Doctoral programme — Planning and Decision Analysis

The programme description was approved by Fakultetsnämnden (Faculty Board) November 30, 2010. Valid from Spring 11.

Programme description (KTHPBA)

Programme name

Planning and Decision Analysis (Planering och beslutsanalys)

Subject area

The subject of Planning and Decision Analysis includes scientific studies that aim to improve and critically examine the basis for planning and decisions, especially decisions having major long-term consequences. Theories and data from many different fields of knowledge are used in such studies. The subject-specific skills developed within the doctoral programme are intended for the critical evaluation and integration of such theories and data, as well as the assessment of their relevance and uncertainties. The theoretical basis is taken from e.g. planning theory, decision theory, environmental systems analysis and theory of science.

The subject is divided into three areas of specialisation:

- Urban and regional studies
- Environmental strategic analysis
- Risk and safety

The doctoral programme’s overall purpose and learning outcomes

Doctoral studies shall give students a good overview of the field and sound theoretical and methodological training. The main objective is to provide a basis for further independent research activities as researcher, practitioner or teacher, and to be able collaborate in interdisciplinary exchanges.

The overall goals for doctoral studies in the subject of Planning and Decision Analysis correspond to the general objectives for KTH doctoral studies, set 24th February 2009, as seen below.
The purpose of KTH doctoral studies is to provide society with competent researchers who can contribute to its sustainable development.

The goal of KTH doctoral studies is for doctoral students to become independent and excellent researchers. After completing their studies, doctoral students shall be able to:

- describe and explain theories and empirical results in the field in question
- formulate specific research issues in the field in question
- use scientific method and develop new knowledge through their own scientific studies
- critically analyze and evaluate the methods and results from own and others' scientific studies
- present and discuss research findings in the scientific community
- present research in an educational way outside the scientific community and in educational contexts
- assess the ethical aspects of research within the field in question and act on these
- identify needs for new knowledge, and understand how to initiate and direct research projects.

Education at doctoral level shall also strive to ensure that students after graduation are able to:

- participate in interdisciplinary collaboration within the field in question
- analyze the role of research in the sustainable development of society.

*These goals expired 2014-12-09 according to the Rector's decision, reference number V-2014-0374. As before, the objectives of the education at graduate level are consistent with the objectives specified for the doctoral degree in the Higher Education Ordinance, Appendix 2 Degree Ordinance.

More specifically, the purpose of doctoral studies in Planning and Decision Analysis is to provide society with qualified scientists and specialists who can contribute to the process of sustainable development. This requires that doctoral students can critically analyze their research and their own role in society. On completion of the programme, doctoral students in Planning and Decision Analysis will be able to contribute to scientifically-based decision making, as well as critically examine the assumptions on which decisions affecting society are taken.

*Studies at doctoral level are carried out essentially within one area of application. After graduation, students shall be able to:

- use scientific methods within the area of application to critically analyze complex planning and decision-making situations, examine them based on the goal of a sustainable social development, and where appropriate, propose solutions for sustainable development
- critically analyze scientific texts and planning and decision-making documents in the area of application
- in a competent manner, detect and distinguish between uncertainties in planning and decision-making documents in the area of application, and identify needs for research and investigation which these uncertainties generate
- participate in cross-disciplinary discussions and collaboration within the area of application
- present and, in an educational way, explain theories and empirical results in the area of application and be able to discuss these results within the scientific community as well as with policy makers and people affected by the decisions
- assess the ethical aspects of their own research as well as other planning and decision making processes in the area of application*
Doctoral studies also strive for that students after graduation should:

- have an overview of key trends in international developments in the area of application, both scientifically and socially, and in particular with regard to conditions for the sustainable development of society
- have an overview of the subject of Planning and Decision Analysis in a much broader area than their own area of application
- be able to initiate and lead new research projects

The doctoral programme’s size and recruitment

The planned number of doctoral students at the start of the programme is approximately 60-70; of which about 40 in the specialisation Urban and Regional Studies, 10-20 in the specialisation Environmental strategic analysis, and 10-12 in the specialisation Risk and safety.

The target group for doctoral students consists both of students from Swedish and international universities. Examples of student target groups for the specialisation Urban and Regional Studies are; engineers specialising in urban planning, environment or sustainable development, architects, physical planners; landscape architects, land surveyors, human geographers, political scientists, sociologists and economists. Examples of student target groups for the specialisation Environmental strategic analysis are; engineers, architects, behavioral scientists, economists, human geographers and political scientists. Examples of student target groups for the specialisation Risk and safety are; engineers, toxicologists and other natural scientists with a master degree and prior knowledge on health and environmental risks, as well as behavioural and social scientists who have a methodological knowledge that can be used in studies of technological risks.

At the start of the programme (2010-09-20) there were 17 people eligible to serve as main supervisor.

Funding

The doctoral programme is funded by FoFu, and through external funding from various sources for the doctoral projects.

Courses

The courses within the doctoral programme are all offered within a third-cycle subject and are therefore presented in the study plan for the subject.

Quality enhancement activities

For the doctoral program in Planning and Decision Analysis there should be a programme director and a programme council in which representatives from each specialisation are included. The main task for the programme director is to ensure that the syllabus for the subject at doctoral level is up to date, that the range of courses is in accordance with the study plan, that the developments within the PhD programme are followed and to initiate measures necessary to develop the programme. A review of the offered courses should be made at least once a year. The programme director appoints a person to represent the subject at doctoral level at the Doctoral Studies Council at the School of Architecture and the Built Environment.
The appointed person is responsible for that all information on changes concerning the doctoral programme reaches the programme director and the responsible person for each specialisation.

At least once a term the programme director meets with the Programme Council. The purpose of these meetings is to follow up and coordinate past and future activities and courses in the PhD programme. In cooperation with the programme council the programme director make considerations of recruitment, implementation, throughput and the systematic quality enhancement.

Within the framework of the doctoral programme there is a college of supervisors. The supervisors meet at least once per school year for a faculty meeting about the programme, and at least once per school year for a faculty meeting in regard of the various specialisations. The purpose of these faculty meetings is to create a forum for exchange and discussion of experiences of tutoring situations.

For each PhD student there is at least two supervisors, of whom one should be main supervisor. At least one of the two supervisors must have undergone KTH’s supervisor training or equivalent education. The main supervisor is responsible for ensuring that the doctoral student has a valid study plan.

Within the subject Planning and Decision Analysis's doctoral level, most theses are compilation theses. The international journals' peer review system entails an ongoing external quality control, which also sets the bar for the internal quality enhancement work. Within Urban and Regional Studies, the international norm is publication in international journals with peer reviewing. The theses of this specialisation are predominantly compilation theses made up of articles intended for publication in such journals, however monographs also exist. Within Strategic Environmental Analysis, the international norm is publication in international journals with peer reviewing. The theses of this specialisation are predominantly compilation theses made up of articles intended for publication in such journals, however monographs could also be possible. Within Risk and Safety, the international norm is publication in international journals with peer reviewing. The theses of this specialisation are compilation theses made up of articles intended for publication in such journals.

Doctoral students must present their texts at regularly held seminars. Each specialisation shall see to that active efforts are made to develop the seminar forms.

All of the programme's courses are continuously evaluated, and followed up by the programme coordinator.

**National and international network**

Common network building for the whole programme, takes place through e.g. summer schools and interaction with the industry and other universities.

The above is enumerated and defined in appendix 3.

**Further instructions for registration**

**List of national and international summer schools and networking for young postgraduates:**

The international network "Young Academics" administered by AESOP, The Association of European Schools of Planning.
The international postgraduate programme EMSDP- European Module in Spatial Development Planning, with teacher and postgraduate student exchange.

The international summer school YSSP for postgraduate students, organised by IIASA, the International Institute for Applied Systems Analysis.

The European network in risk / decision analysis ALGODEC, which also organises summer schools for postgraduate students.

The Urban and Regional Studies coordinates two SIDA-funded collaborations of third level education with the East African universities; Makerere University, Kampala, Uganda and ARDHI University of Dar es Salaam, Tanzania.

**List of interaction with other national and international institutions:**

The specialisation Urban and Regional Studies has close cooperation with Chalmers University of Architecture and the national centre Urban Futures at Chalmers University of Technology / University of Gothenburg; the Department of Conservation / University of Gothenburg; Spatial planning at Blekinge Institute of Technology; Uppsala University / Uppsala Centre for Business History; SLU Alnarp and Ulltuna; Department of Human Geography / University of Stockholm; Jönköping University. International cooperation exists with Global and Urban Research Unit, GURU, University of Newcastle; Centre for Urban and Regional Studies, School of Science and Technology, Aalto University, amongst others.

The specialisation Environmental Strategies Research has a close cooperation with the Swedish University of Agricultural Sciences in Umeå and Uppsala, Stockholm Resilience Centre.

The specialisation Risk and safety has a close cooperation with Karolinska Institute on doctoral courses and participates in international co-operations regarding such courses.

**List of interaction with the industry:**

The specialisation Urban and Regional Studies has a number of on-going collaborations with the industry. To be mentioned among others; RegLab / SKL; Botkyrka municipality. The specialisation Environmental Strategies Research is involved in two VinnEx centers, each of them together with a large group of partners, including Ericsson, TeliaSonera, the City of Stockholm, the Regional Planning Office, Bonnier AB, Institute for Future Studies, Scania, Bombardier, AB Volvo, the Swedish Transport Administration and VTI . In addition, it is very common with collaborations with the private and public sectors for PhD projects.

The focus Risk and safety have their business contacts mainly in the pharmaceutical industry and the energy sector

**Appendixes**

Appendix 1: Study plan for third-cycle subject Planning and Decision Analysis (PLANBEAN).

Appendix 2: List containing names and subject areas of supervisors within the programme
Appendix 3: Presentation of the programme’s national and international network
Doctoral programme — Planning and Decision Analysis

Appendix 1: Study plan for third-cycle subject Planning and Decision Analysis (PLANBEAN).

The subject plan was approved by Fakultetsnämnden (Faculty Board) November 30, 2010. Valid from Spring 11.

Subject title

Planning and Decision Analysis (Planering och beslutsanalys)

Subject description and programme outcomes

Scientific field

The subject of Planning and Decision Analysis at doctoral level includes scientific studies that aim to improve the basis for planning and decisions, especially decisions having major long-term consequences. Theories and data from many different fields of knowledge are used in such studies. The subject-specific skills developed within the doctoral programme are intended for the critical evaluation and integration of such theories and data, and the assessment of their relevance and uncertainties. The theoretical basis is taken from e.g. planning theory, decision theory, environmental systems analysis and theory of science.

Description of possible specialisation

1. Common for all specialisations
2. Urban and regional studies
3. Environmental strategic analysis
4. Risk and Safety

Specification of how the programme outcomes are to be achieved

The educational goals are achieved by following the individual study plan with the support of the supervisors; taking courses, attending seminars, participate in national and international conferences.

Common for all specialisations
Description of the specialisation

The following text consists of information common for all specialisations.

Current research

Programme structure

Doctoral studies consist of a course component and a dissertation/thesis part. The course component may consist of lectures, literature studies and problem-solving, and active participation in seminars. Courses may be studied at KTH or in collaboration with other Swedish or foreign research institutions.

Doctoral studies are conducted under the direction of a main supervisor, along with at least one assistant supervisor, in accordance with an individual study plan. Students' individual study plans will be adapted to their prior knowledge and the area of the dissertation/thesis. The Director of Third Cycle Education of the school will establish, and at least once a year review, the individual study plan. The main supervisor and the student will together draw up a document in the form of a proposal for a study plan prior to reviews.

A licentiate degree may be taken as part of a doctor's degree. Courses and dissertation work included in the licentiate degree may also be credited towards a doctor's degree. The licentiate degree consists of a course component of 30-37.5 ECTS and a dissertation part of 82.5-90 ECTS, totaling 120 ECTS. A doctor's degree consists of a course component of 60-75 ECTS and a thesis of 165-180 ECTS, giving a total of 240 ECTS. Further requirements are stated in the description of each area of specialisation.

Seminars and conferences

Doctoral students will present and discuss their texts in regular seminars. They will also participate in national and international conferences in their field. Doctoral students are encouraged to present their results annually at an international scientific conference.

Compulsory and recommended courses

For a doctor's degree in the subject of Planning and Decision Analysis, the following three shared compulsory courses must have been taken; see below.

For a licentiate degree, at least one of the courses Theory and Analysis of Decision-making and Theory and Methodology of Science must have been completed.

Additional requirements for compulsory courses are made for each area of specialisation.

The course in Theory and Methodology of Science can also be studied as:

- AK3024 Introduction to Theory of Science and Research Methodology, for Graduate Students in Technology and Natural Sciences 4,5 ECTS /1N5112 Intro to Theory of Science and Research Methodology, Social Science 4,5 ECTS AND AG3165 Self-reflexive Methodology for the Scientific Study of Complex Social Phenomena 3,0 ECTS

Or
• Corresponding course in theory of science such as Faculty course in Theory of Science at the Department of Philosophy (7.5 ECTS), Stockholm University.

Doctoral students who earlier completed 7.5 ECTS in Theory of Science are not obliged to take the course in theory of science again but they are not allowed to count any credits for their previously completed course.

Doctoral students who teach at first or second level must have completed initial university teacher training.

**Compulsory in-depth courses**

• FAG3006 Theory and Analysis of Decision-making 7.5 hp.

**Compulsory research proficiency courses**

• F1N5113 Theory of Science and Research Method, Technological and Natural Sciences 7.5 hp. Alternatively 1N5114 Theory of Science and Research Methodology, Social Science
• F1N5105 Essay in Popular Science 3.0 hp.

**Thesis**

The dissertation/thesis is a compulsory part of doctoral studies. The dissertation/thesis should normally be written as a collection of scientific articles but may also be written as a monograph. There should be a specific written summary essay in a dissertation/thesis consisting of a collection of scientific articles.

A licentiate thesis should contain new theoretical or empirical research results in the chosen subject area or the application of existing scientific knowledge in a new area that the student has developed through theoretical or empirical research work. It should also include an overview of previous research in the chosen subject area. It must be of such quality and scope that it could be the basis of at least two research articles published in internationally recognized journals with peer review. If the student has written articles with other authors, his or her contribution must be clearly distinguishable.

A thesis for a doctor's degree must contain new theoretical or empirical research results in the chosen field of study which the student has developed through theoretical or empirical research. It should also include an overview of previous research in the chosen subject area. It must be of such quality and scope that it could be the basis of at least four research articles published in internationally recognized journals with peer review.

If the student has written articles with other authors, the student's own contribution must be clearly distinguishable. An internal quality audit must be carried out prior to a licentiate seminar or viva voce.

Doctoral theses and licentiate dissertations are normally written in English. The licentiate dissertation may be included as part of a doctoral thesis.

**Urban and regional studies**

**Description of the specialisation**
The area of specialisation *Urban and regional studies* consists of the analysis of phenomena and processes that may be affected by overall urban and regional planning. The focus is on sustainable development and management of society, land and the built environment. It includes a view of planning as a changing and democratic process over time in which players with different resources and motives interact with each other. An important perspective in all research in this subject is to see society as an expression of different social, cultural, economic and ecological driving forces, in which changes in one part often have consequences in other parts as well as the whole. A focus is linked to the study of players who in various ways seek to influence society and the built environment; their power resources and institutional conditions, the division of roles between them and forms of collaboration and conflict management. The area’s scientific tools are taken from the technical, scientific, humanistic and social science disciplines. Particular emphasis is on theories and methods for the study of sustainable development of society.

**Current research**

**Programme structure**

*See Common for all specialisations.*

**Compulsory and recommended courses**

The licentiate degree consists of a course component of 30 ECTS and a dissertation part of 90 ECTS, giving a sum of 120 ECTS. A doctor’s degree consists of a course component of 60 ECTS and a thesis of 180 ECTS, giving a total of 240 ECTS.

For a doctor's degree in the area of specialisation *Urban and regional studies*, all three of the compulsory courses for the subject must have been completed together with the compulsory course for the specialisation, AG3164 Planning Theory, 7,5 ECTS.

For the licentiate degree, 15 ECTS from the compulsory courses for the doctor's degree must have been completed, including either Theory and Analysis of Decision-making or Theory and Methodology of Science. It is often appropriate to read both Theory and Analysis of Decision-making and Theory and Methodology of Science early in the programme.

Other courses are selected mainly from the following recommended subject areas:

- Players, planning and planning processes
- Housing quality, trade and service
- Discourse analysis
- Case study methodology
- Governance and institutional capacity
- Sustainable development
- Cultural heritage and management
- Environmental justice and gender theory
- Mobility and transport
- Educational methodology
- Place analysis and habitat
- Regional planning and development
- Space, power, meaning
- Urban and regional economics
• Urban and regional infrastructure
• Urban planning and design

Current list of courses being offered can be found in the course and programme catalogue at KTH.

Compulsory in-depth courses

• FAG3164 Planning Theory 7.5 hp.

The subject plan was approved by Fakultetsnämnden (Faculty Board) November 30, 2010. Valid from Spring 11.

Thesis

See Common for all specialisations.

Environmental strategic analysis

Description of the specialisation

The area of specialisation Environmental Strategic Analysis is the analysis of long-term solutions and knowledge-building on major strategic environmental problems that require long-term solutions. The research focuses on environmental problems that are strategically important globally and/or in Sweden, but may also include environmental problems that are strategically important for an industry, a company or an authority. A systemanalytical perspective is applied in this research, in which a social context is taken into account regarding technological development, infrastructure and processes of change. Broader studies of social and economical sustainable development may also be included in the research. Research in the area of environmental strategic analysis includes futures studies and tools for environmental assessment and environmental management. Processes of change are also studied, which include research on behaviour, lifestyles and policies.

Current research

Programme structure

See Common for all specialisations.

Compulsory and recommended courses

A licentiate degree consists of a course component of 30 ECTS and a dissertation part of 90 ECTS, equal to 120 ECTS. A doctor's degree consists of a course component of 60 ECTS and a thesis part of 180 ECTS, giving a total of 240 ECTS.

For a doctor's degree in the area of specialisation Environmental Strategies Analysis, all three of the compulsory courses for the subject have to be completed together with the compulsory course for the specialisation; 1N5008 Environmental Strategic Methods 7.5 ECTS.

For a licentiate degree, 15 ECTS of required courses for the doctor's degree must have been completed, including either Theory and Analysis of Decision-making or Theory and Methodology of Science. It is often appropriate to read both Theory and Analysis of Decisionmaking and Theory and Methodology of Science early in the programme.
Other courses are selected mainly from the following recommended subject areas:

- Case study methodology
- Futures studies and forecasts
- Geographic information systems
- Infrastructure finance and public finance
- Qualitative methods
- Life cycle analysis
- Environmental justice and gender theory
- Mobility and transport
- Educational methodology
- Planning theory
- Regional environment and development planning
- Risk philosophy
- Space, power, meaning
- Social-ecological systems
- Game theory and negotiations
- Systems analysis
- Theory of urban areas and transport systems
- Sustainable transport and urban systems

Current list of courses being offered can be found in the course and programme catalogue at KTH.

**Compulsory in-depth courses**

- F1N5008 Environmental Strategic Methods 7.5 hp.

**Thesis**

*See Common for all specialisations.*

**Risk and Safety**

**Description of the specialisation**

The area of specialisation *Risk and Safety* consists of risk analysis, reliability, vulnerability and security in technical and socio-technical systems. Such analyses aim at providing a basis for decisions on risk prevention and safety promotion measures. Research in this area benefits from knowledge in different areas such as technology, natural science, medical science, social science and behavioral science, which contribute to assessing risk and safety. The subject specific skill lies in analyzing such data in an integrated way that gives a balanced picture for decision-making purposes. The chosen method is highly dependent on the type of risk and safety issues to be treated. A combination of quantitative and non-quantitative methods is often appropriate. This subject area also includes studies of risk perception and risk communication, as well as the social processes in which risk and safety issues are addressed.

**Current research**
Programme structure

See Common for all specialisations.

Compulsory and recommended courses

A licentiate degree consists of a course component of 37.5 ECTS and a dissertation part of 82.5 ECTS, totalling 120 ECTS. A doctor’s degree consists of a course component of 75 ECTS and a thesis of 165 ECTS, giving a total of 240 ECTS.

For a doctor’s degree in the area of specialisation Risk and Safety all three of the compulsory courses for the subject have to be completed together with the three compulsory courses for the specialisation;

1N5125 Philosophy of risk 7.5 ECTS seminar course
AK3008 Seminar participation in risk and safety, part1 7.5 ECTS
AK3009 Seminar participation in risk and safety, part2 7.5 ECTS

Of these, Theory and Methodology of Science, Philosophy of Risk and Seminar participation in the risk and safety, part 1 are also compulsory for the licentiate degree. It is often appropriate to read Theory and Analysis of Decision-making early in the programme.

Other courses are selected mainly from the following recommended subject areas:

- Eco toxicological risk assessment
- Exposure analysis
- Crisis management
- Medical risk assessment
- Environmental medicine
- Environmental risk analysis
- Modelling
- Human and organizational factors in safety analysis
- Optimization science
- Probabilistic safety analysis
- Risk communication
- Risk perception
- Safety engineering
- Statistics and probability theory
- Reliability theory
- Toxicological risk assessment

Current list of courses being offered can be found in the course and programme catalogue at KTH.

Compulsory courses

- FAK3008 Seminar Participation in Risk and Safety, Part 1 7.5 hp. Seminar course
- FAK3009 Seminar Participation in Risk and Safety, Part 2 7.5 hp. Seminar course

Compulsory in-depth courses
• F1N5125 Philosophy of Risk 7.5 hp.

Thesis

See Common for all specialisations.

Entry requirements and selection

General and special admission requirements and prior knowledge

KTH’s general eligibility requirements for admission to doctoral studies are applied.

Applicants are expected to read and write scientific English and speak English fluently. Applicants must also have the general ability required to fit the programme.

Admission to doctoral studies in Planning and Decision Analysis is decided by the school director at the School of Architecture and the Built Environment.

Selection rules and procedures

In addition to eligibility, the degree of maturity and capacity for independent judgement and critical analysis will form the basis of selection of applicants. Of particular interest in this assessment are previous study results in advanced courses at undergraduate level or independently conducted scientific studies. Specific prior knowledge that a doctoral student may require to carry out certain doctoral work may be a criterion for selection. A number of applicants are interviewed as part of the selection process.

The programme’s degrees and examinations

Degree of Licentiate and Degree of Doctor (PhD)

The licentiate dissertation may be included as part of a doctoral thesis. Coursework and dissertation work included in the licentiate degree may also be included in the doctor’s degree. A licentiate degree consists of a course component of 30 - 37.5 ECTS and a dissertation part of 82.5 - 90 ECTS, totalling 120 ECTS. A doctor’s degree consists of a course component of 60 - 75 ECTS and a thesis of 165 - 180 ECTS, giving a total of 240 ECTS. In the description of each specialisation additional requirements are made.

The programme’s examinations

Doctoral studies in the subject area of Planning and Decision Analysis include examinations, which may be written or oral. Examinations shall be designed so that examiners can be satisfied that a student has assimilated the full course content.
Doctoral programme — Planning and Decision Analysis

Appendix 2: List containing names and subject areas of supervisors within the programme

The programme description was approved by Fakultetsnämnden (Faculty Board) November 30, 2010. Valid from Spring 11.

At the start of the programme 2010-09-20 the people listed below had the right to be main supervisors:

Urban and regional studies

- Göran Cars, professor (processes, negotiations, decision making)
- Vania Ceccato, docent (urban security)
- Love Ekenberg, professor (alternate generation and och alternative evaluation)
- Carl-Johan Engström, professor (urban and regional development)
- Mats Johansson, docent (regional development)
- Reza Kazernian, docent (architecture and urban design)
- Folke Snickars, professor (actor- and decision analysis)
- Inga-Britt Werner, docent (houses, housing and habitat)
- Hans Westlund, professor (social capital and innovation)

Environmental strategic analysis

- Anna Björklund, docent (environmental system analysis tools)
- Göran Finnveden, professor (environmental system analysis tools)
- Mattias Höjer, docent (futures studies)
- Måns Nilsson, professor (policy analysis)
- Örjan Svane, professor (sustainable city development)

Risk and Safety

- John Cantwell, professor (decision theory and decision analysis)
- Sven Ove Hansson, professor (risk and safety research, decision theory and decision analysis)
- Linda Schenk (risk and safety research)
- Niklas Möller (risk and safety research)
- Till Grüne-Yanoff (decision theory and decision analysis)
Doctoral programme — Planning and Decision Analysis

Appendix 3: Presentation of the programme’s national and international network

The programme description was approved by Fakultetsnämnden (Faculty Board) November 30, 2010. Valid from Spring 11.

List of national and international summer schools and networking for young postgraduates:

The international network "Young Academics" administered by AESOP, The Association of European Schools of Planning.

The international postgraduate programme EMSDP- European Module in Spatial Development Planning, with teacher and postgraduate student exchange.

The international summer school YSSP for postgraduate students, organised by IIASA, the International Institute for Applied Systems Analysis.

The European network in risk / decision analysis ALGODEC, which also organises summer schools for postgraduate students.

The Urban and Regional Studies coordinates two SIDA-funded collaborations of third level education with the East African universities; Makerere University, Kampala, Uganda and ARDHI University of Dar es Salaam, Tanzania.

List of interaction with other national and international institutions:

The specialisation Urban and Regional Studies has close cooperation with Chalmers University of Architecture and the national centre Urban Futures at Chalmers University of Technology / University of Gothenburg; the Department of Conservation / University of Gothenburg; Spatial planning at Blekinge Institute of Technology; Uppsala University / Uppsala Centre for Business History; SLU Alnarp and Ultuna; Department of Human Geography / University of Stockholm; Jönköping University. International cooperation exists with Global and Urban Research Unit, GURU, University of Newcastle; Centre for Urban and Regional Studies, School of Science and Technology, Aalto University, amongst others.

The specialisation Environmental Strategies Research has a close cooperation with the Swedish University of Agricultural Sciences in Umeå and Uppsala, Stockholm Resilience Centre.
The specialisation Risk and safety has a close cooperation with Karolinska Institute on doctoral courses and participates in international co-operations regarding such courses.

**List of interaction with the industry:**

The specialisation Urban and Regional Studies has a number of on-going collaborations with the industry. To be mentioned among others; RegLab / SKL; Botkyrka municipality. The specialisation Environmental Strategies Research is involved in two VinnEx centers, each of them together with a large group of partners, including Ericsson, TeliaSonera, the City of Stockholm, the Regional Planning Office, Bonnier AB, Institute for Future Studies, Scania, Bombardier, AB Volvo, the Swedish Transport Administration and VTI. In addition, it is very common with collaborations with the private and public sectors for PhD projects.

The focus Risk and safety have their business contacts mainly in the pharmaceutical industry and the energy sector.