



Utbildningsplan

En tillgänglighetsanpassad version av utbildningsplanen finns i Kurs- och programkatalogen.

Masterprogram, hållbar stadsutveckling 120 hp

Master's Programme, Sustainable Urban Transition

Gäller för antagna till utbildningen fr o m HT12.

Utbildningens mål

The information is valid for students who started the program academic year 2013/2014. Later decisions may affect year 2 in the program. Please look at www.kth.se/studies?l=en_UK for further information.

In addition to the general objectives for Masters programmes as stated in the national degree ordinance and the local degree policy of KTH, specific learning outcomes are defined for studies the Nordic Masters programme Sustainable Urban Transitions. For each of the five tracks in the program a set of learning outcomes has been defined. For the two tracks KTH is involved in, Urban and Regional Transitions (UR Trans) and Transitions of Urban Structures (TRUST) following learning outcomes have been defined:

Kunskap och förståelse

Urban and Regional Transitions (UR Trans)

- Demonstrate knowledge on the theoretical concepts and foundations in urban and regional planning, sustainable development and governance.
- Demonstrate in-depth knowledge on the processes that contribute to urban change, the actors taking part in these processes as well as the societal, economic and environmental determinants that further sustainable urban transition.
- Demonstrate specialised knowledge on the tools and methods that can be applied to analyse the conditions and prerequisites for urban transition.
- Demonstrate a sound understanding of the relation between theory and practice in urban planning and regional development, as well as of the linkages to other disciplines involved in the transition process at the local, regional and global level.

Transitions of Urban Structures

- Insight in how sustainability and urban development are interdependent.
- Knowledge and a better understanding of the connections between land use, urban form and urban infrastructure.
- Knowledge about how integrated overall planning issues for land use, transport and urban infrastructure can contribute to a more sustainable urban development.
- An understanding of urban transitions and the implications for future urban development in cities of the North and the South.

Färdigheter och förmågor

Urban and Regional Transitions(UR Trans)

- Be able to assess and manage complex problems and challenges regarding urban and regional development and planning taking into account the societal, economical, environmental and political context.
- Demonstrate the ability to identify and formulate issues critically, autonomously and creatively as well as to plan and, using appropriate methods, undertake advanced tasks within predetermined time frames and so contribute to the formation of knowledge as well as the ability to evaluate this work.
- Be able to make effective oral and written presentations of complex tasks related to urban development using modern techniques and tools to illustrate and visualise plans, concepts and strategies.
- Be able to lead and work in multidisciplinary groups and contribute to the outcome of the working task.

Transitions of Urban Structures

- Insight in developing land use, transport and infrastructure plans for a more sustainable city development, based on the principle of an integrated planning process.
- Ability to use geographical information systems (GIS) as an important tool in urban planning.
- Judgement and approach
- Insight in and being more aware of the challenges connected to the global environmental challenges and living conditions
- Ability of leading integrated planning processes and using the knowledge in processes that are firmly rooted with the citizens.
- Ability to develop strategic plans for a larger city in relation to the transition of the technical infrastructure and the interaction between

Värderingsförmåga och förhållningssätt

- Be able to analyse the merits of theoretical concepts, policies, plans and projects based on a comprehensive assessment.
- Be able to detect implicit assumptions in theoretical and societal views on planning problems.
- Demonstrate the ability to contextualize planning objectives and policies in different timely, cultural and institutional backgrounds.
- Be able to develop their own opinion on the nature and manner of dealing with new planning problems
- Demonstrate the ability to identify the personal need for further knowledge and take responsibility for his or her ongoing learning.

Utbildningens omfattning och innehåll

The Masters programme Sustainable Urban Transitions counts 120 hp and consists of three terms of coursework and one term for the degree project, together 2 years. The course-work encompasses a combination of theoretical courses, exercises, projects and studios that aim at providing students with knowledge and skills in the field of sustainable urban development and planning. All courses in the programme are at advanced (2nd cycle) level. The language of instruction is English.

The Nordic Master program Sustainable Urban Transitions is a joint two-year master program that is offered by Aalto University, Chalmers University of Technology (CTH), Technical University of Denmark (DTU), Royal Institute of Technology (KTH) and the Norwegian University of Science and Technology (NTNU). The program covers five tracks:

- Human Oriented Urban Transitions (Aalto University and CTH)

- Area Based Urban Transitions (CTH, Aalto University and NTNU)
- Urban Ecology (NTNU, CTH and Aalto University)
- Transition of Urban Structures – TRUST (NTNU, KTH and DTU)
- Urban Regional Transitions – UR Trans (KTH, Aalto University and DTU)

Urban Regional Transitions (UR Trans) addresses urban regional interactions as a means for urban development at the local and regional level. Regions as an object for planning are becoming more important, not only to strengthen the region but also to support the individual cities within the region. However, the regions' significance and focus in planning differ from case to case. In a global context, major metropolitan regions (e.g. London, Shanghai, New York, Singapore, and Dubai) are competing with each other in creating favourable conditions for business and industries. On the other hand, regional development is often discussed at the European and national level, as part of a strategy to counteract the impacts of depopulation, unemployment and the lack of services in rural areas. A core issue in this track is to equip students with a deeper understanding of alternative strategies for creating competitive sustainable urban regions. This requires collaborative efforts to offer an attractive environment for living and economic activities. Through the integration of culture, education and retail, and by effective transportation networks, these regions cater diversified services for their residents and generate synergies which can attract new investments to the region. However, being successful at the regional level also requires achievements at the local level to create living conditions that allow sustainable socio-ecological development.

Transition of Urban Structures (TRUST) refers to the challenges of sustainable urban development. In order to reduce greenhouse gas emissions and improve the urban environment and citizen's living conditions, the urban structure including the infrastructure, land use and transportation pattern must be reconsidered. A great challenge to urban development is to design the urban structure in a way that reduces the cities' ecological footprint. This requires a long-term change of urban structures to facilitate a future development which focuses on existing building zones which need to be converted and densified without compromising existing qualities of the city. This involves that city reconstruction will be the future predominant way to build a city, where development of a city's land use, transportation system and infrastructure will require relocation of the businesses in town.

Behörighet och urval

The admission requirements for the Nordic masters' programme in Sustainable Urban Transition differ between the tracks, depending on the admission requirements of the partner universities involved in the study track. Students who apply to KTH for admission to Urban Regional Transitions (UR Trans) can complete their studies in year 2 at either Aalto University or DTU. For students who aim to be admitted to the track Transitions of Urban Structures should apply to NTNU.

Students who start at KTH and continue their studies at Aalto University need a completed Bachelor's degree in Architecture, corresponding to a Swedish Bachelor's degree (180 ECTS), or equivalent academic qualifications from an internationally recognised university.

Students who start at KTH and continue their studies at DTU need a completed Bachelor's degree in Civil Engineering in the Built Environment, corresponding to a Swedish Bachelor's degree (180 ECTS), or equivalent academic qualifications from an internationally recognised university. In addition, students should have completed courses in the following fields:

a.: Operations research, Operations Management and Engineering Economy

b.: Urban Planning, Project Management and Management & Organization

At least 5 ECTS has to be obtained in field a, at least 5 ECTS in field b and at least 15 ECTS in total in the two fields.

Students with a B.Eng degree (Diplomingeniør (DK), Polytechnic (FI), Högskoleingenjör (SE) or equivalent) must have completed courses within the areas of operations research or discrete mathematics (5ECTS) and algorithms and stochastic processes (5 ECTS).

For English language proficiency following requirements are defined:

TOEFL: Paper-based: 580 (written section grade 4,5) or Internet-based test: 92 (written section grade 22)

IELTS: 6.5, no section lower than 5.5 (only IELTS Academic Training accepted).

Students in their final year of their under--graduate education may also apply and if qualified, receive a conditional acceptance.

For candidates fulfilling the admission requirements, the ranking and selection of students is carried out by the partner universities on basis of the student's academic achievements, motivation letter and portfolios (for students in Architecture and Landscape Architecture).

Utbildningens genomförande

Utbildningens upplägg

Structure of the education

Since the program results in a double degree, student should complete at least 60 ECTS of coursework at KTH and at a partner university. Students who apply to the masters program Sustainable Urban Transitions at KTH will start their first year of studies (60 ECTS) in the track Urban Regional Transitions (UR Trans) at KTH and continue at either DTU or Aalto University to complete their second year of studies (60 ECTS), including a 30 ECTS degree project. Students who are admitted to the track Transitions of Urban Structures TRUST , complete the first year (60 ECTS) at NTNU and continue the second year of studies at KTH (60 ECTS) or DTU (60 ECTS). The second year of studies includes a 30 ECTS degree project.

During the first year in the track Urban Regional Transitions (UR Trans) at KTH, the determinants of urban and regional transformation will be addressed. These encompass the role of cities in regional contexts, the prerequisites for infrastructure and urban development as well as the economic mechanisms that facilitate or constrain transitions processes. Sustainable development is a key question during the entire study, and students will be challenged to transform overall objectives into policies, plans and actions. The course work encompasses a substantial share of studios and projects that aim to develop your practical skills and to gain a better understanding of planning practice. To support the professional training and to strengthen analytical skills, the curriculum also contains a number of theoretical and methodological courses that provide a contextual and conceptual framework.

In the second year in this track, the acquired knowledge can be deepened at either Aalto University or DTU. The second year at DTU will allow the student to use the knowledge about urban regional strategies to develop a strategy on a city (municipal) scale. This will be complemented with a classic analysis of the relationship between infrastructure and land use in an international metropolitan region. Students continuing their studies at Aalto University will continue to develop skills in the particular areas of interdisciplinary and creative understanding and action, particularly at the regional level. They will address the key issues of regional development through laboratory work and selected studies from the university's six Schools. They will be working in a new School combining the creative disciplines (architecture, urban design, urban and regional planning, design, media, and arts), but they will also have access to a variety of courses offered by the four Schools of Technology and the School of Economics. The core of their studies will be the Urban Laboratory, where they will address a selected contemporary issue related to local urban development (such as local impacts of globalization, regional segregation, multiculturalism, migration, networking of cities, etc.), coupled with potential field studies and courses in urban and regional studies. The Laboratory continues during the second semester to support the writing of the Master's Thesis. Common seminars with the supervising team from the two or three universities involved will be arranged.

Students who want to join the study track Transitions of Urban Structures (TRUST) will start at NTNU in Trondheim, where the students will be given an introduction to planning for sustainable urban development both in a local and a Nordic context. The first two semesters the teaching will be offered at the Norwegian University of Science and Technology where the Faculty of Architecture and Fine Art will be responsible for the program. This track is offered every second year starting in September 2012.

Students with a B.Sc. (eng) background can stay the third semester DTU in Copenhagen. The second year at DTU will allow the student to go even deeper into analyzing the relationship between infrastructure and land use development by studying the plans and actual developments of an international metropolitan region. This will be complemented with the opportunity for the student to develop a strategy for future development of a chosen larger city. Students with a background in architecture or planning proceed their studies in the third semester at KTH in Stockholm. The second year at KTH offers two courses that refer to the human dimensions of urban environments, which are studied both from a theoretical and empirical perspective. In addition, students can choose among two project courses, either towards planning or urban design. The projects are advanced learning experiences in which students should address some of the main challenges in contemporary urban planning and design in a practical setting. In the fourth semester students conduct a degree project.

A course in Theory of Science and Research Methodology (7,5 ects) is mandatory for all master programs at KTH and students who have not completed an equivalent course in their previous studies, should choose the course Theory of Science and Research Methodology in Planning and Design or Theory and Methods of Science or equivalent during their studies in the program.

The academic year covers 40 weeks, starting in September and divided into two terms, which each consists of two study periods. Each study period concludes with a regular examination period of at least one week. In addition, three re-exam periods are scheduled, after Christmas, after the regular examination period of study period 4 (end of May) and before the start of a new academic year (August).

As part of the Nordic masters program Sustainable Urban Transitions, joint extra curricular activities will be organised by the institutions involved in the program, e.g. summer schools. These activities aim to exchange experiences and knowledge among the participants, and gain knowledge on a topical subject in the field of sustainable urban development and planning. All students in the program will attend these activities.

Kurser

Utbildningen sker i kursform. Kurslistor finns i bilaga 1.

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

During the first year at KTH in the track Urban Regional Transition (UR Trans), the program includes a set of courses which allows students to acquire specialised professional skills. In the second year in the track Transitions of Urban Structures (TRUST), KTH offers two alternative projects (15 ECTS) that students can choose between. Students can apply to exchange a course for another course that is not included in the curriculum of the program. A decision is made from case to case considering the student's previous knowledge and relevance for the degree project. The course Theory of Science and Research Methodology in Planning and Design or equivalent is mandatory. A full list of courses is included in appendix 1.

Betygssystem

För kurser på KTH används en sjugradig målrelaterad betygsskala A-F som slutbetyg för kurser på grundnivå och avancerad nivå. A-E är godkända betyg med A som högsta betyg. Betygen godkänd (P) och underkänd (F) används som slutbetyg då särskilda skäl föreligger.

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

All courses in the programme, including the Master's Degree project, are graded on a scale A-F, where A-E are passing grades with A as the highest grade. For some sections in the courses a grading system of pass (P) or fail (F) can be applied, for example for attendance. The grade reflects the students' performance in relation to the goals of the course (goal oriented grading).

Villkor för deltagande i utbildningen

For citizens of a country within the EU/EEA or Switzerland, the application and tuition is free of charge. Non EU/EEA students will be charged fees at the university he/she is studying in accordance with the pre-vailing university regulations, i.e. he/she has to pay fees for 2 semesters at KTH and 2 semesters at DTU or Aalto University.

Students who have been admitted to the programme have to attend the registration meeting in order to enrol for the programme. Students who received conditional acceptance should provide documented proof that he/she has a completed Bachelor's degree or equivalent to a minimum of 180 ECTS. If a student is not able to attend the registration meeting for reasons beyond his/her control he/she should register not later than two weeks after the start of the courses.

After registration in the programme, students will be registered for term 1 and 2. For registration in term 3 students should have completed at least 45hp. For registration for the degree project students should have completed at least 60 hp of the compulsory courses. After being admitted to a course, students should register themselves within one week after course start. If a student for reasons beyond his/her control is not able to attend during the first week he/she has to contact the course administrator.

Tillgodoräknanden

The Royal Institute of Technology has a policy for recognising previous academic studies. The course that the student wants to be recognised should be similar to a course in the curriculum of the specialisation track in which the student is registered in terms of contents, level and number of credits. Moreover, the courses that the student wants to be recognised should not be part of the bachelor program that was basis for admission to the masters program. The decision on recognising documented results is made by the vice dean of education at the School of Architecture and the Built Environment upon application by the student.

Utlandsstudier

The Nordic master program Sustainable Urban Transitions involves one year of mandatory studies at one of the partner universities. For students in the track Urban Regional Transitions (UR Trans) this implies that students have to complete one year of studies (60 ECTS) at DTU or Aalto University. The programme offers no opportunities for studies at another university except for the Master's Degree project where the student can choose to carry out a study at an organisation outside KTH, DTU or Aalto University. However, the program has no resources to provide support so students should make such arrangements themselves.

Examensarbete

The degree project comprises 30 ECTS and provides students with the opportunity to investigate a problem in depth under the supervision of experienced practitioners and researchers.

Students in the Urban Regional Transitions (UR Trans) will conduct the Degree project at the second year university (DTU or Aalto University) who provides the main supervisor, while KTH provides a co-supervisor. Students in the Transitions of Urban Structures (TRUST) can conduct the Degree project at KTH or DTU who provide the main supervisor. In these Degree projects a staff member of NTNU will offer co-supervision. The supervision from each of the two degree awarding institutions involved in the study ensures the integration of the program components.

The degree project is graded on a scale A-F, where A-E are passing grades with A as the highest grade. The grading of degree projects is based on an overall assessment of working process, scientific contents and presentation.

Examen

Students who have fulfilled all course requirements in the Masters programme (60 ECTS at two partner universities) will be awarded a double degree. Following degree will be issued:

KTH: Master of Science (120 ECTS)

DTU: Master of Science in Engineering

Aalto: Master of Science in Architecture

NTNU: Master of Physical Planning

Website

More information on the Nordic masters program Sustainable Urban Transitions and the other tracks within the program is available on the website www.nmpsut.org.

Bilaga 1 - Kurslista

Bilaga 2 - Inriktningsbeskrivningar



Bilaga 1: Kurslista

Masterprogram, hållbar stadsutveckling (THSUM)

Gemensamma kurser

Årskurs 1

Rekommenderade kurser

Kurskod	Namn	Omfattning	Utbildningsnivå
AD2845	Grundläggande principer för fastighetsekonomi och urban ekonomi	7,5 hp	Avancerad nivå
AG2116	City Networks in Regional Contexts	7,5 hp	Avancerad nivå
AG2126	Vetenskapsteori och forskningsmetod för studier om planering och urban design	7,5 hp	Avancerad nivå
AG2127	Teorier om planering och Urban Governance	7,5 hp	Avancerad nivå
AG2128	Stadsutveckling och planering	7,5 hp	Avancerad nivå
AG2141	Urban Infrastructure	7,5 hp	Avancerad nivå
AG2171	Futures Studies and Forecasts	7,5 hp	Avancerad nivå
AG2805	Planering och design för hållbar stadsutveckling	15,0 hp	Avancerad nivå

Kompletterande information

* Studenter som ansöker till masterprogrammet Sustainable Urban Transitions vid KTH kommer att börja sitt första år av studier (60 hp) i Track Urban Regional Transitions (UR Trans) vid KTH och fortsätta antingen vid DTU eller Aalto-universitetet för att slutföra sitt andra år av studier (60 hp), inklusive ett 30 hp examensarbete.

* Studenter som ansöker till masterprogrammet Sustainable Urban Transitions vid KTH kommer att börja sitt första år av studier (60 hp) i Transition of Urban Structures (TRUST) vid NTNU och fortsätta vid KTH för att slutföra sitt andra år av studier (60 hp), inklusive ett 30 hp examensarbete.

Year 1 at NTNU:

AAR4515 Sustainable urban design – project 15 ECTS
<http://www.ntnu.edu/studies/courses/AAR4515/2012>

AAR4944 Planning for sustainability and development (Theory) 7,5 ECTS
<http://www.ntnu.edu/studies/courses/AAR4944/2012>

FP4350 Planning theory and process skills 7,5 ECTS
<http://www.ntnu.edu/studies/courses/FP4350/2012>

AAR4225 Integrated land use and transportation planning 7,5 ECTS
<http://www.ntnu.edu/studies/courses/AAR4225/2012>

AAR4936 Analytical methods in physical planning 7,5 ECTS
<http://www.ntnu.edu/studies/courses/AAR4936/2012>

AAR5260 GIS in urban planning 7,5 ECTS

AAR5270 Globalisation and Urban Development 7,5 ECTS
<http://www.ntnu.edu/studies/courses/AAR5270/2012>

<http://www.ntnu.edu>

Årskurs 2

Obligatoriska kurser (7,5 Högskolepoäng)

Kurskod	Namn	Omfattning	Utbildningsnivå
AI2150	Vetenskaplig grundkurs	7,5 hp	Avancerad nivå

Villkorligt valfria kurser

Kurskod	Namn	Omfattning	Utbildningsnivå
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AD2863	Hållbar stadsplanering och stadsbyggnad studio 2.1- Urbana Ekologier	22,5 hp	Avancerad nivå
AD2UPX	Examensarbete inom stadsplanering och design, avancerad nivå	30,0 hp	Avancerad nivå
AG211X	Examensarbete inom urban och regional planering, avancerad nivå	30,0 hp	Avancerad nivå
AG2129	Projekt hållbar stadsplanering - strategier för urban och regional utveckling	15,0 hp	Avancerad nivå
AG2130	Tillämpad urban och regional analys	7,5 hp	Avancerad nivå
AG2134	Nutida urban teori, avancerad kurs	7,5 hp	Avancerad nivå

Kompletterande information

Studenter som ansöker till masterprogrammet Sustainable Urban Transitions vid KTH kommer att börja sitt första år av studier (60 hp) i Track Urban Regional Transitions vid KTH och fortsätta antingen vid DTU eller Aalto-universitetet för att slutföra sitt andra år av studier (60 hp), inklusive ett 30 hp examensarbete.

Årskurs 2 vid DTU:

42273 Urban Planning and Sustainable Urban Development, 10 ECTS <http://www.kurser.dtu.dk/42273.aspx?menulanguage=en-gb>

42278 Urban Technology and Management, 10 ECTS <http://www.kurser.dtu.dk/42278.apx?menulanguage=en-gb>

42543 Management of Change, 5 ECTS <http://www.kurser.dtu.dk/42543.aspx?menulanguage=en-gb>

42401 Introduction to Planning, 5 ECTS <http://www.kurser.dtu.dk/42401.aspx?menulanguage=en-gb>

Examensarbete 30 HP

Year 2 at Aalto University:

Urban Laboratory (mandatory) 20 ECTS Not available

A-36.3330 Urban Renewal, 10 ECTS <https://noppa.aalto.fi/noppa/kurssi/a-36.3330/esite>

A-36.3504 City in Transition Theory, 5 ECTS <https://noppa.aalto.fi/noppa/kurssi/a-36.3504/esite>

Maa-20.3510 Strategic Urban and Regional Planning, 4 ECTS <https://noppa.aalto.fi/noppa/kurssi/maa-20.3510/esite>

21E10000 How to Change the World: Innovation towards Sustainability, 6 ECTS <https://noppa.aalto.fi/noppa/kurssi/21e10000/esite>

10157 Designing Services, 12 ECTS <https://noppa.aalto.fi/noppa/kurssi/10157/esite>

21A00310 Introduction to Management, 6 ECTS <https://noppa.aalto.fi/noppa/kurssi/21a00310/esite>

Ene-59.4301 Energy Systems for Communities, 5 ECTS <https://noppa.aalto.fi/noppa/kurssi/ene-59.4301/esite>

Examensarbete

* Studenter som ansöker till masterprogrammet Sustainable Urban Transitions vid KTH kommer att börja sitt första år av studier (60 hp) i Transition of Urban Structures (TRUST) vid NTNU och fortsätta vid KTH för att slutföra sitt andra år av studier (60 hp), inklusive ett 30 hp examensarbete.



Bilaga 2: Inriktningar

Masterprogram, hållbar stadsutveckling (THSUM)

Programmet har inga inriktningar.