elective in the 6th semester).