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**Curriculum for** Master of Science and Technology (Architecture and Design)/ cand.scient.techn. i Arkitektur og Design

Godkendt d. <u>//e 11</u> / Eskild Holm Nielsen dekan & Davlis Produc

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### Preface

Pursuant to Act 695 of June 22, 2011 on Universities (the University Act) with subsequent changes, the following curriculum for the Master's programme in Architecture and Design is stipulated. The programme also follows the Framework Provisions and the Examination Policies and Procedures for the Faculty of Engineering and Science.

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# Chapter 1: Legal Basis of the Curriculum

### 1.1 Basis in ministerial orders

The Master's programme in Architecture and Design is organized in accordance with the Ministry of Science, Technology and Innovation's Ministerial Order no. 814 of June 29, 2010 on Bachelor's and Master's Programmes at Universities (the Ministerial Order of the Study Programmes) and Ministerial Order no. 857 of July 1, 2010 on University Examinations (the Examination Order) with subsequent changes. Further reference is made to Ministerial Order no. 181 of February 28, 2010 (the Admission Order) and Ministerial Order no. 250 of March 15, 2007 (the Grading Scale Order) with subsequent changes.

### 1.2 Faculty affiliation

The Master's programme falls under the Faculty of Engineering and Science, Aalborg University.

### **1.3 Board of Studies affiliation**

The Master's programme falls under the Board of Studies for Architecture and Design, School of Architecture, Design and Planning.

# Chapter 2: Admission, Degree Designation, Programme Duration and Competence Profile

### 2.1 Admission

Admission to the Master's programme in Architecture and Design requires a Bachelor's degree in Architecture and Design.

Students with another Bachelor's degree, upon application to the Board of Studies, will be admitted after a specific academic assessment if the applicant is deemed to have comparable educational prerequisites. The University can stipulate requirements concerning conducting additional exams prior to the start of study.

### 2.2 Degree designation in Danish and English

The Master's programme entitles the graduate to the designation:

Cand.scient.techn. i arkitektur og design med specialisering i arkitektur / Master of Science and Technology (Architecture and Design with specialisation in Architecture)

Cand.scient.techn. i arkitektur og design med specialisering i industrielt design / Master of Science and Technology (Architecture and Design with specialisation in Industrial Design)

Cand.scient.techn. i arkitektur og design med specialisering i urbant design / Master of Science and Technology (Architecture and Design with specialisation in Urban Design)

### 2.3 The programme's specification in ECTS credits

The Master's programme is a 2-year, research-based, full-time study programme. The programme is set to 120 ECTS credits.

### 2.4 Competence profile on the diploma

The following competence profile will appear on the diploma:

A graduate of the Master's programme has competencies acquired through an educational program that has taken place in a research environment.

The graduate of the Master's programme can perform highly qualified functions on the labor market on the basis of the educational programme. Moreover, the graduate has prerequisites for research (a Ph.D. programme). Compared to the Bachelor's degree, the graduate of the Master's programme has developed her/his academic knowledge and independence, so that the graduate can independently apply scientific theory and method in both an academic and occupational/professional context.

### 2.5 Competence profile of the programme:

The graduate of the Master's programme with any of the three specialications:

Knowledge

- Must have a broad knowledge of theories, methods and practices associated with the professions of architecture, design and engineering combined with a knowledge of methods and practices associated with the professionalisms of architecture, design and engineering ranging from the design component to the building section to the city as a whole
- Must have advanced knowledge of analytical approaches to technical and societal aspects 'of the profession
- Must have a broad knowledge of both analogue and digital tools

for the development and representation of architecture, design and urban design ٠ Must have extensive knowledge of the methods and theories of design applied to the styling of design components, building parts, buildings and entire building developments Must have an advanced knowledge of periods, theories, works and principal figures in the history of architecture, urban and general design Skills Is able to practically apply theories, methods and tools within architecture, industrial design and urban design and to apply skills associated with employment within the fields of architecture and engineering on a scientific basis Is able to assess theoretical and practical problems and to select • and motivate relevant solutions in architecture, design and engineering on the basis of scientific methods Is able to communicate disciplinary problems and solutions to both peers and non-specialists as well as to collaborators and users, and to analyse and understand the connections between design, architecture, cities and society as a whole Is able to apply advanced theories and methods in technical • fields of knowledge such as planning, construction, technique and climatology Competencies Must be able to handle and manage complex and development-• oriented situations in relation to both study and work Must be able with a professional approach independently and with demonstrable overview to participate in professional and interdisciplinary cooperation in the fields of architecture, design and engineering Must be able to apply project-organized learning techniques to ٠ actual problems related to working in a group Must be able to identify own learning needs and structure own learning in various learning environments with a view to solving new types of problems Must possess high-levelprofessional competencies in the intersection between the disciplines of architecture, design and engineering The graduate of the Master's programme with specialication in Urban Design also:

Knowledge

- Must develop knowledge of the contemporary transit systems to the functionality of the network city
- Must have knowledge about information technologies and their practical design and implementation in the contemporary city
- The student must have knowledge about theories on Performative Architecture and Instant Urbanism
- Must have knowledge about urban transformation in the contemporary city, especially in the Northern European context
- Must have knowledge of sustainable techniques and

strategies

•	Must be able to understand theories and methods relating to
	site mapping and design

- Must have knowledge about the urban design strategies and architectural qualities specific to Scandinavian urban design and urban architecture
- Must have knowledge about the academic production process, the systems of research quality assessments and monitoring governing the field of research and the channels for publication and dissemination of academic knowledge
- Must be able to understand and reflect the theories and methods applied in relation to the practice of urban design profession

Skills

- Must be able to apply the theories and methods relevant to the design and development of the urban environment
- Must be able to create design proposals and experiments applying new information technologies and software to urban design
- Must be able to present design proposals professionally including drawings, physical models and electronic presentations equivalent to architectural and urban design practice
- Must be able to develop design proposals at a chosen scale– being able to elaborate proposals that include architecture, urban design, and landscape design
- Must be able to utilize analytical and methodological tools in the areas of site characteristics, origin and development as catalysts for design proposals
- Must be able to utilize analogue and digital tools to design spatial models
- Must be able to apply established models for paper writing and methodological reflection to a specific case within architecture, design or planning
- Competencies
- Must have competencies to create design proposals and concepts for urban design and assess their implementation effects
- Must have the ability to carry out design proposals for concrete urban design of aesthetic, performative and social quality
- Must have the ability to develop projects designing in different scales and dealing with programming and planning.
- The student must be able to qualify the analytical results in new concepts and design proposals
- Must have competencies to create an urban design strategy proposal and assess its potential implementation effects
- Must have competencies to write an academic paper and/or a design for research methodology relating to the state-of-theart of knowledge production within architecture, design or planning

The graduate of the Master's programme with specialication in Industrial Design also:

Knowledge	•	Has broad knowledge about methods, theories and tools within the field of industrial design engineering, based on international research Has broad knowledge about methods, theories and tools within the broad field of industrial design engineering, based on best practice in the professional setting Can understand and, on a scientific basis, reflect on a wide spectrum of design theories and methods, ranging from user- oriented design, market research, construction, design, technology, production, sustainability, strategic design, business and product design and development Has extensive scientific knowledge about the design process
Skills	•	Excels in navigating and controlling the design process ranging from defining the subject to be designed, research phase, specification, conceptualisation, detailing, construction and product maturation related to employment in both consultancies as well as small, medium and large companies and organisations Excels in stakeholder-oriented design, especially user- oriented, and is capable of eliciting product specifications taking into account a broad range of perspectives and situations, ranging from functions at end-user level to strategy at company level Can evaluate and select among industrial design engineering scientific theories, scientific and practical methods and tools and apply these accordingly to innovate and design new solutions Can design products that integrate aesthetics, form, functions and construction at a professional level Can communicate research-based knowledge and discuss professional and scientific problems with both peers and non- specialists Can present design proposals professionally – including drawings, physical models and electronic presentations equivalent to industrial design practice Can utilize, at a professional level, analogue and digital tools to design
Competencies	•	Can manage a broad range of work and development situations in the field of industrial design, taking into account both design, engineering and business aspects to cope with complex and unpredictable processes and issues that require design and innovation Can carry out innovative design proposals for concrete industrial design projects, integrating design, engineering and business aspects and assess the feasibility and effect of the proposal Can write an academic paper and/or a design for research methodology relating to state-of-the-art of knowledge production within the field of industrial design engineering Can independently initiate, facilitate and implement discipline- specific and interdisciplinary cooperation and assume

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The graduate of the N	laster's programme with specialication in Architecture also:
Knowledge	<ul> <li>Must have knowledge in Tectonic design and Sustainable Architecture based on the highest international research and references in these areas</li> <li>Must have knowledge about and understand the theories and methods in the field of Tectonic design, Nordic architecture and Sustainable architecture</li> <li>Must develop a knowledge and understanding of Tectonic design, Nordic architecture, Sustainable architecture, zero energy buildings as the basis for creating good architectural design proposals</li> <li>Must have knowledge of strategies related to sustainable architecture</li> <li>Must be able to make integrated architectural design where relevant and strategically chosen technical parameters are fully integrated with the architecture</li> <li>Must demonstrate the ability to select appropriate research- based knowledge and integrate it in the design process</li> <li>Must have knowledge about relevant digital tools and calculation methods related to Tectonic design and Sustainable architectural design</li> </ul>
Skills:	<ul> <li>Must be able to apply the theories, methods, digital tools and calculation methods relevant to the design and development of tectonic and sustainable architecture</li> <li>Must be able to develop architectural proposals of high architectural merit</li> <li>Must be able to demonstrate the ability to design an efficient building with both architectural and technical qualities</li> <li>Must be able to demonstrate the ability to make integrated design proposals at different scales</li> <li>Must be able to carry through design processes in which regard to aesthetics and the users' spatial, social and functional needs are taken into account in a solution that meets the technical requirements for the building</li> <li>Must be able to communicate research-based knowledge and discuss professional and scientific problems with both peers and non-specialists</li> <li>Must be able to present design proposals professionally including drawings, physical models and electronic presentations equivalent to architectural practice</li> </ul>
Competencies:	<ul> <li>Must be able to design proposals of high architectural design quality</li> <li>Must be competent in finding an integrated design solution and make a design proposal that fulfils all predefined criteria and target values regarding the architectural quality and technical design</li> </ul>

- Must be to able to solve problems and make a synthesis in the design, which takes care of the aesthetics, spatial and social aspects, users' needs, functionality as well as the technical performance of the building
- Must be able to present the results of the project work in a project report, architectural drawings, physical models and 3D renderings or using other digital tools
- Can independently initiate and implement interdisciplinary cooperation and assume professional responsibility
- Can independently take responsibility for own professional development and specialization

## **Chapter 3: Content and Organization of the Programme**

The programme is structured in modules and organized as a problem-based study. A module is a program element or a group of programme elements, which aims to give students a set of professional skills within a fixed time frame specified in ECTS credits, and concluding with one or more examinations within specific exam periods. Examinations are defined in the curriculum.

The programme is based on a combination of academic, problem-oriented and interdisciplinary approaches and organized based on the following work and evaluation methods that combine skills and reflection:

- lectures
- classroom instruction
- project work
- workshops
- exercises (individually and in groups)
- teacher feedback
- reflection
- portfolio work

### **Overview of the programme:**

All modules are assessed through individual grading according to the 7-point scale *or* Pass/Fail. All modules are assessed by external examination (external grading) or internal examination (internal grading or by assessment by the supervisor only).

Seme	ester		Module	ECTS	Assessment	Exam
		Р	Designing Urban Mobility	10	7-point scale	Internal
		С	Introduction to Problem-based Learning and the	5	Pass/Fail	Internal
			Integrated Design Process			
1	st	С	Theories of the Network City	5	Pass/Fail	Internal
		С	From Form to Flow – Intelligent Technologies of	5	Pass/Fail	Internal
			the Network City			
		С	Performative Architecture and Instant Urbanism	5	7-point scale	Internal
		Р	Designing for Urban Transformation	15	7-point scale	External
2 <sup>r</sup>	nd	С	Designing the Experience City	5	7-point scale	Internal
2		С	Sustainable Techniques and Strategies	5	Pass/Fail	Internal
		С	Site Morphology	5	7-point scale	Internal
		Р	Scandinavian Urban Design Strategies	15	7-point scale	Internal
		С	Theories of Scandinavian Urban Design	5	Pass/Fail	Internal
	A		Strategies			
	or	С	Urban Design Mini Conference	5	Pass/Fail	Internal
ord		С	Research Methodology and Paper writing in		Pass/Fail	Internal
3.1		<u> </u>	Architecture, Design and Planning			
	В	P	Professional Development	30	7-point scale	Internal
	or	D/0		20	Transform	Turnefer
	C	P/C	Study at another University	30	I ransfer of	I ranster
	or		Lang Mastar's Thesis	120		
	D			+30	<i>i</i> -point scale	External
4t	n		Master's Thesis	30	/-point scale	External
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### Urban Design 1st to 4th semester

Maximum 35 ECTS are evaluated by pass/fail, and minimum 45 ECTS are evaluated with an external examiner.

Seme	ester		Module	ECTS	Assessment	Exam
		Р	Tectonic Design & Nordic Architecture	15	7-point scale	Internal
		С	Introduction to Problem-based Learning and the	5	Pass/Fail	Internal
1	st		Integrated Design Process			
		С	Studies and Experimentation in Tectonic Culture	5	7-point scale	Internal
		С	Engineering Architecture and Tectonic Design	5	Pass/Fail	Internal
		Р	Sustainable Architecture	20	7-point scale	External
2 <sup>r</sup>	nd	С	Architectural Concepts in Integrated Design	5	Pass/Fail	Internal
		С	Architectural Zero-energy Concepts	5	7-point scale	Internal
		Р	Architectural Research & Development	20	7-point scale	Internal
	Α	С	Architectural related Research	5	Pass/Fail	Internal
	or	С	Transfer of Knowledge from Architectural	5	Pass/Fail	Internal
			Research to Practice			
3''	В	Р	Professional Development	30	7-point scale	Internal
	or					
	С	P/C	Study at another University	30	Transfer of	Transfer
	or				credits	of credits
	D	Р	Long Master's Thesis	+30	7-point scale	External
4th		Р	Master's Thesis	30	7-point scale	External
Total 120 ECTS						

# Architecture 1<sup>st</sup> to 4<sup>th</sup> semester

Maximum 25 ECTS are evaluated by pass/fail, and minimum 50 ECTS are evaluated with an external examiner.

<b>Industrial Design</b>	1 <sup>st</sup> to 4 <sup>th</sup>	semester
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Seme	ester	-	Module	ECTS	Assessment	Exam
		С	Designing the Value	5	7-point scale	Internal
		С	Constructing the Detail	5	Pass/Fail	Internal
1 <sup>5</sup>	st	С	Introduction to Problem-based Learning and the	5	Pass/Fail	Internal
			Integrated Design Process			
		С	Production & Economy	5	Pass/Fail	Internal
		Р	Scandinavian Design	10	7-point scale	Internal
		С	Strategic Design & Entrepreneurship	5	7-point scale	Internal
<b>2</b> <sup>n</sup>	ıd	С	Designing for Sustainability	5	Pass/Fail	Internal
2		С	Future, Technology & Form	5	7-point scale	Internal
		Р	Advanced Integrated Design	15	7-point scale	External
	^	С	Global Perspectives	5	Pass/Fail	Internal
	or	С	Researching Design	5	Pass/Fail	Internal
	0/	Р	Design Engineering; Value, Method and Approach	20	7-point scale	Internal
3 <sup>rd</sup>	В	Р	Professional Development	30	7-point scale	Internal
Ŭ	or					
	С	P/C	Study at another University	30	Transfer of	Transfer
	or				credits	of credits
	D	Р	Long Master's Thesis	+30	7-point scale	External
4th		Р	Master's Thesis	30	7-point scale	External
Total 120 ECTS						

Maximum 30 ECTS are evaluated by pass/fail, and minimum 45 ECTS are evaluated with an external examiner.

The above tables reflect that there is a high degree of freedom of choice in the Master's programme as the students can choose between three specialications of 120 ECTS.

The tables also show that several modules are dealing with theory of science issues.

As part of the 1<sup>st</sup> semester, international students and students with another background are required to follow an Introduction to Problem-based Learning and the Integrated Design Process (IDP) (5 ETCS).<sup>1</sup>

### Urban Design

	COURSE PROCESS 5 ECTS	COURSE TECHNIQUE 5 ECTS	COURSE FORM 5 ECTS	PROJECT PROJECT 10/25 ECTS
1	Performative architecture and instant urbanism	From Form to Flow Intelligent technologies of the network city	Theories of the Network City	Designing Urban Mobility*
2	Site Morphology	Sustainable Techniques and Strategies	Designing the Experience City	Designing for Urban transformation
3	Research Methodology and Paper writing in Architecture, Design and Planning	Urban Design Miniconference	Theories of Scandinavian Urban Design Strategies	Scandinavian Urban Design Strategies
4	Master thesis			

\*International students and other students with another background, a course in problem based learning is required (5 ECTS)

# Architecture

	COURSE PROCESS 5 ECTS	COURSE TECHNIQUE 5 ECTS	PROJECT PROJECT 15/25 ECTS
	Studies and Experimentation in Tectonic Culture	Engineering architecture and Tectonic Design	Tectonic Design & Nordic Architecture*
2	Architectural Concepts in integrated design	Architectural zero energy concepts	Sustainable Architecture
3	Transfer of knowledge from Architectural research to praxis	Architectural related research	Architectural Research & Development
4	Master thesis		

\*International students and other students with another background, a course in problem based learning is required (5 ECTS)

## **Industrial Design**

	COURSE PROCESS 5 ECTS	COURSE TECHNIQUE 5 ECTS	COURSE FORM 5 ECTS	PROJECT PROJECT 10/15/25 ECTS	
SEMESTER	Designing the Value	Constructing the Detail	Production & Economy	Scandinavian Design*	
2 <sup>semester</sup>	Strategic Design & Entrepreneurship	Designing for sustainability	Futures, Technology & Form	Advanced Integrated Design	
3	Researching Design	Global perspectives	Design Engineering; Value, Meth	od and Approach	
4	Master thesis				

\*International students and other students with another background, a course in problem based learning is required (5 ECTS)

<sup>&</sup>lt;sup>1</sup> Please refer to the description of the 1<sup>st</sup> semesters for a description of this course module.

Descriptions of modules

# Master in Urban Design 1<sup>st</sup> to 4<sup>th</sup> semester

Master in Urban Design 1<sup>st</sup> semester

Title:	Designing Urban Mobility (10 ECTS) Design af urban mobilitet
Prerequisites:	A BSc degree (Bachelor) in Architecture and Design or similar
Objective:	The objective is to strengthen the students ability to functional and aesthetic urban design in the contemporary network city covering a range from urban mobility systems (e.g. metros and subways) and their relation to the city to urban spaces and their linkages to the transit network or large scale urban architecture and transit terminals and their function as urban flow spaces.
	Students who complete the module:
	<ul> <li>Knowledge</li> <li>Must develop knowledge of the importance of contemporary transit systems to the functionality of cities</li> <li>Must be able to understand the technical and societal factors shaping and forming the contemporary urban transit system</li> <li>Skills</li> <li>Must be able to apply the theories and methods relevant to the design and development of urban transit and mobility</li> </ul>
	<ul> <li>Must be able to evaluate the solutions presented in the field and assess their values seen in the light of urban design theories, methods and reference projects</li> </ul>
	<ul> <li>Competencies</li> <li>Must have competencies to create design proposals and concepts for urban mobility and assess their implementation effects</li> </ul>
Type of instruction:	In this module the type of instruction is project (studio) with supervision and interactive dialogue.
Exam format:	Version $P^2$ .

<sup>&</sup>lt;sup>2</sup> Please refer to Enclosure A for a description of the various exam formats.

Title:Introduction to Problem-based Learning and the Integrated Design Process<br/>(IDP) 5 ECTS<br/>Introduktion til problembaseret læring samt den integrerede designproces

(IDP)

Prerequisites: A BSc degree (Bachelor) in Architecture and Design or similar

Objective: The aim of the course is to enable students to gain a practical and theoretical understanding of project work using the problem-based learning approach (PBL) as well as of the method used in the specialization "architectural design", viz. the integrated design process (IDP) in which strategically chosen parameters from engineering are integrated throughout the entire architectural design process.

Students who complete the module:

Knowledge

- Must have knowledge and understanding of project-organized problembased learning.
- Must have knowledge of the integrated design process (IDP).
- Must have knowledge of group work and ways to solve conflicts.
- Must have knowledge and understanding of the planning and structuring of project documentation.

Skills

- Must be able to apply problem-based learning methods and use an integrated design process in relation to an architectural project.
- Must be able to work in a group.
- Must be able to evaluate collective working processes.

Competencies

- Must be able to apply project-organized learning techniques to actual problems related to working in a group.
- Must be able to apply the integrated design process in project work.
- Type of instruction: Lectures, supplemented by project work, workshops and presentation seminars.

Exam format: Version V.

Title:	From Form to Flow – Intelligent technologies of the Network City (5 ECTS) Fra form til flow - Intelligente teknologier i Netværksbyen
Prerequisites:	A BSc degree (Bachelor) in Architecture and Design or similar.
Objective:	The objective is to strengthen the students ability to functional and aesthetic urban design based on mobility and flows in the contemporary network city applying a wide field of new information technologies such as interactive media, mediated surface design, mobility tracking technologies (GPS/ RFID), mobile and digital networks, ICT software for urban flow simulation and design, mobile robotics and intelligent cybernetics systems design.
	Students who complete the module:
	<ul> <li>Knowledge</li> <li>Must have knowledge about contemporary information technologies and their practical design and implementation in the contemporary network city</li> <li>Must be able to understand the technical and societal potentials in applying intelligent technologies in urban design</li> </ul>
	<ul> <li>Skills</li> <li>Must be able to create design proposals and experiments applying new information technologies and software to mobility and flows in urban design of the network city</li> <li>Must be able to evaluate the solutions presented in the field and assess their values seen in the light of intelligent technologies</li> </ul>
	<ul> <li>Competencies</li> <li>Must have competencies to create design proposals and concepts for urban mobility/flow and assess their implementation effects</li> </ul>
Type of instruction: Lectures supplemented with seminars, study circles and workshops.	
Exam format:	Version V.
Evaluation criteria:	As stated in the Framework Provisions.

Title:	<b>Theories of the Network City (5 ECTS)</b> Teorier om Netværksbyen
Prerequisites:	A BSc degree (Bachelor) in Architecture and Design or similar
Objective:	The objective is to strengthen the students' ability to comprehend and understand the technical and societal factors shaping contemporary network cities by introducing state-of-the-art scientific theories relating to the development of the network city within the fields of urban theory, mobility theory, network theory and related theoretical fields.
	Students who complete the module:
	<ul> <li>Knowledge</li> <li>Must have knowledge about the social and technical forces shaping the network city</li> <li>Must be able to understand the basic factors behind the creation of the network city</li> </ul>
	<ul> <li>Skills</li> <li>Must be able to apply the relevant scientific theories and methods related to an analysis of the network city</li> <li>Must be able to evaluate proposals for intervention and design of the network city in light of state-of-the-art theories</li> </ul>
	<ul> <li>Competencies</li> <li>Must acquire competencies in analyzing the network city on a theoretical and methodologically reflective level</li> </ul>
Type of instruction:	Lectures supplemented with seminars, study circles and workshops.

Exam format: Version Ld.

Title:	<b>Performative Architecture and Instant Urbanism (5 ECTS)</b> Performativ arkitektur og instant urbanisme
Prerequisites:	A BSc degree (Bachelor) in Architecture and Design or similar
Objective:	The module presents theories on performative architecture, instant urbanism and city life. Students will work with methods for the analysis of event scapes, performative architecture and urban space design in a cross- disciplinary way. The module will also present different approaches to the re-design of present projects.
	Students who complete the module:
	<ul> <li>Knowledge:</li> <li>The student must have knowledge about theories on Performative Architecture and Instant Urbanism and from the 20<sup>th</sup> and 21<sup>st</sup> century</li> <li>The student must be able to understand the relationship between event design, city life and the use of urban scenography</li> </ul>
	<ul> <li>Skills:</li> <li>The student must be able to apply theories and analytical methods in small case stories</li> </ul>
	<ul> <li>Competencies:</li> <li>The student must be able to evaluate the quality of the design and the obtained city life in selected cases</li> <li>The student must be able to qualify the analytical results in new or supplementary design concepts.</li> <li>The student must be able to communicate results and concepts in a professional way equivalent to architectural and urban design practice.</li> </ul>
Type of instruction:	Lectures, assignments and individual essay writing.
Exam format:	Version Ld.
Evaluation criteria:	As stated in the Framework Provisions.

Master in Urban Design 2<sup>nd</sup> semester

Title:	<b>Designing for Urban Transformation (15 ECTS)</b> <i>Design af byens transformation</i>
Prerequisites:	A BSc degree (Bachelor) in Architecture and Design or similar
Objective:	The module addresses the complex and multi-layered fabric of contemporary cities in transformation. Emphasis is on the role of urban design in the transformation process from the functional planned city to more experience based urban design strategies. The objective is to strengthen the student's ability to aesthetic and experience design covering a range of larger city-projects involving living & working, culture, leisure, play, learning and their relation to physical urban redesign of sites and areas of the city, to urban space design; city life; performative architecture and urban scenography from an involving social approach.
	Students who complete the module:
	<ul> <li>Knowledge:</li> <li>Must be able to handle cross-disciplinary problems with a view to propounding development strategies for an experience based urban transformation and have knowledge about urban transformation in the contemporary city, especially in the Northern European context</li> </ul>
	<ul> <li>Skills:</li> <li>Must be able to present design proposals professionally – including drawings, physical model and electronic presentations equivalent to architectural and urban design practice</li> <li>Must be able to relate urban design practice to theories and methods and to understand and analyze complex urban projects and environments and be able to develop design proposals at a chosen scale– being able to elaborate proposals that include performative architecture, urban design, and landscape design</li> </ul>
	<ul> <li>Competencies:</li> <li>Must have the ability to carry out design proposals for concrete urban design of aesthetic, performative and social quality</li> <li>Must have the ability to develop projects designing in different scales and dealing with programming and planning</li> </ul>
Type of instruction:	Design studio, workshop and design project in groups.
Exam format:	Version C.

# Title:Designing the Experience City (5 ECTS)Design af oplevelsesbyen

### Prerequisites: A BSc degree (Bachelor) in Architecture and Design or similar

Objective: The module is focusing on cultural grafting of neighbourhoods and city centres. The emphasis is on the role of cultural planning and hybrid cultural projects in this context and their ability to create a diverse and performative urban environments and architecture. It presents theories on hybrid concepts and cultural based transformation strategies. It focuses on designs, which are linking experience with learning including sensual experiences, bodily learning and intellectual cognition. Students will work with theories and methods in a cross-disciplinary way. The module will also present different approaches to the re-design of present projects.

Students who complete the module:

Knowledge:

- The student must have knowledge about theories on experience economy and different discourses for a cultural based urban transformation
- The student must be able to understand the relationship between different discourses and the impact on urban transformation strategies and design

Skills:

- The student must be able to apply theories and analytical methods in small case stories on different transformation strategies and urban designs
- The student must be able to qualify the analytical results in new concepts and design proposals

Competencies:

The student must be able to communicate results and concepts in a professional way equivalent to architectural and urban design practice

Type of instruction: Lectures, seminar, excursion and assignment in groups.

Exam format: Version Ld.

Title: Sustainable Techniques and Strategies (5 ECTS) Bæredygtige teknikker og strategier Prerequisites: A BSc degree (Bachelor) in Architecture and Design or similar Objective: The intention of the course is to give the students a theoretical background in various facets of urban ecology, and to foster the development of sustainable urban design principles and strategies. In addition to this, the course will provide practical knowledge and skills in the development of design guidelines for implementing sustainable communities. The main goal is to gain knowledge and understanding of the design challenges involved in creating a more ecologically based city, which considers natural and built elements in the design process. Students who complete the module: Knowledge Must have knowledge of social and ecological principles, techniques and strategies as they relate to the design and understanding of the built environment Must have knowledge of strategic interventions and designs which can optimise existing built and natural conditions Skills Must be able to apply theories relating to sustainable techniques and strategies in a design context Must be able to understand and analyse the complexity of the built urban environment and work with this as a socially and environmentally sustainable entity Competencies Must have the ability to create proposals for concrete urban designs with a substantial aesthetic and environmental quality Must have the ability to develop projects designing in different scales and dealing with social and environmental factors Type of instruction: The course is structured around a project executed in groups, and facilitated through a series of lectures, design workshops and pin-up sessions. Exam format: Version V.

### Title: Site Morphology (5 ECTS) Stedets morfologi

Prerequisites: A BSc degree (Bachelor) in Architecture and Design or similar.

Objective: This module activates theories such as Landscape Urbanism and Landscape Architecture, site mapping and design, as well as natural process based urban design, and develops an understanding of the site as a living organism. This course works with the spatial section as a tool for a movement from analysis to diagram to design in an integrated process. A process within which, technique, nature and aesthetics mutually influence each other, and are parts of the same totality.

Students who complete the module:

Knowledge

- Must exhibit knowledge of natural processes and their effect on technical and formal considerations relating to landscape and urban design
- Must be able to understand theories and methods relating to site mapping and design
- Must be able to understand theories and methods relating to Landscape Urbanism and Landscape Architecture

Skills

- Must be able to apply theories and methods relating to the site as a result of natural processes
- Must be able to utilize analytical and methodological tools in the areas of site characteristic, origin and development as catalysts for design proposals
- Must be able to map specific sites, assess influences and draw conclusions that generate form
- Must be able to utilize analogue and digital tools to design spatial models

### Competencies

- Must be able to reflect upon the interdependency and mutual influence that the built and natural environments have on each other
- Must be able to present the movement from analysis to diagram to design as an integrated proposal
- Type of instruction: The course is structured around a series of lectures, group work, design workshops and pin-up sessions.

Exam format: Version La.

Master in Urban Design 3<sup>rd</sup> semester

Title: Scandinavian Urban Design Strategies (15 ECTS) Skandinaviske urban design strategier Prerequisites: A BSc degree (Bachelor) in Architecture and Design or similar Objective: The objective is to give the students a critical and reflective understanding of the urban design strategies and architectural gualities specific to Scandinavian urban design and urban architecture. The student will gain knowledge about the Welfare City and the Scandinavian tradition in city planning and design with a perspective of best practice as well as a critical understanding of its challenges. The module will focus on empirical cases of urban renewal, architectural policies, urban space design, and participatory design processes as specific elements of Scandinavian Urban Design Strategies. Students who complete the module: Knowledge Must have knowledge about the urban design strategies and architectural qualities specific to Scandinavian urban design and urban architecture Must be able to understand the Welfare City and the Scandinavian • tradition in city planning and design Skills Must be able to apply the methods of urban renewal, architectural policies, urban space design, and participatory design processes to a specific urban design strategy proposal Must be able to evaluate the quality of urban design strategies and their • potential influences the actual urban transformation Competencies Must have competencies to create a urban design strategy proposal and assess its potential implementation effects Type of instruction: Project (studio) with supervision, workshops, seminars and interactive dialogue.

Exam format: Version P.

# Title:Theories of Scandinavian Urban Design Strategies (5 ECTS)Teorier om skandinavisk urban design strategier

Prerequisites: A BSc degree (Bachelor) in Architecture and Design or similar.

Objective: The objective is to give the students a critical and reflective understanding of the theories behind urban design strategies and architectural qualities specific to Scandinavian urban design and urban architecture. The module will focus on the theories and methods behind issues such as urban renewal, architectural policies, urban space design, and participatory design processes as specific elements of Scandinavian Urban Design Strategies.

Students who complete the module:

Knowledge

- Must have knowledge about theories of city planning, urban design and architecture specific to the Scandinavian field
- Must be able to understand the societal factors behind the making of the Welfare City and Scandinavian Urban Design Strategies

Skills

 Must be able to apply the relevant scientific theories and methods related to Scandinavian Urban Design Strategies

Competencies

• Must acquire competencies in analyzing Scandinavian Urban Design Strategies at a theoretical and methodologically reflective level

Type of instruction: Lectures supplemented with seminars, study circles and workshops

Exam format: Version Ld.

Title:	Urban Design mini-conference (5 ECTS) Urban design mini-konference
Prerequisites:	A BSc degree (Bachelor) in Architecture and Design or similar
Objective:	The objective is to strengthen the students understanding of urban design as a field of academic research and exploration by setting up a mini-conference in collaboration with urban design researchers related to an ongoing and topical urban design theme under research in the urban design research environment.
	Students who complete the module:
	<ul> <li>Knowledge</li> <li>Must have knowledge about contemporary academic positions and perceptions of urban design as an academic research field</li> <li>Must be able to understand the theoretical and methodological differences within the practices of contemporary urban design</li> </ul>

### Skills

Must be able to apply knowledge of urban design as an academic practice • to create a contribution to a mini-conference within a scoped theme and to set-up an conference-like event

Must be able to evaluate their contributions to the academic discussion of • the mini-conference and to reflect upon its placing within a wider context of urban design knowledge

#### Competencies

Must have competencies to create a conference entry within urban design • and to assess its relevance and success in the context of a wider debate

Type of instruction: Lectures supplemented with seminars, study circles, workshops and conference.

Version V. Exam format:

Title: Research methodology and Paper writing in Architecture, Design and Planning (5 ECTS) Forskningsmetode og paperskrivning indenfor arkitektur, design og planlægning Prerequisites: A BSc degree (Bachelor) in Architecture and Design or similar. Objective: The objective is to give the students the necessary skills to participate in the academic and professional practice within the fields of Architecture, Design and Planning (or related areas) as contributing scholars and researchers by training the basic academic skills of paper writing and design of research methodology. Students who complete the module: Knowledge Must have knowledge about the academic production process, the systems of research quality assessments and monitoring governing the field of research and the channels for publication and dissemination of academic knowledge Must be able to understand societal and contextual conditions for a situation of increasing scientification of practice fields Skills Must be able to apply established models for paper writing and methodological reflection to a specific case within architecture, design or planning Must be able to evaluate the paper in relation to established practices and systems of academic research Competencies Must have competencies to write an academic paper and/or a design for research methodology relating to the state-of-the-art of knowledge production within architecture, design or planning

Type of instruction: Lectures supplemented with seminars, study circles and workshops.

Exam format: Version Ld.

Title:	<b>Professional Development (30 ECTS)</b> Projektorienteret forløb (med eller uden virksomhedsophold)
Prerequisites:	A BSc degree (Bachelor) in Architecture and Design or similar.
Objective:	Is to give the students an opportunity to use skills they have acquired during the 1 <sup>st</sup> and 2 <sup>nd</sup> semesters

Students who complete the module:

Knowledge:

• Must have practical, conceptual and professional knowledge of relevance to urban design practice

Skills:

• Must be able to engage with a professional environment in relation to urban design assignments

Competencies:

• Must be able to participate in cross-disciplinary team-works and solving urban design tasks e.g. in an architectural company, planning department or similar

Type of instruction: Internship in practice field. The study board must approve on the content of the project work before the Internship is commenced.

Exam format: Version P.

Master in Urban Design 4<sup>th</sup> semester

Title:	Master's thesis (30 ECTS) Kandidatspeciale
Prerequisites	Have passed the first three semesters in MSc urban design, architecture or similar
Objective:	To give the students ability to make a project as an experimental, empirical, technological/engineering and/or theoretical investigation of one or more central issues within the field of urban design. This happens with reflective incorporation of relevant theories and methods acquired throughout the full master programme in urban design.

Students who complete the module:

Knowledge

- Must have knowledge about relevant theories and methods in relation to the chosen project theme
- Must be able to understand and reflect the theories and methods applied in relation to the practice of urban design profession

#### Skills

- Must be able to analyze, map and apply theories on a high reflective level
- Must be able to make proposals for design, strategies and interventions of relevance to the urban design field

Competencies

- Must have competencies to integrate mapping, analysis and theories into an integrated urban design proposal
- Must have competencies to make strategies, plans and designs into an integrated urban design proposal

Type of instruction: Supervision, workshop, pin-up sessions.

Exam format: Version C.

# Master in Architecture 1<sup>st</sup> to 4<sup>th</sup> semester

Master in Architecture 1<sup>st</sup> semester

# Title:Tectonic Design & Nordic Architecture (15 ECTS)Tektonisk design & nordisk arkitektur

### Prerequisites: A BSc degree (Bachelor) in Architecture and Design or similar

Objective: The aim of the tectonic design approach is to achieve an authenticity of architectural expression by ensuring a continuity and integrity between form and construction. As well as through the emphasis upon materiality and detail during studies of materials.

The study of tectonic design is linked to the underlying theme of Nordic architecture. The emphasis is on a phenomenological understanding, on the relationship between landscape and climate and a concern with place, combined with honesty in the use of materials and simplicity of design as the basis for an authentic Nordic approach to architecture.

Students who complete the module:

### Knowledge

- Must have knowledge and a critical understanding of tectonic theory and methods
- Must have knowledge and a critical understanding of Nordic architecture.
- Must have a well-developed aesthetic and phenomenological understanding of the interplay between form, structure, materials and detail in relation to the integrity of architectural ideas
- Must have knowledge of complex spatial structures, including an understanding of the structural functionality of various construction systems using shells, plates, frames, beams, etc. This must be combined with the ability to understand and competently assess the aesthetic significance of the various systems in connection with the architectural ideas behind a project
- Must have knowledge and an appreciation of the tactile qualities of materials, in combination with practical and technical knowledge of the processing and use of materials. This includes the creative application of materials, structural systems and assembly techniques

### Skills

- Must be able to analyze and design buildings that emphasize the interplay between form, structure, materials and detail in relation to the integrity of an architectural idea
- Must be able to evaluate and analyze the complex functional, architectural, constructive and structural problems connected with building design
- Must be able to synthesize complex room programmes, functional and aesthetic demands, and be able to integrate constructional and tectonic design in a coherent architectonic project solution of substantial quality
- Must be able to apply critical reasoning to the design issues that arise in the course of the project development and to demonstrate independent thinking and informed judgment

Competencies

• Must be able to design a building of high complexity and substantial scale, such as community centers, galleries, museums, terminal buildings, concert halls, theatres or similar

- Must be able to prepare a competition design proposal for a tectonic building of substantial aesthetic, architectural, constructive, structural and functional qualities
- Must be able to present the project in a professionally competent way by means of relevant media and techniques
- Type of instruction: Project work with supervision supplemented by instruction, workshops, presentation seminars, etc.
- Exam format: Version P.

 
 Title:
 Introduction to Problem-based Learning and the Integrated Design Process (IDP) 5 ECTS

 Introduktion til problembaseret læring samt den integrerede designproces (IDP)

### Prerequisites: A BSc degree (Bachelor) in Architecture and Design or similar

Objective: The aim of the course is to enable students to gain a practical and theoretical understanding of project work using the problem-based learning approach (PBL) as well as of the method used in the specialication "architectural design", viz. the integrated design process (IDP) in which strategically chosen parameters from engineering are integrated throughout the entire architectural design process.

Students who complete the module:

Knowledge

- Must have knowledge and understanding of project-organized problembased learning.
- Must have knowledge of the integrated design process (IDP).
- Must have knowledge of group work and ways to solve conflicts.
- Must have knowledge and understanding of the planning and structuring of project documentation.

Skills

- Must be able to apply problem-based learning methods and use an integrated design process in relation to an architectural project.
- Must be able to work in a group.
- Must be able to evaluate collective working processes.

Competencies

- Must be able to apply project-organized learning techniques to actual problems related to working in a group.
- Must be able to apply the integrated design process in project work.

Type of instruction: Lectures, supplemented by project work, workshops and presentation seminars.

Exam format: Version V.
Title:	<b>Studies and Experimentation in Tectonic Culture (5 ECTS)</b> <i>Tektoniske studier og eksperimenter</i>
Prerequisites:	A BSc degree (Bachelor) in Architecture and Design or similar
Objective:	The aim of the course is to provide a broad critical introduction to, and understanding of tectonic culture through the presentation and analysis of relevant theories, architectural and cultural movements, combined with physical tectonic studies and experimentation.

Students who complete the module:

Knowledge

• Must have knowledge of design thinking, architectural theory, methods and models that are directly applicable to tectonic design.

Skills

- Must be able to analyze and critically reflect on the application and use of forms, structures and materials in tectonic design.
- Must be able to design and model tectonic constructions.

Competencies

- Must be able to present part of a tectonic design on the basis of sketches, physical models and a critical account of the process
- Type of instruction: Project work with supervision supplemented by instruction, workshops, presentation seminars, etc.
- Exam format: Version La.
- Evaluation criteria: As stated in the Framework Provisions.

Title:	Engineering Architecture and Tectonic Design (5 ECTS) Tektonisk design
Prerequisites:	A BSc degree (Bachelor) in Architecture and Design or similar.
Objective:	The aim of the course is to enable students to acquire the understanding required to develop tectonic designs which respect the overall integrity of an architectural idea, particularly with regard to structural systems and architectural room acoustics. Finite element design is used as a tool for analyzing complex structures and for the dimensioning of structural elements. The student must create a synthesis between aesthetic and constructive form- making using physical, virtual, and calculation modeling techniques.
	Students who complete the module:
	<ul> <li>Knowledge</li> <li>Must have knowledge of computational tools and strategies for analysing large, complex architectural bodies with respect to engineering and constructive principles</li> <li>Must have knowledge of aesthetic and constructive form-making, in a process of physical, virtual, and calculation-modeling techniques, especially with reference to more recent computational design tools and methods</li> </ul>
	<ul> <li>Skills</li> <li>Must be able to use computational tools for analyzing large complex architectural bodies, in order to adapt the design of the project according to the engineering and constructional implications and requirements</li> <li>Must be able to use computational tools as an integral part of the creative, form-generating process by applying such design tools in the conceptual design phase of architectural proposals</li> </ul>
	<ul> <li>Competencies</li> <li>Must be able to create a synthesis of aesthetic and constructive form- making using physical and virtual modeling techniques</li> <li>Must be able to present a design development that explores the potentials and limitations of computer-based form generation in the architectural design process</li> </ul>
Type of instruction:	Project work with supervision, supplemented by instruction, workshops, and presentation seminars.
Exam format:	Version V.

Master in Architecture 2<sup>nd</sup> semester

#### Title: Sustainable Architecture (20 ECTS)

Bæredygtig arkitektur

Prerequisites: A BSc degree (Bachelor) in Architecture and Design or similar.

The aim of this project is to develop architectural concepts for zero-energy Objective: architecture using advanced integrated design process methodology. Aesthetic, spatial, social, functional, logistical as well as technical problems must be solved in the integrated building design while at the same time focus must be on the creative element in the design process.

Students who complete the module:

#### Knowledge

- Must have knowledge of the advanced use of the integrated design process
- Must have knowledge of different strategies in the field of sustainable architecture
- Must have knowledge of passive energy technologies in relation to the indoor environment
- Must be able to understand the interplay between micro-climate and buildings

#### Skills

- Must be able to elaborate their building design through the advanced use of the integrated design process
- Must be able to model and design zero-energy buildings with sustainable architectural gualities
- Must be able to devise solutions which tackle societal, technical and environmental problems
- Must be able to identify and target their design to the defined user group and their demands and well-being in the building
- Must be able to integrate in their design solutions technical solutions in relation to energy and climate
- Must be able to evaluate their technical solutions for the building
- Must have the ability to select materials and systems for their design to achieve coherent three-dimensional designs
- Must be able to choose, implement and combine strategies in their design solution for the use of passive as well as active energy technologies

#### Competencies

- Must be able to develop an integrated design solution that fulfils all predefined architectural qualities and technical design criteria and target values
- Must be able to design a building of consistent functionality in relation to a specific client or user group and their demands
- Must be able to use design solutions for passive energy technologies
- Must be able to synthesize with regard to aesthetics, the user's spatial needs and social aspects, functionality as well as the technical performance of the building
- Must be able to evaluate the developed architectural zero-energy concept in relation to the energy performance of the building

- Must be able to employ proper terminology in oral, written and graphical communication and documentation of problems and solutions in the integrated design of buildings and building services
- Must be able to communicate the results of the project work in a project report, architectural drawings and models and 3D- renderings
- Must be able to contribute successfully to teamwork within the problem area and the group's presentation of the project work

Type of instruction: Project work with supervision supplemented by workshops, short study trips, short sketching exercises, presentation seminars, etc.

Exam format: Version C.

Title:	Architectural Concepts in Integrated Design (5 ECTS) Arkitekturkoncepter i integreret design
Prerequisites:	A BSc degree (Bachelor) in Architecture and Design or similar.
Objective:	The aim of the course is to enable the student to acquire knowledge of architectural zero-energy concepts and become skilled in analysing and comparing such approaches with regard to user needs.
	Students who complete the module:
	<ul> <li>Knowledge</li> <li>Must have knowledge of different approaches to sustainable architecture, green architecture, bioclimatic architecture, environmental sustainable architecture, etc.</li> <li>Must have knowledge of different architectural low energy and zero-energy concepts and the importance of user-related behaviour</li> <li>Must understand differences between the integrated design process and the traditional design process</li> <li>Must be knowledgeable about urban greenery</li> </ul> Skills <ul> <li>Must be able to choose between the different approaches to sustainable architecture.</li> <li>Must be able to use the terminology in the field of sustainable architecture.</li> </ul>
	<ul> <li>Architecture.</li> <li>Must be able to understand the Danish and/or Nordic approach to design of good architecture in relation to climate and society.</li> <li>Must be able to integrate the aesthetic, spatial, social, functional and logistic needs of a specific client and/or user group in the approach to the design of sustainable buildings</li> <li>Must be able to compare different design solutions in concepts for sustainable architecture</li> <li>Must be able to analyze and evaluate different strategies to design sustainable architecture and zero-energy buildings</li> </ul>
	<ul> <li>Competencies</li> <li>Must be able to evaluate different approaches to zero-energy concepts</li> <li>Must be able to analyze a building concept with regard to architectural qualities and the technical elements in the building</li> <li>Must be able to evaluate different concepts with regard to their qualities in relation to the people who live or work in the buildings</li> </ul>
Type of instruction:	Lectures, supplemented by project work, workshops, presentation seminars and laboratory tests.
Exam format:	Version V.
Evaluation criteria:	As stated in the Framework Provisions.

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## Title: Architectural Zero-energy Concepts (5 ECTS)

Arkitektoniske nul-energikoncepter

#### Prerequisites: A BSc degree (Bachelor) in Architecture and Design or similar.

Objective: The aim of the course is to enable students to acquire knowledge of architectural and passive and active energy technologies; of methods for their implementation; and skills in applying such methods to the design of a complex building project.

Students who complete the module:

#### Knowledge

- Must have knowledge of the political strategy at national as well as a international level for saving energy in the building sector
- Must have knowledge of sustainable site planning
- Must have knowledge of integrated architectural zero-energy building concepts
- Must have knowledge of intelligent and dynamic climate shields
- Must have knowledge of methods for energy efficient building design
- Must have knowledge of passive and active energy technologies
- Must be able to understand the interplay between microclimate and buildings
- Must be able to describe the calculation methods related to air flow and pressure distribution around buildings, including the wind and buoyancy driven forces

#### Skills

- Must understand what challenges are related to the design of an architectural zero-energy concept
- Must be able to apply indoor climate systems and technologies
- Must be able to apply and combine architecture and engineering parameters in the design development of zero-energy buildings
- Must be able to apply advanced methods to the analysis of the interplay between building design, building use and outdoor climate
- Must be able to evaluate building energy performance according to international benchmarks
- Must be able to simulate and analyze the airflow of a single zone and a multi-zone building

#### Competencies

- Must be able to discuss and reflect on calculated results in order to choose the right strategy for a building design which takes the comfort of the users into account
- Must be able to use a professional and interdisciplinary approach to the design of integrated buildings and sustainable architectural energy concepts
- Must be able to discuss and reflect on potentials and limitations in integrated building energy design
- Must be able to choose proper modelling of single zone and multi-zone buildings and discuss inherent model limitations

Type of instruction: Lectures, supplemented by project work, workshops, presentation seminars and laboratory tests.

Exam format: Version La.

Master in Architecture 3rd semester

#### Title: Architectural Research & Development (20 ECTS)

Arkitektonisk forskning og udvikling

#### Prerequisites: A BSc degree (Bachelor) in Architecture and Design or similar.

Objective: To enable students to use the latest research as their starting point to apply and integrate it in their architectural designs. To enable students to anchor their design decisions based on research or concrete experience throughout the design process. Furthermore, the project design must document architectural and technical knowledge, e.g. in hospitals or nursing homes. Keywords: Sustainable architecture, tectonic design, adaption of human behavior, well-being and health.

Students who complete the module:

#### Knowledge

- Must have knowledge of practice within the chosen field related to architecture
- Must have knowledge of the theory used or the methodologies within the chosen field
- Must have knowledge of the available methodologies
- · Must understand and reflect upon projects related to practice

#### Skills

- · Must have the ability to select research knowledge in the chosen field
- Must have the ability to evaluate and select between the sampled research of relevance to their project
- Must have the ability to chose and apply relevant research methodologies
- Must be able to select an appropriate research method for the chosen problem area to be examined within the given timeframe or time available
- Must be able to apply relevant research methods as well as praxis-oriented methods
- Must have the ability to discuss the sampled research knowledge and methods

Competencies:

- Must be able to seek out current research for a theoretical or concrete project of their choice
- Must be able to communicate the sampled knowledge and methods
- Must understand the use of methods related to their integrated project desian
- Must be able to integrate relevant research into a practical architectural design project or a theoretical design project related to architecture
- Must have the ability to integrate the chosen research-based knowledge and create a synthesis of it in their theoretical project or their design project
- Must be able to communicate project ideas and results in a report and/ or in an architectural project

Type of instruction: Project work with supervision supplemented by instruction, presentation seminars, etc.

#### Exam format: Version P.

Title:	Architectural Related Research (5 ECTS) Arkitektur relateret forskning
Prerequisites:	A BSc degree (Bachelor) in Architecture and Design or similar.
Objective:	To enable the student to quickly collect, evaluate and systematize research- based knowledge of society-related problems within the field of architecture. The objective is to prepare the student to collect and communicate relevant knowledge as the basis for an architectural programme, tender of architectural contracts, work as consultant for public or private building owners or client or public authorities in general.
	Students who complete the module:
	<ul> <li>Knowledge</li> <li>Must have knowledge of how to formulate a given problem area in clear and consistent objectives</li> <li>Must have knowledge of literature screening, validity and systematizing</li> <li>Must be able to understand principal methods</li> <li>Must have knowledge of how to communicate research-based knowledge</li> <li>Must have the ability to understand and reflect upon the relevance and validity of a given source in relation to the task</li> </ul>
	<ul> <li>Skills</li> <li>Must be able to formulate a given problem area in clear and consistent objectives on the basis of the needs and specification of a building owner or a client</li> <li>Must be able to choose relevant methods of research and literature screening on the basis of an evaluation of the extent of the task and the required standards of the resulting report</li> <li>Must be able to communicate the results in a poster presentation to the end user</li> </ul>
	<ul> <li>Competencies</li> <li>Must be able to fulfill a future public or private clients request for knowledge about a certain topic by seeking out the relevant existing knowledge through literature screening or propose how to produce new relevant knowledge through relevant choice of research methods</li> <li>Must be able to evaluate existing or produced knowledge of a given topic regarding its relevance and validity</li> <li>Must be able to make a summary of a research investigation in a communication format that best suits the end-user</li> </ul>
Type of instruction:	Lectures and courses, supplemented by workshops or seminars.
Exam format:	Version V.

# Title: Transfer of Knowledge from Architectural Research to Practice (5 ECTS) Overførsel af viden fra arkitekturforskning til praksis

Prerequisites: A BSc degree (Bachelor) in Architecture and Design or similar

Objective: To familiarize students with basic methods within the field of architectural research and enable them to acquire basic knowledge in relation to architectural research.

Students who complete the module:

Knowledge:

- Must have knowledge of basic methods within the field of architectural research
- Must have basic knowledge of the theory of science
- Must understand the relevance of applying different methods in different contexts and be able to reflect on the validity and relevance of the data and results produced through the application of various methodologies

Skills:

- Must be able to apply basic methods within the field of architectural research
- Must be able to evaluate and chose relevant methods in a given research context by applying knowledge of the individual methods
- Must be able to communicate results for practical use
- Must be able to evaluate the results, relevance and quality of the chosen architectural research
- Must be able to communicate relevant aspects of scientific and professional knowledge both to specialists and laymen in a clear and systematic way
- Must be able to communicate relevant knowledge clearly and systematically in a short report to the client or owner of the building

Competencies:

- Must be able to choose methods for basic architectural research and evaluate the results of architectural research
- Must be able to communicate the results of architectural research for practical use

Type of instruction: Lectures supplemented by workshops.

Exam format: Version Ld.

Title:	<b>Professional Development (30 ECTS)</b> Projektorienteret forløb (med eller uden virksomhedsophold)
Prerequisites:	A BSc degree (Bachelor) in Architecture and Design or similar.
Objective:	Is to to give the students an opportunity to use skills they have acquired during the $1^{st}$ and $2^{nd}$ semesters.
	Students who complete the module:
	<ul> <li>Knowledge:</li> <li>Must have practical, conceptual and professional knowledge of relevance to architectural design practice</li> </ul>
	<ul> <li>Skills:</li> <li>Must be able to engage with a professional environment in relation to Architectural / Engineering design assignments</li> </ul>
	<ul> <li>Competencies:</li> <li>Must be able to participate in cross-disciplinary team-works and solving architectural design tasks e.g. in an architectural company, planning department or similar</li> </ul>
Type of instruction:	Internship in practice field. The study board must approve on the content of the project work before the Internship is commenced.
Exam format:	Version P.
Evaluation criteria:	As stated in the Framework Provisions.

Master in Architecture 4<sup>th</sup> semester

Title:	Master's Thesis (30 ECTS) Kandidatspeciale
Prerequisites	Have passed the first three semesters in MSc urban design, architecture or similar.
Objective:	The final semester sets the stage for a manifestation of the student's abilities in designing good architecture. The student must define a problem and display the ability to achieve a combination of architectural design and technical solutions in an integrated whole. The work must include relevant theories and methodologies and be based on the skills and competencies acquired throughout the Master's programme in architecture.
	Students who complete the module:
	<ul> <li>Knowledge</li> <li>Must demonstrate that their knowledge and understanding within the field of specialization is at a high international level</li> <li>Must be able to critically assess knowledge and identify problems within the field of specialization</li> <li>Must demonstrate the ability to select appropriate research-based knowledge in the design process</li> </ul>
	Skills
	<ul> <li>Must demonstrate the ability to create an integrated design independently</li> <li>Must be able to independently motivate their choice of methods or/and theoretical approach</li> <li>Must demonstrate the ability to design a sustainable building with both architectural and technical qualities</li> <li>Must be able to carry through design processes in which regard to aesthetics and the user's spatial, social, functional needs are taken into account in a solution that meets the technical requirements for the building</li> <li>Must be able to implement and integrate tectonic, constructive and climate technical solutions for low energy consumption in the designs</li> <li>Must be able to apply a range of methods within the field of architecture and demonstrate control of selected parameters in engineering within the field of specialization</li> <li>Must be able to communicate in a clear and systematic way relevant scientific and professional aspects of the project work both to specialists and the public</li> <li>Must be able to present the results of the project work in a project report with architectural drawings and models in 3D renderings</li> </ul>
	<ul> <li>Competencies</li> <li>Must be able to develop a project based on a specific problem within the field of specialization, independently and to the highest national and international standards</li> <li>Must be competent in developing a design solution for a building with a consist functionality in relation to a specific client or user group and their demands. The work can draw on literature that has not been presented in the set courses</li> </ul>

	<ul> <li>Must be competent in finding an integrated design solution that fulfils all predefined criteria and target values regarding the architectural quality and technical design</li> <li>Must be competent in applying design solutions for passive energy technologies such as passive cooling, natural ventilation, passive solar systems and daylight and in calculating the energy performance of the building</li> <li>Must be able to anticipate and solve problems and make a synthesis in the design, which takes care of the aesthetics, spatial and social aspects, user's needs, functionality as well as the technical performance of the building</li> <li>Must be able to present the results of the project work in a project report, architectural drawings, physical models and 3D renderings</li> </ul>
Type of instruction:	Project work with supervision, presentation seminars, etc.
Exam format:	Version C.
Evaluation criteria:	As stated in the Framework Provisions.

## Master in Industrial Design 1<sup>st</sup> to 4<sup>th</sup> semester

Master in Industrial Design 1<sup>st</sup> semester

Title:	<b>Designing the Value (5 ECTS)</b> <i>Design af værdien</i>
Prerequisites:	A BSc degree (Bachelor) in Architecture and Design or similar.
Objective:	The aim is to familiarise students working professionally in the Scandinavian context with the theories, tools and methods required for the pre-product development phase in which the focus is on what to design and why in terms of specifying both product and target group.
	Students who complete the module:
	<ul> <li>Knowledge</li> <li>Must have knowledge of the history and culture of Scandinavian design</li> <li>Must understand, and be able to describe and explain a range of user- oriented methods, which are applied to establish the basis of projects and to verify and test assumptions made during the design process</li> <li>Must understand and be able to explain ways of segmenting and profiling users from both user-centred design and marketing perspectives</li> </ul>
	<ul> <li>Must be able to account for the type of knowledge created by using various user- and market-oriented research methods</li> <li>Must have extensive knowledge of the design process and be able to explain the various approaches and phases of the design process</li> <li>Must have knowledge of how to define the value base and business proposition of a given design concept</li> </ul>
	<ul> <li>Skills</li> <li>Must be able to apply user and market research and segmentation methods to establish specifications and success criteria</li> <li>Must be able to describe product specifications, practical and theoretical market positioning and presentation as part of the branding and communication of the product</li> <li>Must be able to rapidly conceptualise and roughly sketch a product on the basis of a set of defined values, including the principles which lie behind its aesthetic expression, use and construction</li> </ul>
	<ul> <li>Competencies</li> <li>Must have the ability to select and apply appropriate user-centred design and market research methods depending on the type of knowledge required for the design of a product</li> <li>Must be able to define a clear value basis and business case for a product to be developed, and to position and present the product accordingly</li> </ul>
Type of instruction:	See general description of the types of instruction described in the introduction to Chapter 3.
Exam format:	Version Ld.

Title:	<b>Constructing the Detail (5 ECTS)</b> Konstruktion af detaljen
Prerequisites:	A BSc degree (Bachelor) in Architecture and Design or similar.
Objective:	The aim is to enable students to acquire advanced skills in integrating aesthetics, form and construction in the design of products and product elements.
	Students who complete the module:
	<ul> <li>Knowledge</li> <li>Must have knowledge of the main construction and production methods including the use of tools</li> <li>Must have knowledge of theories of semiotics and product semantics.</li> <li>Must be able to understand and explain aesthetics, semiotics and product semantics in relation to a product proposal</li> <li>Must have knowledge of the visual and technical communication required in a product development process</li> </ul>
	<ul> <li>Skills</li> <li>Must be able to communicate form, materials and construction in design proposals using both analogue and digital tools</li> <li>Must be able to design and give form to an object and account for the relation between product semiotics, intended expression and actual construction of a product (or part thereof)</li> <li>Must be able to construct physical models taking into account mechanical and structural issues related to function, durability and production</li> </ul>
	<ul> <li>Competencies</li> <li>Must be able integrate aspects of aesthetics, form and construction into the detailed design of a product</li> </ul>
Exam format:	Version V.

 
 Title:
 Introduction to Problem-based Learning and the Integrated Design Process (IDP) 5 ECTS

 Introduktion til problembaseret læring samt den integrerede designproces (IDP)

#### Prerequisites: A BSc degree (Bachelor) in Architecture and Design or similar

Objective: The aim of the course is to enable students to gain a practical and theoretical understanding of project work using the problem-based learning approach (PBL) as well as of the method used in the specialization "architectural design", viz. the integrated design process (IDP) in which strategically chosen parameters from engineering are integrated throughout the entire architectural design process.

Students who complete the module:

Knowledge

- Must have knowledge and understanding of project-organized problembased learning.
- Must have knowledge of the integrated design process (IDP).
- Must have knowledge of group work and ways to solve conflicts.
- Must have knowledge and understanding of the planning and structuring of project documentation.

Skills

- Must be able to apply problem-based learning methods and use an integrated design process in relation to an architectural project.
- Must be able to work in a group.
- Must be able to evaluate collective working processes.

Competencies

- Must be able to apply project-organized learning techniques to actual problems related to working in a group.
- Must be able to apply the integrated design process in project work.

Type of instruction: Lectures, supplemented by project work, workshops and presentation seminars.

Exam format: Version V.

## Title: Production and Economy (5 ECTS)

Produktion og økonomi

Prerequisites: A BSc degree (Bachelor) in Architecture and Design or similar.

Objective: The aim is to enable students to acquire a business perspective on design and production so that they are capable of creating a design which demonstrates an understanding of the relationship between markets, production costs, construction and the configurations of products (platforms/families).

Students who complete the module:

#### Knowledge

- Must have basic knowledge of the relationship between prices and features of the materials traditionally used in manufacturing
- Must have knowledge of the cost and effort involved in various ways of constructing, assembling and manufacturing products and product components
- Must be able to demonstrate knowledge of central theories and methods used in product families and product platforms
- Must have knowledge of the theories and methods of project management and of the financial aspects of product development (e.g. budgeting)
- Must have knowledge of basic technology and market scanning tools, basic methods for carrying out trend and competitor analysis and of the market-specific relation between cost of production and retail price point

#### Skills

- Must be able to give a rough estimation of production costs of a given product
- Must be able to decide, argue and explain in detail the relationship between the design of the proposed method of construction, assembly and production and its market potential and price point. And subsequently account for the implications for these of any changes in design

#### Competencies

- Must be able to argue for the relationship between retail price and expected sales (in units) of a given product. And from this specify the maximum acceptable production costs
- Must be able to design and construct a simple product within a given price point using specified materials, production methods/processes and assembly methods

Exam format: Version La.

#### Title: Scandinavian Design (10 ECTS) Skandinavisk design

Prerequisites: A BSc degree (Bachelor) in Architecture and Design or similar.

Objective: The aim of the project is to enable students to work professionally in a design process in collaboration with a client (company) to achieve a professional design proposal in coherence with predefined targets and criteria.

Students who complete the module:

#### Knowledge

- Must be able to explain and argue for the chosen production methods and tools in relation to the manufacturer's market position, culture and capabilities
- Must be able to account for the main experiments, tests, proposals and • evaluations affecting the decision-making in the design process
- Must be able to account for the main critical issues in the design proposal and the appropriate course of action to amend these
- Must be able to account for the scientific validity of test, investigations and other type of data used in the design process

#### Skills

- Must be able to identify relevant research and communicate the product context and target group of a chosen subject
- Must be able to create a design brief stating the objectives of the design proposal
- Must be able to transfer and translate knowledge elicited from the users to visions, specifications and revisions before and during the development process
- Must be able to estimate market potential, retail price point and determine the target cost of production per unit
- Must be able to research, explain and evaluate the main technology used in the product design or manufacturing process in the project
- Must be able to utilise the relevant 2 and 3 dimensional analogue and digital tools to generate design proposals depending on the specific focus at a given time throughout the design process

#### Competencies

- Must be able to generate an innovative product proposal and be able to design and detail central components, estimate market potential and production costs for a given number of units and present them in a manner that enables a client to decide whether or not to go forward with the proposal
- Must be able to design an innovative product that integrates aesthetical considerations with form and functional aspects that appeal to the target group. The student must also be able to ensure that construction and production costs do not exceed the specified price and that the product's appearance, market position and overall presentation are in keeping with the company brand

Type of instruction: Project based module.

Exam format: Version P.

Master in Industrial Design 2<sup>nd</sup> semester

# Title: Strategic Design and Entrepreneurship (5 ECTS) Strategisk design og entreprenørskab

Strategisk design og entreprenørskab

Prerequisites: A BSc degree (Bachelor) in Architecture and Design or similar.

Objective: The aim is to enable students to acquire an understanding of how design can be used strategically and as a tool for creating new business concepts and to enable them to acquire the knowledge and skills necessary for them to engage in these processes.

Students who complete the module:

#### Knowledge

- A basic knowledge and understanding of theories of innovation, business models and strategic design with a specific insight into the designers' role and possibilities within the development of new business areas and their practical application
- Must demonstrate basic knowledge about methods and techniques to identify, verify, make business of and communicate innovation and entrepreneurship
- Must have knowledge of different professional perspectives on innovation and entrepreneurship and be able to choose from these according to a specific theme

#### Skills

- Ability to use design-driven techniques to develop, describe and evaluate business models and a business plan and strategy in relation to products or services
- Must be able to use specific techniques and methods for innovation and entrepreneurship and apply these to problem identification and problem solving
- Must be able to present a cross-disciplinary founded business concept and adapt communication style and content to different stakeholders

#### Competencies

- Ability to use and implement innovation theory as an integrated part of developing ideas and designing concepts, services or product proposals
- Ability to generate a design proposal for a new business and communicate the commercial potential, strategic potential and innovative strength thereof in a simple, clear and strong form
- Ability to scientifically describe and reflect on a complex, crossdisciplinary process involving innovation and entrepreneurship
- Course format: The course will consist of lectures, readings, group and individual exercises including designing a concept and an accompanying business plan.
- Exam format: Version La.
- Evaluation: In order to earn a Pass grade, students must conform not only with the evaluation criteria stated in the Framework Provisions, but also demonstrate the capability to: Develop a concept that combines design-relevant aspects with business potential and clearly explain the commercial aspects of a concept in relation to a business plan and reflect on the concept in relation to innovation theory.

Title:	Designing for Sustainability (5 ECTS) Design for bæredygtighed
Prerequisites:	A BSc degree (Bachelor) in Architecture and Design or similar.
Objective:	The aim of this course is to provide students with a design-oriented, hands-on approach to the broad field of sustainability encompassing social, environmental and economic aspects and the ability to handle these at different levels of radicalism.
	Students who complete the module will gain:
	<ul> <li>Knowledge</li> <li>A basic knowledge and understanding of theories and terminologies regarding environmentally sustainable design at product and systems level</li> <li>An overview and understanding of advanced LCA-oriented methods and of a variety of screening methods used in design and engineering</li> <li>Knowledge of significant projects and methods developed by or for practicing designers or design researchers in relation to holistic and exclamation and engineering</li> </ul>
	<ul> <li>Skills</li> <li>Ability to use holistic design-oriented methods for ideation and concept development</li> <li>Ability to generate design proposals and systematically account for their consequences in relation to sustainability</li> <li>Ability to use eco databases and screening tools to support the evaluation of and the choice of materials and processes for products in relation to environmental issues</li> </ul>
	<ul> <li>Competencies</li> <li>Ability to develop concepts and design solutions proposing a clear incremental or radical improvement of sustainability issues</li> <li>Ability to describe, analyze and communicate the environmental potential of a design proposal from a sustainability- and design-oriented point of view</li> </ul>
Course format:	The course will consist of lectures, readings, group and individual exercises including the design of a concept and the relevant screening.
Exam format:	Version V.
Evaluation criteria:	Besides the evaluation criteria stated in the Framework Provisions, there are additional requirements, namely that students are capable of using tools to support and evaluate from an environmentally sustainable perspective their choices in regard to the goals mentioned.

# Title:Futures, Technology & Form (5 ECTS)Fremtid, teknologi og form

Prerequisites: A BSc degree (Bachelor) in Architecture and Design or similar.

Objective: The aim of this course is to use current issues within the industrial design relevant themes of Form, Future and Technology as "push" drivers for innovation and to develop advanced skills in aesthetics and design.

Students who complete the module will gain:

Knowledge

- Knowledge of perception and cognition of complex and multifaceted form elements in aesthetic composition and design
- Knowledge of a variety of cutting edge technologies and materials and how these technologies can push design and product development in practice and research
- Knowledge of a variety of trend spotting techniques and future research in theory and practice and how these technologies can push design and product development in practice and research

Skills

- Ability to use advanced methods to analyze and create complex and multifaceted form elements in aesthetic composition and design
- Ability to systematically screen and analyze the design potential in new materials and technologies in databases and through sample studies
- Ability to set up or analyze simple trend spotting or future studies in order to define a design potential within a specific market or user segment

Competencies

- Ability to use and integrate different approaches like advanced aesthetics, future studies and technology screening to support the definition and direction of a design brief for a company or organization
- Course format: The course will consist of lectures, readings, group and individual exercises including the development of an extended design brief and product concept for an existing or fictive external collaborative party.

Exam format: Version Ld.

Evaluation criteria: Besides conforming to the evaluation criteria stated in the Framework Provisions, students are additionally required to demonstrate that they are capable of combining a set of basically different aspects and use these to initiate and drive the design process.

## Title: Advanced Integrated Design (15 ECTS)

Avanceret integreret design

Prerequisites: A BSc degree (Bachelor) in Architecture and Design or similar.

Objective: The aim of the project module is to broaden the scope of the design process to using needs, visions and/or current common good problems without a satisfactory solution as the starting point for generating design-driven, network-oriented business concepts.

Students who complete the module will gain:

#### Knowledge

- Hands-on knowledge of problems and possibilities for transforming poorly-defined needs into strategies, concepts and specified product proposals to be produced and distributed in a network business structure
- Must be able to account for the main experiments, tests, proposals and evaluations affecting the decision-making in the design process
- Must be able to account for the main critical issues in the design proposal and the appropriate course of action to amend these
- Must be able to account for the scientific validity of test, investigations and other type of data used in the design process

#### Skills

- Ability to identify and specify design problems and tasks in relation to concrete cultural, social, demographic, technological or environmental themes
- Ability to design a product that reflects actual societal needs
- Ability to develop a business plan for a product proposal and base it on a business collaboration network
- Ability to clearly describe and communicate a concept that is based on actual societal needs and an advanced collaborative business model
- Ability to carry out a rapid design process while maintaining a high degree of awareness on linking user needs to key characteristics for proposed products, business model, plan and market

#### Competencies

- Ability to combine a diversity of analytical and creative tools and methods in an integrated process leading from the identification of opportunities and needs to designing and specifying a product family or product/service and its aesthetic components to be implemented in a network-based business structure.
- Course format: The project consists of readings, field-research and interviews resulting in a group project focusing on the design and construction of a product and its systems and business context.
- Exam format: Version C.
- Evaluation criteria: Besides the evaluation criteria stated in the Framework Provisions, there are additional requirements, namely that students are capable of developing, analyzing, reflecting on and discussing the integration of a holistic design approach with a suitable business structure and plan.

Master in Industrial Design 3rd semester

#### Title: Global perspectives (5 ECTS) Globale perspektiver

- Prerequisites: A BSc degree (Bachelor) in Architecture and Design or similar.
- Objective: The aim of the course is to enable students to acquire an understanding of international design compared with their own role and competencies as designers.

Students who complete the module:

Knowledge

- Must have knowledge of how to collaborate on design-driven innovation across cultures, disciplines, time and/or place
- Must have knowledge of site or context specific cultural aspects or phenomena affecting the design proposal or design process and must be able to account for this effect

Skills:

- Must be able to carry out a design process where either context investigations and tests are impaired by distance/accessibility or the process is challenged by collaboration involving time
- Must be able to design products targeting an international or global market at a design competition level

Competencies

- Must be able to carry out the design of products, services or business proposals in collaboration with partners from other disciplines or designers with a different background
- Must be able to reflect on the strengths and weaknesses of their own competence profile, profession and/or cultural background as compared to other professions/cultures

Exam format: Version V.

# Title:Researching Design (5 ECTS)<br/>Research i designPrerequisites:A BSc degree (Bachelor) in Architecture and Design or similar.

Objective: The aim is to enable students to acquire knowledge of the theories and tools required to carry out basic scientific reasoning on subjects within the field of industrial design.

Students who complete the module:

#### Knowledge

- Must be able to identify, define and analyse a central theoretical or methodological problem within the broad field of industrial design
- Must have knowledge of the main approaches to research and be able to account for the relevance of various philosophies and theories of science in relation to problems and methods within the design field

#### Skills

- Must be able to identify and frame a problem/question within the design field, and subsequently choose an appropriate theoretical perspective from which to analyse the problem in question
- Must be able to carry out literature screening within the chosen subject
- Must be able to communicate a problem, theory and/or method within the field of design both the format used in the professional research world and in a colloquial, figurative manner

#### Competencies

 Must be able to evaluate existing or produced knowledge of a given topic regarding its relevance and validity

Exam format: Version Ld.

# Title:Design Engineering; Value, Method and Approach (20 ECTS)Værdi, metode og tilgang i design

Prerequisites: A BSc degree (Bachelor) in Architecture and Design or similar.

Objective: The project aims at providing opportunities for the students to explore and gain knowledge of a subject of their own choice within the field of industrial design engineering while acquiring competencies in the rigorous structuring and communication of their knowledge production.

Students who complete the module:

#### Knowledge

- Must be able to identify, define and frame a relevant subject for investigation and research within the field of industrial design engineering
- Must be able to account for relevant theoretical positions and related methodologies pertaining to the chosen subject
- Must have knowledge of practice within the chosen field related to industrial design engineering
- Must have knowledge of theories used or the methodologies within the chosen subject
- Must be able to reflect on the test results in relation to the field and activities of the profession e.g. international professional standards

Skills

- Must be able to evaluate and assess the research problem in relation to their completed investigations and/or experiments and use this as a basis for synthesising proposals for guality designs
- Must be able to frame the research problem taking into account the interdependency between type of knowledge wanted, the possible methods of investigation and type of data produced
- Must be able to communicate results or partial results of the project work in a manner that is on a par with professional research reporting

#### Competencies

 Must be able to plan and carry out research of a chosen subject and have the capacity to describe the chosen problem in a theoretical and methodological framework as well as to draw conclusions on the basis of own analysis of the results

Exam format: Version P.

Title:	<b>Professional Development (30 ECTS)</b> Projektorienteret forløb (med eller uden virksomhedsophold)
Prerequisites:	A BSc degree (Bachelor) in Architecture and Design or similar.
Objective:	Is to give the students an opportunity to use skills they have acquired during the 1 <sup>st</sup> and 2 <sup>nd</sup> semesters.

Students who complete the module:

#### Knowledge

• Must have practical, conceptual and professional knowledge of relevance to industrial design practice

Skills

• Must be able to engage with a professional environment in relation to industrial design assignments

Competencies

• Must be able to participate in cross-disciplinary team-works and solving industrial design tasks e.g. in a company, design studio or similar

Type of instruction: Internship in practice field. The study board must approve on the content of the project work before the Internship is commenced.

Exam format: Version P.

Master in Industrial Design 4<sup>th</sup> semester

Title:	Master's thesis (30 ECTS) Kandidatspeciale
Prerequisites	Have passed the first three semesters in MSc urban design, architecture or similar.
Objective:	The aim of this project is to provide students with the opportunity to demonstrate their mastery of key competencies in a self-driven process.
	Students who complete the module:
	<ul> <li>Knowledge</li> <li>Must be able to account for the relevant design related knowledge and identify design relevant problems within the chosen subject</li> <li>Must account for the appropriate research-based knowledge in the design process</li> <li>Must demonstrate a high degree of awareness regarding the main experiments, tests, proposals and evaluations affecting the decision-making in the design process</li> <li>Must demonstrate a high degree of awareness regarding the main critical issues in the design proposal and the appropriate course of action to amend these</li> <li>Must be able to thoroughly account for the scientific validity of test, investigations and other type of data used in the design process</li> </ul>
	<ul> <li>Skills</li> <li>Must demonstrate the ability to independently create design proposals of a high standard, integrating selective aspects</li> <li>Must demonstrate the ability to frame the design assignment using professional tools and methods</li> <li>Must demonstrate the ability to generate a design proposal based on clearly defined values, user needs and/or business plan</li> <li>Must demonstrate the ability to select and use the appropriate method, techniques and tools for analysing problems, users, technologies, constructions, competitors, markets, products, strategies, companies and own design proposals</li> <li>Must demonstrate the ability to select and use the appropriate method, technique and tools for carrying out experiments and synthesising design proposals, including physical form, 2 and 3 dimensional documentation in both analogue and digital form</li> <li>Must demonstrate the ability to navigate a design process, by continuously drive the design process forward by focusing on the most relevant part of the project and delimit the scope accordingly</li> <li>Must demonstrate the ability to communicate design and design proposals in a professional manner</li> </ul>

predefined criteria, target values and cost range

Competencies

- Must achieve a high degree of integration of appropriate aspects of the subject of choice, (design and technical aspects as a minimum), in a coherent proposal for a solution within the broad field of design
- Must be able to plan, conduct, communicate and reflect on processes connected with the design of a subject of their own choice using a wide range of theories, methods and tools

• Must be able to evaluate and perspective the final proposal in relation to its feasibility, market potential and further development

Exam format: Version C.

### Chapter 4: Entry into Force, Interim Provisions and Revision

The curriculum is approved by the Dean of the Faculty of Engineering and Science and enters into force as of December 2011.

Students who wish to complete their studies under the previous curriculum from 2007 must conclude their education by the summer examination period 2012 at the latest, since examinations under the previous curriculum are not offered after this time.

In accordance with the Framework Provisions and the Handbook on Quality Management for the Faculty of Engineering and Science and The Faculty of Medicine at Aalborg University, the curriculum must be revised no later than 5 years after its entry into force.

#### **Chapter 5: Other Provisions**

#### 5.1 Rules concerning written work, including the Master's thesis

In the assessment of all written work, regardless of the language it is written in, weight is also given to the student's spelling and formulation ability, in addition to the academic content. Orthographic and grammatical correctness as well as stylistic proficiency are taken as a basis for the evaluation of language performance. Language performance must always be included as an independent dimension of the total evaluation. However, no examination can be assessed as 'Pass' on the basis of good language performance alone; similarly, an examination normally cannot be assessed as 'Fail' on the basis of poor language performance alone.

The Board of Studies can grant exemption from this in special cases (e.g., dyslexia or a native language other than Danish).

The Master's thesis must include an English summary.<sup>3</sup> If the project is written in English, the summary must be in Danish.<sup>4</sup> The summary must be at least 1 page and not more than 2 pages. The summary is included in the evaluation of the project as a whole.

# 5.2 Rules concerning credit transfer (merit), including the possibility for choice of modules that are part of another program at a university in Denmark or abroad

In the individual case, the Board of Studies can approve successfully completed (passed) program elements from other Master's programs in lieu of program elements in this program (credit transfer). The Board of Studies can also approve successfully completed (passed) program elements from another Danish program or a program outside of Denmark at the same level in lieu of program elements within this curriculum. Decisions on credit transfer are made by the Board of Studies based on an academic assessment. See the Framework Provisions for the rules on credit transfer.

#### 5.3 Rules for examinations

The rules for examinations are stated in the Examination Policies and Procedures published by the Faculty of Engineering and Science on their website.

#### 5.4 Exemption

In exceptional circumstances, the Board of Studies can grant exemption from those parts of the curriculum that are not stipulated by law or ministerial order. Exemption regarding an examination applies to the immediate examination.

#### 5.5 Completion of the Master's programme

The Master's program must be completed no later than four years after it was begun.

<sup>&</sup>lt;sup>3</sup> Or another foreign language (upon approval from the Board of Studies.

<sup>&</sup>lt;sup>4</sup> The Board of Studies can grant exemption from this.
# 5.6 Rules and requirements for the reading of texts

It is assumed that the student can read academic texts in his or her native language as well as in English and use reference works etc. in other European languages.

## 5.7 Additional information

The current version of the curriculum is published on the Board of Studies' website, including more detailed information about the program, including exams.

## Enclosure A

## A&D – Evaluation formats under BSc and MSc curricula

Evaluation format C – Project module with external examination

The module is assessed by an oral assessment based on written material, typically a jointly prepared (or in exceptional cases, prepared by the individual student) project module report (containing the report/analyses/posters/drawings/models or similar). It is further presumed that the student has regularly and actively participated in evaluation seminars and the like.

The module is assessed with external examination.

The written material for submission is submitted in physical form to the semester secretary.

#### Evaluation format P – Project module with internal assessment

The module is assessed by an oral assessment based on written material, typically a jointly prepared (or in exceptional cases, prepared by the individual student) project module report (containing the report/analyses/posters/drawings/models or similar). It is further presumed that the student has regularly and actively participated in evaluation seminars and the like.

The module is assessed with internal assessment.

# The written material for submission is submitted in physical form to the semester secretary. *Evaluation format L – Course module with internal assessment, oral or written assessment. Below here:*

#### *Evaluation format La – Course module, oral assessment*

The module is assessed with an oral assessment based on written material prepared by the individual student such as a portfolio presentation or a (possibly jointly prepared) project module report (containing the report/analyses/posters/drawings/models or similar). It is further presumed that the student has regularly and actively participated in evaluation seminars.

Oral assessment with aid and without preparation time. The module is assessed by internal assessment.

The written material for submission must be digitally uploaded to the directory assigned by the semester secretary.

#### Evaluation format Lb – Course module, oral assessment

The module is assessed with an oral exam based on the objectives for the course module. The examinee pulls a known and predefined question, after which the assessment begins.

Oral assessment without aid and without preparation time. The module is assessed by internal assessment.

#### Evaluation format Lc – Course module, oral assessment

The module is assessed with an oral exam based on the objectives for the course module. The examinee pulls a question, gets preparation time, after which the assessment begins.

Oral assessment without aid and with preparation time – aid is allowed in the preparation time. The module is assessed by internal assessment.

## **Evaluation format Ld – Course module, written assessment**

The module is assessed with a written assignment based on central parts of the objectives for the course module through one or more written assignments (including reports/analyses/posters/drawings/models or the like).

A written assignment is developed during the execution of the course module. The module is assessed by internal assessment.

The written material for submission must be digitally uploaded to the directory assigned by the

semester secretary.

#### Evaluation format Le – Course module, written assessment

The module is assessed with a written assignment based on central parts of the objectives for the course module.

A written assignment given by the end of the course module and completed within a defined time frame. The module is assessed by internal assessment.

The written material for submission must be digitally uploaded to the directory assigned by the semester secretary.

## Evaluation format V – Course/Project module

The module is passed by the student's regular and active participation in teaching/ evaluation seminars or the like and by compliance of the submission requirements.

The module is assessed by internal assessment.

The written material for submission must be digitally uploaded to the directory assigned by the semester secretary.

In case of re-examination evaluation format V will be superseded by evaluation format La.