Architectural Technology and Construction Management Exchange Programme

Learn how to develop and manage construction projects of all sizes. The Bachelor in Architectural Technology and Construction Management programme is versatile and opens the door to exciting jobs in the construction industry.
The programme aims to train professionals, who are able to participate in and coordinate the building process at all levels from concept to completion in the broadest sense. You will learn to coordinate and manage the many technical and administrative phases of the construction process. The study programme will teach you how to plan, design and coordinate construction projects, and you will combine practical experience with theoretical knowledge on a daily basis.
The overall theme of the exchange semester programme is industrial buildings and prefabrication and the students will carry out cross-disciplinary project work on a prefabricated building project.

Learning approach

The semester is interdisciplinary and ***the teaching language is English – but with an inevitable touch of Danish****!*

We teach throughout the semester based on a case-based interdisciplinary construction project, where the students imagine themselves employed in a fictitious Danish consulting company. In this company, the working language is sometimes English, because some employees have a different national and linguistic background.

The students prepare design material (drawings and other documents) for a fictitious English-speaking client and some of the talented Danish students can subsequently choose to offer the work to a fictitious English-speaking contractor.

A handful of the most talented Danish students dedicate themselves to preparing a large part of the project in English together with any exchange students.

The rest of the Danish students in the class do not have the same linguistic challenges, because they only have to prepare a small part of the project in English. This they have to in any case, because the national curriculum for the "Bachelor of Architectural Technology and Construction Management" specifies that in the 3rd semester they must have skills in communicating about architectural and construction issues to English-speaking business partners and users

Semester Learning Outcome

Knowledge	In relation to the national subject element Industry and prefabrication the student must: • Be able to understand and reflect on common constructions and building physics principles, including statics and technical installations.

	• Be able to understand and reflect on prefabricated methods for production and completion during the construction process, including planning and management tools. • Be able to understand and reflect on forms of organisations, cooperation, and management in connection with project design and production. • Have knowledge of social, environmental, financial, and technological aspects during the project design and production process. • Have knowledge of basic principles, theories, and methods for the establishment and operation of a business.
Skills	In relation to the national subject element Industry and prefabrication the student must be able to: • Apply methods and tools for the collection and analysis of information. • Apply project design and production methods in relation to the construction process for prefabricated construction. • Apply digital building information models (BIMs) as well as to transfer and extract data between different digital platforms and information systems. • Assess and analyse theoretical and practice-oriented issues in a prefabricated construction as well as to substantiate the chosen actions and solutions. • Assess basic contracts and forms as well as to coordinate the project procurement and tendering form. • Communicate practice-oriented, professional issues and solutions to Danish- and English-speaking business partners and users.
Competencies	In relation to the national subject element Industry and prefabrication the student must be able to: • Manage documented analysis of relevant technical issues in the construction project. • Manage construction solutions to optimise the production, in consideration of social, environmental, and financial aspects. • Manage the handover of digital project and documentation materials as a basis for digital tendering. • Independently participate in a professional and cross-disciplinary cooperation on the preparation of project materials. • Participate in a cooperation on management of construction and building projects. • Identify its own learning needs and acquire knowledge, skills, and competencies.

The courses are taught in English; however, on occasion, Danish may be used for clarification purposes when addressing Danish participants.
Course offerings may be adjusted. Course availability will depend on student enrollment in the individual courses offered.

Availability	Spring semester 2027

Semester / Course Prerequisites
You must have a minimum of 1 to 1½ (2 to 3 semesters) studies at higher education level within a relevant programme major and a fundamental knowledge of relevant subject areas related to Construction and Architectural Technology (especially Revit and MS project).

Examination form/Assessment
The exam is arranged as an oral group exam with a maximum of four members with individual assessment. It is based on a portfolio, i.e. planning documents, calculations drawings and other types of documents prepared by the student etc. from the interdisciplinary project periods during the semester.

Course overview		
Course title	**Level**	**ECTS**
Communication (Mandatory)	2nd year/EQF level 6	2,5
Project Management/business (Mandatory)	2nd year/EQF level 6	7
Construction (Mandatory)	2nd year/EQF level 6	7
Statics (Mandatory)	2nd year/EQF level 6	2
Energy and installations (Mandatory)	2nd year/EQF level 6	2,5
Drawing and BIM (Mandatory)	2nd year/EQF level 6	4
Elective educational component (Mandatory)	2nd year/EQF level 6	5

COURSE DESCRIPTION

Course title: Communication (Mandatory)	2,5 ECTS
This subject focuses on giving students skills to manage large written assignments as well as to enhance their English speaking and writing skills in relation to the building and construction sector. Furthermore, the subject includes a consolidation of competences attained in the first and second semesters.	
Learning Outcome	
Knowledge	The student must:

	• Have development-based knowledge about report writing and building-technical jargon in English • Have understanding of the correlation between introduction, problem statement, method description and conclusion in large written assignments
Skills	The student must • Be able to speak and write basic English in communication and cooperation with internal and external cooperation partners • Be able to assess which factors are important for good communication and good cooperation in a con-crete context and set up and choose relevant solutions in this context • Communicate construction issues to English-speaking partners at a basic level
Competencies	The student must • Be able to handle challenges in connection with conflicts • Be able to participate in collaboration with others with other linguistic and cultural backgrounds • Be able to acquire new knowledge, skills and competences within documentation and communication in Danish and/or English

Course title: Project Management/business (Mandatory)	**7 ECTS**
This subject has two main elements. One element deals with planning and managing the building project through its various phases. Focus is on finance and construction management and on using more traditional tools as well as Spring/Autumn 7 Page 3 of 4 relevant development-based software. The other element focuses on financial, HR and organisational aspects related to a business, as well as on the legal conditions and regulations that apply in the building and construction sector: The Tenders Act, the Working Environment Act, the Quality Assurance Order and contracts.	
Learning Outcome	
Knowledge	The student must • Have knowledge and understanding of the use of sustainability certifications • Have knowledge of start-up of business and employment relationships, including employment con-tracts and the Act on Salaried Employees • Have understanding of applying basic tax rules for business with employees, as well as principles for setting up business
Skills	The student must

	• Be able to use analogue location-based planning and calculation of finances on the basis of digital ex-traction • Be able to assess and set up work environment problems in relation to building site design • Be able to mediate agreements for building contractors • Be able to use forms for concluding contracts and business operations • Be able to assess, set up and select project contractual conditions that have consequences for the oper-ation of the company • Be able to convey problems and solutions within business operations to Danish- and English-speaking partners
Competencies	The student must • Be able to handle and take minutes from project management meetings with a focus on co-design, time planning and registration • Participate in collaboration around the project management work • Be able to acquire new knowledge, skills and competencies in a structured context • Be able to handle the creation and operation of small businesses • Independently be able to enter into collaboration around the management of smaller companies. • Be able to acquire new knowledge, skills and competencies in a structured context

Course title: Construction (Mandatory)	**7 ECTS**
The subject focuses on structural design - i.e. on the structural design of buildings and other construction work with emphasis on the origin, properties and area of application of materials as well as on building techniques and methods used in traditional structural designs and installations in connection with civil engineering works, brickwork, carpentry and joinery work. The subject therefore has both a theoretical and practical approach, which allows the students to obtain knowledge about materials, building techniques, design-phase planning methods, and requirements for buildings and technical installations in simple building and construction projects.	
Learning Outcome	
Knowledge	The student must • Have knowledge of civil engineering solutions and formwork technology • Have an understanding of the application of prefabricated production principles, as well as design for disassembly

Skills	The student must • Be able to apply principles for the production of prefabricated elements • Be able to evaluate, set up and choose between different assembly methods of prefabricated elements • Be able to disseminate project drawings to relevant partners, as well as prepare tender and production drawings for Earth, concrete an sewer work, as well as either steel rafters, roof cassettes or concrete elements or CLT (cross laminated timber)
Competencies	The student must • Be able to handle optimization of the building elements' design with a focus on sustainable production, as well as documentation for analyses • Be able to participate in collaboration on the preparation of a construction project • Be able to acquire new knowledge, skills and competencies in relation to the profession in a structured context.

Course title: Statics (Mandatory)	**2 ECTS**
This subject is about the statics and load-bearing structures of buildings. Emphasis is on being able to determine the transfer of loads in buildings, as well as being able to identify critical panel points and vital building parts. Structures are dimensioned as a combination of design estimates and calculations.	
Learning Outcome	
Knowledge	The student must • Have development-based knowledge of differences and similarities in strengths and material parameters in construction materials. • Know differences and similarities in beam calculation in steel, wood and concrete and be able to under-stand static calculations as construction documentation.
Skills	The student must • Be able to use and calculate shear forces and reactions using digital calculation programs, and be able to use shear forces to calculate building parts. • Be able to assess the loads of buildings and set up load reduction and select the most heavily loaded areas by means of load combinations. • Be able to convey practical issues regarding static documentation using SBI 271 for collaborators and users.
Competencies	The student must

	• Be able to handle estimate dimensioning with diagrams for de-termining the sizes of main building ele-ments. • Be able to participate in professional and interdisciplinary col-laboration using static analysis and load reduction • Be able to – in a structured context – acquire new knowledge, skills and competencies in connection with the use of calcula-tions as a design and analysis tool.

Course title: Energy and installations (Mandatory)	**2,5 ECTS**
This subject focuses on the energy consumption and technical installations of buildings. Em-phasis is on being able to determine relevant technical installations, as well as being able to identify critical structural problems in panel/assembly points and vital building components.	
Learning Outcome	
Knowledge	The student must • Have development-based knowledge of general building phys-ics principles in commercial construction, including energy con-sumption and moisture analysis • Be able to understand general technical installations in com-mercial construction, with a focus on drain-age of rainwater on fortified areas, rainwater harvesting (RWH) and heating installa-tions.
Skills	The student must • Be able to use practical methods close to practice, eg. for as-sessing energy needs and BR18's requirements for energy con-sumption • Must be able to assess and set up and choose solution options for the design of construction projects, including planning, di-mensioning and design of rainwater drainage and assessment of energy measures • Must be able to disseminate practical scientific knowledge at a general linguistic level for solv-ing the profession's tasks, eg. on moisture analysis.
Competencies	The student must • Be able to handle a full BE18 calculation for proof of energy framework for simple constructions. • Be able to participate in professional and interdisciplinary col-laboration with knowledge of and respect for building physical calculations as a tool. • Be able – in a structured context – to acquire new knowledge, skills and competences regarding current and future energy consumption requirements.

Course title: Drawing and BIM (Mandatory)	4 ECTS
This subject focuses on BIM and ICT, on how designphase planning processes can be automated, and on how to do things smarter and cut tedious routine tasks.	
Learning Outcome	
Knowledge	The student must • Have development-based knowledge of the ICT Executive Order and Molio's ICT paradigm • Be able to understand different modeling degrees and their importance (Molio's information levels, BIM Forums LOD, etc.) • Be able to understand the difference between parametric and non-parametric building objects and choose which type to use
Skills	The student must • Be able to use tools for setting up a new project using own template and templates for standardized drawing setup (visibility graphics override and view template) and setting up a collaborative project in Revit via cloud solution • Be able to use tools for export and opening of IFC models as well as use a recognized classification sys-tem and understand the importance of this • Be able to use methods and tools for the preparation of object-based building components for use in production, for the purpose of quantity calculation and drawing generation with BIM tools, including creation and editing of parametric families and 2D details using detail components and tags • Be able to use methods and tools to further process the Revit model for intelligent drawing production of building components (assemblies, tags and schedules), MEP project with focus on water, heat and sewer and generation of terrain from DWG and modelling of this.
Competencies	The student must • Be able to handle and analyse the planning and structuring of a BIM project • Be able to handle digital transfer of project and documentation material as a basis for digital tendering with a platform such as Dalux

Course title: Elective educational component (Mandatory)	5 ECTS
In this course the student chooses and investigates a theme or a problem within the modern construction industry and submits a thesis of maximum 20 pages.	

Elective topics vary from semester to semester