

Degree Programme in Construction Management, Raseborg (210 cr)

English translation, degree programme conducted in Swedish. Degree: **YH-examen inom teknik**
Qualification title: **Byggmästare (YH)**
Duration of studies: **3,5 år**
Study type: **Full-time** **D**

- » [Generic competences](#)
- » [Language Information for Students with Swedish or Finnish as Prior Language of Instruction.](#)

Kontaktuppgifter: [Enheter](#) | [Utbildningsansvariga](#)

Code	Name	Cr/year/total					
		1	2	3	4	5	Total
Gru	Core Studies						39 cr
BYE14SK	Language Studies <i>The student</i> <i>*demonstrates the ability to communicate orally and in writing in Swedish, Finnish and English in a professional manner, in a work context</i> <i>* is familiar with essential terminology within his/her field in all three languages and is able to benefit from professional literature also in Finnish and English.</i> <i>* has knowledge and skills in research methodology and a strictly ethical view of the research process and its results</i>	3	3	6	3		15 cr
RB14SV01	<ul style="list-style-type: none"> • Swedish <i>The student</i> <i>* can communicate coherently and in a professional manner both orally and in writing, in a work context</i> <i>* demonstrates appropriate knowledge of the process of academic writing and a correct use of references</i> <i>* can use different channels to retrieve information and compile reports according to the standard form and layout.</i> <i>Students with Finnish as prior educational language have to show such skills in the Swedish language as are in accordance with the Act on the Knowledge of Languages Required of Personnel in Public Bodies (424/2003). This means that these students must show satisfactory (grade 1, 2 or 3) or good (grade 4 or 5) skills in speaking and writing Swedish. Written and oral skills are assessed separately.</i>	3					3 cr
RB14FI01	<ul style="list-style-type: none"> • Finnish <i>The student</i> <i>* demonstrates ability to communicate in a natural and professional manner, in speaking as well as writing, in a work context, including customer service.</i> <i>* demonstrates proficiency in the terminology of the field and is able to benefit from research and literature in his/her professional development</i> <i>* shows such skills in the Finnish language as are in accordance with the Act on the Knowledge of Languages Required of Personnel in Public Bodies (424/2003). This means that the student must show satisfactory (grade 1, 2 or 3) or good (grade 4 or 5) skills in speaking and writing Finnish. Written and oral skills are assessed separately.</i>	3					3 cr
RB14EN01	<ul style="list-style-type: none"> • English <i>The student</i> <i>* shows the ability to communicate in a professional manner in a work context in speaking as well as writing</i> <i>* is familiar with essential terminology within his/her field and is able to benefit from professional literature</i> <i>* has a positive attitude to developing his/her receptive and productive language skills and is familiar with the relevant tools</i> <i>* is aware of cultural differences in international contexts.</i>		3				3 cr
BYE14FM01	<ul style="list-style-type: none"> • Research Methodology <i>The student is expected to know that there are different approaches to knowledge and be familiar with the most common research methods used in a few different fields of science. The student is expected to be able to develop and specify problems and embed them in an engineer's frame of reference involving earlier practical and theoretical knowledge within the student's field of competence. Furthermore, the student must be able to make a plan for his/her own research or development work and assess the quality of such work as well as research reports.</i>			3			3 cr
BYE14SK01	<ul style="list-style-type: none"> • Statistical Methods, Documentation and Writing <i>The student is able to:</i> <i>* document in a written form own research, development and analysis of data within the field of construction</i> <i>* understand the meaning of statistics, statistical methods and probability</i> <i>* perform basic statistical calculations including unreliability based on measured and calculated data and present the material graphically</i>				3		3 cr
BYE14BP	Constructions and Entrepreneurship <i>The student</i> <i>* has knowledge and skills to plan and realise studies at a university of applied sciences and to develop an independent professional identity and be engaged in life-long learning.</i> <i>* has fundamental skills and knowledge to use information technology in his/her future profession.</i> <i>* has knowledge and skills to as both a member and leader of a group plan and build a small building in wooden constructions.</i> <i>* has sufficient basic knowledge of business administration and understanding of the field of construction to be able to establish his/her own business including administration and a conscious risk management.</i>	12		3			15 cr

RB14IN01	<p>• Introduction to Academic Studies The student</p> <ul style="list-style-type: none"> * is familiar with his/her UAS and Campus * is aware of the gain of activating methods of learning * can reflect on his/her studies and future plans and is aware of his/her individual learning style * can plan and follow up his/her studies * can generate new knowledge and create personal learning environments and share knowledge with others * can reflect on life-long learning within the profession * can retrieve and critically view information 	3					3 cr
BYE14IK01	<p>• ICT The student has a good command of</p> <ul style="list-style-type: none"> * the IT services of the own institution as well as the utilities needed in work and studies for compiling written assignments, analysing data and reporting projects * file handling * the word processing programs used for creating and handling standard documents, official letters and reports * the word processing programs used for creating and handling long documents including e.g. a list of contents and a reference list * spreadsheet programs needed to handle calculations including formulae, functions and charts * programs for presentation graphics used for making presentations. 	3					3 cr
BYE14BP01	<p>• Project Building Wooden Structures The student:</p> <ul style="list-style-type: none"> * can plan, implement and evaluate a project of building a wooden structure * is familiar with the professional field of construction * can use tools applicable in project planning and project management * is familiar with teambuilding and -development * can work in groups and teams with individuals regardless of their background * is familiar with the role and the responsibilities of a team leader * is familiar with the most common construction and frame materials used in Finland and has experience of work in construction engineering as well as methods used for simple wooden structures * understands how the choice of materials affects the design of the construction. 	6					6 cr
BYE14BP02	<p>• Starting och Running Your Own Business The student:</p> <ul style="list-style-type: none"> * is expected to have sufficient basic knowledge of business administration and understanding of the field of construction to be able to establish and run his/her own business including administration and a conscious risk management. 			3			3 cr
BYE14MA	<p>Mathematics The student</p> <ul style="list-style-type: none"> * knows how to acquire knowledge of those fields of mathematics which are important to a construction manager and at the same time develop logical thinking and the ability to solve problems. The aim is that mathematics becomes an effective tool and instrument in solving technical problems. 	9					9 cr
BYE14MA01	<p>• Functions and equations 1 The student</p> <ul style="list-style-type: none"> * knows how to use the four fundamental rules of arithmetic for the calculation and simplification of basic mathematical expressions and is able to solve simple first and second grade equations * is able to solve linear systems of equations algebraically and graphically * knows first and second grade equations and their characteristics * knows the basics of MathCad 	3					3 cr
BYE14MA02	<p>• Geometry and Vectors The student</p> <ul style="list-style-type: none"> * knows how to solve basic geometric problems * knows how to use the trigonometry of triangles * knows how to perform basic vector operations (addition, subtraction, multiplication using scalars, scalar products and cross products) * knows the trigonometric functions and is able to solve similar simple equations * is able to mathematically formulate and solve more complicated problems * knows how to use the mathematical tools dealt with on the course in an innovative manner when solving problems in new situations 	3					3 cr
BYE14MA03	<p>• Functions and equations 2 The student</p> <ul style="list-style-type: none"> * is able to solve first and second grade inequalities * is able to solve higher grade equations and is familiar with their characteristics * is familiar with the characteristics of the most common nonlinear functions and is able to solve simple equations of this type * is familiar with equations of conic section * is able to mathematically formulate and solve more complicated problems * knows how to use the mathematical tools dealt with on the course in an innovative manner when solving problems in new situations 	3					3 cr
Yrk							121 cr

Professional Studies						
BYE14BT	<p>Introduction to Building Techniques <i>The student</i></p> <ul style="list-style-type: none"> * is familiar with the most common building and frame materials used in Finland and how the choice of materials affects the design of constructions * understands the interaction between a building and its substructure * knows the basis of building and construction design * knows drawing techniques by hand * is familiar with the parties involved in the field of construction and its most important sources of information. * is able to apply building laws and work safety and understands the importance of work safety 	24				24 cr
BYE14BT01	<p>• Soil Mechanics and Foundations <i>The student:</i></p> <ul style="list-style-type: none"> * understands the importance of geotechnology in all construction work * is aware of how the substructure is made and how it behaves when the foundation is laid * understands the importance of making a geotechnical survey in order to be able to choose a sustainable, environmentally sound and economical foundation laying method. 	3				3 cr
BYE14BT02	<p>• Concrete Technology <i>The student:</i></p> <ul style="list-style-type: none"> * has an understanding of the importance of concrete technology from the point of view of construction planning * is familiar with the fields and methods of application as well as construction types * is familiar with the properties of concrete and knows the basic concepts largely used in concrete technology * knows in broad outline the rules and regulations concerning concrete construction * demonstrates an understanding of the importance of concrete technology from a technical and financial perspective. 	6				6 cr
BYE14BT03	<p>• Building Materials and Techniques <i>The student:</i></p> <ul style="list-style-type: none"> * understands the prospects and limitations of different building materials and is familiar with the most common building materials used in Finland * understands how the choice of materials affects the design of a building. 	6				6 cr
BYE14BT04	<p>• Introduction to Structural Design <i>The student:</i></p> <ul style="list-style-type: none"> * is familiar with and can apply the basics of construction design for buildings. 	3				3 cr
BYE14BT05	<p>• Introductory Work Safety and Construction Law <i>The student</i></p> <ul style="list-style-type: none"> * has a basic knowledge of the laws of construction and work safety * knows how to apply laws, acts and regulations regarding planning, granting building and other permits and the performing of construction work. 	3				3 cr
BYE14BT06	<p>• Basic Physics for Construction <i>The student:</i></p> <ul style="list-style-type: none"> * can use SI units and convert units * understands what the characteristics of saturated vapour, relative humidity critical pressure and temperature and of triple point mean and their effect on buildings * understands the meaning of and is able to perform simple calculations with reference to the thermal elongation of rigid bodies * understands the meaning of thermal insulation and heat transfer * is able to perform basic calculations on the thermal insulation capacity of a construction 	3				3 cr
BYE14BH	<p>The Residential Building <i>The student</i></p> <ul style="list-style-type: none"> * knows the basis of building and construction design * knows how to solve the aesthetic, functional and constructional issues arising when designing a residential building for a family * knows drawing techniques by hand and the basics of AutoCAD as well as how to explain plans on drawings * knows how the frame and the building parts are constructed in a house with a framework and understands how a building frame functions, and knows how and why buildings are insulated from heat and moisture * possesses adequate knowledge of concrete, masonry as well as wooden structures in order to e.g. dimension and calculate a smaller wooden structure including a concrete foundation and building parts * understands the interaction between a building and its substructure. 		30			30 cr

BYE14BH01	<p>• Building Physics in Housing Production The student: * is aware of and understands requirements related to building physics on building structures and entire buildings, and which aspects are particularly important to take into account in construction work. * understands the characteristics of different forms and sources of energy</p>	3			3 cr
BYE17BH02	<p>• Building Design The student: * possesses knowledge of the measurements for residential facilities * knows how to deal with building permit documents * knows what information the main drawings should contain.</p>	3			3 cr
BYE14BH03	<p>• AutoCAD Drawing The student: * knows the basic commands in AutoCAD * knows how to plan and visualise with the help of AutoCAD by making more simple drawings of buildings and structures for detached houses.</p>	3			3 cr
BYE14BH04	<p>• Foundation Engineering The student: * possesses a deeper understanding of the interaction between the foundation and the substructure * has adequate knowledge of laying foundations for the dimensioning of structures.</p>	3			3 cr
BYE14BH05	<p>• Concrete and Masonry Structures 1 The student: * has adequate knowledge of dimensioning and calculating smaller concrete and masonry structures in order to be able to choose a sustainable, environmentally sound and economical construction alternative for a residential building.</p>	6			6 cr
BYE14BH06	<p>• Wooden Structures 1 The student: * is familiar with the most common options of wooden building and wooden frames used in Finland * knows how the choice of materials affects the design of the structures * knows how to apply the knowledge of structural design with the help of AutoCAD in order to choose a sustainable, environmentally sound and economical construction alternative.</p>	3			3 cr
BYE14BH07	<p>• Steel Structures 1 The student: * has an idea of the importance of steel as a construction material in buildings * is familiar with the fields and methods of using steel as well as its types of structure * is familiar with the properties of steel and knows the basic concepts used in steel technology on a general basis * is on a general basis familiar with the regulations regarding steel structures and dimensioning in accordance with Eurocode 3.</p>	3			3 cr
BYE14BH08	<p>• Cost Calculation The student: * has an overall picture of how and in which stage the costs of a construction project accumulate and what cost estimates consist of * knows how to estimate the costs of a smaller building project of a simple outbuilding or a residential building.</p>	3			3 cr
BYE17BH01	<p>• Digital Tools for 3D Planning The student has basic skills in how to use digital tools such as BIM-software Graphisoft ArchiCAD, Autodesk Revit and/or Vertex for planning simple structures and residential facilities in 3D.</p>	3			3 cr
BYE14BM	<p>Building Mechanics The student: * understands the connection between the purpose of the building and the structural design * understands the importance of bearing and reinforced structures in relation to the stability of the building * understands and knows how to apply building mechanics in structural design.</p>	9			9 cr
BYE14BM01	<p>• Structural Statics The student: * has a good command of the basics of dimensioning and adequate previous knowledge for the following course in structural mechanics * knows how to calculate force magnitudes with the emphasis on the balance principle.</p>	3			3 cr
BYE14BM02	<p>• Structural Mechanics 1 The student:</p>	3			3 cr

	<p>* understands the problems related to structural mechanics</p> <p>* acquires a good command of the primary elements in structural mechanics as tools for future courses and work tasks.</p>					
BYE14BM03	<p>• Mechanics of Materials 1</p> <p>The student:</p> <p>* has a good command of the basics of the mechanics of materials</p> <p>* knows how to do simple dimensioning calculations for typical frame units used in buildings</p> <p>* knows how to identify the risks connected with strength in different bearing structures.</p>		3			3 cr
BYE14BR	<p>Building Conservation and Renovation</p> <p>The student</p> <p>* understands the meaning of the built environment for man and society as well as the importance of building conservation in the management of the built environment</p> <p>* is familiar with the principal building materials and structural solutions as well as the cost structure of renovation projects</p> <p>* knows how to survey old properties and plan complementary building parts</p> <p>* is familiar with the most common methods used when planning and managing concrete work</p> <p>* is familiar with the principles of the function and placing of installation and automation technology in order to take them into account in structural design, building and work management.</p>			18		18 cr
BYE14BR01	<p>• Surveying Buildings and Plan for Maintenance</p> <p>The student</p> <p>* understands the meaning of the built environment for man and society as well as the importance of building conservation in the management of the built environment</p> <p>* has deepened his/her knowledge of the principal building materials and construction solutions as well as the cost structure of a renovation project</p> <p>* knows how to survey old properties and plan complementary building parts.</p>			3		3 cr
BYE14BR02	<p>• Investment Calculations</p> <p>The student:</p> <p>* knows how to make investment calculations including life cycle analyses for construction engineering work and renovations as well as entire building projects.</p>			3		3 cr
BYE14BR03	<p>• Technical and Physical Measurements in Buildings</p> <p>The student</p> <p>- knows and can perform common building physical and technical tests</p> <p>- can write a report from the building investigation and retrieve relevant comparison values from literature</p> <p>- can find conclusions from the measurements and comparison values and knows how the accurateness in the measuring influences reliability of the result</p>			3		3 cr
BYE14BR04	<p>• Indoor Climate and HEPAC</p> <p>The student:</p> <p>* is familiar with the principles of the function and placing of installation and automation technology in order to take them into account in structural design, building and work management.</p>			3		3 cr
BYE14BR05	<p>• Construction Chemistry</p> <p>The student:</p> <p>* is familiar with the health risks caused by asbestos and mould in connection with reconstruction work</p> <p>* is aware of various ways to find information and is able to use them</p> <p>* knows which surveys should be conducted before a specific work phase commences</p> <p>* is familiar with harmful chemicals used in construction work</p> <p>* knows which harmful dust particles occur in the air when reconstruction is done</p> <p>* demonstrates skills to quickly map out the presence of asbestos and mould on a reconstruction site and to take swift measures in order to protect himself/herself and the employees.</p>			3		3 cr
BYE14BR06	<p>• Concrete Work</p> <p>The student:</p> <p>* is familiar with the most common methods used when planning and managing concrete work and understands why laboratory experiments with concrete are done</p> <p>* knows how to do laboratory experiments with concrete and write lab reports.</p>			3		3 cr
BYE14BA	<p>Construction and Site Management</p> <p>The student</p> <p>* has a realistic picture of the tasks of a construction manager has when functioning as a supervisor</p> <p>* has a basic understanding of the total finances of the building process and the production and is familiar with alternative forms of contracting</p> <p>* is familiar with the quality criteria, the occupational safety requirements and the contracting in the building sector and knows how to apply them</p>		6	31	3	40 cr

	<p>* is able to plan, supervise and assure quality in the realisation of individual building tasks</p> <p>* is able to make an offer and draw up a schedule and a construction contract for a building project and understands their importance with reference to the final outcome and overall economy</p> <p>* knows how to use schedule in the tasks related to work management during the building phase and understands its meaning with reference to the final outcome and overall economy</p> <p>* is familiar with and can use building information modelling (BIM)</p> <p>* has an overall view of the essential community development when building houses</p> <p>* is familiar with the basic functioning and planning principles related to infrastructure and municipal engineering as well as the technical requirements regarding constructions related to these principles</p> <p>* understands the importance of the built environment for man and society</p> <p>* knows how to present projects orally and in the form of building documents.</p>					
BYE14BA01	<p>• Site Management and Production Planning</p> <p>The student:</p> <p>* is familiar with the tasks of a construction manager as a supervisor</p> <p>* is able to plan, supervise and assure quality in the realisation of individual building tasks</p> <p>* knows how to plan and organise production and perform project management of individual contractors and minor building projects on the basis of contract documents</p> <p>* knows how to schedule the construction phase as to the tasks related to site management and understands its importance with reference to the final outcome and overall economy.</p>		6			6 cr
BYE14BA02	<p>• Building Information Modeling</p> <p>The student:</p> <p>* has a basic knowledge of and is able to use Building Information Modeling (BIM) and 3D modelling of ordinary buildings</p> <p>* is able to work in teams using BIM to enhance efficiency, both in structural and site planning and production, of building projects</p>			3		3 cr
BYE14BA03	<p>• Project Management and Quality Assurance</p> <p>The student:</p> <p>* is familiar with the contract law in the organisation of a construction project</p> <p>* is familiar with the quality criteria and the occupational safety requirements in the building sector and knows how to apply them</p> <p>* knows how to organise and perform project management and quality assurance of commissions in structural engineering and construction projects using contracting documents.</p>			3		3 cr
BYE14BA04	<p>• Construction Management Tasks</p> <p>The student:</p> <p>* is familiar with the tasks and responsibilities (including work safety) of a construction manager as a supervisor</p> <p>* has a realistic picture of the tasks of a construction manager as a supervisor based on basic theoretical knowledge and practical experience of tasks on a larger building site.</p>			6		6 cr
BYE14BA05	<p>• Contract Offer and Contract Agreement</p> <p>The student:</p> <p>* is able to make an offer and draw up a schedule and a contract for a building project and understands their importance with reference to the final outcome and overall economy.</p>			6		6 cr
BYE14BA06	<p>• Case Study in Site Management</p> <p>The student:</p> <p>* has a realistic understanding of the organization, realisation of building production and site management based on basic theoretical knowledge and practical individual own experience of the tasks from a larger building site</p> <p>* knows how to schedule the construction phase as to the tasks related to site management and understands its importance with reference to the final outcome and overall economy</p> <p>* knows how to implement proper work safety on a larger building site</p> <p>* is able to work independently and take responsibility as a team member in the workplace community</p> <p>* has the ability to solve problems and find alternative solutions</p>			10		10 cr
BYE14PK01	<p>• Environmental Engineering and Soil Mechanics</p> <p>The student:</p> <p>* has a deeper understanding of the interaction between constructions - separate buildings as well as municipal engineering - and substructure</p> <p>* has knowledge of different methods for the laying of foundations, ground and soil reinforcement and geotechnical calculations of bearing strength of the ground, consolidation and pressure</p>			3		3 cr
BYE14PK06	<p>• Community Development and Infrastructure</p> <p>The student:</p> <p>* is familiar with the meaning of the concepts infrastructure and road and street construction, community</p>				3	3 cr

	<p>development and municipal engineering as well as their importance in society and connection with environmental issues</p> <p>* is familiar with the basic functioning and planning principles related to traffic infrastructure</p> <p>* has elementary skills in planning simple constructions related to community development, municipal environmental engineering (e.g. small sewage treatment works for rural areas) taking sustainability, environmental aspects and economical factors into account.</p> <p>* possesses elementary skills required for participating in the realisation of road and street construction projects taking sustainability, environmental aspects and economic factors into account</p>						
Val	<p>Elective Studies</p> <p>Valfria studier ger studerande möjlighet att ytterligare välja studier som stöder den personliga utvecklingen och bidrar till yrkesmässig mognad och kompetens. Som valfria studier rekommenderas t.ex. kurserna Mekanik och kinematik samt Termodynamik och värmelära.</p>						10 cr
Pra	<p>Internship</p>						30 cr
BYE14PR	<p>Internship</p> <p>The student</p> <p>* has a practical knowledge of the field of construction and is familiar with the key actors of the field</p> <p>* is familiar with the terminology, working methods, tools, software and regulations of the field</p> <p>* is able to apply labour laws and understands the importance of work safety.</p>	15	15				30 cr
BYE14PR01	<p>• General Internship 1</p> <p>The student</p> <p>* is familiar with the professional field of construction, tasks and categories of employers</p> <p>* is able to work independently and has experience of versatile operations in a real work environment and is aware of the purpose of work safety</p> <p>* is able to use proper terminology of the field</p> <p>* is able to systematically report and reflect in standard form and layout over work experience, learning and the organization in which the internship is carried out</p>	3					3 cr
BYE14PR02	<p>• General Internship 2</p> <p>The student</p> <p>* is able to work independently and take responsibility as a team member in the workplace community</p> <p>* is able to show accuracy and reliability in his/her tasks as well as working hours</p> <p>* has experience of versatile operations in a real work environment using safe and proper working methods, and is aware of the purpose of work safety</p> <p>* has experience of the operation of building organisations, the allocation of work as well as social conditions</p> <p>* is able to use proper terminology of the field (tools, machines, measuring instruments, professional titles, etc.) providing a basis for understanding the professional studies.</p>	12					12 cr
BYE14PR03	<p>• Professional Internship 1</p> <p>The student</p> <p>* is familiar in detail with the professional field of construction, tasks and categories of employers</p> <p>* is able to describe the importance of planning in the field of construction and the importance of productivity, profitability and company competitiveness</p> <p>* is able to describe proper procedures for and the importance of proper work safety</p> <p>* is able to use proper advanced terminology of the field</p> <p>* is able to systematically report and reflect in standard form and layout over work experience, learning and the organization in which the internship is carried out</p>		3				3 cr
BYE14PR04	<p>• Professional Internship 2</p> <p>The student</p> <p>* understands the importance of productivity, profitability and company competitiveness</p> <p>* realizes the importance of planning in the field of construction</p> <p>* has a wide experience of the working methods, machinery, devices and software as well as the versatile operations in a real work environment using appropriate working methods</p> <p>* understands the mutual dependency of different operations</p> <p>* has experience of different types of managerial and leadership skills and realizes the effect of performed work on development and society in a wider perspective</p> <p>* develops his/her ability to solve problems and find alternative solutions.</p>		12				12 cr
EXA	<p>Degree Thesis</p> <p>The degree thesis is done in the form of a thesis including a written maturity test. The degree thesis is part of the student's personal qualification profile. The topic of the degree thesis should be chosen by the student himself/herself. The topic must be approved of by the Degree Programme and the student is assigned a teacher tutor.</p> <p>In the thesis the student has to apply theoretical models on practical problems. The student is also expected to demonstrate his/her ability to handle complex problems independently in his/her field of profession as well as the ability to work in a logical and methodical manner. The student is expected to do his/her thesis in an appropriately scientific manner and make use of references and external sources of information.</p> <p>Previous knowledge required: The course Research Methodology or corresponding as well as a minimum of 120 credits of the mandatory studies completed.</p>						10 cr

