Doctoral programme — Art, Technology and Design

Programme description (KTHKON)

Programme name
Art, Technology and Design (Konst, teknik och design)

Subject area
The doctoral programme in Art, Technology and Design constitutes a doctoral education subject area, Art, Technology and Design. It holds research within an emerging research area shaped by dynamic encounters between artistic and scientific approaches, as well as between three different perspectives: art, technology and design. The research area is essentially interdisciplinary through its focus on intersecting perspectives and concrete materialisations. Research projects in the subject area have a critical and analytic approach that is applied both to material and performative experimentations and in discursive, theoretical investigations. Research projects have a strong transdisciplinary potential in their capacity to include collaborations with external partners from e.g. business, culture and public sector, and government.

The doctoral programme’s overall purpose and learning outcomes
The aim of KTH's education on PhD level is to provide society with qualified researchers with the ability to contribute to a sustainable development of society. The doctoral programme in Art, Technology and Design is run by KTH in collaboration with Konstfack (University College of Arts, Crafts and Design).

Pursued in collaboration between two schools of higher education, the programme provides a new arena for encounters between different cultures of knowledge and methods of research, innovation and production within art, technology and design. The overarching goal of the doctoral programme is to combine research and education on sustainable social development, and the adjustments such a development entails, with a radical rethinking of the relation between the individual, society and the environment. In challenging conventions within established knowledge areas, in holding a transdisciplinary scope, and by combining the practices of making with advanced epistemological and methodological perspectives, research and education within the programme should offer a strong power of innovation. Artistic techniques may, for example, be used for detailed studies of everyday phenomenon that disclose their connections to larger contexts of habitual patterns. Underlying perceptions and mechanisms may thus be brought forth and made accessible for productive re-evaluations. Current research in design has, for instance, pointed to the conventional coding in terms of gender in everyday objects, and investigated aspects of their foundational effects on e.g. identity formation, action patterns and consumerist culture. By centring on human experience through a rethinking of design and sound-art perspectives, recent research on urban sonic environments contributes to new ways of planning and constructing the forms of future inhabitation in a denser urban environment.

The aim of the education in the doctoral programme is to give the student good knowledge in the subject area and the ability to pursue independent research, teaching, and development and consultative work in different areas of society, besides contributing to the development of advanced artistic practices. The aim of the doctoral degree is further to develop the student's ability to critically and independently plan, finance, initiate and lead such work.

The programme's overall objective is consistent with the objectives agreed for KTH doctoral studies 2009-02-24:
The purpose of KTH postgraduate studies is to provide society with competent researchers who can contribute to its sustainable development.

The goal of KTH postgraduate studies is for students to become independent and excellent researchers. After completing their studies, 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 analyse and evaluate the methods and results from their 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 the needs of new knowledge, and understand how to initiate and direct research projects.

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

- participate in interdisciplinary collaboration within the field in question
- analyse the role of research in and for societal development

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

The doctoral programme's more specific goal is, from the perspectives of art, technology and design, to enhance knowledge and develop innovation in relation to a more sustainable development, through training and cutting edge research. The programme's graduate students are to become independent researchers, who after completed studies, will have a good ability for both a scientific and an artistic academic context, as well as a professional capacity. The doctoral students should also be able to formulate concrete and relevant research questions within the field, and have developed a good ability to communicate research findings to professionals in art, technology and design, as well as to the surrounding community.

**The doctoral programme’s size and recruitment**

The expected number of PhD students in the programme during the build-up phase is approximately 10 full time PhD students. Approximately 2 new PhD students will be admitted every year. The student target group is primarily persons with a degree in Architecture, Civil Engineering, Master in Art, Arts and Crafts, Design or Technical subject. Also other educational backgrounds may be suitable.

The programme will admit students according to KTH's regulations. The application procedure includes mandatory interviews.

In general, candidates to the programme should be strongly motivated for doctoral studies, have the ability to work independently and for critical analysis, as well as a good capacity for collaboration and communication. The applicant should have good knowledge of both spoken and written English. Knowledge in Swedish is not necessary, but may facilitate the successful completion of the PhD studies.

KTH's general rules for admittance to PhD studies are applied.

The recruitment and announcement of PhD students follow KTH’s regulations.

At KTH and Konstfack there are today at least 20 main supervisors with the appropriate background for participation in the programme.
Funding
The financing of the doctoral programme, including quality evaluation and PhD positions, is through university funds, external funds, stipends and through other financing such as participation in research schools and cooperation with businesses.

For doctoral students with (external) stipend there are special rules are applicable.

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
The programme develops continuously through course evaluations, assessments of students’ progress, and by analysing the sufficiency of supervision and dissertations. Third cycle courses are evaluated according to KTH’s regulations, which state that course evaluations are to be made and the results published every time a course is held.

The students’ progress are evaluated annually in connection with the annual workshop/internat/exhibition, as follows:

- Each student writes a self-evaluation that forms the basis for a seminar discussion on partial results with supervisors and PhD candidates in the programme, allowing for an assessment of the quantity and quality of the student’s progress and supervision;
- The individual study plan is revised and registered.

The programme council, PA and assistant PA follow the local and international discussion in their subject areas and on PhD level education generally, and adjust the programme accordingly.

The quality of the dissertation is assured through the distribution forms described in the study plan. As part of doctoral studies the candidate should perform annual evaluations as described above. A final seminar with an external examiner is held prior to the PhD thesis defence. According to KTH’s regulations, an internal quality controller certifies the quality before the dissertation is permitted to be publically defended. Finally, a balancing of assessments between the parties (evaluation committee, supervisors and chair) is carried out at the public defence. The quality requirements for a dissertation are stated in more detail in the study plan for the subject area.

National and international network
The above is enumerated and defined in appendix 3.

Further instructions for registration
The preparations for the establishment of the doctoral programme have been made by reference to existing national research schools (ResArc, Design Faculty, Artistic research school, APULA) and international doctoral programme of high repute in art, performance, design and architecture. Referenced programmes include examples at Aalto University (Finland), Bartlett UCL (UK), Cresson in Grenoble (France), Danish Design school, Harvard DDes (USA), IIT (USA), Royal College of Art (UK), Princeton (USA), SintLucas/Leuven (Belgium), TU Delft (Netherlands), RMIT (Austria). Interesting environments/centres such as Institute of Making (UK) and MIT Centre for Art, Design and Science have also been taken into consideration.

The course package should be coordinated with neighbouring doctoral programmes at KTH and with local and national research schools. International research schools are organised in a number of subject areas within different international organisations. The courses offered at these schools may be relevant to include as part of the student’s study plan.
An extended stay at a well-known research group with a relevant research profile is a natural part of pursuing doctoral studies and should be included in the study plans. The exchange is based on the supervisors' and students' personal networks along with those at university level within the frame of "joint doctoral programs" such as Erasmus Mundus and EIT.

**Appendixes**

Appendix 1: Study plan for third-cycle subject Art, Technology and Design (KONST).

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 — Art, Technology and Design

Appendix 1: Study plan for third-cycle subject Art, Technology and Design (KONST).

The subject plan was approved by Fakultetsrådet (Faculty Council) October 2, 2013. Valid from Spring 14.

Subject title
Art, Technology and Design (Konst, teknik och design)

Subject description and programme outcomes

Scientific field
The doctoral education subject area Art, Technology and Design holds research within an emerging research area shaped by dynamic encounters between artistic and scientific approaches, as well as between three different perspectives: art, technology and design. The subject is advanced and developed within the framework of the doctoral programme in Art, Technology and Design. Pursued in collaboration between KTH and Konstfack, the programme provides a new arena for encounters between different cultures of knowledge and methods of research, innovation and production within art, technology and design. The overarching aim of the doctoral programme is to combine research and education on sustainable social development, and the adjustments such a development entails, with a radical rethinking of the relation between the individual, society and the environment. In challenging conventions within established knowledge areas, in holding a transdisciplinary scope, and by combining the practices of making with advanced epistemological and methodological perspectives, research and education within the programme should offer a strong power of innovation.

Artistic techniques may, for example, be used for detailed studies of everyday phenomenon that disclose their connections to larger contexts of habitual patterns. Underlying perceptions and mechanisms may thus be brought forth and made accessible for productive re-evaluations. Current research in design has, for instance, pointed to the conventional coding in terms of gender in everyday objects, and investigated aspects of their foundational effects on e. g. identity formation, action patterns and consumerist culture. By centring on human experience through a rethinking of design and sound-art perspectives, recent research on urban sonic environments contributes to new ways of planning and constructing the forms of future inhabitation in a denser urban environment.

The research area is essentially interdisciplinary through its focus on intersecting perspectives and concrete materialisations. Research projects in the subject area have a critical and analytic approach that is applied both to material and performative experimentations and in discursive, theoretical investigations. Research projects have a strong transdisciplinary potential in their capacity to include collaborations with external partners from e.g. business, culture and public sector, and government.

Description of possible specialisation
The subject has no specialisations.

Specification of how the programme outcomes are to be achieved
The educational goals are achieved by taking courses in accordance with the individual study plan, through participation in seminars, national and international conferences, and through supervision.
Current research

Programme structure

The education of third cycle level consists of a course part and a dissertation part. The course part may consist of lectures, literature studies, experiments, artistic practices and formulations, essay writing, problem solving and active participation in seminars, exhibitions and conferences. Courses can be taken within the programme as well as in cooperation with other national and international institutions. The main part of the courses should normally be taken during the first half of the education. The main supervisor is responsible for the individual candidates course plan through his or her engagement with the individual study plan. Possible exceptions from the mandatory courses shall be motivated and be approved by programme director before handing in the individual study plan to the Director of third cycle education.

The education of third cycle level is conducted through guidance by a main supervisor together with at least one assisting supervisor. The student's progress should be assessed at least once yearly in conjunction with the revision of the individual study plan, made by the student and the main supervisor. The individual study plan is subject to approval by the Director of third cycle education.

Students in the programme are expected to have an interest in and the ability to participate in graduate and undergraduate education, and should take an introductory course in university pedagogy. Teaching assignments should not expand on the maximum 20% prolongation of the designated time for PhD studies. Students should be encouraged to locate parts of their education at a university abroad.

Obtaining a licentiate degree as part of the PhD degree is permitted. The licentiate degree consists of a course part consisting of between 30 to 60 university credits, and a dissertation part consisting of between 60 to 90 university credits, so that together they make up altogether 120 university credits.

The PhD degree consists in a course part consisting of between 60 to 90 university credits, of which 30 are mandatory, and a dissertation part consisting of between 150 and 180 university credits, so that together they make up 240 university credits.

Seminars, exhibitions and conferences

Doctoral candidates are expected to take an active part in seminars and other programme activities throughout his or her time of education. The programme organises a yearly event with presentations of the participants' work in the form of lectures, performances, exhibitions or as otherwise appropriate. In these activities all PhD students within the programme are expected to participate. Regular participation in national and international symposia and conferences is an important component in the educational process.

Compulsory and recommended courses

The doctoral programme consists of a mandatory package of 30 university credits. Besides providing basic epistemological and methodological insights, both at a comprehensive level and for the particular research area, the set of courses offered are of great significance for the development of the programme's orientation and for establishing the research area. The course package is divided between courses that are primarily based on lectures, seminars and literature, and courses organised as seminars and workshops that focus on emerging analytical and experimental methods in alignment with the progress of the individual research projects carried out within the programme. Included in the course package is an introductory course to university teaching with a special focus on art and design.

The current list of courses is to be found on the webpage of the doctoral programme. The course list is subject to annual revisions by the programme council. The mandatory courses are held every two years, or more frequently if necessary. In some cases the teaching may be coordinated with similar courses at an advanced level, where the difference in course level is regulated through the number of lectures or seminars and the quality requirements for assignments. The examination on PhD level is generally characterised by higher requirements in terms of independence and creativity. Courses held within the programme are registered at KTH but are given partly or entirely both at KTH and Konstfack. Students can also take certified courses at other universities.
Mandatory courses (30 credits)

Theory of science and research methods in art, technology and design, 7.5 credits

The course provides a basic introduction to theory of science and an orientation to knowledge paradigms in different scientific traditions; advanced epistemological and methodological insights in current research in the subject area art, technology and design; and raises examples for discussion concerning the relation between the individual, society and the environment from the basis of historical and philosophical examples.

Concepts, theories and experimental practices in art, technology and design, 7.5 credits

The course provides an orientation in the emerging field of research known internationally in terms of "practice-based research in the arts", "arts and technology studies" and "research by design", and draws on completed PhD projects to advance in-depth understandings of methods of investigation and presentation of findings that are of particular interest to the profile of the subject area. A particular emphasis is put on different forms of academic writing and examples of revaluation and experimental approaches are highlighted and discussed.

Introduction to university teaching and learning in arts and design education, 5 credits

The course provides a basic orientation in university pedagogy and specialisation in teaching methods for education in art and design.

Rethinking research practices in art, technology and design, 10 credits

The course is carried out as seminars and/or workshops based on the on-going research projects of the course participants. The course carries two equally important elements. One concerns the material and performative aspects and matters to do with the artistic articulation pertaining to individual research projects that are discussed by reference to detailed studies of relevant cases within the subject area. The other element puts emphasis on the discursive aspects of the participants' work, discussing the framework of their research projects in terms of criticality, theory, relevance and significance by reference to selected key writings in the area. Results and discussions generated by the course are documented in a digital archive.

Elective courses (30-60 credits for PhD degree)

Additional courses are set individually in relation to the student's knowledge needs. These courses can be offered at Konstfack or KTH within the framework of the doctoral programme and/or in collaboration with courses on advanced level at these universities. The student may also take course at other universities in Sweden or abroad. The course plan is regulated in the individual study plan.

Compulsory courses

- AD3100 Theory of Science and Research Methods in Art, Technology and Design 7.5 hp.
- AD3101 Rethinking Research Practices in Art, Technology and Design 10.0 hp.
- AD3103 Introduction to University Teaching and Learning in Arts and Design Education 5.0 hp.

Thesis

The thesis / dissertation is an obligatory part of the education at third cycle level. The aim of the education is to provide students with the proper training that enables him or her to make independent contributions to scientific and artistic collaborations within and beyond the research area.

The outset for thesis and dissertation work within the programme are different practices for investigation and artistic articulation/formulations, both material and written, which are presented on an on-going basis throughout the doctoral studies in e.g. exhibitions, texts, and published articles. The public defence can either be based on a dissertation.
composed of parts / compilations, provided these are of a sufficient quality and are held together by a frame narrative; alternatively from the basis of a dissertation consisting of a coherent final presentation of research result in the form of a monograph. It is essential that the work manifests a capacity for reflection that relates to cutting edge research in the subject area and to current discussions in the field.

The thesis / dissertation should contain new research findings developed by the student, alone or in collaboration with others, through theoretical, artistic and/or empirical research activities. The scope of the thesis / dissertation is not regulated in terms of word count or similar measures. By way of useful comparison, however, a measure applied to other programmes at KTH is relevant: “The scientific results shall for doctoral degree meet the quality criteria for publication of at least four articles in internationally recognized journals with referee system (for licentiate degree at least two articles) or equivalent.” A defining element of this doctoral programme is that scientific results, besides their publication in e.g. peer-reviewed articles, may well be developed and communicated in other forms and media such as exhibitions, enactments, prototypes, performances, film, etc. For any such cases, adequate documentation and discussion on result are of utmost importance.

The theses / dissertations at KTH are normally written in English, but if the subject area motivates that the thesis / dissertation is written in another language, a special permit may be issued by the Director of third cycle education.

Entry requirements and selection

General and special admission requirements and prior knowledge

KTH's general prerequisites for admittance to doctoral programmes are applied.

The primary target group are students with a degree in Architecture, Civil engineering, Master degree from Design, Art, Arts or Technical formation. Other educational backgrounds may also be appropriate.

Recruitment / announcement and admittance of students according to KTH's rules.

Selection rules and procedures

The programme may recruit doctoral students through announced positions and as funded by stipends. The admittance must be preceded by obligatory interviews.

In general, applicants to the programme should be strongly motivated for doctoral studies, have the ability to work independently, and a capacity for critical analysis, collaboration and communication. The applicant should have good knowledge of both spoken and written English. Knowledge in Swedish is not necessary, but may facilitate the successful completion of the doctoral studies. More specifically, candidates are expected to be able to reflect critically around their proposed topic of research in relation to its broader social relevance; concerning perspectival encounters between the subject areas art, technology and design; and to central questions inherent to the shift towards a more sustainable society.

The programme’s degrees and examinations

Degree of Licentiate and Degree of Doctor (PhD)

Obtaining a licentiate degree as part of the doctor degree is permitted. The licentiate degree consists of a course part consisting of between 30 to 60 university credits, of which 30 are mandatory, and a dissertation part consisting of between 60 to 90 university credits, so that together they make up altogether 120 university credits.

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The programme’s examinations

Courses on third cycle level should include either written or oral tests on knowledge. The examination should be designed to ensure that the examiner is convinced about the student's capacity to absorb the course content.
Regarding the rules for examination of the thesis/dissertation part of licentiate and doctoral degree, see KTH's general rules.
Doctoral programme — Art, Technology and Design

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

The programme description was approved by Fakultetsrådet (Faculty Council) October 2, 2013. Valid from Spring 14.

Professors and associate professors at KTH and Konstfack with a PhD degree, good experience of supervising and research profile within the profile of the programme.

- Tim Anstey (KTH-ABE)
- Roberto Bresin (KTH-CSC)
- Magnus Bärtås (Konstfack)
- Leif Dahlberg (KTH-CSC)
- Katja Grillner (KTH-ABE)
- Annette Göthlund (Konstfack)
- Björn Hellström (KTHABE)
- Anders Houltz (KTH-ABE)
- Kia Höök (KTH-CSC)
- Sara Istedt Hjelm (KTH ITM)
- Alex Jonsson (KTH-CSC)
- Gunnar Karlsson (KTH-EE)
- Kaj Lindecrantz (KTH-STH)
- Bruce Lyne (KTH-CHE)
- Helena Mattsson (KTH-ABE)
- Håkan Nilsson (Konstfack)
- Margareta Norell-Bergendahl (KTH-ITM)
- Magnus Rönn (KTH-ABE)
- Sverker Sörlin (KTH-ABE)
- Christina Zetterlund (Konstfack)
- Bo Westerlund (Konstfack)
- Nina Wormbs (KTH-ABE)
- Ulrika Karlsson (KTH-ABE)
- Hélène Frichot(KTH-ABE)
- Charlie Gullström (KTH-ABE)
- Catharina Gabrielsson (KTH-ABE)
- Meike Schalk (KTH-ABE)
- Gerhard Eckel (KTH-CSC)
- Jonathan Metzger (KTH-ABE)
Doctoral programme — Art, Technology and Design

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

_The programme description was approved by Fakultetsrådet (Faculty Council) October 2, 2013. Valid from Spring 14._

The preparations for the establishment of the doctoral programme have been made by reference to existing national research schools (ResArc, Design Faculty, Artistic research school, APULA) and international doctoral programme of high repute in art, performance, design and architecture. Referenced programmes include examples at Aalto University (Finland), Bartlett UCL (UK), Cresson in Grenoble (France), Danish Design school, Harvard DDes (USA), IIT (USA), Royal College of Art (UK), Princeton (USA), SintLucas/Leuven (Belgium), TU Delft (Netherlands), RMIT (Austria). Interesting environments/centres such as Institute of Making (UK) and MIT Centre for Art, Design and Science have also been taken into consideration.

The course package should be coordinated with neighbouring doctoral programmes at KTH and with local and national research schools. International research schools are organised in a number of subject areas within different international organisations. The courses offered at these schools may be relevant to include as part of the student’s study plan.

An extended stay at a well-known research group with a relevant research profile is a natural part of pursuing doctoral studies and should be included in the study plans. The exchange is based on the supervisors’ and students’ personal networks along with those at university level within the frame of “joint doctoral programs” such as Erasmus Mundus and EIT.