



Programme syllabus

[An accessible version of the syllabus can be found in the Course and programme directory.](#)

Degree Programme in Civil Engineering and Urban Management 300 credits

Civilingenjörsutbildning i samhällsbyggnad

Valid for students admitted to the education from autumn 08 (HT - Autumn term; VT - Spring term).

This is a translation of the Swedish, legally binding, programme syllabus.

Programme objectives

Knowledge and understanding

Skills and abilities

Ability to make judgements and adopt a standpoint

Extent and content of the programme

Eligibility and selection

Implementation of the education

Courses

The programme is course-based. Lists of courses are included in appendix 1.

Grading system

Courses in the first and the second cycle are graded on a scale from A to F. A-E are passing grades, A is the highest grade. The grades pass (P) and fail (F) are used for courses under certain circumstances.

Appendix 1 - Course list

Appendix 2 - Programme syllabus descriptions



Appendix 1: Course list

Degree Programme in Civil Engineering and Urban Management (CSAMH)

General courses

Year 1

Mandatory courses (60.0 Credits)

Code	Name	Credits	Edu. level
AI1137	Introduction to the Planning and Building Process	15.0 hp	First cycle
DD1311	Programming Techniques with PBL	6.0 hp	First cycle
SF1624	Algebra and Geometry	7.5 hp	First cycle
SF1625	Calculus in One Variable	7.5 hp	First cycle
SF1626	Calculus in Several Variables	7.5 hp	First cycle
SF1658	Trigonometry and Functions	7.5 hp	First cycle
SH1010	Physics for the Built Environment	9.0 hp	First cycle

Recommended courses

Code	Name	Credits	Edu. level
AB1002	Introduction to Civil Engineering and Urban Management	1.5 hp	First cycle

Year 2

Mandatory courses (52.5 Credits)

Code	Name	Credits	Edu. level
AE1101	Natural Resources Theory	6.0 hp	First cycle
AE1102	Geology and Geotechnical Engineering	6.0 hp	First cycle
AF1002	Buildings and Civil Engineering Structures	7.5 hp	First cycle
AG1311	Graphic Information Systems	7.5 hp	First cycle
AI1107	Economics	7.5 hp	First cycle
AI1501	Planning, Building and Environmental Law	6.0 hp	First cycle
DN1214	Numerical Methods, Basic Course	6.0 hp	First cycle
SF1908	Mathematical Statistics, Basic Course	6.0 hp	First cycle

Conditionally elective courses

Code	Name	Credits	Edu. level
AG1102	Economic Geography	7.5 hp	First cycle
SG1107	Mechanics	7.5 hp	First cycle

Civil Engineering (AP)

Year 3

Mandatory courses (60.0 Credits)

Code	Name	Credits	Edu. level
AE1601	Fluid Mechanics for Architecture and Built Environment	7.5 hp	First cycle
AF1005	Structural Engineering, Basic Course	7.5 hp	First cycle
AF101X	Degree Project in Build Environment, First Cycle	15.0 hp	First cycle
AF1301	Building Materials, Basic Course	7.5 hp	First cycle
AF1402	Building Physics	7.5 hp	First cycle
AF1601	Soil Mechanics and Foundation Engineering	7.5 hp	First cycle
SG1801	Structural Mechanics, Basic Course	7.5 hp	First cycle

Year 4

Recommended courses

Code	Name	Credits	Edu. level
AF2003	Structural Engineering, Advanced Course	7.5 hp	Second cycle
AF2004	Concrete and Steel Structures	7.5 hp	Second cycle
AF2024	Finite Element Methods in Analysis and Design	7.5 hp	Second cycle
AF2201	Bridge Design	7.5 hp	Second cycle
AF2602	Rock Mechanics	7.5 hp	Second cycle
AF2609	Foundation Engineering	7.5 hp	Second cycle
AF2901	Road- and Railway Track Engineering	7.5 hp	Second cycle
AF2903	Road Construction and Maintenance	7.5 hp	Second cycle

Building and Real Estate Economics (BFE)

Year 3

Mandatory courses (60.0 Credits)

Code	Name	Credits	Edu. level
AF1033	Building Technology and Building Services Engineering	7.5 hp	First cycle
AI101X	Degree Project in Built Environment, First Cycle	15.0 hp	First cycle
AI1108	Investment Analysis	7.5 hp	First cycle
AI1111	Real Estate Valuation	7.5 hp	First cycle
AI1142	Financial Reporting and Analysis	7.5 hp	First cycle
AI1515	Introduction to Swedish law, basic course	7.5 hp	First cycle
AI2119	Real Estate Management	7.5 hp	Second cycle

Year 4

Conditionally elective courses

Code	Name	Credits	Edu. level
AI2102	Real Estate Market Analysis and Development	7.5 hp	Second cycle
AI2117	Facility Management	7.5 hp	Second cycle
AI2118	Portfolio Management and Real Estate Finance	7.5 hp	Second cycle
AI2136	Economics of Real Estate and Financial Services Contracts	7.5 hp	Second cycle
AI2142	Real Estate Valuation in an International Context	7.5 hp	Second cycle
AI2147	Commercial Real Estate Investments	7.5 hp	Second cycle

Recommended courses

Code	Name	Credits	Edu. level
AI2134	Quantitative Methods Applied to Real Estate and Financial Service	7.5 hp	Second cycle
AI2135	Financial Investments	7.5 hp	Second cycle
AI2139	Cost Benefit Analysis	7.5 hp	Second cycle
AI2144	Corporate Finance	7.5 hp	Second cycle

Construction Project Management (BPL)

Year 3

Mandatory courses (60.0 Credits)

Code	Name	Credits	Edu. level
AE1601	Fluid Mechanics for Architecture and Built Environment	7.5 hp	First cycle
AF1005	Structural Engineering, Basic Course	7.5 hp	First cycle
AF101X	Degree Project in Build Environment, First Cycle	15.0 hp	First cycle
AF1301	Building Materials, Basic Course	7.5 hp	First cycle
AF1402	Building Physics	7.5 hp	First cycle
AI1801	Construction Project Management	7.5 hp	First cycle
SG1801	Structural Mechanics, Basic Course	7.5 hp	First cycle

Year 4

Conditionally elective courses

Code	Name	Credits	Edu. level
AI2102	Real Estate Market Analysis and Development	7.5 hp	Second cycle
AI2142	Real Estate Valuation in an International Context	7.5 hp	Second cycle
AI2501	Land Development I	7.5 hp	Second cycle

Recommended courses

Code	Name	Credits	Edu. level
AI2134	Quantitative Methods Applied to Real Estate and Financial Service	7.5 hp	Second cycle
AI2801	Project Communication	7.5 hp	Second cycle
AI2802	Architectural Concepts	7.5 hp	Second cycle
AI2803	Project Development and Construction Processes	7.5 hp	Second cycle
AI2804	Design and production Management	7.5 hp	Second cycle
AI2805	Building Informatics and Logistics	7.5 hp	Second cycle

Geomatic Engineering (GMT)

Year 3

Mandatory courses (60.0 Credits)

Code	Name	Credits	Edu. level
AG1323	GIS for the Built Environment	7.5 hp	First cycle
AG1324	Photogrammetry and Remote Sensing	9.0 hp	First cycle
AG132X	Degree Project in Built Environment, First Cycle	15.0 hp	First cycle
AH1815	Introduction to GPS	7.5 hp	First cycle
AH1816	Geodetic Surveying II	9.0 hp	First cycle
DD1320	Applied Computer Science	6.0 hp	First cycle
DD1334	Database Technology	6.0 hp	First cycle

Year 4

Recommended courses

Code	Name	Credits	Edu. level
AG2411	GIS Architecture and Algorithms	7.5 hp	Second cycle
AG2412	Geovisualisation	7.5 hp	Second cycle
AG2413	Digital Image Processing and Applications	7.5 hp	Second cycle
AG2414	Spatial Analysis	7.5 hp	Second cycle
AG2425	Spatial Databases	7.5 hp	Second cycle
AH2914	Physical Geodesy	7.5 hp	Second cycle
AH2915	Laser Scanning Technology	7.5 hp	Second cycle
AH2921	Adjustment Theory	6.0 hp	Second cycle
AH2922	Map Projections and Reference Systems	9.0 hp	Second cycle
AH2923	Global Navigation Satellite Systems (GNSS)	7.5 hp	Second cycle

Architectural Engineering (HK)

Year 3

Mandatory courses (60.0 Credits)

Code	Name	Credits	Edu. level
AE1601	Fluid Mechanics for Architecture and Built Environment	7.5 hp	First cycle
AF1005	Structural Engineering, Basic Course	7.5 hp	First cycle
AF101X	Degree Project in Build Environment, First Cycle	15.0 hp	First cycle
AF1301	Building Materials, Basic Course	7.5 hp	First cycle
AF1402	Building Physics	7.5 hp	First cycle
AF1601	Soil Mechanics and Foundation Engineering	7.5 hp	First cycle
SG1801	Structural Mechanics, Basic Course	7.5 hp	First cycle

Year 4

Optional courses

Code	Name	Credits	Edu. level
AF2024	Finite Element Methods in Analysis and Design	7.5 hp	Second cycle
AI1801	Construction Project Management	7.5 hp	First cycle

Recommended courses

Code	Name	Credits	Edu. level
AF2001	Structural Engineering, Advanced Course	7.5 hp	Second cycle
AF2101	Concrete Structures	7.5 hp	Second cycle
AF2213	Steel and Timber Structures	7.5 hp	Second cycle
AF2301	Building Materials, Advanced Course	7.5 hp	Second cycle
AF2401	Building Technology, Advanced Course	7.5 hp	Second cycle
AF2402	Acoustics and Fire	7.5 hp	Second cycle
AF2502	Building Services Engineering, Advanced Course	7.5 hp	Second cycle

Real Estate Planning and Land Law (MFJ)

Year 3

Mandatory courses (60.0 Credits)

Code	Name	Credits	Edu. level
AH1812	Geodetic Surveying I	7.5 hp	First cycle
AI1108	Investment Analysis	7.5 hp	First cycle
AI1504	Real Estate Planning	7.5 hp	First cycle
AI1506	Land Law	7.5 hp	First cycle
AI1509	Law of Real Estate	7.5 hp	First cycle
AI150X	Degree Project in Built Environment, First Cycle	15.0 hp	First cycle
AI1515	Introduction to Swedish law, basic course	7.5 hp	First cycle

Year 4

Optional courses

Code	Name	Credits	Edu. level
AI2102	Real Estate Market Analysis and Development	7.5 hp	Second cycle
AI2142	Real Estate Valuation in an International Context	7.5 hp	Second cycle

Recommended courses

Code	Name	Credits	Edu. level
AI2502	Land Development	15.0 hp	Second cycle
AI2504	Law of Planning, Construction and Infrastructure	15.0 hp	Second cycle
AI2507	Law of Real Estate Formation	7.5 hp	Second cycle
AI2508	Compulsory Purchase and Compensation	7.5 hp	Second cycle

Land and Water Resources Engineering (MVT)

Year 3

Mandatory courses (52.5 Credits)

Code	Name	Credits	Edu. level
AE100X	Degree Project in Built Environment, First Cycle	15.0 hp	First cycle
AE1105	Environmental Soil Chemistry	7.5 hp	First cycle
AE1501	Environmental System Analysis for Built Environment	7.5 hp	First cycle
AE1601	Fluid Mechanics for Architecture and Built Environment	7.5 hp	First cycle
AE1602	Hydrology	7.5 hp	First cycle
AF1601	Soil Mechanics and Foundation Engineering	7.5 hp	First cycle

Conditionally elective courses

Code	Name	Credits	Edu. level
AE1104	Geoscience Engineering	7.5 hp	First cycle
SG1801	Structural Mechanics, Basic Course	7.5 hp	First cycle

Year 4

Conditionally elective courses

Code	Name	Credits	Edu. level
AE2101	Environmental Dynamics/Chemical Processes	7.5 hp	Second cycle
AE2103	Environmental Aquatic Chemistry	7.5 hp	Second cycle
AE2104	Environmental Measuring and Monitoring	7.5 hp	Second cycle
AE2105	Urban Hydrology and Climate	7.5 hp	Second cycle
AE2301	Water and Waste Handling	7.5 hp	Second cycle
AE2401	Engineering Geology	7.5 hp	Second cycle
AE2503	Environmental Data	7.5 hp	Second cycle
AE2504	Water Governance	7.5 hp	Second cycle
AE2602	Applied Hydrology	7.5 hp	Second cycle
AE2609	Hydraulic Engineering Systems	7.5 hp	Second cycle
AE2706	Integrated Water Resources Management	7.5 hp	Second cycle

Recommended courses

Code	Name	Credits	Edu. level
AE2202	Dynamics of Environmental Systems	7.5 hp	Second cycle
AE2501	Environmental Impact Assessment	7.5 hp	Second cycle
AE2505	Water Systems and Geographic Information	7.5 hp	Second cycle

Urban Planning (SP)

Year 3

Mandatory courses (60.0 Credits)

Code	Name	Credits	Edu. level
AG1103	Urban and Traffic Planning, Continuation Course	7.5 hp	First cycle
AG1104	Planning Theory, Basic Course	7.5 hp	First cycle
AG1105	Heritage Management in Urban Planning	7.5 hp	First cycle
AG110X	Degree Project in Built Environment, First Cycle	15.0 hp	First cycle
AH1021	Urban and Traffic Planning, Basic Course	7.5 hp	First cycle
AH1023	Urban and Traffic Planning, Methods and Applications	7.5 hp	First cycle
AI1504	Real Estate Planning	7.5 hp	First cycle

Year 4

Recommended courses

Code	Name	Credits	Edu. level
AD2845	Principles of Real Estate and Urban Economics	7.5 hp	Second cycle
AE2502	Natural Resources Management	7.5 hp	Second cycle
AG2116	City Networks in Regional Contexts	7.5 hp	Second cycle
AG2125	Defining the Elements of Urbanism	7.5 hp	Second cycle
AG2126	Theory of Science and Research Methodology for Planning and Design	7.5 hp	Second cycle
AG2127	Planning Theory and Urban Governance	7.5 hp	Second cycle
AG2128	Urban Development and Planning	7.5 hp	Second cycle
AG2141	Urban Infrastructure	7.5 hp	Second cycle
AG2171	Futures Studies and Forecasts	7.5 hp	Second cycle
AG2805	Sustainable Planning and Design	15.0 hp	Second cycle
AG2811	Planning for Resilience	7.5 hp	Second cycle
AI2801	Project Communication	7.5 hp	Second cycle

Traffic Engineering (TT)

Year 3

Mandatory courses (60.0 Credits)

Code	Name	Credits	Edu. level
AG1103	Urban and Traffic Planning, Continuation Course	7.5 hp	First cycle
AG1104	Planning Theory, Basic Course	7.5 hp	First cycle
AH1021	Urban and Traffic Planning, Basic Course	7.5 hp	First cycle
AH1022	Traffic and Road Engineering, Basic Course	7.5 hp	First cycle
AH1023	Urban and Traffic Planning, Methods and Applications	7.5 hp	First cycle
AH1024	Traffic Management and Operation	7.5 hp	First cycle
AH103X	Degree Project in Built Environment, First Cycle	15.0 hp	First cycle

Year 4

Optional courses

Code	Name	Credits	Edu. level
AH2102	Logistics and Transportation	7.5 hp	Second cycle
AH2173	Public Transport	7.5 hp	Second cycle
AH2303	Transport and Sustainable Development	7.5 hp	Second cycle
AH2304	Advanced Transport Modelling	7.5 hp	Second cycle

Recommended courses

Code	Name	Credits	Edu. level
AH2170	Transport Data collection and Analysis	7.5 hp	Second cycle
AH2171	Traffic Engineering and Management	7.5 hp	Second cycle
AH2300	Transport and Society	7.5 hp	Second cycle
AH2301	Transport Policy and Evaluation	7.5 hp	Second cycle
AH2302	Transport Modelling	7.5 hp	Second cycle



Appendix 2: Specialisations

Degree Programme in Civil Engineering and
Urban Management (CSAMH)

Civil Engineering (AP)

No information entered.

Building and Real Estate Economics (BFE)

No information entered.

Construction Project Management (BPL)

No information entered.

Geomatic Engineering (GMT)

No information entered.

Architectural Engineering (HK)

No information entered.

Real Estate Planning and Land Law (MFJ)

No information entered.

Land and Water Resources Engineering (MVT)

No information entered.

Urban Planning (SP)

No information entered.

Traffic Engineering (TT)

No information entered.