AALBORG UNIVERSITET

STUDIEORDNING FOR KANDIDATUDDANNELSEN (CAND.POLYT.) I URBANT DESIGN, 2025

CIVILINGENIØR
AALBORG

MODULER SOM INDGÅR I STUDIEORDNINGEN

INDHOLDSFORTEGNELSE

SUSTAINABLE URBAN TRANSFORMATION WITHIN ENGINEERING

2025/2026

CONTENT, PROGRESS AND PEDAGOGY OF THE MODULE

The module addresses the ongoing transformation of the built urban environment. The focus is on how to continually develop and re-develop the built environment. The aim is to identify problems and potentials in existing built environments and to develop proposals for environmentally and socially responsible urban design strategies and proposals.

Students who complete the module:

LEARNING OBJECTIVES

KNOWLEDGE

- Must have knowledge on environmentally and socially sustainable urban design and the dynamics of the climate and its effects on the built environment from an engineering perspective.
- Must be able to understand the societal and environmental impacts of sustainable urban design and apply research-based insights to identify and critically assess contemporary urban design challenges and solutions.
- Must have knowledge of the fundamental principles of Problem Based Learning (PBL) as implemented in the Aalborg PBL model at the Faculty of IT and design.

SKILLS

- Must master a range of urban design theories, digital and analogue tools and methods in order to develop and present an urban design proposal that integrates engineering techniques and architectural qualities into conceptual urban design.
- Must be able to evaluate and apply sustainable urban design methods and theories as well as digital and analogue tools and engineering knowledge in order to identify site-specific analytical discoveries and urban design proposals.
- Must be able to evaluate and reflect on the societal implications related to engineering techniques and urban design methods and to communicate knowledge of sustainable urban design in written, visual, spatial and verbal form.
- Must be able to structure project management activities based on a well-formulated problem formulation.

COMPETENCES

- Must be able to integrate engineering based technical, spatial, social, environmental and aesthetic aspects to create a sustainable urban design proposal.
- Must be able to discuss and reflect on responsible design processes and implement complex sustainable urban design in a societal context.
- Must be able to reflect on, plan and manage a study project in a PBL learning environment.

TYPE OF INSTRUCTION

Types of instruction are listed in § 17; Structure and contents of the programme.

EXAM

EXAMS

Name of exam	Sustainable Urban Transformation within Engineering
Type of exam	Oral exam based on a project

ECTS	20
Permitted aids	See semester description
Assessment	7-point grading scale
Type of grading	Internal examination
Criteria of assessment	The criteria of assessment are stated in the Examination Policies and Procedures

FACTS ABOUT THE MODULE

Danish title	Bæredygtig urban transformation inden for det ingeniørvidenskabelige område
Module code	AODUPM1P251
Module type	Project
Duration	1 semester
Semester	Autumn
ECTS	20
Language of instruction	English
Location of the lecture	Campus Aalborg
Responsible for the module	Thomas Arvid Jaeger

ORGANISATION

Education owner	Master of Science (MSc) in Engineering (Urban Design)
Study Board	Study Board of Architecture and Design
Department	Department of Architecture, Design and Media Technology
Faculty	The Technical Faculty of IT and Design

CLIMATE AND HYDROLOGY IN URBAN TRANSFORMATION

2025/2026

CONTENT, PROGRESS AND PEDAGOGY OF THE MODULE

The course provides practical knowledge and skills in the development of designs supporting sustainability in the urban built environment. The aim is to gain knowledge and understanding of the design challenges relevant to creating more ecologically based cities considering natural and built elements in the design process. The course will contribute to fostering knowledge and skills about sustainable urban development in a changing built environment. Hereby, the students obtain competencies in engineering solutions to guide the city through a sustainable transformation.

Students who complete the module:

LEARNING OBJECTIVES

KNOWLEDGE

- Must have knowledge of causes, development, and effects of climate change from global to local scale.
- Must have knowledge on aquatic and terrestrial ecology and ecosystems.
- Must have knowledge on techniques for addressing climate adaptation.
- Must have knowledge on urban water management practices.
- Must have knowledge of fundamental hydraulics.

SKILLS

- Must be able to utilise digital and analouge analytical tools and methods concerning sustainable and infrastructural design.
- Must be able to identify and address problems in relation to climate adaption and hydrological issues relevant to the design of the built environment.
- Must be able to assess similarities and differences between rural and urban ecosystems.
- Must be able to assess the impact of the build environment on urban climatology.
- Must be able to measure, quantify, and model urban transformation processes in relation to the built environment.
- Must be able to perform simple hydraulic calculations in respect to urban water issues.

COMPETENCES

- Must have the competence to analyse, plan, and guide the sustainable transformation of a city.
- Must be able to evaluate the quality of urban ‘blue’ and ‘green’ ecosystem structures.
- Must have the competence to develop strategies for urban climate adaption.

TYPE OF INSTRUCTION

Types of instruction are listed in § 17; Structure and contents of the programme.

EXAM

EXAMS

Name of exam	Climate and Hydrology in Urban Transformation
Type of exam	Oral exam
ECTS	5
Permitted aids	See the relevant semester description/course description in Moodle.

Assessment	7-point grading scale
Type of grading	Internal examination
Criteria of assessment	The criteria of assessment are stated in the Examination Policies and Procedures

FACTS ABOUT THE MODULE

Danish title	Klimatekniske aspekter og hydrologi i urbane transformationer
Module code	B-AD-K1-1
Module type	Course
Duration	1 semester
Semester	Autumn
ECTS	5
Language of instruction	English
Location of the lecture	Campus Aalborg
Responsible for the module	Rasmus Lund Jensen

ORGANISATION

Education owner	Master of Science (MSc) in Engineering (Urban Design)
Study Board	Study Board of Built Environment
Department	Department of the Built Environment
Faculty	The Faculty of Engineering and Science

ANALYSING URBAN TRANSFORMATION

2025/2026

CONTENT, PROGRESS AND PEDAGOGY OF THE MODULE

The course focuses on urban design methods and their academic foundations. The continual transformation of the built environment calls for urban design methods to understand, map and critically analyse the contemporary built environment as well as mastering case study analysis. The aim of the course is to train the student's ability to critically read, analyse and map the built environment and to translate this into site-specific urban design proposals.

Students who complete the module:

LEARNING OBJECTIVES

KNOWLEDGE

- Must possess general knowledge of research-based methods in relation to urban design mapping and analysis as well as case study methods.
- Must be able to understand and reflect upon different 2D and 3D analysis methods of the urban design profession.

SKILLS

- Must be able to map and analyse the built environment and identify problems and potentials according to specific urban design methods.
- Must be able to analyse and develop relevant design concepts through case studies.
- Must be able to communicate urban design analysis and concepts visually.

COMPETENCES

- Must be able to synthesize an analysis of a complex urban setting into site-specific urban design concepts and proposals.
- Must critically be able to reflect on the contemporary built environment grounded in the profession's research-based methods.

TYPE OF INSTRUCTION

Types of instruction are listed in § 17; Structure and contents of the programme.

EXAM

EXAMS

Name of exam	Analysing Urban Transformation
Type of exam	Written exam
ECTS	5
Permitted aids	See semester description
Assessment	Passed/Not Passed
Type of grading	Internal examination
Criteria of assessment	The criteria of assessment are stated in the Examination Policies and Procedures

FACTS ABOUT THE MODULE

Danish title	Analyse af urbane transformationer
Module code	AODUM1K233
Module type	Course
Duration	1 semester
Semester	Autumn
ECTS	5
Language of instruction	English
Location of the lecture	Campus Aalborg
Responsible for the module	Thomas Arvid Jaeger

ORGANISATION

Education owner	Master of Science (MSc) in Engineering (Urban Design)
Study Board	Study Board of Architecture and Design
Department	Department of Architecture, Design and Media Technology
Faculty	The Technical Faculty of IT and Design

DESIGN FOR URBAN MOBILITY WITHIN ENGINEERING

2025/2026

RECOMMENDED PREREQUISITE FOR PARTICIPATION IN THE MODULE

The course module adds to integrated design knowledge obtained in 1st semester of the Master's program in Urban Design (cand.polyt.). Therefore, the student is recommended to have knowledge, skills and competencies within the urban design and engineering field corresponding to the completion of the MSc01 level at the Urban Design (cand.polyt.) education.

CONTENT, PROGRESS AND PEDAGOGY OF THE MODULE

The objective is to strengthen the students' ability to (critical-creative) develop urban design for mobilities in the contemporary network city. The module includes integration of architectural, functional, technical and societal factors in relation to the design for urban mobility at specific design sites. Insight into mobility systems, human embodied practices and experiences, safe and efficient traffic, digital analytical tools, and urban life and urban space are interdisciplinary components in the integrated urban design proposal that shall be developed in the module.

Students who complete the module:

LEARNING OBJECTIVES

KNOWLEDGE

- Must demonstrate comprehensive knowledge of the combined architectural, functional, technical and societal factors influencing the urban design of contemporary mobility sites.
- Must be able to understand and based on research reflect on an integrated, advanced approach to urban design of contemporary mobility sites, and thereby be able to identify and discuss key potentials, problems and proposals from an engineering perspective.
- Must be able to understand problem analysis and problem formulation based on experiments, research-based knowledge, and empirical data.

SKILLS

- Must possess proficiency in the mastery of a wide range of analysis and design methods, digital and analogue urban design tools and urban, architectural and mobilities theories related to developing and presenting an urban design proposal of a mobility site.
- Must possess proficiency in assessing, selecting, adapting and applying methods, tools and theories in relation to an urban design proposal within engineering.
- Must be able to communicate methods, tools and theories, and urban design proposals in written, visual, spatial and verbal form to present and discuss them with peers and nonprofessionals.
- Must be able to engage in a learning environment and master complex and multiple learning styles individually and in groups.

COMPETENCES

- Must demonstrate proficient competencies to develop and present an integrated urban design proposal of a specific mobility site.
- Must demonstrate an advanced understanding of the complex societal factors of urban mobility.
- Must demonstrate responsibility, both independently and in collaboration with others, in planning, conducting, completing, communicating, and discussing an integrated urban design process and proposal for a mobility site.

TYPE OF INSTRUCTION

Types of instruction are listed in § 17; Structure and contents of the programme.

EXAM

PREREQUISITE FOR ENROLLMENT FOR THE EXAM

- An approved PBL competency profile is a prerequisite for participation in the project exam

EXAMS

Name of exam	Design for Urban Mobility within Engineering
Type of exam	Oral exam based on a project
ECTS	20
Permitted aids	See semester description
Assessment	7-point grading scale
Type of grading	External examination
Criteria of assessment	The criteria of assessment are stated in the Examination Policies and Procedures

FACTS ABOUT THE MODULE

Danish title	Design for urban mobilitet inden for det ingeniørvidenskabelige område
Module code	AODUPM2P251
Module type	Project
Duration	1 semester
Semester	Spring
ECTS	20
Language of instruction	English
Location of the lecture	Campus Aalborg
Responsible for the module	Thomas Arvid Jaeger

ORGANISATION

Education owner	Master of Science (MSc) in Engineering (Urban Design)
Study Board	Study Board of Architecture and Design
Department	Department of Architecture, Design and Media Technology
Faculty	The Technical Faculty of IT and Design

CITIES AND MOBILITIES

2025/2026

RECOMMENDED PREREQUISITE FOR PARTICIPATION IN THE MODULE

The course module adds to integrated design knowledge obtained in 1st semester of the Master's program in Urban Design engineering. Therefore, the student is recommended to have knowledge, skills and competencies within the urban design and engineering field corresponding to the completion of the MSc01 level at the Urban Design Engineering education.

CONTENT, PROGRESS AND PEDAGOGY OF THE MODULE

The objective is to strengthen the students' ability to comprehend and analyze relevant infrastructural and technical factors shaping the contemporary network city. The course introduces state-of-the-art research-based theories relating to the development of the network city within urban theory, mobilities theory, network theory, and other relevant theoretical fields.

Students who complete the module:

LEARNING OBJECTIVES

KNOWLEDGE

- Must have proficient knowledge of the technical conditions shaping the network city, as well as their social consequences.
- Must be able to develop knowledge about the network city and its technologies as large technical systems.

SKILLS

- Must be able to apply the relevant scientific theories and methods in an analysis of the technological infrastructure systems of the network city.
- Must be able to evaluate proposals for intervention and design of the network city in light of state-of-the-art theories.

COMPETENCES

- Must demonstrate proficient competencies in analyzing the network city on a theoretical and methodologically reflective level.
- Must demonstrate proficient competencies in assessing technical solutions to traffic and mobility challenges of the network city.

TYPE OF INSTRUCTION

Types of instruction are listed in § 17; Structure and contents of the programme.

EXAM

EXAMS

Name of exam	Cities and Mobilities
Type of exam	Written exam
ECTS	5
Permitted aids	See semester description
Assessment	7-point grading scale
Type of grading	Internal examination
Criteria of assessment	The criteria of assessment are stated in the Examination Policies and Procedures

FACTS ABOUT THE MODULE

Danish title	Byer og mobilitet
Module code	AODUM2K242
Module type	Course
Duration	1 semester
Semester	Spring
ECTS	5
Language of instruction	English
Location of the lecture	Campus Aalborg
Responsible for the module	Thomas Arvid Jaeger

ORGANISATION

Education owner	Master of Science (MSc) in Engineering (Urban Design)
Study Board	Study Board of Architecture and Design
Department	Department of Architecture, Design and Media Technology
Faculty	The Technical Faculty of IT and Design

SITE MORPHOLOGY: ADVANCED ANALYSIS AND DESIGN

2025/2026

RECOMMENDED PREREQUISITE FOR PARTICIPATION IN THE MODULE

The course module adds to integrated design knowledge obtained in 1st semester of the Master's program in Urban Design. Therefore, the student is recommended to have knowledge, skills and competencies within the urban designengineering and technical science field corresponding to the completion of the MSc01 level at the Urban Design education.

CONTENT, PROGRESS AND PEDAGOGY OF THE MODULE

This module focuses on theories and methods relating to site and landscape, with the objective to investigate physical sites as urban landscapes conditioned by spatial, functional, technical and aesthetic properties. The course explores urban environments in section as a mode of analysis and as method of designing; to examine what is above and what is below the surface, as well as to facilitate a transition from analysis to conceptual design in one process.

Students who complete the module:

LEARNING OBJECTIVES

KNOWLEDGE

- Must demonstrate proficient knowledge of site and landscape analysis, site and landscape theories, and conceptual urban design, observing technical, functional, spatial and aesthetic conditions of sites.
- Must be able to understand as well as academically reflect on integration of selected technical, functional, spatial and aesthetic conditions of sites to identify and discuss key potentials, problems and concepts.

SKILLS

- Must master a wide range of methods and theories relating to volumetric site and landscape analysis and conceptual urban design.
- Must proficiently be able to assess, select, adapt and apply specific methods and theories in an integrated urban design site and landscape analysis and conceptual design.
- Must be able to communicate site and landscape analysis and conceptual design in proficiently written, visual, spatial and verbal form.

COMPETENCES

- Must demonstrate proficiency in conducting a site and landscape analysis, as well as a conceptual design, using urban design representations as integrated tools in the design process.
- Must independently, and in collaboration with others, demonstrate responsibility towards integrating technical, functional, spatial and aesthetic conditions of sites in an analytical and conceptual urban design process.

TYPE OF INSTRUCTION

Types of instruction are listed in § 17; Structure and contents of the programme.

EXAM

EXAMS

Name of exam	Site Morphology: Advanced Analysis and Design
Type of exam	Oral exam based on a project

ECTS	5
Permitted aids	See semester description
Assessment	Passed/Not Passed
Type of grading	Internal examination
Criteria of assessment	The criteria of assessment are stated in the Examination Policies and Procedures

FACTS ABOUT THE MODULE

Danish title	Stedets morfologi: Udvidet analyse og design
Module code	AODUPM2K252
Module type	Course
Duration	1 semester
Semester	Spring
ECTS	5
Language of instruction	English
Location of the lecture	Campus Aalborg
Responsible for the module	Thomas Arvid Jaeger

ORGANISATION

Education owner	Master of Science (MSc) in Engineering (Urban Design)
Study Board	Study Board of Architecture and Design
Department	Department of Architecture, Design and Media Technology
Faculty	The Technical Faculty of IT and Design

PROJECT-ORIENTED STUDY IN AN EXTERNAL ORGANISATION

2025/2026

RECOMMENDED PREREQUISITE FOR PARTICIPATION IN THE MODULE

The course module adds to integrated design knowledge obtained in previous semesters of the Master's program in Urban Design (cand.polyt.). Therefore, the student is recommended to have knowledge, skills and competencies within the urban design and engineering field corresponding to the completion of the MSc01 - MSc02 level at the Urban Design (cand.polyt.) education.

CONTENT, PROGRESS AND PEDAGOGY OF THE MODULE

The objective of the module is to use the contemporary urban design research and professional practice to raise students' knowledge and development level. Furthermore, the student must document the use of practice-based knowledge. This means to familiarize the students with basic research, practice or development methods and theory.

The Project-Oriented Study in an External Organisation must have a scope that correspond the ECTS load.

LEARNING OBJECTIVES

KNOWLEDGE

- Must demonstrate research-based, practical or conceptual knowledge of relevance to urban design from an engineering perspective.
- Must be able to understand and reflect upon urban design theories and methods relating to a professional working context in practice.

SKILLS

- Must be able to transfer engineering-based urban design methods and professional tools to a professional community of practice beyond the university.
- Must be able to articulate a practice-based urban design problem, and to assess, select, adapt, and apply practice-based knowledge, methods and tools both digital and analogue of relevance to a specific urban design problem.
- Must be able to communicate research-based urban design knowledge and participate in professional environments.

COMPETENCES

- Must be able to engage in complex professional situations.
- Must be able to participate independently in disciplinary and cross-disciplinary collaborations.
- Must be able to independently take responsibility for own professional development and learning in a practice environment.

TYPE OF INSTRUCTION

Types of instruction are listed in § 17; Structure and contents of the programme.

EXAM

EXAMS

Name of exam	Project-Oriented Study in an External Organisation
Type of exam	Oral exam based on a project

ECTS	25
Permitted aids	See semester description
Assessment	Passed/Not Passed
Type of grading	Internal examination
Criteria of assessment	The criteria of assessment are stated in the Examination Policies and Procedures

FACTS ABOUT THE MODULE

Danish title	Projektorienteret forløb i en virksomhed
Module code	AODUPM3P251
Module type	Project
Duration	1 semester
Semester	Autumn
ECTS	25
Language of instruction	English
Location of the lecture	Campus Aalborg
Responsible for the module	Thomas Arvid Jaeger

ORGANISATION

Education owner	Master of Science (MSc) in Engineering (Urban Design)
Study Board	Study Board of Architecture and Design
Department	Department of Architecture, Design and Media Technology
Faculty	The Technical Faculty of IT and Design

URBAN DESIGN SEMESTER PROJECT WITHIN ENGINEERING

2025/2026

RECOMMENDED PREREQUISITE FOR PARTICIPATION IN THE MODULE

The course module adds to integrated design knowledge obtained in previous semesters of the Master's program in Urban Design (cand.polyt.). Therefore, the student is recommended to have knowledge, skills and competencies within the urban design and engineering field corresponding to the completion of the MSc01 - MSc02 level at the Urban Design (cand.polyt.) education.

CONTENT, PROGRESS AND PEDAGOGY OF THE MODULE

The objective of the module is to develop an urban design project that address the challenges affecting contemporary global societies and environments in a technical, critical and reflective manner. This is achieved through the identification and selection of a physical problem within a global perspective, and work with this as a design challenge.

LEARNING OBJECTIVES

KNOWLEDGE

- Must demonstrate theoretical and methodological knowledge of relevance to urban design from an engineering perspective.
- Must be able to apply, understand and reflect upon technical, societal and other implications of urban design theories, methods and tools.

SKILLS

- Must be able to transfer urban design methods and professional tools to a specific project.
- Must be able to articulate a complex urban design problem, and to assess, select, adapt and apply knowledge, methods and tools both digital and analogue of relevance to an urban design problem.

COMPETENCES

- Must be able to communicate an urban design project.
- Must be able to integrate engineering-based and other relevant knowledge into an urban design project.
- Must be able to independently take responsibility for own professional development and learning.

TYPE OF INSTRUCTION

Types of instruction are listed in § 17; Structure and contents of the programme.

EXAM

EXAMS

Name of exam	Urban Design Semester Project within Engineering
Type of exam	Oral exam based on a project
ECTS	25
Permitted aids	See semester description
Assessment	Passed/Not Passed
Type of grading	Internal examination

Criteria of assessment	The criteria of assessment are stated in the Examination Policies and Procedures

FACTS ABOUT THE MODULE

Danish title	Urbant design semesterprojekt inden for det ingeniørvidenskabelige område
Module code	AODUPM3P252
Module type	Project
Duration	1 semester
Semester	Autumn
ECTS	25
Language of instruction	English
Location of the lecture	Campus Aalborg
Responsible for the module	Thomas Arvid Jaeger

ORGANISATION

Education owner	Master of Science (MSc) in Engineering (Urban Design)
Study Board	Study Board of Architecture and Design
Department	Department of Architecture, Design and Media Technology
Faculty	The Technical Faculty of IT and Design

RESEARCH SEMESTER PROJECT RELATED TO URBAN DESIGN WITHIN ENGINEERING

2025/2026

RECOMMENDED PREREQUISITE FOR PARTICIPATION IN THE MODULE

The course module adds to integrated design knowledge obtained in previous semesters of the Master's program in Urban Design (cand.polyt.). Therefore, the student is recommended to have knowledge, skills and competencies within the urban design and engineering field corresponding to the completion of the MSc01 - MSc02 level at the Urban Design (cand.polyt.) education.

CONTENT, PROGRESS AND PEDAGOGY OF THE MODULE

The objective of the module is to use the contemporary urban design research to raise students' knowledge and development level. Furthermore, the student must document the use of research-based knowledge. This means to familiarize the students with basic research, practice or development methods and theory.

LEARNING OBJECTIVES

KNOWLEDGE

- Must demonstrate research-based or conceptual knowledge of relevance to urban design.
- Must be able to understand and reflect upon urban design theories and methods within engineering relating to a professional working context in research.

SKILLS

- Must be able to transfer urban design methods and professional tools within engineering to a research community of practice within the university.
- Must be able to articulate a research-based urban design problem, and to assess, select, adapt and apply research-based knowledge, methods and tools both digital and analogue of relevance to a specific urban design problem.
- Must be able to articulate various societal factors related to specific urban design problems.

COMPETENCES

- Must be able to engage with complex societal problems through engineering-based research.
- Must be able to participate independently in disciplinary and cross-disciplinary collaborations.
- Must be able to independently take responsibility for own professional development and learning in a research environment.

TYPE OF INSTRUCTION

Types of instruction are listed in § 17; Structure and contents of the programme.

EXAM

EXAMS

Name of exam	Research Semester Project related to Urban Design within Engineering
Type of exam	Oral exam based on a project
ECTS	25
Permitted aids	See semester description

Assessment	Passed/Not Passed
Type of grading	Internal examination
Criteria of assessment	The criteria of assessment are stated in the Examination Policies and Procedures

FACTS ABOUT THE MODULE

Danish title	Videnskabeligt semesterprojekt relateret til urbant design inden for det ingeniørvidenskabelige område
Module code	AODUPM3P253
Module type	Project
Duration	1 semester
Semester	Autumn
ECTS	25
Language of instruction	English
Location of the lecture	Campus Aalborg
Responsible for the module	Thomas Arvid Jaeger

ORGANISATION

Education owner	Master of Science (MSc) in Engineering (Urban Design)
Study Board	Study Board of Architecture and Design
Department	Department of Architecture, Design and Media Technology
Faculty	The Technical Faculty of IT and Design

MASTER'S THESIS

2025/2026

RECOMMENDED PREREQUISITE FOR PARTICIPATION IN THE MODULE

The course module adds to integrated design knowledge obtained in previous semesters of the Master's program in Urban Design (cand.polyt.). Therefore, the student is recommended to have knowledge, skills and competencies within the urban design and engineering field corresponding to the completion of the MSc01 - MSc03 level at the Urban Design (cand.polyt.) education.

CONTENT, PROGRESS AND PEDAGOGY OF THE MODULE

To give the students the ability to conduct an integrated urban design project as an experimental, empirical, and/or theoretical investigation of one or more central, contemporary issues within the field of urban design. This happens with reflective incorporation of relevant theories and methods acquired throughout the full master in urban design.

Students who complete the module:

LEARNING OBJECTIVES

KNOWLEDGE

- Must demonstrate advanced engineering and research-based knowledge of urban design history, theories, methods, tools and practical approaches.
- Must demonstrate advanced understanding and reflection upon the theories and methods applied in urban design, including their societal implications.
- Must be able to acquire and position his/her investigation in dialogue with leading research on an international level.

SKILLS

- Must master the application of research-based theories, methods, and digital and analogue tools of urban design.
- Must at an advanced level be able to identify a societal relevant urban design problem in relation to urban development and urban transformation, and be able to assess, select and adapt complex and technical research-based knowledge, methods and tools to address the chosen specific urban design problem and develop an urban design proposal.
- Must possess professionalism in communicating urban design problems and proposals to peers and non-specialists, as well as to collaborators and citizens.
- Must on a high level be able to make proposals for design, strategies and interventions of relevance to the urban design field applying complex and technical challenges as a central design element using both digital and analogue methods and tools.

COMPETENCES

- Must, from an engineering perspective, demonstrate advanced integrated competencies to create urban design proposals.
- Must independently as well as in collaboration with others, be able to undertake societal responsibility and to initiate and accomplish complex urban design tasks.
- Must demonstrate responsibility for as well as reflect on own professional development and engineering specialization.

TYPE OF INSTRUCTION

Types of instruction are listed in § 17; Structure and contents of the programme."

EXAM

EXAMS

Name of exam	Master’s Thesis
Type of exam	Master's thesis/final project
ECTS	30
Permitted aids	See semester description
Assessment	7-point grading scale
Type of grading	External examination
Criteria of assessment	The criteria of assessment are stated in the Examination Policies and Procedures

FACTS ABOUT THE MODULE

Danish title	Kandidatspeciale
Module code	AODUPM4P251
Module type	Project
Duration	1 semester
Semester	Spring
ECTS	30
Language of instruction	English
Location of the lecture	Campus Aalborg
Responsible for the module	Thomas Arvid Jaeger

ORGANISATION

Education owner	Master of Science (MSc) in Engineering (Urban Design)
Study Board	Study Board of Architecture and Design
Department	Department of Architecture, Design and Media Technology
Faculty	The Technical Faculty of IT and Design

ACADEMIC PAPER WRITING

2025/2026

RECOMMENDED PREREQUISITE FOR PARTICIPATION IN THE MODULE

The course module adds to integrated design knowledge obtained in 1st semester of the Master's program in Urban Design engineering. Therefore, the student is recommended to have knowledge, skills and competencies within the urban design and engineering field corresponding to the completion of the MSc01 - MSc02 level at the Urban Design Engineering education.

CONTENT, PROGRESS AND PEDAGOGY OF THE MODULE

The objective is to give the students the necessary skills to participate in the academic and professional practice within the fields of Architecture, Design, Planning and mobilities (or related areas) as contributing scholars and researchers by training the basic academic skills of paper writing and design of research methodology seen in light of the adequate positions within theories of science / philosophy of science.

LEARNING OBJECTIVES

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
- Must be able to understand how the 'state-of-the-art' within academic fields of relevance are emerging and how these are evolving

SKILLS

- Must be able to apply established models for paper writing and methodological reflection to a specific case within architecture, design, planning or mobilities
- Must be able to write a methodologically reflective paper which positions itself in relation to relevant and adequate positions within theories of science / philosophy of science
- Must be able to evaluate the paper in relation to established practices and systems of academic research

COMPETENCES

- Must have competencies in writing an academic paper and/or a design for a research methodology relating to the state-of-the-art of knowledge production within architecture, design planning or mobilities
- Must have competencies in communicating with lay and professional audiences

TYPE OF INSTRUCTION

See general description of the types of instruction described in § 17.

EXAM

EXAMS

Name of exam	Academic Paper Writing
Type of exam	Written exam
ECTS	5

Permitted aids	See semester description
Assessment	Passed/Not Passed
Type of grading	Internal examination
Criteria of assessment	The criteria of assessment are stated in the Examination Policies and Procedures

FACTS ABOUT THE MODULE

Danish title	Akademisk artikelskrivning
Module code	AODUM3K201
Module type	Course
Duration	1 semester
Semester	Autumn
ECTS	5
Language of instruction	English
Location of the lecture	Campus Aalborg
Responsible for the module	Thomas Arvid Jaeger

ORGANISATION

Education owner	Master of Science (MSc) in Engineering (Urban Design)
Study Board	Study Board of Architecture and Design
Department	Department of Architecture, Design and Media Technology
Faculty	The Technical Faculty of IT and Design

ADVANCED INTEGRATED DESIGN IV: EXTENDED CONSTRUCTION MANAGEMENT, PROJECT DESIGN AND LIFE CYCLE COST ESTIMATES

2025/2026

RECOMMENDED PREREQUISITE FOR PARTICIPATION IN THE MODULE

The module adds to knowledge, skills and competencies within the architectural design and engineering field corresponding to the completion of the MSc01 and MSc02 level at the Architectural Design-engineering education.

CONTENT, PROGRESS AND PEDAGOGY OF THE MODULE

The aim of this course is to provide the student with an extended introduction to project-, design- and construction management, as well as an understanding of relevant professional building industry and building design practice in an international level. This includes training life cycle cost analysis (LCC) and dynamic cost evaluations.

LEARNING OBJECTIVES

KNOWLEDGE

- Must independently demonstrate knowledge and understanding of theories and methods within project-, design- or construction management.
- Must have knowledge of ethical-, economical-, legal-, political-, and social interests in the field of construction management.
- Must have knowledge of current practice in construction management.
- Must have knowledge of current practice in life cycle cost analysis and dynamic cost evaluations.

SKILLS

- Must be able to analyse and assess the cross-disciplinary inclusion of actors/stakeholders involved in the decision-making processes of a building construction project.
- Must be able to use methods and techniques for preparing life cycle cost analysis and dynamic cost evaluations/calculations for building construction projects.
- Must be able to apply methods of planning and scheduling of building construction projects.
- Must be able to identifying work elements, estimating activity durations, preparing network schedules and schedule updates, analysing planned vs. actual project progress.

COMPETENCES

- Can independently choose, apply and critically reflect on methods and theories for project-, design- or/and construction management within a given budget using specified materials and construction methods.

TYPE OF INSTRUCTION

See the general types of instructions in §17; Structure and Contents of the Programme.

EXAM

EXAMS

Name of exam	Advanced Integrated Design IV: Extended Construction Management, Project Design and Life Cycle Cost Estimates
Type of exam	Oral exam
ECTS	5
Permitted aids	See semester description
Assessment	Passed/Not Passed
Type of grading	Internal examination
Criteria of assessment	The criteria of assessment are stated in the Examination Policies and Procedures

FACTS ABOUT THE MODULE

Danish title	Udvidet Integreret Design IV: Udvidet arkitektonisk projektering, byggeledelse og totaløkonomiske vurdering
Module code	AODAM3K201
Module type	Course
Duration	1 semester
Semester	Autumn
ECTS	5
Language of instruction	English
Location of the lecture	Campus Aalborg
Responsible for the module	Thomas Arvid Jaeger

ORGANISATION

Education owner	Master of Science (MSc) in Engineering (Architecture)
Study Board	Study Board of Architecture and Design
Department	Department of Architecture, Design and Media Technology
Faculty	The Technical Faculty of IT and Design