Assessment panel's report on the evaluation of third-cycle programmes in architecture

Assessment panel's task

The Swedish Higher Education Authority (UKÄ) tasked us with reviewing programmes leading to licentiate and doctoral degrees in architecture. Annex 1 presents our assessments with the related justifications and a proposed overall assessment for each programme reviewed.

We hereby submit our report to UKÄ.

Assessment panel's composition

The assessment panel included the following members:

- Professor Mark Dorrian, University of Edinburgh (chairperson and subject expert)
- Professor Susanne Komossa, Delft University of Technology (subject expert)
- Erik Karlsson, Malmö University (doctoral student representative), until February 18, 2018
- Dr Katarina Graffman, Inculture (employer and labour market representative).

See annex 2 for circumstances regarding conflicts of interest.

Assessment panel's work

The evaluation is based on the requirements laid out in the Higher Education Act (1992:1434) and the Higher Education Ordinance (1993:100). In cases in which the higher education institution offers both licentiate and doctoral degrees in architecture, they were evaluated as one unit. Assessment material consists of the higher education institutions' self-evaluation, including annexes formulated based on *Guidelines for the evaluation of third-cycle programmes*, Swedish Higher Education Authority 2016, general and individual study plans, interviews with representatives of the reviewed programme and doctoral students, and other material produced by UKÄ. This material is presented in annex 3.

Assessment process

From the material, we have assessed the quality of the programmes based on the following aspect areas and perspectives.

Aspect areas:

- environment, resources and area
- design, teaching/learning and outcomes
- follow-up, actions and feedback.

Perspectives:

- doctoral student perspective
- working life perspective
- gender equality perspective.

The assessment panel's preliminary report per programme was sent to the relevant higher education institution for review, so the higher education institution was able to point out any factual errors. The review period was three weeks. The responses from the higher education institutions are presented in annex 4. We have reviewed the higher education institutions' responses, and in cases in which we assessed them to be relevant, changes were made in the reports.

Overall the assessment panel is very impressed with the quality of third-cycle programmes in architecture in Sweden. The organisation of the programmes and their systems and processes are generally effective and robust, and are clearly of a high standard when viewed in an international context. In the interviews the assessment panel found evidence of a high degree of student satisfaction as well as committed and engaged staff at both strategic and operative levels.

The assessment panel was struck by – and strongly commends – the collaborative ethos that exists between the schools of architecture involved in doctoral education in Sweden. The most impressive and evident manifestation of this is the ResArc initiative to which all the schools contribute. The panel sees this as exemplary and quite distinctive internationally. It has promoted effective sharing of resources and expertise, has expanded and diversified student experience, and has allowed limitations of scale, which would otherwise have been experienced, to be largely overcome. The importance of the initiative and the role it has played in the panel's assessment lead to obvious concerns about its future form, given that the funding that has supported it has now come to an end. The assessment panel emphasises the importance of finding a way to address this. If ResArc ceased to function effectively, third cycle education in architecture – especially in the areas of the humanities and social sciences – would be significantly diminished.

Despite the comments above, the assessment panel are surprised that possibilities of collaborative supervision of doctoral research across schools within the ResArc network has not been explored, although the interviews showed that there is clearly enthusiasm for this. The panel urges the schools to reflect upon and discuss possible futures for the ResArc initiative. It has the potential to become something like a national 'Graduate School' for research in architecture, but this has to be judged in relation to the importance given to the identity and distinctiveness of the schools' individual programmes. It would be productive for the schools to collectively discuss various options and strategies.

The assessment panel notes that the number of doctoral students enrolled in the schools tends to be rather low in relation to the available supervisory resources and that some of the schools would clearly benefit from having more students. In addition, the student cohorts appear rather uniform, with small numbers of international students. Greater diversity in student enrolments would certainly benefit third-cycle education in Sweden as a whole.

Alumni relations remain generally underdeveloped across the schools and much more could be made of the connection with previous students. Ways in which alumni expertise and experience can be fed back to enrich the programmes should be explored, together with the potential of the alumni network in helping graduates transition to professional

roles. The assessment panel could not find any evidence of systematic recording or detailed awareness of alumni successes (for example, in applications for prestigious postdoctoral awards) that would help the schools assess the quality of their programmes and graduates in an international context.

The assessment panel notes that none of the schools appear to have in place any system of research leave for staff. While basic pedagogical and supervisory training is standard across the schools, this does not address supervisory competence in terms of the maintenance of the supervisors' expertise in their own fields of research, which are inevitably ever changing. A properly designed system of sabbatical research leave would help address this.

In general the discourse on the development and emergence of non-standard forms of PhD (i.e. not monograph-based) seems less developed in the schools than might be expected. This is something that the assessment panel recommends be explored more vigorously and explicitly.

In conclusion, the assessment panel is grateful to the staff and students of the participating schools for their enthusiastic engagement in the assessment process. The panel members wish the schools well for the continuing successful development of their third-cycle programmes in architecture.

For the assessment panel

Mark Dorrian
Chairperson

Annex 1

Assessment panel's assessments and justifications

Chalmers tekniska högskola AB

Higher education institution	**Third-cycle subject area**	**ID no.**
Chalmers tekniska högskola AB	Arkitektur - licentiat- och doktorsexamen	A-2016-11-4119

Aspect area: Environment, resources and area
Aspect: Third-cycle subject area
Assessment with justification: *The demarcation of the third-cycle subject area and its connection to scholarship and proven experience are adequate and appropriate.*

The demarcation of the subject area given by the higher education institution is convincing and reasonable. The specialised areas of research described in the general study plan include architectural form and technique, building design and urban design, development of the built environment, architectural theory and history, design theory and design methodology. The field as described in the general study plan is quite wide-ranging and it is unclear whether all the areas listed have equal emphasis or representation in the institution's third-cycle programme.

As of 1 May, 2017, the Department of Architecture merged with the Department of Civil and Environmental Engineering, and consequently the Graduate School is now situated within the new Department of Architecture and Civil Engineering. The assessment panel noted during the interviews that staff opinions on the consequences of the merger varied dramatically. It recommends that, going forward, care is taken to ensure the programme supports the full range of areas of scholarship listed in the demarcation statement.

Aspect area: Environment, resources and area
Aspect: Staff
Assessment with justification: *The number of supervisors and teachers and their combined expertise are sufficient and proportional to the content of the programme and its teaching/learning activities.*

The higher education institution has good depth in terms of supervisory resources, with a high number of staff available to serve as supervisors. In Autumn 2016, there were 17 staff members available to act as main supervisors (with another two external main supervisors from outside the subject area of architecture) as well as an additional 24 staff available to serve as co-supervisors. In total, there were 26 doctoral students enrolled in the programme. If anything, the number of doctoral students might be thought small in relation to the supervisory capacity. As required by the higher education institution, all main supervisors have at least associate professor (docent) qualifications. In the self-evaluation, the higher education institution indicates a willingness and capacity to establish conditions of joint supervision with staff from other universities, companies and institutions when appropriate for doctoral students' research projects. The assessment panel commends this.

The combined expertise of supervisors and teachers and skill development are followed up systematically to promote high quality in the programme. The outcomes of the follow-up are translated, when necessary, into actions for quality improvement, and feedback is given to relevant

stakeholders.

There are clear initiatives for quality assurance in terms of supervisory competency that are set out in the statement. These include courses that are required in order to become a supervisor and also related workshops, of which supervisory staff are required to take one every three years. Procedures that enable the continuing development of staff members' own subject-specific expertise (as opposed to general supervisory competency) are not described in the self-evaluation. At interviews it was confirmed that this is entirely dependent on securing external funding.

There is evidence in the self-evaluation of both a system of feedback from doctoral students and action taken in response to the feedback. Specific cases are described in which, in response to monitoring – through for example the annual study plan meetings called by the Director of PhD studies – special arrangements were put in place to provide extended supervisory support for particular research, or to change the supervisory team. Although 72% of doctoral students in a recent survey rated their experience as good or very good, the self-evaluation refers to recent student feedback that suggests supervisors need to improve their pedagogic skills and that supervisors do not attend the pedagogic courses available to them. It is however not clear from the self-evaluation or the interviews how widespread this issue is. At the interviews, staff confirmed that there is no platform available where departmental supervisors can share their experiences and knowledge. The panel recommends establishing one.

Due to the end of funding for the Swedish Research School in Architecture (ResArc) initiative, and also the merger of Architecture and Engineering at the higher education institution, the panel urges that care is taken to support the interests and work of staff whose area of research is based in the humanities.

Aspect area: Environment, resources and area
Aspect: Third-cycle programme environment
Assessment with justification: *Research at the higher education institution has sufficient quality and scale for third-cycle education to be carried out at a high scientific level and within a good educational framework. Relevant collaboration occurs with the surrounding society, both nationally and internationally.*

The publication listings submitted with the self-evaluation indicate a vibrant and productive research environment. The track record of publications by doctoral students is impressive, and includes a number of monographs as well as significant journal publications. There is strong evidence of scale and depth of collaboration by the department with national and international networks and with business, interactions that enhance the critical mass of the third-cycle programme environment. There are very clear and extensive connections with other universities and national agencies and institutions. While the ResArc consortium is important, this is balanced with participation in other partnerships such as the international IDEA League, a network of leading European universities in science and technology.

Doctoral students take courses via the Generic and Transferrable Skills programme, the ResArc consortium, and through available courses in the Master's programmes in Architecture at the higher education institution. However, the self-evaluation indicates only two such programmes. It is unclear how easy it is to access university courses in other departments. Interviews suggested that there is a

lack of course offerings related to methodology, philosophy and history. The assessment panel recognises and commends that the higher education institution is very clear at a strategic level on the importance of maintaining ResArc activities after the withdrawal of funding.

The panel notes that in 2014, the previous informal arrangement of research groups was reorganised – on the basis of interviews – into three divisions, namely Building Design, Urban Design and Planning, and Architectural Theory and Methods. The self-evaluation and interviews indicate that the effectiveness and intensity of activity of the research groups seems variable. It is not clear to the assessment panel how the merging of the Department of Architecture with the Department of Civil and Environmental Engineering will affect or give opportunities to doctoral studies in architecture and if this has any structural implications. The panel sees the ongoing development of research groups as an issue that needs to be addressed for the benefit of both doctoral students and staff.

The self-evaluation does not provide information about the physical research environment or infrastructure (offices, library resources, IT infrastructure, etc.) although the interviews confirm that these are of good quality. Similarly, although the importance of doctoral students' participation in conferences is noted in the self-evaluation, there is no detailed description of in-house research seminar series or other forums for presentation and discussion, or a visiting speaker programme, etc. Although some research groups hold seminars, it is also stated that some groups do not have meetings. Some individual study plans note participation in conferences. The overall picture seems patchy.

The third-cycle education environment is systematically followed up to ensure high quality. The result of the follow-up is translated, when necessary, into quality improvement actions and feedback is given to relevant stakeholders.

The self-evaluation gives the assessment panel confidence that a robust system of feedback exists. Reviews occur in four-year and one-year cycles – the former are internal audits of the graduate schools of the higher education institution, and the latter are employee surveys. There is a useful overlap in the areas covered by this reporting.

Although the self-evaluation does not describe the specific processes through which follow-up occurs in relation to the third-cycle education environment, examples are given of action taken as a result of this monitoring. This involved the development of action plans leading, for example, to a more rigorous organisation of progress seminars.

Feedback given through the 2016 staff survey suggested that 40% of doctoral students employed by the higher education institution do not collaborate well with other researchers. The interviews clarified that this was a university-wide and not just departmental survey. It is not obvious from the self-evaluation or interviews how this will be addressed in the programme of architecture.

Aspect area: Environment, resources and area
Overall assessment of the aspect area 'environment, resources and area'
Assessment with justification: *In the overall assessment, the aspect area 'environment, resources and area' is deemed to be satisfactory.*

Although the merger with the Department of Civil and Environmental Engineering gives additional

scale, the merger may pose challenges to some areas of research listed in the demarcation of the subject area. The vitality and effectiveness of the organisation of research groups seems uneven and the overall picture needs to be addressed for the benefit of both doctoral students and staff.

Although the supervisory capacity and collaborative supervision between higher education institutions is a strength, the assessment panel sees potential areas of improvement regarding the engagement of staff in pedagogical development initiatives and a more systematic and coherent approach to the research groups.

Regarding the third-cycle programme environment, there are particular strengths in the extent of doctoral student publications and the scope of research collaborations and environment. The assessment panel emphasises the good example of breadth and depth of cross-institutional collaborations at both national and international levels.

Aspect area: Design, teaching/learning and outcomes
Aspect: Achievement of qualitative targets for 'knowledge and understanding'
Assessment with justification: *The programme ensures, through its design, teaching/learning activities and examination, that doctoral students who have been awarded their degrees show broad knowledge and understanding both within their third-cycle subject area and for scientific methodology in the third-cycle subject area.*

In the self-evaluation, the constructive alignment framework illustrates that the higher education institution ensures doctoral students' broad knowledge and understanding through supervision, courses on subjects and research methods and, depending on the research project, through collaboration or coproduction with supervisors or other stakeholders. In addition, the higher education institution ensures broad knowledge and understanding of the doctoral students through formative assessment of individual study plans, presentations at 10%, 25%, 75%, and 90% seminars, and assessments by supervisors and the Scientific Committee given at the half-way point (50% seminars) and at the defence (100%). However, the assessment panel notes – and this is also mentioned in the self-evaluation – that currently there are no methodological courses in social science such as interview techniques.

The ResArc courses put national discussions on the agenda and open international perspectives by inviting guests from abroad and giving doctoral students opportunities to make presentations. Furthermore, additional courses and workshops are offered in collaboration with other universities and focus on specialised issues. Regarding the relationship between research groups and doctoral students, the term 'research group' is not clearly defined and the self-evaluation stated that the building of effective research groups is still underway. The assessment panel notes that the size of the group is crucial.

The tools that guarantee progression are supervision, paper writing, and Graduate School courses. In the follow-up of the progress of doctoral students, the individual study plan is considered to play an important role. However, the assessment panel considers that more attention to the individual study plan could enhance the programme further. The submitted study plans differ from each other, ranging from very cursory to considerably detailed. Course and teaching activities are clearly documented and usually the study plans contain the abstract of the thesis and an indication of the method(s) to apply, although an overall timetable and the methodological approach are not necessarily documented. As a

consequence, the potential of the individual study plan is not fully explored. The panel notes that the individual study plans could be a more effective tool in preparing and developing the licentiate and doctoral dissertation if more attention were paid to research question/hypothesis, outcomes, and methods and if the individual study plans were used in a more systematic way.

When it comes to completion rates, the key figures of doctoral student completion rates are in line with figures for the third-cycle subject area of architecture in Sweden. Therefore, specific questions do not arise, except for the more general one of how the higher education institution ensures that doctoral students can complete their programmes within the scheduled time.

The programme's design and teaching/learning activities are systematically followed up to ensure achievement of qualitative targets. The results of the follow-up are translated, when necessary, in actions for quality improvement, and feedback is given to relevant stakeholders.

The main instruments for follow-up are the individual study plan and the meetings with the supervisors. These meetings guarantee direct feedback to the doctoral student. Another formalised follow-up is the annual study plan meetings called for by the Director of PhD Studies. According to both the self-evaluation and interviews, the ResArc courses, the checkpoints of presentations, and the individual study plan are crucial for ensuring that the qualitative targets relating to knowledge and understanding are achieved.

In addition, presentations at seminars, which doctoral students, supervisors, research groups and invited consultants attend, are organised to evaluate the student's progress and to provide feedback. At 50% and 90%, the Director of Graduate Studies organises a preview by the Scientific Committee. The preview can be in the form of a summative or formative assessment. The assessment panel considers that there is a valuable structure for evaluation and feedback provided by the higher education institution.

The panel notes that besides the research groups there are knowledge or research centres and institutes established in relation to certain themes, such as research centres for healthcare architecture, for urban futures, and for housing. The assessment panel recommends that these should be developed further. They could enhance the organisation of presentations of research work, the exchange of common knowledge, the impact of the research beyond the academy, and the involvement of professors from practice. All of this diversifies the range of stakeholders and the feedback to the higher education institution.

Aspect area: Design, teaching/learning and outcomes
Aspect: Achievement of qualitative targets for 'competence and skills'
Assessment with justification: *Through its design, teaching/learning activities and examination, the programme ensures that doctoral students whose degrees have been awarded can plan and use appropriate methods to conduct research and other qualified tasks within predetermined time frames, and in both the national and the international context, in speech and in writing authoritatively, can present and discuss research and research findings in dialogue with the academic community and society in general. Doctoral students are able to contribute to the development of society and support the learning of others within both research and education and in other qualified professional contexts.*

The main instruments to guarantee that the doctoral students achieve good planning skills and can

choose appropriate methods are discussions with the supervisors, the follow-up committee (consisting of the doctoral student, supervisors and programme director), and the research group in which the doctoral student takes part. Moreover, both their skills and methodological knowledge are developed via the ResArc courses.

In addition, the doctoral student prepares publications (e.g., conference contributions or scientific articles) that are intended to improve the doctoral student's public speaking and writing skills. The programme invites doctoral students to present their work during seminars and conferences, opportunities that help improve their research planning and their ability to meet deadlines. Seminars further support doctoral students in the choice of appropriate methods. All seminars are open to all students and staff encourage doctoral students to partake in the seminars where others present their work. However, at the moment, not all research groups function properly regarding regular meetings, presentations of research results and progress, and mutual knowledge exchange. The assessment panel understands that efforts are being made to improve this.

This tripartite structure (i.e., discussions with supervisors, follow-up committee and research groups, and seminars including the ResArc courses that focus on the choice of appropriate research methods) is fruitful and is assessed by the panel to function well. However, the organisation of regular research group meetings needs attention.

When it comes to training the doctoral students to contribute to the development of society and support the learning of others, the panel notes that courses are offered in communication, teaching, project planning, leadership and entrepreneurship. Articles are published in different types of non-academic publications such as daily newspapers and industry specific magazines. The panel notes and commends the initiative of the 'popular science presentation', which obliges doctoral students to present their work at least once to a public non-specialist audience.

The programme is followed up systematically to ensure that the design and teaching/learning activities are high quality and that the doctoral students achieve the qualitative targets. The results of the follow-up are translated, when necessary, into actions for quality improvement, and feedback is given to relevant stakeholders.

The above described system of individual study plans, supervisory meetings, annual study plan meetings and presentations to the Scientific Committee guarantees systematic follow-up and feedback to the doctoral students.

Aspect area: Design, teaching/learning and outcomes
Aspect: Achievement of qualitative targets for 'judgement and approach'
Assessment with justification: *Through its design, teaching/learning activities and examination, the programme ensures that doctoral students who have been awarded degrees show intellectual independence, scientific probity and the ability to make research ethics assessments. The doctoral student also has a broader understanding of the science's capabilities and limitations, its role in society and human responsibility for how it is used.*

According to the self-evaluation, scientific independence is the most important goal of third-cycle education and is promoted, encouraged and evaluated throughout the doctoral trajectory through individual study plans, supervisory meetings, etc. The licentiate degree that most doctoral students

take after two years is considered an important instrument to develop an independent position and enhance the capabilities of scientific probity and ethical responsibility. Ethical issues are addressed in the daily work and in the Generic and Transferrable Skills courses that address sustainability in general while specifically taking social, ecological and economic aspects into account.

It is important to publish and take part in conferences to develop an independent position, scientific probity and an understanding of ethical responsibility. Difficult issues, so-called wicked problems, are raised during progress seminars, according to the self-evaluation. However, the development of thematic research groups is uneven and much depends on the size of these groups.

The programme is followed up systematically to ensure that the design and teaching/learning activities are high quality and that the doctoral students achieve the qualitative targets. The results of the follow-up are translated, when necessary, into actions for quality improvement, and feedback is given to relevant stakeholders.

The licentiate degree, halfway through the doctoral trajectory, is a good instrument for follow-up and feedback to doctoral students. Seminars also help build common knowledge and serve as platforms for presenting research. Here artistic professors are also stakeholders who are involved when needed. However, the self-evaluation does not explicitly describe the role of potential stakeholders in this process and the way in which they are involved. According to the strategic staff interview, involving stakeholders in the designated research centres (centre for housing, centre for urban futures, etc.) could enhance the rapport among stakeholders. In this sense, a centre – even if it is a virtual centre – is a way of bringing together people from industry, researchers and staff. These centres could also provide help and ways to finance doctoral students.

Aspect area: Design, teaching/learning and outcomes
Overall assessment of the aspect area 'design, teaching/learning and outcomes'
Assessment with justification: *In the overall assessment, the aspect area 'design, teaching/learning and outcomes' is deemed to be satisfactory.*

The higher education institution demonstrates a robust system for tracking doctoral student progress and thereby ensuring that the doctoral students achieve the qualitative targets of knowledge and understanding, competence and skills, and as judgment and approach. The tools that are used for ensuring progress involve individual study plans and progress seminars. However, the depth and rigour of the individual study plans appear quite variable, and the assessment panel sees potential areas of improvement and recommends that a more systematic approach be taken.

While the panel feels that generic and transferrable skill acquisition is well covered, there appears to be issues with methodological courses for some areas of study. Another area needing attention is improving the functioning of research groups through the whole programme with regular meetings and presentations of research results.

Thematic research centres (e.g., collaborations with industry such as housing corporations) can be powerful tools that extend the academy's interaction with professional and non-academic partners and that deepen the relation with various stakeholders.

There are interesting and innovative initiatives that the panel commends, such as the 'popular science

presentation' where doctoral students are required to publicly present their work to non-specialist audiences.

The key figures for doctoral student completion rates are in line with figures for the third-cycle subject area of architecture in Sweden. Therefore specific questions do not arise, except for the more general one of how the higher education institution ensures that doctoral students can complete their programmes within the scheduled time.

Perspective: Working life perspective
Assessment with justification: *The programme is useful and prepares students for an ever-changing working life.*

The programme offers enough breadth to allow doctoral students to sufficiently prepare themselves for both an academic career and a career outside academia. As mentioned in the self-evaluation, architecture is by nature transdisciplinary, strongly connected to practice and always pushed forward by the demands of society. Several doctoral projects deal with societal problems and needs such as healthcare architecture and senior housing. Several of the doctoral students have ongoing positions outside academia and some are also publicly funded and therefore fit into the category of applied research. A number of the teachers and professors are active in professional practices and develop and maintain good contacts with different actors within research, development and practice. Several of the doctoral students also have a background in practice or in teaching.

Articles are published in different types of non-academic publications such as daily newspapers and industry specific magazines.

The higher education institution offers courses that are important for a professional career, such as courses in communication, teaching, project planning, leadership and entrepreneurship.

The programme's design and teaching/learning activities are systematically followed up to ensure that it is useful and prepares for working life. The results of the follow-up are translated, when necessary, into actions for quality improvement, and feedback is given to relevant stakeholders.

The follow-up system in place to ensure that the doctoral students achieve the qualitative targets of the programme also ensures that the doctoral students are prepared for working life. The assessment panel, however, notes the following weaknesses relating to the systematic follow-up. The self-evaluation mentions the ResArc survey of alumni doctoral students carried out in 2014. This survey was rather general, and the statistics quoted do not seem to refer specifically to results from the higher education institution but rather to ResArc as a whole. It is not clear how progress of alumni from the higher education institution is followed up and if the higher education institution considers the alumni experience or uses it to inform its approach. According to the operational and strategic staff interviews, organising alumni activities on a more formal level is not prioritised and the assessment panel sees this as a potential area of improvement in the systematic work on follow-up.

The assessment panel emphasises the good example of the Generic and Transferrable Skills courses on working life preparation, which deserves special notice and could act as an example for other third-cycle programmes.

In the overall assessment, the working life perspective is deemed to be satisfactory.

Perspective: Doctoral student perspective
Assessment with justification: *The programme allows the doctoral students to play an active part in the work of improving the programme and learning processes.*

According to the self-evaluation and the interviews, the assessment panel notes that there are sufficient and appropriate opportunities for doctoral students to improve their study situation. The self-evaluation clearly indicates that the doctoral students' needs and rights in this regard are taken care of and that there are opportunities for them to make their voices heard on issues relating to their studies and work environment. The self-evaluation stresses that the doctoral students are viewed and treated as part of the faculty, equal to any other employee. This gives them access to, for instance, staff meetings and other opportunities to voice their opinions. If a serious issue with a doctoral student occurs that would demand e.g. a change of supervisors, the processes implemented to handle this are clearly stated in the self-evaluation with a detailed description of the processes. The panel notes that the transparency and structure of this process seems excellent and can serve as a good example.

The self-evaluation points to the fact that the function of the doctoral student ombudsman at the higher education institution seems to be less known in research environments that lack a local PhD council, but this does not apply to architectural students where 95% are aware of and have confidence in the doctoral student ombudsman.

The self-evaluation addresses the issue that doctoral students seem to be in need of a forum for discussing common research problems (i.e., methodological or similar issues). The doctoral students previously had such a forum that the students themselves initiated, but these meetings have stopped. The self-evaluation and the interviews confirm, that there is a need for the higher education institution to further support such initiatives. The assessment panel notes that the doctoral students are confident enough to influence their study situation and come with initiatives such as creating a forum. However, the panel also notes this as an area of improvement since it is also the higher education institution’s responsibility to promote initiatives as well as support the ones already in place. The self-evaluation acknowledges this need, and there is an awareness that more work needs to be done in this regard, which was confirmed in the interviews. It also became clear in the interviews that the staff needs 'working time' to carry out such initiatives. Whether the merger between the Department of Architecture and the Department of Civil and Environmental Engineering will provide opportunities for such initiatives is still to be seen.

A cause for concern is the potential future defunding of the ResArc collaboration. The interviews highlighted the importance of continuing the activities in some form.

During the interviews, it was stated that some research groups are less active than others. Because research is largely organised in research groups at the higher education institution, there is a risk that students in some study areas might become isolated. The panel encourages the higher education institution to look into this and make sure all doctoral students have access to active research groups. The interviews made clear that the self-evaluation was a valuable document for doctoral students to understand the overall structure of the doctoral programme; it was suggested that the higher education institution could provide such an overview in a brochure.

The programme is systematically followed up to ensure that doctoral student input is used in quality assurance and improvement of the programme. The results of the follow-up are translated, when necessary, into actions for quality improvement, and feedback is given to relevant stakeholders.

The doctoral student ombudsman, as well as the local PhD Council, provides systematic follow-up from the doctoral perspective. The assessment panel acknowledges that the higher education institution provides tools that encourage doctoral students to express their opinions in various ways and handle issues directly connected with their own education. The initiative by the central university board of doctoral students to employ a doctoral student ombudsman also provides a neutral position, less connected to individual programmes, where doctoral students can acquire help with issues that might arise. The self-evaluation notes that the doctoral student ombudsman sometimes has a heavy workload, which points to the importance of the position. It is important that the higher education institution continues to support and publicise the position of the doctoral student ombudsman.

In the overall assessment, the doctoral student perspective is deemed to be satisfactory.

Perspective: Gender equality perspective
Assessment with justification: *A gender equality perspective is integrated in the programme's design and teaching/learning activities.*

Some research fields at the higher education institution, such as Building Design or Healthcare Architecture, more or less determine the gender balance with the majority of the doctoral students. In other research fields, the gender balance is more even. In addition, there is a gender imbalance in the staff, with more male than female supervisors. According to the self-evaluation, when recruiting new doctoral students, gender balance is always an issue.

According to interviews with the staff, paying attention to gender issues in the teaching content is a work in progress, as is the promotion of diversity in general. It is important to ensure that every member feels free to express their ideas in meetings. However, in the self-evaluation there is a striking statement recorded in a student survey in the Department of Architecture, in which the following pattern is highlighted; while the majority of doctoral student presentations are made by women, the discussion at meetings is normally dominated by men and the majority of professors are men.

The assessment panel notes that working in isolation or in small groups potentially leads to disjunction and non-awareness of gender issues. A certain size of the research groups as well as the exchange and sharing of supervision (e.g., with other schools via the ResArc network) could counteract such tendencies. Or, as it was stated by staff in the interviews, the focus needs to be moved from equal numbers to actual diverse qualities, which is an ongoing process.

Systematic follow-up is performed to ensure that the programme's design and teaching/learning activities promote gender equality. The results of the follow-up are translated, when necessary, into actions for quality improvement, and feedback is given to relevant stakeholders.

The annual employee survey includes issues regarding the psychosocial and physical work environment. Because the responses can be divided by gender and type of employment, the survey

can be used to follow up gender equality. Although there are already efforts to improve the current situation regarding gender imbalance, a more coherent policy is needed in the future. The higher education institution is working on such a policy to be implemented in all operations in 2019. The panel wants to emphasise that the policy explicitly needs to address the content of third-cycle programmes, staff and doctoral student recruitment, support for funding applications, and – as already indicated in the self-evaluation – a new attitude of listening from a gender perspective in everyday life.

The assessment panel emphasises the overall awareness of gender issues and the will to improve, for example, by formulating a clear policy.

In the overall assessment, the gender equality perspective is deemed to be satisfactory.

Aspect area: Follow-up, actions and feedback

Overall assessment of the aspect area 'follow-up, actions and feedback'

Assessment with justification: *In the overall assessment, the aspect area 'follow-up, actions and feedback' is deemed to be satisfactory.*

The systematic follow-up is generally robust when it comes to ensuring supervisory competency, the quality of the third-cycle programme environment, and students' achievement of qualitative targets. There are clear examples when issues have arisen with students' supervision that have been translated into actions for improvement. However, the depth and rigour of the follow-up of individual study plans vary and the panel recommends a more systematic approach be taken.

When it comes to giving feedback to relevant stakeholders, a clearer understanding and definition of relevant stakeholders (which may not just be doctoral students, or partners in research, but also funders and others who facilitate in some way the pursuit of the research) would help clarify just how effective and meaningful follow-up and feedback is. For example, it is not very clear from the higher education institution's reporting how feedback operates in relation to non-academic stakeholders.

Regarding the 'working life perspective', the assessment panel sees potential areas of improvement in developing and maintaining contact with alumni and feeding their knowledge and experiences back into the programme.

In terms of actions, the panel would like to see doctoral student concerns regarding the availability of appropriate methodological courses and the coherence of some research groups addressed. The panel appreciates that these points may have staffing implications and that time to conduct this kind of work has to be reserved.

When it comes to gender equality, the panel notes the will to improve – for example, by formulating a clear policy. The panel recommends that such a policy should deal with follow-up on recruitment and equality of numbers, promotional possibilities, etc., as well as follow-up on content of courses, directions of scholarship, and everyday practice from a gender perspective.

Overall assessment: High quality
Assessment with justification: *In conclusion, the programme is assessed as maintaining high quality.*

Aspect area 'environment, resources and area': The higher education institution has a good depth of supervisory resources, an impressive track record of publications, and a strong collaborative ethos with other higher education institutions, both at the national and international level. This enhances critical mass and ensures that the higher education institution has developed a significant network. The merger with the Department of Civil and Environmental Engineering gives additional scale, but may pose challenges to some areas of research listed in the demarcation of the subject area of the programme. The vitality and effectiveness of research groups seems uneven and the overall picture needs to be addressed, for the benefit of both doctoral students and staff.

Aspect area 'design, teaching/learning and outcomes': The higher education institution demonstrates a robust system for tracking doctoral student progress, involving individual study plans and progress seminars. However, the depth and rigour of the study plans appear quite variable and the panel recommends that a more systematic approach be taken. The emergence of thematic 'centres' can be powerful tools, extending the academy's interaction with professional and non-academic partners and deepening the relation with various stakeholders. While the panel feels that generic and transferrable skill acquisition is well covered, there appears to be issues with methodological courses for some areas of study. There are interesting and innovative initiatives that the panel commends, such as the 'popular science presentation', where doctoral students are required to publically present their work to non-specialist audiences.

Working life perspective: The doctoral programme is well-integrated with working life, with the profiles of staff and doctoral students showing strong links with industry and extra-academic institutions. Likewise, there is a track record of publication in professional journals, etc. The panel emphasises the good example of the Generic and Transferrable Skills courses. Linking up with alumni, however, is a potential area of improvement both in terms of (1) knowing what doctoral students do after taking their degree and how successful they are (an indicator of the quality of the programme in relation to working life) and (2) feeding their knowledge and experience back into the programme.

Doctoral student perspective: The systems for the integration of doctoral students within the department are robust and convincing, and the panel commends this. There are indications, however, of a shortfall of practical and material support for student-led initiatives for seminars, etc.

Gender equality perspective: The panel acknowledges the higher education institution's recognition and concern with gender equality but recommends that a more coherent policy is put in place that takes account of diversity more generally. This is not only a matter of recruitment and equality of numbers, promotional possibilities, etc., but also a matter of the content of courses, directions of scholarship, and everyday practice.

Aspect area 'follow-up, actions and feedback': The systems in place are generally good, and clear examples are given of actions taken when issues have arisen with doctoral students' supervision. More widely, the panel recommends that further thought is given to who constitutes 'stakeholders' with regard to specific research projects for the purposes of feedback. For example, it is not very clear from the higher education institution's reporting how feedback operates in relation to non-academic

stakeholders. Follow-up of alumni seems largely a blind spot.

Kungl. Tekniska högskolan

Higher education institution	**Third-cycle subject area**	**ID no.**
Kungl. Tekniska högskolan	Arkitektur - licentiat- och doktorsexamen	A-2016-11-4120

Aspect area: Environment, resources and area
Aspect: Third-cycle subject area
Assessment with justification: *The demarcation of the third-cycle subject area and its connection to scholarship and proven experience are adequate and appropriate.*

The self-evaluation by the higher education institution is clear and well-structured regarding the third-cycle subject area. As stated in the general study plan, the subject of architecture at postgraduate level manages, develops, and communicates knowledge of architecture. The subject deals with the concepts and theories of architecture and their relationship to the planning and design of the built environment. While the higher education institution's self-definition of the third-cycle subject area is somewhat tautological, the statement gives a good description of the arrangement through which areas of research specialisation are organised and co-ordinated. The areas of specialisation are Architectural Design, Architectural Technology, History and Theory of Architecture, Critical Studies in Architecture, and Urban Design.

The assessment panel notes some concerns raised in the self-evaluation about the number and effectiveness of the areas of specialisation with regard to quantity of students and staff and to cross-specialisation. From the interviews, the panel understands that there is presently an ongoing discussion regarding how these may be reformatted in a way that is more relevant and productive for ongoing research.

The panel commends the higher education institution's understanding of the role of postgraduate student research in exploring and transforming the definition of the subject area, as well as the higher education institution's stated commitment to its demarcation as a matter of ongoing discussion and debate.

Aspect area: Environment, resources and area
Aspect: Staff
Assessment with justification: *The number of supervisors and teachers and their combined expertise are sufficient and proportional to the content of the programme and its teaching/learning activities.*

This is generally satisfactory, although there are currently pressures caused by departures of staff and partial leave. As reported in the self-evaluation, in autumn 2016 there were 14 supervisors and 25 doctoral students, with an additional 10 doctoral students listed as 'inactive'. The higher education institution's self-evaluation makes clear that there is gap in supervision in Architectural Technology, although it mentions that this will be addressed by the appointment of an Associate Professor, which the panel understands from the interviews will be made in spring 2018. As there are currently seven doctoral students listed in Architectural Technology (the highest of any group), it is clearly important that this appointment is made. Other new appointments at this level are mentioned, although the timing of these – with the exception of positions in Urban Design – is not entirely clear.

Regarding the combined expertise of the supervisory resources, this is met with the requirements that

main supervisors have docent competence, except two supervisors who have special permission to be main supervisors. In addition, main supervisors are also required to complete a course in PhD supervision.

The assessment panel notes that, according to the self-evaluation, pressure on supervisory resources has been eased by the designation of low-activity doctoral students as 'resting'. The panel understands that this is a pragmatic approach given that the programme registration of the doctoral students cannot be terminated. But the understanding that there is no institutional responsibility to these doctoral students until they themselves become active again raises questions that should be discussed.

The combined expertise of supervisors and teachers and skill development are followed up to promote high quality in the programme, although there is not evidence that this is completely systematic. The outcomes of the follow-up are translated, when necessary, into actions for quality improvement, and feedback is given to relevant stakeholders.

This is generally satisfactory, although the panel had some concerns from the self-evaluation that the follow-up tends to be informal and unsystematic. The interviews, however, gave more confidence that the system is robust. In particular, the presence of a twice-yearly supervisors' collegium is commended. The self-evaluation notes that the personal development dialogue between the doctoral student and the programme director, which is offered at least annually, provides support in situations in which a change of supervisor is required. The interviews confirmed that the structure is in place and that it is effective.

There is not a clear description in the self-evaluation of a system of assessing the effectiveness and expertise of supervisory staff or what the institution puts in place to facilitate and encourage the ongoing development of its research staff's knowledge and capabilities. In the interviews, however, it was clarified that, while there is not a sabbatical system, there is faculty money made available for staff research via competitive bidding.

The connections that specific staff have with non-university bodies is noted and commended, but it is unclear what mechanisms facilitate and encourage these at the level of the higher education institution. To demonstrate actions taken as a result of follow-up, the self-evaluation cites the example of responses to a dissertation that was below quality due to supervision. However, this action appears to address only the needs of the doctoral student (new supervision team, extra funding) and not the original supervisory issue (i.e., why was the supervision defective in the first place, and how is this problem addressed?).

Aspect area: Environment, resources and area
Aspect: Third-cycle programme environment
Assessment with justification: *Research at the higher education institution has sufficient quality and scale for third-cycle education to be carried out at a high scientific level and within a good educational framework. Relevant collaboration occurs with the surrounding society, both nationally and internationally.*

The assessment panel commends this strong and well-evidenced statement in the self-evaluation that indicates a high level of both quality and intensity of activity, and a range of connections and

collaborations with external bodies. The publications listing provided is strong but limited as it conveys only staff and not student publications, and so the assessment panel are unable to form a view regarding the latter. Moreover, it is not entirely clear from the self-evaluation exactly what role doctoral students play in the various collaborations mentioned and how the activities feed directly into their environment. Overall, there are perhaps not as many international collaborations noted as one might expect.

The assessment panel emphasises the good examples of the Swedish Research School in Architecture (ResArc) consortium and associated activities, such as the student-led *Lo-Res* journal. The panel notes that funding for key parts of the research environment is coming to an end (i.e., the two Strong Research Environments (SREs) and ResArc, funded by Formas), which is a concern. The commitment of the collaborating institutions to the maintenance of the ResArc activities is noted, but it is unclear how their viability will be affected with the loss of funding. Evidence received by the panel indicates how important the ResArc initiative is to the research environment and student experience.

The introduction of Higher Seminars, a weekly or bi-weekly forum for exchange between researchers of all levels, appears an important part of the research environment, which the assessment panel commends. Concerns regarding critical mass and the potential for the development of cross-departmental engagement within the institution are noted. The latter appears at present somewhat under-explored, although the panel notes that in interviews staff confirmed that the move to the main campus has improved cross-departmental engagement.

There is no statement of physical infrastructure and resources and how these affect programme environment and educational framework (office space for the doctoral students, library and IT resources for research, etc.) in the self-evaluation. Evidence received by the panel indicates there is a need for quieter and more protected working spaces for doctoral students.

The challenges posed by the integration of 'industrial doctoral students' into the research environment are noted in the self-evaluation, but no response to them is given.

The third-cycle education environment is followed up to ensure high quality, although there is a lack of evidence that this is entirely systematic. The result of the follow-up is translated, when necessary, into quality improvement actions and feedback is given to relevant stakeholders.

From the description given in the self-evaluation and the interviews, the panel is confident that this criterion is satisfactorily met. However, while there are a number of forums listed concerning monitoring and follow-up (e.g., Programme Council), individual discussions with doctoral students, the Research Education Council, as well as annual assessment at the higher education institution, their relations with one another are not clearly delineated in the self-evaluation. It is not explicit what the committee structure is, how lines of reporting work, and at what level responsibility for particular actions lies. The frequency of meetings is generally unstated in the self-evaluation. The assessment panel were reassured by the interviews about the follow-up system, but clarification of the systematic follow-up of the third-cycle education environment would further enhance and ensure quality.

Aspect area: Environment, resources and area
Overall assessment of the aspect area 'environment, resources and area'
Assessment with justification: *In the overall assessment, the aspect area 'environment, resources*

and area' is deemed to be satisfactory.

While the staffing of the programme is generally satisfactory, the assessment panel sees potential areas of improvement regarding the number of supervisors, especially in relation to Architectural Technology. The higher education institution's intention to appoint staff in this area is noted.

The third-cycle environment is assessed as an environment of high quality and intensity of activity with a range of connections and collaborations with external bodies. The assessment panel emphasises the good examples of the ResArc consortium and associated activities (such as the student-led *Lo-Res* journal), the introduction of the Higher Seminar for doctoral students and researchers at all levels, the intensity and range of high-quality research activities (including organised conferences), and collaborations both with other higher education institutions and non-academic institutions. However, the panel feels that potential cross-departmental engagements for architecture within the higher education institution seem at present under-explored.

There is a lack of clarity in the self-evaluation regarding lines of reporting and where responsibility for specific actions lies. Improving this would help ensure systematic follow-up and the quality of the programme with regard to the 'environment, resources and area' aspect area.

Aspect area: Design, teaching/learning and outcomes
Aspect: Achievement of qualitative targets for 'knowledge and understanding'
Assessment with justification: *The programme ensures through its design, teaching/learning activities and examination, that doctoral students who have been awarded their degrees show broad knowledge and understanding both within their third-cycle subject area and for scientific methodology in the third-cycle subject area.*

The scheme presented in the self-evaluation documents that courses and training in the subject area and research methods run parallel to thesis work. Research and writing of the thesis, compulsory courses, and elective courses (i.e., workshops, seminars, and conference participation) are an integral part of the doctoral trajectory. Systematic reviews of the thesis progress are conducted at the midterm presentation (50%), at two presentations of the doctoral work made at the Higher Seminars – one after one year (25-30%) and the second after three years (70-80%) – and finally at the defence (100%). At the final defence, international committee members are usually present.

The activities that guarantee that broad knowledge and understanding is achieved and progress is made during the doctoral trajectory include the individual study plan, methodological seminars, national and international conference participation, and individual supervision. Moreover, the higher education institution encourages doctoral projects that explore design and experimental writing as a mode of research and knowledge production. The assessment panel sees these activities and structure as fit to guide students and to achieve the targets of knowledge and understanding in a satisfactory way. Further attention to the mutual relationship between these elements of supervision could enhance the programme even more.

The panel notes that doctoral students of the programme take around one-and-a-half years more net study time to complete their degree than doctoral students in architecture in other higher education institutions in Sweden. In the interviews, this was explained in part by an earlier supervisory culture and this is expected to improve with recent changes in supervisory staff and strengthened review

structures. One reason given for the longer completion rates is that there seems to exist a certain tension between the kind of experimental research done and the expected length of doctoral trajectories. Another reason has to do with the ambitions and high standards of the higher education institution. Moreover, doctoral students who combine professional work, for example at a municipality, and thesis work obviously have a longer gross period of study. The assessment panel advises the higher education institution to develop a policy that makes the ambitions explicit to doctoral applicants including the potential of this kind of work and study trajectory, so it will in future be clear what aims are set and whether they are met.

The programme's design and teaching/learning activities are systematically followed up to ensure achievement of qualitative targets. The results of the follow-up are translated, when necessary, in actions for quality improvement, and feedback is given to relevant stakeholders.

The main instruments for systematic follow-up are the individual study plans and the study plan meetings, Higher Seminars, supervisorial feedback, and departmental 'research training meetings'. In the follow-up of the progress of doctoral students, the digital individual study plan is obligatory and considered to play an important role. In cases where progress is lagging, the supervisor and doctoral student are invited to clarify the reasons. In addition to presentations at Higher Seminars, the programme director calls for 'research training meetings' once or twice per term where the audience of programme director, supervisors, and doctoral students evaluate the students' progress and provide feedback. Moreover, there are individual talks between the programme director and the doctoral students. The panel notes that direct feedback to the doctoral student is guaranteed by the current system in a commendable way.

When it comes to systematic follow-up of the ResArc activities, doctoral students give feedback on the ResArc courses. Higher seminars and ResArc courses are complimentary. The interviews indicated that the structure and content of the third-cycle programme are not generally well understood by doctoral students, which suggests that the programme syllabus could be more effectively disseminated and utilised.

While a valuable structure for evaluation and feedback is provided by the higher education institution, the assessment panel believes that more attention to the structural role of the individual study plan could enhance the programme even more. The presented examples of study plans differ. Most of them are quite clear regarding the courses planned and completed, progress and thesis abstract, but not very explicit in the methodological approach to the subject matter (i.e., the plans do not clearly elaborate research methods). During the interviews, the assessment panel also received consistent answers about the need for further refinement with the shift to electronic individual study plans.

Regarding the systematic follow-up of training of research methods and a methodological approach to thesis work, the staff informed the assessment panel in the interviews that the development of scientific methodologies is supported by ResArc courses, supervisor-student discussions (e.g. advice to take certain courses etc.), actual step-by-step writing exercises, and the supervisors' help in managing each student's process. There is an understanding that progress is a collective responsibility. This 'co-supervising' is highly valued by the assessment panel and can enhance regular feedback from other relevant stakeholders and as such deserves structural attention in the future.

Aspect area: Design, teaching/learning and outcomes
Aspect: Achievement of qualitative targets for 'competence and skills'
Assessment with justification: *Through its design, teaching/learning activities and examination, the programme ensures that doctoral students whose degrees have been awarded can plan and use appropriate methods to conduct research and other qualified tasks within predetermined time frames, and in both the national and the international context, in speech and in writing authoritatively, can present and discuss research and research findings in dialogue with the academic community and society in general. Doctoral students are able to contribute to the development of society and support the learning of others within both research and education and in other qualified professional contexts.*

The main instruments to guarantee that the doctoral students achieve good planning skills and can choose appropriate methods are discussions with the supervisors, participation in (higher) seminars, presentations during 'research training meetings', and research days. Seminars support students in the choice of appropriate methods. The interviews made it apparent that all supervisors have access to doctoral students' progress seminars (30%, 50%, etc.) and that this is a collective process.

In addition, doctoral students prepare publications, contribute to conferences, participate in conference preparations and develop paper reviews that train the students in oral presentations, reading, and writing within a set time frame. The higher education institution also promotes international exposure by encouraging doctoral students to publish and take part in international conferences. In addition, lecturers from abroad are invited. Each student receives 10,000 SEK/year to attend national and international conferences, both nationally and internationally. The assessment panel hopes that this support will remain after ResArc funding ends. Overall, the interviews confirmed that the doctoral students have good connections with international networks, although it was noted that it would be helpful to have a senior researcher specifically dedicated to facilitating this for the doctoral students.

During their research trajectory, the doctoral students also gain experience by teaching first-cycle and second-cycle students, which evolves their competence and skills in supporting the learning of others.

Doctoral students are further prepared to contribute to the development of society in general by the he higher education institution's continuous social engagement - for example, through two large research and collaboration platforms that integrate research with society and practice.

The programme is followed up systematically to ensure that the design and teaching/learning activities are high quality and that the doctoral students achieve the qualitative targets. The results of the follow-up are translated, when necessary, into actions for quality improvement, and feedback is given to relevant stakeholders.

The process described above guarantees systematic follow-up and feedback to the doctoral students. The individual study plan helps frame time schedules and deadlines. The programme director plays a crucial role in making sure that progress of the individual doctoral student is actually followed, and when encountering obstacles, doctoral students are helped and receive feedback regarding competences and skills.

Aspect area: Design, teaching/learning and outcomes
Aspect: Achievement of qualitative targets for 'judgement and approach'
Assessment with justification: *Through its design, teaching/learning activities and examination, the programme ensures that doctoral students who have been awarded degrees show intellectual independence, scientific probity and the ability to make research ethics assessments. The doctoral student also has a broader understanding of the science's capabilities and limitations, its role in society and human responsibility for how it is used.*

According to the self-evaluation, the qualitative targets of intellectual independence, the ability to demonstrate scientific probity, disciplinary rectitude, and the ability to assess research ethics are ensured and promoted throughout the doctoral trajectory, and encouraged and evaluated in meetings with the supervisors and peers, seminars, and actual work on the thesis. Ethics as well as the capabilities and limitations of scientific research are explicitly discussed in a series of mandatory Higher Seminars. Seminars and architecture-specific courses on concepts and theories, as well as communication of knowledge within architectural research, are considered important for developing an independent position and the capacity for scientific probity and ethical responsibility.

The programme is followed up systematically to ensure that the design and teaching/learning activities are high quality and that the doctoral students achieve the qualitative targets. The results of the follow-up are translated, when necessary, into actions for quality improvement, and feedback is given to relevant stakeholders.

A whole range of activities is offered in which doctoral students are engaged. The mid-term review, final seminar, and final dissertation defence, in which external reviewers take part, ensures the overall quality of the programme. To maintain such a broad range of topics and approaches, a critical mass of doctoral students is needed. Therefore, the panel sees the support of activities provided through funding – e.g. the ResArc seminars and new doctoral students – as crucial.

To make sure and follow-up that doctoral students achieve the qualitative targets, a recent change was made to align local goals with national goals (i.e., the qualitative targets that doctoral students should meet either through their thesis work or through compulsory as well as elective courses and seminars).

The interviews indicated that collaboration with stakeholders and follow-up of qualitative targets with respect to relevance to society are things that will be developed in the anticipated revision of the programme syllabus in 2017–18. In 2016–17 the syllabus was refined with a view to more clearly specifying 'judgement and approach' in relation to the subject area. The interviews clarified that stakeholders are understood generally to encompass the building sector, the public, expert groups such as the Swedish Architects Association and political organisations, as well as funding bodies such as Formas, which supports initiatives such as the ResArc initiative. This expansive definition is commended by the panel.

Aspect area: Design, teaching/learning and outcomes
Overall assessment of the aspect area 'design, teaching/learning and outcomes'
Assessment with justification: *In the overall assessment, the aspect area 'design, teaching/learning and outcomes' is deemed to be satisfactory.*

The higher education institution offers an effective structure ensuring that doctoral students achieve the qualitative targets of knowledge and understanding, competence and skills, as well as judgement and approach through individual study plans, methodological seminars, national and international conference participation, and individual supervision. Regarding the training of research methods and a methodological approach to thesis work, the assessment panel values that the development of scientific methodologies is supported by ResArc courses, supervisor-student discussions (that include advice on which courses to take), actual step-by-step writing exercises, and cross-referral by supervisors. This 'co-supervising' is received very positively and as exemplary. An international orientation and performance adds to this positive framework. Regarding the aspect 'knowledge and understanding', the assessment panel sees potential areas of improvement regarding the use of the individual study plan, particularly with regard to methodology often not being dealt with in the individual study plan.

The higher education institution stimulates doctoral projects that explore design and experimental writing as a way of research and knowledge production. Further attention paid to the mutual relationship between these elements of supervision could enhance the programme even more.

Based on the interviews, the panel has some concerns that the higher education institution's attitude toward the average length of completion of its doctoral students' degrees is contradictory. On one hand, it is explained as a relic of an earlier supervisory attitude, which has been changed; on the other hand, it is described as evidence of ambition and rigour. The assessment panel encourages the higher education institution to reflect on this and establish a clear position with regard to it.

In summary, the panel commends the robust structures for supporting doctoral student progress, an expansive understanding of relevant stakeholders, and good evidence of interaction and sharing of experience between supervisors.

Perspective: Working life perspective

Assessment with justification: *The programme is useful and prepares students for an ever-changing working life.*

The programme offers enough breadth to allow doctoral students to sufficiently prepare themselves for both an academic career and a professional career. Compared to other theoretical disciplines, architecture has a thorough integration between research and working life and practice. For example, the higher education institution has a continuous engagement with society through two large research and collaboration platforms – DECODE and Grön Bostad – that integrate research with society and practice, involving several doctoral students. In addition, several doctoral students have worked at the department, either with teaching or administration, prior to being a doctoral student or during or following doctoral studies. The higher education institution has a high range of publications in different types of non-academic publications such as daily newspapers and industry specific magazines. Four doctoral students are industrial doctoral students working part time at an office or municipality. The department offers courses that are important for a professional career, such as the courses in scientific theory, research methodology, communication, and teaching. This ensures the programme continues to be relevant from a working life perspective.

However, the assessment panel notes the following weaknesses relating to preparation for working life outside the academy. The self-evaluation states that preparing for working life is largely up to the

individual supervisor. This might provide unequal opportunities for the doctoral students regarding to what extent they are prepared for working life. Therefore, the upcoming revision of the syllabus as stated in the self-evaluation, with its focus on developing local goals in this area, is welcome.

The programme's design and teaching/learning activities are systematically followed up to ensure that it is useful and prepares for working life. The results of the follow-up are translated, when necessary, into actions for quality improvement, and feedback is given to relevant stakeholders.

According to the self-evaluation, the systematic follow-up of the working life perspective includes development dialogues, research training meetings, and questionnaires. ResArc has carried out two general surveys for architecture doctoral students, one addressed to the alumni in 2014 and one addressed to all active doctoral students in 2015. When necessary the results of the follow-up are translated into actions for quality improvement, and feedback is given to relevant stakeholders. For example, the self-evaluation notes that one representative of The Swedish Architects Association is a board member of ResArc and provides feedback from the private sector. The assessment panel notes, however, that the follow-up mentioned in the self-evaluation is quite general and rather vague. There is no evidence that the higher education institution uses specific mechanisms to develop and consolidate links with alumni and to use their feedback to improve the programme. Questions also arise regarding transferrable skills, competencies outside architecture, employment rates of graduates, competitiveness in winning postdoctoral awards, or success in the international context. This is a potential area of improvement.

In the overall assessment, the working life perspective is deemed to be satisfactory.

Perspective: Doctoral student perspective

Assessment with justification: *The programme allows the doctoral students to play an active part in the work of improving the programme and learning processes.*

Based on the self-evaluation, the individual study plans and the general study plan provide a framework for working with doctoral student input, individual development dialogues, formal and informal meetings, and a clear structure of where the doctoral student can turn for help. This was also confirmed in the interviews.

According to the self-evaluation, the individual study plans function as a valuable planning tool for the doctoral students. Doctoral students have ample opportunity to make their voices heard in various forums at the department and institution level and this is also verified in some of the individual study plans.

The programme is systematically followed up to ensure that doctoral student input is used in quality assurance and improvement of the programme. The results of the follow-up are translated, when necessary, into actions for quality improvement, and feedback is given to relevant stakeholders.

According to the self-evaluation and the individual study plans, the follow-up of doctoral student ideas and concerns is systematic and translated into action when needed. There are examples given of changes made as a result of doctoral student input, and this was also confirmed in the interviews, e.g., regarding possibilities to change supervisors if needed. In general, the doctoral students seem pleased with their environment and the possibilities of making their voices heard on matters relevant

to their education.

The assessment panel notes the following weaknesses regarding the systematic follow-up of the doctoral student perspective. Questionnaires could more systematically be used to evaluate what doctoral students want and need, giving an even better foundation for developing the programme further. Although there are opportunities for doctoral students to be members of various committees and boards at the department and institution level, the panel notes confusion whether there is compensation for this, an issue that needs to be addressed by the department and/or faculty to make sure that the rules for compensation are clear and fair.

Additionally, the importance of the ResArc courses providing the doctoral students with a broad range of influences and perspectives became clear through the interviews, and the panel wants to note the importance of maintaining this when ResArc funding ends.

In the overall assessment, the doctoral student perspective is deemed to be satisfactory.

Perspective: Gender equality perspective
Assessment with justification: *A gender equality perspective is integrated in the programme's design and teaching/learning activities.*

The higher education institution is very active from this perspective and explicitly stresses gender issues in the programme's design, content, and teaching/learning activities. This also forms part of the ongoing work of research groups that inclusively address gender issues in articles and presentations, take part in conferences that present gender issues as a main topic, etc., as well as courses that aim to raise awareness vis-à-vis gender biases and the reproduction of certain gender references. Last but not least, the higher education institution was active in the organisation of the Architectural Humanities Research Association (AHRA) conference on 'Architecture and Feminism' in 2016, and in undergraduate courses for permanent professional education (PPE) that address gender issues and contents. Finally, it supports doctoral students who are interested in exploring gender-related issues in their research.

At the higher education institution, the thematic of course contents influences the balance between males and females participating. Some areas attract more females, other males. The programme includes nine male and 16 female doctoral students. Staff is balanced: about a half male and half female.

Systematic follow-up is performed to ensure that the programme's design and teaching/learning activities promote gender equality. The results of the follow-up are translated, when necessary, into actions for quality improvement, and feedback is given to relevant stakeholders.

The higher education institution has developed a policy that encourages men and women to take courses addressing gender biases, not only on a practical level and in everyday practice, but also regarding research fields and course content. Similarly, according to the self-evaluation, a set of rules has been developed to make sure that one group does not dominate discussions. For example, an individual who would like to respond can speak only after being recognised by the moderator.

Gender equality is an important issue on the agenda of the higher education institution and, according

to the self-evaluation, the system is still being improved. Examples of actions taken are analysing formal and informal practices regarding gender and discussing their impact with students and staff, focusing on a balanced recruitment of doctoral students and staff, and the continuous evaluation of gender content of each research field.

To conclude, the higher education institution is a leading institution in the field of gender equality and architecture. The assessment panel emphasises the good example of a broad and comprehensive approach of gender issues on all levels of third-cycle education.

In the overall assessment, the gender equality perspective is deemed to be satisfactory.

Aspect area: Follow-up, actions and feedback
Overall assessment of the aspect area 'follow-up, actions and feedback'
Assessment with justification: *In the overall assessment, the aspect area 'follow-up, actions and feedback' is deemed to be satisfactory.*

Regarding the aspect 'third-cycle programme environment', the description of the structural relations of the various forums mentioned was unclear in the self-evaluation as were the processes of follow-up and responsibility for action.

Across the aspect area 'design, teaching/learning and outcomes', the panel sees that there is a valuable structure for evaluation and feedback provided by the higher education institution, but there are areas that need improvement with regard to the more rigorous use of individual study plans. The assessment panel emphasises the good example of an active and collaborative supervisory group that is constantly engaged in optimising follow-up, actions taken and feedback, and the existence of initiatives such as the supervisors' collegium. The understanding of 'stakeholders' is wide-ranging and plausible, involving the building sector, the public, expert groups, political organisations, and funding bodies.

In the 'working life perspective', the follow-up with alumni is currently a blind spot and is a potential area of improvement. When it comes to the 'doctoral student perspective', the panel notes that doctoral students' answers to questionnaires could be used to improve the programme. The institution is commended for the work not only on focusing on a balanced recruitment of students and staff, but also working with the continuous evaluation of gender content of each research field.

Overall assessment: High quality
Assessment with justification: *In conclusion, the programme is assessed as maintaining high quality.*

Aspect area 'environment, resources and area': The higher education institution is assessed by the panel to deliver a very coherent programme in all its facets. The third-cycle environment is assessed as an environment of high quality and intensity of activity with a range of connections and collaborations with external bodies. The staffing of the programme is generally satisfactory, and the higher education institution's intention to appoint staff in order to improve the number of supervisors in some areas is noted.

Aspect area 'design, teaching/learning and outcomes': The assessment panel highly values the very

effective structure offered to the doctoral students. Individual study plans, methodological seminars, national and international conference participation, and individual supervision guarantee broad knowledge and understanding. Moreover, the institution stimulates doctoral projects that explore design and experimental writing as a way of research and knowledge production. Further attention paid to the mutual relationship between these elements of supervision could enhance the programme even more. Regarding the training of research methods and a methodological approach to thesis work, the assessment panel values that the development of scientific methodologies is supported by ResArc courses, supervisor-student discussions (which include advice on which courses to take), actual step-by-step writing exercises, and cross-referral by supervisors. This 'co-supervising' is received very positively and as exemplary. An international orientation and performance adds to this positive framework.

Working life perspective: The working life perspective is satisfactory as doctoral students are well prepared for both an academic career and a career outside academia. However, a potential area of improvement is follow-up and feedback from alumni, a strategy that will inevitably need time and resources.

Doctoral student perspective: Doctoral students at the higher education institution have ample opportunity to make their voices heard in various forums at the department and institution level.

Gender equality perspective: By focusing on a balanced recruitment of students and staff and, by the continuous evaluation of the gender content of each research and teaching field, the higher education institution is a leading institution in the field of gender issues and architecture.

Aspect area 'follow-up, actions and feedback': The processes for follow-up and responsibility for action is unclear when it comes to the third-cycle programme environment. When it comes to the teaching/learning, there is a valuable structure for evaluation and feedback, with good examples of initiatives such as the supervisors' collegium. The assessment panel sees a more rigorous use of the individual study plans as a potential area of improvement.

Lunds universitet

Higher education institution	**Third-cycle subject area**	**ID no.**
Lunds universitet	Arkitektur - licentiat- och doktorsexamen	A-2016-11-4121

Aspect area: Environment, resources and area
Aspect: Third-cycle subject area
Assessment with justification: *The demarcation of the third-cycle subject area and its connection to scholarship and proven experience are adequate and appropriate.*

The demarcation stated by the higher education institution is clear and reasonable. Noting that the field can encompass issues in social sciences, science, engineering, humanities, aesthetics, and arts, the self-evaluation gives the following specific examples of research areas: the properties of the built environment and its significance for different forms of societal life, including cultural and social aspects, spatial design techniques and their implications, participatory design, artistic methodology, and distinctive environments with regard to climate, culture, and architecture.

Much of the statement in the self-assessment is given over to a description of the Swedish Research School in Architecture (ResArc) consortium, which is managed by a group located in the higher education institution. The description eloquently presents the significance and centrality of ResArc to the higher education institution's own third-cycle programme. The assessment panel understands that the funding that previously supported ResArc finished in 2017. The assessment panel commends the commitment of the partners to maintaining existing arrangements but, in the context of the end of funding, the assessment panel is concerned about ongoing viability.

Aspect area: Environment, resources and area
Aspect: Staff
Assessment with justification: *The number of supervisors and teachers and their combined expertise are sufficient and proportional to the content of the programme and its teaching/learning activities.*

Although the pool of available supervisory staff appears rather small, the assessment panel is satisfied that it is adequate for the size of programme at the higher education institution. At the time of the review, architecture had four staff qualified to act as principal supervisors, four active assistant supervisors and eleven doctoral students. In addition, there is extra supervisory capacity via staff in related subject areas, and there are also three active assistant supervisors who do not hold permanent positions in the department. There is, as noted in the self-evaluation, a clear gender imbalance at the moment in available supervisory staff, but the panel notes that this is anticipated to improve in coming years as existing female staff progress to associate professor level.

Regarding the combined expertise of the supervisory resources, this is met by the requirement that staff must be at the level of associate professor (docent) in order to take on the role of principal supervisor.

Much of the discussion in the self-evaluation is given over to the strengths and opportunities of the ResArc consortium. While this is evident in terms of the courses that doctoral students take through ResArc, how ResArc might significantly affect or contribute to the supervision of research degrees has not been explored. For example, during the interviews it was discussed whether doctoral students

might be co-supervised by staff from different higher education institutions within the ResArc consortium and it was confirmed that this has not yet been investigated, although it might bring considerable benefits.

The combined expertise of supervisors and teachers and skill development are followed up to promote high quality in the programme, but evidence is lacking that this is entirely systematic. The outcomes of the follow-up are translated, when necessary, into actions for quality improvement, and feedback is given to relevant stakeholders.

The panel accepts this is satisfactory. The interviews gave confidence regarding this, but at the same time the panel sees little direct evidence given in the self-evaluation regarding the systematic monitoring, evaluation, and follow-up of staff expertise and development. However, the panel notes the activities of the Academic Development Unit in developing teaching and education at all levels and commends the organisation of special targeted events such as the one-day seminar for doctoral student supervisors led by the Massachusetts Institute of Technology (MIT) Professor Mark Jarzombek. While various activities, memberships, and collaborations of active supervisors are listed in the self-evaluation report, it is not clear in what ways the higher education institution systematically facilitates and supports these. In cases where a change of supervisors is required, the process can be initiated by the doctoral student and/or the supervisor without citing any specific reason. This is in accordance with the ethical guidelines for student-supervisor relationships at the higher education institution.

While there is a robust committee structure, there is no director of research position for architecture. The panel suggests that it would enhance the research environment for doctoral students and staff if this position were filled.

The panel commends that the higher education institution recognises quality in teaching through an 'excellent teaching practitioner award' for staff.

Aspect area: Environment, resources and area
Aspect: Third-cycle programme environment
Assessment with justification: *Research at the higher education institution has sufficient quality and scale for third-cycle education to be carried out at a high scientific level and within a good educational framework. Relevant collaboration occurs with the surrounding society, both nationally and internationally.*

Overall the assessment panel considers that the higher education institution's response in this field is well-described and convincing. The publication listing provided with the self-evaluation report shows a good level of publishing activity among staff and a less impressive, but still reasonable, level among students. Although the number of doctoral students is not large, the architecture school has a good network and clearly sees the ResArc consortium as vital to third-cycle study at the higher education institution. As already noted, the panel has concerns about the end of ResArc's funding arrangements in 2017. ResArc helps the programme achieve a critical mass and an expanded scholarly community. Consequently, because of the small number of doctoral students in architecture, the programme might be seen as particularly vulnerable if the vitality and intensity of ResArc activities drops off. In the interviews, the strategic staff were clear that doctoral student numbers should increase.

There appears to be a good range of courses available to doctoral students via ResArc and within the higher education institution more broadly. The panel commends this availability of academic resources beyond the higher education institution and notes the specialist seminars and workshops run by the faculty in the Academic Development Unit.

The panel commends the fact that each doctoral student has an office and related equipment, and the way this encourages their presence at the department and day-to-day contact with supervisors. The quality of the physical resources was clearly affirmed in the interviews. The self-evaluation is less clear on other physical and infrastructural resources (libraries, workshops, IT infrastructure, etc.), but the interviews confirmed that these are of good quality.

The launch of the monthly research seminar series Architecture and Built Environment Seminar (ABES) is noted and commended.

There is evidence of collaboration with non-higher education institutions, sometimes mediated through the ResArc network. The self-evaluation is not strong on this, and it is difficult to discern the depth, significance or outcomes of the collaborations (with, e.g., the Swedish University of Agricultural Sciences, the municipality of Lanzhou, China, or the Modern Art Museum in Malmö). This was not fully clarified during the interviews. It is noted that the head of the Malmö city planning office is a visiting professor. As a potential area of improvement, the panel notes that relevant collaboration with non-academic bodies and surrounding society could be extended, strengthened and intensified.

The third-cycle education environment is systematically followed up to ensure high quality. It is unclear, however, how the result of the follow-up is systematically translated into quality improvement actions or how feedback is systematically given to relevant stakeholders.

The self-evaluation mentions a variety of forums in which monitoring and follow-up occurs (supervision meetings, individual study plans, department board meetings, etc.), although the inter-relation and frequency of these is not described. The monitoring of courses via ResArc procedures is clearer in the self-evaluation than is the monitoring of thesis development, supervision, etc.

While the panel sees no evidence of problems related to follow-up and the interviews gave some reassurance, there are no definite examples in the self-evaluation of quality improvement actions undertaken or how feedback to stakeholders occurs. The panel recommends that follow-up, feedback and action procedures are clarified and made more visible.

Aspect area: Environment, resources and area
Overall assessment of the aspect area 'environment, resources and area'
Assessment with justification: *In the overall assessment, the aspect area 'environment, resources and area' is deemed to be satisfactory.*

Staffing, although numbers are fairly small, is adequate for the current size of the programme. The higher education institution offers excellent physical resources to its students, which encourages their presence and integration in the life of the department. Clear strengths are evident in the institutional recognition of supervisory excellence and in the breadth of courses available to doctoral students. Although there are only a few doctoral students, a critical mass is achieved through the ResArc consortium and through collaborations within the higher education institution, which opens additional

course opportunities for doctoral students.

The assessment panel sees potential areas of improvement regarding relevant collaboration with non-academic bodies and surrounding society, which could be extended, strengthened and intensified. Moreover, regarding follow-up, the system leading to quality improvement actions and feedback to stakeholders should be clarified. The panel recommends that follow-up, feedback and action procedures are made more visible.

The assessment panel emphasises the good example of the 'excellent teaching practitioner award', the wide availability of courses to doctoral students, not just through ResArc but also within the higher education institution, the ABES research seminar series, the availability of office space for doctoral students, and the everyday contact and integration in the department that this encourages.

Aspect area: Design, teaching/learning and outcomes
Aspect: Achievement of qualitative targets for 'knowledge and understanding'
Assessment with justification: *The programme ensures through its design, teaching/learning activities and examination, that doctoral students who have been awarded their degrees show broad knowledge and understanding both within their third-cycle subject area and for scientific methodology in the third-cycle subject area.*

The programme puts the principal supervisor, assistant supervisors and doctoral students at its heart through regular meetings between the supervisors and the doctoral student. The use of the individual study plans, which is updated every semester, is coherent and effective and an important tool to ensure that the doctoral student gets broad knowledge and understanding of the subject area and methodology. In addition, there are seminars where the thesis work is presented (i.e., the first-year seminar, midway review, and final seminar). Courses, primarily through ResArc, also ensure that the achievement of the qualitative targets for ‘knowledge and understanding’ are met. In these courses, doctoral students from other fields – such as political science, human geography, planning and industrial design – also take part. This adds to the value of the programme.

The dialogue between the two supervisors and doctoral students opens-up a variety of perspectives, for example, by jointly working on journal articles and conference contributions. In addition, guest professors are involved in giving feedback to doctoral students and the panel believes this enhances the knowledge and application of scientific methodology in general.

The higher education institution relies very strongly on the ResArc initiative and this high dependence on ResArc courses makes the programme vulnerable to changes. However, the panel notes that in addition to the ResArc courses, the higher education institution offers a series of generic Graduate School Courses such as Project Management in Research & Development Projects in which the skills needed for thesis work are covered. The panel recommends that other networks be cultivated so that an over-reliance on ResArc is avoided. According to the interview with operational staff, cross-supervision could increase, for example, in collaboration with the Kungl. Tekniska högskolan.

The key figures for doctoral student completion rates are in line with figures for the third-cycle subject area of architecture in Sweden. Therefore, specific questions were not called for, except for the more general question on how the higher education institution ensures that doctoral students can complete their programmes within the scheduled time.

The programme's design and teaching/learning activities are systematically followed up to ensure achievement of qualitative targets. It is unclear, however, how the result of the follow-up is systematically translated into quality improvement actions or how feedback is systematically given to relevant stakeholders.

An example mentioned in the self-evaluation regarding systematic follow-up are the surveys that have been conducted during the last years to find out what doctoral students actually lack in their studies. The result formed feedback for all the Swedish architecture schools that provide courses within the ResArc consortium. Three comments stand out according to the self-evaluation: the wish for trans-disciplinary approaches; how to disseminate findings; and how to collaborate with professional practice, primarily in urbanism. When it comes to translating the results into action, the self-evaluation does not specify how this could be achieved or what actions have been taken, but affirms that the results have been fed back and have been discussed by the faculty.

The assessment panel especially notes that the qualitative targets of the Higher Education Ordinance requirement are used as a template in the individual study plans, which gives a clear view of how the doctoral students are progressing through their educational programme and therefore is a useful tool for follow-up.

Aspect area: Design, teaching/learning and outcomes
Aspect: Achievement of qualitative targets for 'competence and skills'
Assessment with justification: *Through its design, teaching/learning activities and examination, the programme ensures that doctoral students whose degrees have been awarded can plan and use appropriate methods to conduct research and other qualified tasks within predetermined time frames, and in both the national and the international context, in speech and in writing authoritatively, can present and discuss research and research findings in dialogue with the academic community and society in general. Doctoral students are able to contribute to the development of society and support the learning of others within both research and education and in other qualified professional contexts.*

The programme ensures that the doctoral students achieve the qualitative targets of ’competence and skills’ through meetings with supervisors in relation to the individual study plans, ResArc meetings and courses, other seminars, conferences, as well as the actual thesis work. In addition to ResArc courses there are also faculty courses, e.g. Theory of Science and Research Methodology, but it should be noted that skills in using methodology, keeping timeframes etc. are primarily acquired through the development of the thesis. The effectiveness of the system by which doctoral students’ progress is followed depends very much on the good intentions of the supervisor and the individual doctoral students’ capacity to consistently progress their thesis work. From assessing the individual study plans, the panel notes that usually the work on the individual study plan is very coherent and, as such, it serves as a sound basis for discussing doctoral students' progress. The interviews confirmed that the individual study plan plays a crucial role: it is the main legal security for the doctoral students and allows the higher education institution to track the doctoral students' trajectory. The official individual study plan review takes place at least once a year with an external person in addition to the supervisor.

Doctoral students are encouraged to go to conferences on their own, publish articles, and initiate or even write applications for new research projects. In addition, skills such as project management,

communication with peers, and pedagogy are developed both within the thesis work but also through two faculty-wide courses titled Project Management in Research & Development Projects.

The higher education institution prepares the doctoral students to contribute to the development of society by, for example, inviting guest speakers who hold positions outside of the academy. Representatives from professional practice are also included in the ResArc consortium. The self-evaluation also shows that there is an understanding of the importance of increasing the integration of research and practice.

The programme is followed up systematically to ensure that the design and teaching/learning activities are high quality and that the doctoral students achieve the qualitative targets. The results of the follow-up are translated, when necessary, into actions for quality improvement, and feedback is given to relevant stakeholders.

As the panel has already commented above, recent surveys have been conducted to follow-up earlier doctoral students' experiences of their studies. Considering the small number of doctoral students, the panel commends the quality and use of the individual study plan as a tool for systematic follow-up.

Aspect area: Design, teaching/learning and outcomes
Aspect: Achievement of qualitative targets for 'judgement and approach'
Assessment with justification: *Through its design, teaching/learning activities and examination, the programme ensures that doctoral students who have been awarded degrees show intellectual independence, scientific probity and the ability to make research ethics assessments. The doctoral student also has a broader understanding of science's capabilities and limitations, its role in society and human responsibility for how it is used.*

According to the self-evaluation, intellectual independence, the ability to demonstrate scientific probity/disciplinary rectitude, and the ability to assess research ethics are promoted, encouraged and ensured throughout the whole doctoral trajectory. The discussions at the seminars, meetings with the supervisors, and the actual thesis work are considered important instruments to develop an independent position and the capabilities of scientific probity and ethical responsibility.

Ethics as well as the capabilities and limitations of scientific research, are explicitly discussed in a series of generic doctoral courses such as the courses Research Ethics and Technology, Risk and Research Ethics. In addition, doctoral students can take courses from other departments, which deal with, for example, interview techniques. In difficult cases, an ethical committee can be involved or take advice from other authorities.

The programme is followed up to ensure that the design and teaching/learning activities are high quality and that the doctoral students achieve the qualitative targets. The results of the follow-up are translated, when necessary, into actions for quality improvement, and feedback is given to relevant stakeholders.

A whole range of activities is offered to doctoral students. Still, perhaps due to the small number of doctoral students, the way in which follow-up is carried out regarding the skills needed for ‘judgement and approach' remains somewhat vague. The self-evaluation indicates, for example, a reliance on supervisors to transmit the department’s research policies to the individual doctoral student.

The role of potential stakeholders in this process of follow-up and the way in which they are involved is not necessarily structural but happens when the doctoral students present their work outside the higher education institution, for example, to municipalities. The assessment panel considers it very valuable that the programme provides opportunities for performance and feedback outside academia.

Aspect area: Design, teaching/learning and outcomes
Overall assessment of the aspect area 'design, teaching/learning and outcomes'
Assessment with justification: *In the overall assessment, the aspect area 'design, teaching/learning and outcomes' is deemed to be satisfactory.*

The higher education institution has a robust system to develop, support and assess the research of its doctoral students. Across this aspect area, the assessment panel sees strengths in the use of the individual study plans, which are coherent and effective, as well as in the resources available to students, including the range of courses made available.

The panel has some concerns regarding the higher education institution's dependence on the ResArc consortium and recommends that other networks be cultivated in order to insure against over-reliance on this initiative.

While the panel believes that the higher education institution performs well in this aspect area, it recommends that reflection be given to the category of 'relevant stakeholders' in relation to research follow-up and feedback procedures.

The key figures for doctoral student completion rates are in line with figures for the third-cycle subject area of architecture in Sweden. Therefore, specific questions do not arise, except for the more general one of how the higher education institution ensures that doctoral students can complete their programmes within the scheduled time.

Perspective: Working life perspective
Assessment with justification: *The programme is useful and prepares students for an ever-changing working life.*

The programme offers enough breadth to allow doctoral students to sufficiently prepare themselves for both an academic career and a career outside academia. Compared to other academic disciplines, architecture as a subject has a thorough integration between research and working life and practice. The programme has broad and continuous connections with the surrounding society. Several of the teachers are active in professional practice and many visiting professors come directly from professional practice. Several of the doctoral students have a history in professional practice or teaching and some have ongoing positions outside academia. The programme invites guest speakers who hold positions outside of the academy. Representatives from professional practice are also included in the ResArc consortium. The self-evaluation also shows that there is an understanding of the importance of increasing the integration of research and practice. For example, the department offers courses that are important for a professional career, such as courses in communication, project management, teaching, project planning and leadership. This ensures the programme will continue to be relevant from a working life perspective.

The programme's design and teaching/learning activities are systematically followed up to ensure that it is useful and prepares for working life. The results of the follow-up are translated, when necessary, into actions for quality improvement, and feedback is given to relevant stakeholders.

Since 2015 the higher education institution has put a stronger emphasis on how to improve the collaborations and career opportunities for doctoral students outside academia. There is also a comprehensive framework in place for follow-up on course evaluations, which has made it possible to continuously adjust courses to make their content more relevant.

It is, however, not clear from the self-evaluation how targets regarding generic skills and competencies relating to working life are monitored or systematically followed up. Besides the general ResArc Alumni survey, which targeted doctoral students who received their PhD at one of the Swedish schools of architecture between 2004 and 2013, it is not clear how alumni are followed up, and there is no evidence of actions taken as a result of the alumni experience.

The assessment panel emphasises the good example of ResArc's focus on how to enable collaborations and career opportunities for doctoral students outside academia. One example of this work has been to initiate a dialogue with the Swedish Association of Architects. The objective of the initiative is to make architecture firms and city-planning offices more aware of postgraduates' competences and to discuss possible collaborations both at doctoral and post-doctoral levels. Discussions are also held with surrounding communities, such as the City of Malmö.

In the overall assessment, the working life perspective is deemed to be satisfactory.

Perspective: Doctoral student perspective
Assessment with justification: *The programme allows the doctoral students to play an active part in the work of improving the programme and learning processes.*

The self-evaluation provides a good understanding of how the doctoral students are included and influence their education. The doctoral students have the opportunity to be represented on boards and decision-making bodies and can also make their voices heard through questionnaires. Based on information from the interviews, the doctoral students are actively working to improve the programme. ResArc is also highlighted as an important platform where students can make their opinions heard and help facilitate changes in the educational structure of the programme, which from a doctoral perspective is highly valuable.

The individual study plans are well documented and clear and concise. The assessment panel especially notes that the qualitative targets of the Higher Education Ordinance are used as a template for the individual study plans, which gives a clear view of how the doctoral students are progressing through their educational programme. This is also a good example of how to incorporate the qualitative targets to be achieved by the doctoral students in practice.

The assessment panel notes the following weaknesses in relation to the doctoral perspective. The interviews revealed that the rules for compensation for participation on boards or other decision-making bodies are vague, and the assessment panel recommends that the higher education institution makes the rules for doctoral student participation on boards or unions transparent and known by all doctoral students.

The self-evaluation mentions that several of the doctoral candidates are covered by Swedish employment law, but it does not mention the employment situation for the doctoral students coming from a Jordanian university. It became apparent from the interviews that it is hard to ensure completely equal working conditions for doctoral students when they have different forms of employment. However, the assessment panel argues that more could be done to ensure equality of conditions for all doctoral students.

The programme is followed up to ensure that doctoral student input is used in quality assurance and improvement of the programme, but there is not evidence that this is entirely systematic. The results of the follow-up are translated, when necessary, into actions for quality improvement, and feedback is given to relevant stakeholders.

Despite there being clear channels through which the students can make their voices and opinions heard, the self-evaluation lacks a description on how the programme is systematically followed-up in relation to the doctoral perspective. While interviews did provide more information, the area remains somewhat unclear and the department is recommended to clarify how systematic follow-up is handled in relation to the doctoral student perspective.

In summary, although there are ample opportunities for doctoral student representation, the systematic follow-up and how related recommendations and actions are implemented are not clear.

In the overall assessment, the doctoral student perspective is deemed to be satisfactory.

Perspective: Gender equality perspective
Assessment with justification: *A gender equality perspective is integrated in the programme's design and teaching/learning activities.*

There is still a clear gender imbalance. Currently male professors dominate at the higher education institution, although the assessment panel notes that the number of women associate professors is rising. The majority of doctoral students are women. According to the self-evaluation, the institution has taken some steps to improve the current situation by installing an advisory board, which also includes doctoral students, to promote equal opportunities and support a more balanced recruitment of staff members. In addition, a female professor (0.2 full time equivalent) was appointed to the Lise Meitner professorship. Moreover, there is a voluntary course offered that addresses gender aspects in teaching.

Systematic follow-up is performed to ensure that the programme's design and teaching/learning activities promote gender equality. The results of the follow-up are translated, when necessary, into actions for quality improvement, and feedback is given to relevant stakeholders.

Currently, the higher education institution states in the self-evaluation that its staff is still dominated by males. Although there are already efforts made to improve the current situation regarding gender imbalance, a more coherent policy is needed in the future. Such a policy explicitly needs to address the content of third-cycle programmes, staff and doctoral student recruitment, and listening from a gender perspective in everyday life. Actively striving for the appointment of more female professors could also be part of the policy.

The assessment panel values that operational and strategic staff are aware of current 'gaps' and agree that addressing education and research content in relation to gender issues should be an important issue for all courses.

The Lise Meitner chair and collaborations with the Kungl. Tekniska högskolan are positive initiatives to change the current situation.

In the overall assessment, the gender equality perspective is deemed to be satisfactory.

Aspect area: Follow-up, actions and feedback
Overall assessment of the aspect area 'follow-up, actions and feedback'
Assessment with justification: *In the overall assessment, the aspect area 'follow-up, actions and feedback' is deemed to be satisfactory, although the picture is rather patchy and this is clearly not the strongest area of the programme as it is reported in the self-evaluation.*

The assessment panel notes that feedback and follow-up processes on academic matters concerning doctoral students' research is strong, but that there is room for improvement - or at least clarification of the processes - in the following areas: staff, environment, alumni, and the doctoral student perspective. Follow-up processes in all these are not clear to the panel, and there are no concrete examples given in the self-evaluation of improvement actions carried out.

The question of who 'relevant stakeholders' are in the various fields under which the higher education institution was required to submit its report also deserves reflection.

The assessment panel emphasises the good example of the coherent and rigorous use of individual study plans.

Overall assessment: High quality
Assessment with justification: *In conclusion the programme is assessed as maintaining high quality.*

Aspect area 'environment, resources and area': The higher education institution offers excellent physical resources to its doctoral students, which encourages their presence and integration in the life of the department. Although the number of doctoral students is limited, it achieves a critical mass through the ResArc consortium and through collaborations within the higher education institution, which opens additional course opportunities for doctoral students. Initiatives such as the ABES seminar programme are commended by the panel, as is the valuable recognition of staff contribution via the 'excellent teaching practitioner award'. The panel recommends that follow-up, feedback and action procedures are clarified and made more visible and that the opportunities to intensify relevant collaborations with non-academic bodies and surrounding society should be taken up.

Aspect area 'design, teaching/learning and outcomes': The higher education institution has a robust system to develop, support and assess the research of its doctoral students. Doctoral students have good access to courses, and the individual study plan is a well-utilised. While the panel believes that the higher education institution performs well in this area, it recommends that reflection be given to the category of 'relevant stakeholders' in relation to research follow-up and feedback procedures, and

that potential challenges arising from the end of funding of ResArc need to be addressed.

Working life perspective: The higher education institution shows a good connection with professional life, with strong staff and doctoral student ties and some clear initiatives to facilitate this link. However, there is something of a blind spot with regard to alumni and the way in which their knowledge and expertise might feed back into the school and enrich and inform doctoral student experience with regard to working life.

Doctoral student perspective: There is good evidence that doctoral students are well-integrated within the department and that there are channels through which their voices and opinions can be heard. At present, the higher education institution hosts a number of doctoral students from a Jordanian university and care has to be taken that as far as possible there are equal working conditions, opportunities, and access to resources.

Gender equality perspective: While there is an admitted gender imbalance among available supervisory staff, it is noted that this will shift in the coming years. The higher education institution shows awareness of the issues and there are evident steps that have been taken to address the gender imbalance, e.g., by installing an advisory board to promote equal opportunities.

Aspect area 'follow-up, actions and feedback': This aspect is strong and convincing in relation to academic support, monitoring and feedback on the progress of doctoral students, but the systems are less obvious elsewhere. The panel has no doubt that this is a research environment that works, but the case would have been clarified if some examples of follow-up actions and processes had been given in the self-evaluation report. As noted, the definition of 'relevant stakeholders' is important in order to understand the context, extent and targets of feedback and follow-up.

Umeå universitet

Higher education institution	**Third-cycle subject area**	**ID no.**
Umeå universitet	Arkitektur - doktorsexamen	A-2016-11-4122

Aspect area: Environment, resources and area
Aspect: Third-cycle subject area
Assessment with justification: *The demarcation of the third-cycle subject area and its connection to scholarship and proven experience are not explicitly stated and therefore not adequate and not appropriate.*

The panel found this statement very difficult to assess, as the demarcation of the third-cycle subject area is not explicitly stated in the self-evaluation and must be inferred by the panel members. The insistence on transdisciplinarity is noted, together with a rather open field of knowledge areas (e.g., neuroscience), but it is unclear how this scope would be practically achieved or what its relation is to the listed emerging research areas. The emerging research areas mentioned in the self-evaluation are Emergent Technologies, Social Architecture, and Urban and Rural Development.

It was not clear from the interviews that the majority of operational staff in attendance knew the contents of the programme as it is described in the self-evaluation, and the panel's questions tended not to be directly addressed. Rather than referring to the doctoral programme itself, the answers usually referred to the existing Master's programme from which the doctoral programme hopes to recruit students. While there were interesting things said about the refraction of global issues through local conditions, the panel remains unconvinced that the consequences of the subject area demarcation for the doctoral programme has rigorously been thought through.

The descriptions of current collaborations and projects are interesting, but their meaning for third-cycle education only exists by implication.

Aspect area: Environment, resources and area
Aspect: Staff
Assessment with justification: *The number of supervisors and teachers and their combined expertise needed in order to be sufficient and proportional to the content of the programme and its teaching/learning activities cannot be assessed positively due to the lack of clarity in the plans for the intended development of the programme.*

The panel is not in a position to give a definitive answer on this, not only because there are no doctoral students at present and some staff positions still await appointment, but also because there is a lack of clarity in the presented plans for the development of the programme in the self-evaluation. The panel attempted to explore this in the interviews, but without success.

In the self-evaluation, an open-ended plan is given for the years 2017–2020, which shows each of the three research areas becoming active over three academic years. Initial staff appointments are shown together with a recruitment ratio of two doctoral students in each group every year (or every other year). There is no larger statement about limits of doctoral student recruitment or staffing in relation to this. If two doctoral students are recruited per year in the pattern given, this would lead to twelve doctoral students being in programme by the end of the 2019/2020 academic year (assuming no completions). This claim is contradicted in a later statement in the self-evaluation under the aspect

'third-cycle programme environment' where it says that three to five new doctoral students will be engaged within a three-year period. Even if Research Area A (one of the three research areas shown on the table under the aspect 'staff') recruited one doctoral student per year, it alone would each three doctoral students within the specified time.

Given this, it is hard for the panel to be convinced that adequate planning for resourcing has been undertaken. The fact that there is no discussion of the optimum size of the programme and research areas reinforces these concerns. It remains unclear whether doctoral student recruitment into the research areas will necessarily be balanced, or whether some areas will grow much larger than other areas. If balance is desired, then more attention needs to be paid to how this would be achieved.

The panel strongly recommends that a fully worked out five-year plan for the development of the programme be undertaken and a coherent vision be developed about its long-term shape and size. The panel recognises that such planning is always contingent, but without plans the panel cannot confidently respond to whether staffing is sufficient.

However, the plan to incorporate doctoral students in research groups with staff is highly commended by the panel as is the proposal that an independent reference person be assigned to each doctoral student.

The combined expertise of supervisors and teachers and skill development are followed up systematically to promote high quality in the programme, although at a minimal level. The outcomes of the follow-up are translated, when necessary, into actions for quality improvement, and feedback is given to relevant stakeholders.

The statement in the self-evaluation is minimal regarding a systematic follow-up of the programme. There is a brief discussion on training, a yearly planning workshop, and the encouragement of comparison and discussion of supervisory techniques through the independent reference person position. However, there is no explicit proposal about how the programme facilitates the development of staff expertise through its structures or the opportunities it offers.

Given the current situation at the higher education institution, the panel understands that no specific examples of follow-up action and feedback to stakeholders can be given. The panel must assume this can be satisfactorily handled through the planning workshops, independent reference positions, etc. The panel considers this description to reach the minimum acceptable level.

Aspect area: Environment, resources and area
Aspect: Third-cycle programme environment
Assessment with justification: *Research at the higher education institution needed in order to provide sufficient quality and scale for third-cycle education to be carried out at a high scientific level and within a good educational framework cannot be assessed positively due to the lack of clarity in the plans for the intended development of the programme. Relevant collaboration occurs with the surrounding society, both nationally and internationally.*

The same problem exists here as noted above in relation to understanding the scale of the proposed doctoral programme. Otherwise, the self-evaluation gives quite a clear and satisfactory account, although it would have been helpful to have more specific details of the synergies with Umeå

University Artistic Campus (UAC) and a more detailed account of what will be available to doctoral students. The overall aim as stated is ambitious, but also rather generic and vague at the same time. The list of staff publications provided with the self-evaluation is substantial.

The panel notes and commends the UAC Research Days and Research Seminars, although, the frequency at which these occur is not noted. Various international links and collaborations are listed, many of which are noted as ongoing. However, it is difficult for the panel to assess exactly what the consequence of these may be for the third-cycle programme because the collaborations are presently ongoing in the absence of doctoral students.

It is notable that the importance of Swedish Research School in Architecture (ResArc) is not referred to in the self-evaluation. This notwithstanding, the assessment panel has some concerns that the higher education institution may be significantly disadvantaged in relation to other schools following the end of ResArc's funding. The relative geographic isolation of the school will cause a significant financial burden if students are no longer funded to attend ResArc courses. This was not brought up in the self-evaluation or interviews, but it deserves reflection and strategic action.

The panel notes and commends that each doctoral student will be offered a workplace and related resources.

The panel's assessment is that the plan minimally meets the acceptable standard to ensure high quality of the third-cycle education environment. The result of the follow-up is translated, when necessary, into quality improvement actions and feedback is given to relevant stakeholders.

The self-evaluation is minimally adequate on this aspect and most of the points listed in the self-evaluation do not address the education environment. With the possible exception of individual conversations and tutorials, it is unclear what the forums for discussion and lines of communication regarding this will be and how follow-up will be enacted. When discussed during interviews, the panel was told that university regulations on committees and their structure would be followed. This gave some confidence that arrangements are in place, but it did not clarify the situation in any detail for the panel.

Aspect area: Environment, resources and area
Overall assessment of the aspect area 'environment, resources and area'
Assessment with justification: *In the overall assessment, the aspect area 'environment, resources and area' cannot be assessed positively because of the lack of information describing the intended development of the programme.*

In order for a positive assessment to be made, the panel recommends constructing a fully worked out five-year plan for the development of the programme and related resourcing.

Although the value of ResArc is not emphasised in the self-evaluation, the panel has some concerns that the higher education institution may be significantly disadvantaged in relation to other schools when ResArc's funding ends. The relative geographic isolation of the school will cause a significant financial burden if students are no longer funded to attend ResArc courses. This concern was not brought up in the self-evaluation or interviews, but it deserves reflection and strategic action.

The assessment panel emphasises the good example of the appointment of independent reference persons for individual doctoral students, and the proposal to incorporate doctoral students in research groups with staff.

Aspect area: Design, teaching/learning and outcomes
Aspect: Achievement of qualitative targets for 'knowledge and understanding'
Assessment with justification: *The programme does not yet ensure, through its design, teaching/learning activities and examination, that doctoral students who have been awarded their degrees show broad knowledge and understanding both within their third-cycle subject area and for scientific methodology in the third-cycle subject area.*

The higher education institution is currently re-designing its doctoral programme in architecture. To ensure broad knowledge and understanding the programme description outlines, as well as the daily supervision of doctoral students, a series of compulsory and optional courses in combination with the ResArc seminars. The courses address architectural theory, communication, intervention, and sustainable production. The generic compulsory courses will include science theory, ethics and conduct, and oral and written presentation. In addition, the programme will offer knowledge exchanges and meetings with prominent architects and guest professors, as well as a future international network where students can present ongoing work and publish articles.

Although the proposed programme looks sound, it is unclear what is meant by ‘artistic/creative foundations of architectonics’ and how the programme will address these ‘foundations’. In addition, the self-evaluation indicates that, for example, social, political, psychological, gender, and philosophical theories and methods will gain an increasingly prominent role. It remains unclear how the higher education institution understands the disciplinary character of architecture and how it relates to these ‘other’ theories and methods. According to the interviews, the programme intends to draw doctoral students from the Master’s programme, so it is assumed that these students will come into the doctoral programme with some knowledge about methods. According to the interviews, the Master’s and doctoral programmes are closely related and use a holistic approach that considers design and scientific research as the same activity. To guarantee scientific quality and how the qualitative targets and progression are to be achieved, the assessment panel recommends the higher education institution to provide a written description of the overlap and divergence of the Bachelor’s, Master’s and doctoral programmes. In addition, research in architecture at different levels need to be defined. This will involve properly articulating the difference between a Master's thesis based on studio work and a doctoral thesis.

Moreover, following the interviews the panel had concerns regarding an apparent lack of communication between operational and strategic staff. The panel believes enhanced communication will help improve the programme.

The programme's design and teaching/learning activities are systematically followed up to ensure achievement of qualitative targets. However, it is not possible to verify that the results of the follow-up are translated, when necessary, in actions for quality improvement, and feedback is given to relevant stakeholders.

In line with the regulations at the higher education institution, the follow-up of the students' progress takes place through the individual study plan, which is considered an important tool. In addition,

annual seminars and talks with students will be organised at different stages to receive feedback on issues that need improvement. In the interviews, it was argued that the higher education institution has a clear syllabus for third-cycle education. The follow-up of students' progress is guaranteed by ensuring that they take part in mandatory seminars, where students present their thesis work after one year, two years, and shortly before finishing (25%, 50%, and 90%). In addition, the individual study plan is part of the follow-up and ensures that qualitative targets are met. The panel cannot verify these statements because there are no individual study plans to assess.

Generally, the strategic staff believes the programme has an integrated learning environment. The strategic staff indicates that as a small school the faculty does not limit its environment to local institutions and strives for international collaborations. Different methods are used to ensure feedback.

When it comes to systematic follow-up of the programme and taking action for quality improvement and giving feedback, the panel is concerned that there is no mention in the self-evaluation of the difficulties experienced by previous doctoral students in the programme. In interviews with strategic staff, it became evident that changes had been implemented in the programme in response to the student complaints, but it remains unclear exactly what these changes are and what effect they will have.

Aspect area: Design, teaching/learning and outcomes
Aspect: Achievement of qualitative targets for 'competence and skills'
Assessment with justification: *Through its design, teaching/learning activities and examination, it is not yet clear that the programme ensures that doctoral students whose degrees have been awarded can plan and use appropriate methods to conduct research and other qualified tasks within predetermined time frames, and in both the national and the international context, in speech and in writing authoritatively, can present and discuss research and research findings in dialogue with the academic community and society in general. It is also not yet clear that doctoral students will be able to contribute to the development of society and support the learning of others within both research and education and in other qualified professional contexts.*

The individual study plan is considered to act as the most important tool to guarantee the achievement of ‘competence and skills’ regarding planning and time frame of the thesis work. Departmental Research Meetings and publications are intended to train oral and written communication within the national and international academic community. How exactly to ensure competence and skills, including communicative skills with society in general, remains open at the moment, and the panel cannot verify the statement in the self-evaluation because there are no individual study plans to assess.

According to the interviews, collaboration with local industries and municipalities is intended to train doctoral students to operate and present their findings outside academia. The higher education institution pleads explicitly for a 'transgressive' agenda, and it became clear from the interviews that this is understood to enhance a multi- and inter-disciplinary approach. However, what this is and how it can be realised in daily practice remains vague. The panel questions whether this is a version of the by-now familiar and quite normative rhetoric of inter-, cross-, or trans-disciplinarity.

The programme is followed up systematically to ensure that the design and teaching/learning

activities are high quality and that the doctoral students achieve the qualitative targets. However, it is not possible to verify that the results of the follow-up are translated, when necessary, into actions for quality improvement, and feedback is given to relevant stakeholders.

Regarding the follow-up of the doctoral students' progress, the individual study plan and research seminars and presentations after one year, after two years, and six months before the final defence are considered crucial, as are on-going conversations with supervisors. The assessment panel notes that the follow-up system depends on the quality and good intentions of the individual student and supervisors. There are no individual study plans available for the panel to assess whether these are or will be used in a systematic way. More generally, the panel recommends that the institution consider a broader follow-up system to monitor students' progress.

Aspect area: Design, teaching/learning and outcomes
Aspect: Achievement of qualitative targets for 'judgement and approach'
Assessment with justification: *Through its design, teaching/learning activities and examination, the programme does not yet ensure that doctoral students who have been awarded degrees show intellectual independence, scientific probity and the ability to make research ethics assessments. The doctoral student does not yet command a broader understanding of science's capabilities and limitations, its role in society and human responsibility for how it is used.*

The self-evaluation is not very explicit regarding the way in which the qualitative targets for ‘judgement and approach’ are achieved. The main instruments presented are: the dialogue with the supervisor; presentations at international conferences; mandatory courses that specifically help to frame topics; and discussions of conduct and ethics and the possibilities, limitations and role of science.

In the interview, the operational staff noted the supervisor's role in monitoring the doctoral student's intellectual independence through, for example, conversations and constant feedback. There is also a reference person who specifically secures the international context for the doctoral students. According to the strategic staff, Master’s seminars and workshops already address ethics issues associated with student projects. Moreover, there are intentions to develop critical courses dealing with research ethics and the limits of science. A vertical workshop, which includes Bachelor’s, Master’s and doctoral students, already exists where external experts are invited to work with ethical issues. Although potentially very effective, the assessment panel advises the coordination of all these actions into a single, clearly coherent strategy.

The assessment panel advises that the higher education institution provide a more detailed document that precisely indicates how these qualitative targets can be achieved within the specific setting and the aims of the institution.

The programme is followed up systematically to ensure that the design and teaching/learning activities are high quality and that the doctoral students achieve the qualitative targets. However, it is not possible to verify that the results of the follow-up are translated, when necessary, into actions for quality improvement, and feedback is given to relevant stakeholders.

The individual study plan ensures the development of the doctoral student’s capacities vis-à-vis intellectual independence, scientific probity, and the ability to assess research ethics, as well as the

broader understanding of science's capabilities and limitations, its role in society, and human responsibility. In addition, according to the self-evaluation, the individual study plan includes seminars, yearly talks with the doctoral students, study camps, and planning workshops. However, again the panel cannot verify these statements because there are no individual study plans to assess.

Aspect area: Design, teaching/learning and outcomes
Overall assessment of the aspect area 'design, teaching/learning and outcomes'
Assessment with justification: *In the overall assessment the aspect area 'design, teaching/learning and outcomes' is deemed to be not satisfactory.*

The assessment panel sees a need for improvement in 'knowledge and understanding', 'competence and skills' and 'judgement and approach'. A step-by-step plan elaborating how the programme will ensure that the doctoral students achieve the qualitative targets is needed.

The panel is concerned that there is no mention in the self-evaluation of the difficulties experienced by previous doctoral students. In the interview with strategic staff, it became clear that changes had been implemented in the programme in response to student feedback, but it remains unclear to the panel what actions were taken to address the students' concerns and how these actions affect the concerns of the aspect area 'design, teaching/learning and outcomes'. Since there are no doctoral students in the programme, the panel suggests that a specific account of the changes implemented be provided, together with a description of the issues they address.

Moreover, following the interviews the assessment panel had concerns regarding an apparent lack of communication between operational and strategic staff. It believes this communication needs to be improved to ensure the satisfactory development of the programme.

Perspective: Working life perspective
Assessment with justification: *The programme is useful and prepares students for an ever-changing working life.*

The assessment panel emphasises the good example of the idea of the 'Project Office' as described in the self-evaluation. This might become a valuable meeting place for academics and industry. Students can gain experiences in real life projects, secure professional contacts and become more employable.

The assessment panel emphasises that bringing scientific and art cultures closer to each other will improve society as a whole.

The programme's design and teaching/learning activities are systematically followed up to ensure that it is useful and prepares for working life. The results of the follow-up are however not translated, when necessary, into actions for quality improvement, and feedback is not given to relevant stakeholders.

The follow-up is provided through the higher education institution's quality management system. However, the document outlining the quality management system does not detail the working life perspective. This document (as the self-evaluation also states) could be updated to specifically include this perspective, ensuring feedback and that follow-up results are translated into actions.

The assessment panel notes the following weaknesses related to follow-up. The long-term ambition to engage alumni is commended, but it is a vague description on how to do this and there is no plan or timetable. According to the interviews, the 'Project Office' will handle alumni issues.

In the overall assessment, the working life perspective is deemed to be satisfactory.

Perspective: Doctoral student perspective

Assessment with justification: *The programme allows the doctoral students to play an active part in the work of improving the programme and learning processes.*

Looking at the proposed structure, the self-evaluation mentions several concrete plans for how the doctoral students will be able to make their voices heard and be able to partake in developing their education. However, since there are currently no doctoral students enrolled in the programme, the assessment panel cannot assess the experience of doctoral students; therefore, the assessment is solely based on the self-evaluation, general study plan, and interviews with the staff.

As part of the assessment, the panel has also been given a document containing grievances and complaints from former doctoral students, primarily concerning the working environment, management of the department, and access to supervision. As the panel has already noted, the self-evaluation does not mention this background. However, in the interviews, the staff agreed and accepted some of the criticisms from the former doctoral students and it was stated that the previous environment and working culture was indeed non-functional. It is not fully clear to the panel, however, what parts of the previous students' complaints were accepted by the staff. The strategic staff argued that they have worked for several years to improve and mend the working environment at the department, and that there are new management structures in place to make sure that this cannot happen again. As no information was provided to the panel on the extent of the changes, it is recommended, as noted above, that the higher education institution provides specific details on changes that have been implemented together with a description of the issues they address.

The programme is systematically followed up to ensure that doctoral student input is used in quality assurance and improvement of the programme. The results of the follow-up are translated, when necessary, into actions for quality improvement, and feedback is given to relevant stakeholders.

The follow-up regarding the doctoral student perspective that is proposed in the self-evaluation is systematic and offers several levels of follow-up as well as opportunities for students to influence their education.

The assessment panel wants to highlight the idea of an annual research studies seminar that will, according to the self-evaluation, focus on improving the programme. In addition, the planned use of a yearly survey specifically aimed toward doctoral students should be commended. Several levels of follow-up are put forward in the self-evaluation such as common planning days, which should serve as opportunities for all doctoral students to make their voices heard and exert influence over their education, and a yearly university-wide employee survey.

In the overall assessment, the doctoral perspective is deemed to be satisfactory.

Perspective: Gender equality perspective
Assessment with justification: *A gender equality perspective is integrated in the programme's design and teaching/learning activities.*

There is a good 50/50 gender balance in the staff. According to the self-evaluation, an advisory board will be established to promote equal opportunities. In addition, a policy or plan has been formulated to improve the current situation regarding equal job opportunities and competence enhancement. A non-compulsory course will be offered that will address work, organisation and gender. The higher education institution's regulations require that doctoral committees have equal representation of both sexes.

Systematic follow-up is performed to ensure that the programme's design and teaching/learning activities promote gender equality. The results of the follow-up are translated, when necessary, into actions for quality improvement, and feedback is given to relevant stakeholders.

The higher education institution's regulations are followed when recruiting new staff, and gender equality representatives are in place. Moreover, the gender equality representative, together with the working environment representative, have a mandate to work for gender balance. Although there are already efforts to improve gender balance, the panel notes the importance of following the plan that has been formulated to ensure that it explicitly deals with the content of third-cycle programmes and staff and doctoral student recruitment as well as listening from a gender perspective in everyday life.

From the interviews with operational and strategic staff, the assessment panel gets the impression that there is also a split along gender lines between these two staff groups. This is equally evident in the answers regarding gender issues. In addition, the answers from operational staff were often very short and general, whereas the strategic staff answers were more specific.

In the overall assessment, the gender equality perspective is deemed to be satisfactory.

Aspect area: Follow-up, actions and feedback
Overall assessment of the aspect area 'follow-up, actions and feedback'
Assessment with justification: *In the overall assessment, the aspect area 'follow-up, actions and feedback' is deemed to reach a basic level that allows it to be declared satisfactory.*

Regarding the aspect area 'environment, resources and area', the assessment panel sees potential areas of improvement as the self-evaluation is minimal regarding the systematic follow-up of staff expertise and the third-cycle programme environment. It is unclear what the forums for discussion and lines of communications are and how follow-up will be enacted. The panel strongly recommends that the programme develop a five-year development plan that includes related resourcing.

Regarding the aspect area 'design, teaching/learning and outcomes', the panel sees that the follow-up of the doctoral students' progress will take place through the individual study plans as well as through seminars. This could not be verified because there are no individual study plans to assess. The panel is concerned that the self-evaluation gives no details of actions that have been taken in response to the complaints from earlier doctoral students in order to improve the programme.

In the 'working life perspective', the panel notes that the quality management system of the higher

education institution does not mention working life perspective and so this is a potential area of improvement. Furthermore, the follow-up of alumni is also an area in need of improvement.

Overall assessment: Under review
Assessment with justification: *In conclusion, the programme's quality is being questioned.*

Aspect area 'environment, resources and area': This aspect area is impossible to judge positively because of a lack of clarity and information regarding the plan for the development of the doctoral programme in coming years. Although the panel found the demarcation statement interesting and provocative, it raised questions that were not addressed in the self-evaluation or the interviews. Despite these issues, good initiatives and ideas are presented, including the provision of an independent reference person for each doctoral student and the incorporation of doctoral students within research groups that involve staff. The panel is concerned that the higher education institution's relative geographic isolation might pose problems when ResArc funding ends (loss of funding will make it difficult for doctoral students to travel to courses, etc.), and that a way should be found to address this. The panel strongly recommends that the programme develop a thorough five-year plan that includes related resourcing.

Aspect area 'design, teaching/learning and outcomes': The assessment panel views the response to this aspect area as not satisfactory. The panel is concerned that there is no clear account of what changes have been implemented in the interim since the previous cohort of doctoral students and how this will affect this aspect area. The panel found good suggestions and approaches in the self-evaluation, but also at times a lack of coherent strategy coordinating the actions that ensure the doctoral students achieve the qualitative targets.

Working life perspective: The panel commends the ‘Project Office’ idea and the general aspirations of the self-evaluation in this perspective. However, details regarding the ‘Project Office’ are vague and there is no mention of the working life perspective in the quality management system of the higher education institution. There is also no identifiable strategy that addresses alumni.

Doctoral student perspective: The panel commends initiatives such as common planning days, an annual research studies seminar, and yearly survey of doctoral students’ experiences. The panel is, however, concerned that there is no mention of the issues raised by the previous doctoral students in the self-evaluation and how these issues have been addressed.

Gender equality perspective: The panel considers this a relatively strong section in the self-evaluation report, with clear attention to this issue and processes. From the interviews, the panel noticed a tendency for the strategic and operational staff to be split along gender lines, and that this was also reflected in the responses given to questions.

Aspect area 'follow-up, actions and feedback': Overall this is not a strong area as it meets only the minimal level for being assessed as satisfactory. It is clearly deficient in the aspect area of 'environment, resources and area'' and in 'working life perspective'.

Overall, the panel has no option but to judge the quality of the programme as questioned and assess it as 'under review'. In resubmitting for approval, the panel advises that the higher education institution provides the following information:

1. A clear strategic plan for the development of the programme over five years, describing prospective doctoral student numbers and resourcing requirements. This should also address related issues connected to the doctoral student, working life, and gender perspectives, as well as articulating an approach for how to deal with foreseeable problems such as the ending of ResArc funding.
2. An explicit statement of the institutional response to the complaints of the previous doctoral students, showing what changes have been implemented, and describing how they address the issues raised.

In conclusion, the panel stresses the importance of the full integration of the views of both operational and strategic staff (and eventually doctoral students) in planning the future of the third-cycle programme.

Annex 2

Assessment panel and reported conflicts of interest

Assessment panel members/Higher education institution	Chalmers tekniska högskola AB	Kungl. Tekniska högskolan	Lunds universitet	Umeå universitet
Professor Mark Dorrian, University of Edinburgh				
Doktor Katarina Graffman, Inculture				
Erik Karlsson, Malmö University				
Professor Susanne Komossa, Delft University of Technology				

Annex 3

Presentation of assessment material from each higher education institution[1]

Chalmers tekniska högskola AB

Third-cycle subject area	Self-evaluation	General study plan	Individual study plans	Interview higher education institution	Interview doctoral students
Arkitektur - licentiat- och doktorsexamen	Yes	Yes	16	Yes	Yes

Kungl. Tekniska högskolan

Third-cycle subject area	Self-evaluation	General study plan	Individual study plans	Interview higher education institution	Interview doctoral students
Arkitektur - licentiat- och doktorsexamen	Yes	Yes	16	Yes	Yes

Lunds universitet

Third-cycle subject area	Self-evaluation	General study plan	Individual study plans	Interview higher education institution	Interview doctoral students
Arkitektur - licentiat- och doktorsexamen	Yes	Yes	11	Yes	Yes

Umeå universitet

Third-cycle subject area	Self-evaluation	General study plan	Individual study plans	Interview higher education institution	Interview doctoral students
Arkitektur - doktorsexamen	Yes	Yes	0	Yes	No

Presentation of other assessment material

In addition to the material submitted by the HEIs, UKÄ has produced key figures of student completion rates in the form of net and gross period of study for PhDs in the third-cycle subject area of Architecture during 2011–2016.

[1] When the number of doctoral students is 16 or fewer, all doctoral students' individual study plans are selected. When the number of doctoral students is16 or more, a random selection is made and 16 individual study plans are selected.

Email communication with a summary of working conditions at the UMA PhD Research School had been received by earlier doctoral students at the Umeå universitet and was included in the assessment material for Umeå universitet.

Annex 4

Higher education institutions' responses on the preliminary reports

Chalmers tekniska högskola AB 2018-03-28

Barbara Sturn
Kvalitetssamordnare forskarutbildning
Operativt och strategiskt stöd (OSS)

Universitetskanslersämbetet
Utvärderingsavdelningen

Utbildningsutvärdering inom Arkitektur

Chalmers svar på bedömargruppens preliminära yttrande

(Reg nr 411-00465-16)

Chalmers tekniska högskola AB har tagit del av det preliminära yttrandet avseende utbildningsutvärderingen på forskarnivå i ämnet Arkitektur, daterat 2018-03-23.

Chalmers anser att bedömargruppen har fått en korrekt uppfattning av forskarutbildningen inom Arkitektur. Vid genomläsning av det preliminära yttrandet hittade vi inga sakfel.

Vi vill tacka bedömargruppen för dess konstruktiva arbete och gedigna analys baserat på vår självvärdering och intervjuer med vår personal och doktorander. Bedömargruppens bedömningar och motiveringar till dessa kommer att ligga till grund för det kommande arbetet med kvalitetsutveckling inom forskningsämnet Arkitektur och av Chalmers forskarutbildning generellt.

Chalmers University of Technology AB has received the assessment panel's draft report regarding the evaluation of the third-cycle program in Architecture, dated 2018-03-23.

Chalmers finds that the assessment panel has a correct view of the third-cycle program in Architecture and has not found any factual errors in the draft report.

We would like to thank the assessment panel for the constructive work and substantial analysis based on the self-evaluation and the interviews with representatives for the program, supervisors and doctoral students. The panel's assessment and motivation will be considered in our future work with quality improvement within the third-cycle program Architecture and Chalmers third-cycle programs in general.

Med vänliga hälsningar

Barbara Sturn
Kvalitetssamordnare forskarutbildning

KTH:s svar på UKÄ:s delning av yttrande i utvärderingen av forskarutbildningsämnet Arkitektur
UKÄ reg. nr: 411-00465-16 reg. nr: V-2016-0559

Universitetskanslersämbetets utbildningsutvärderingar

Synpunkter på preliminärt yttrande

Lärosäte: Kungl. Tekniska högskolan
Forskarutbildningsämne: Arkitektur
Svar på delning: KTH School of Architecture has received the preliminary evaluation of our PhD program in architecture. We did not identify any errors which would have a crucial influence on the evaluation of our research education in architecture.

Lärosätet ges möjlighet att kontrollera innehållet i det preliminära yttrandet och påpeka eventuella sak/-faktafel. Synpunkterna på yttrandet bör utgå från de bedömningsområden och bedömningsgrunder som ingått i utvärderingen.

Ange i tabellen vilken sida i yttrandet korrigeringen avser, vid behov kan tabellen byggas ut. Korrigeringarna bör hållas så kortfattade som möjligt.

Observera att det inte är möjligt att inkomma med ny fakta som inte fanns tillgänglig i de ursprungliga underlagen.

Exempel

Sida	Stycke	Rad	Korrigering
2	3	5	Antal helårsstudenter uppgår till 25, inte 45.

Aspektområde: Miljö, resurser och område

Forskarutbildningsämne			
Sida	**Stycke**	**Rad**	**Korrigering**

Personal			
Sida	**Stycke**	**Rad**	**Korrigering**

Forskarutbildningsmiljö			
Sida	**Stycke**	**Rad**	**Korrigering**

Aspektområde: Utformning, genomförande, resultat

Måluppfyllelse – kunskap och förståelse			
Sida	**Stycke**	**Rad**	**Korrigering**

Måluppfyllelse – färdighet och förmåga			
Sida	**Stycke**	**Rad**	**Korrigering**

Måluppfyllelse – värderingsförmåga och förhållningssätt			
Sida	**Stycke**	**Rad**	**Korrigering**

Perspektiv

Arbetslivets perspektiv			
Sida	**Stycke**	**Rad**	**Korrigering**

Doktoranders perspektiv			
Sida	**Stycke**	**Rad**	**Korrigering**

Jämställdhetsperspektiv			
Sida	**Stycke**	**Rad**	**Korrigering**

Uppföljning, åtgärder och återkoppling			
Sida	**Stycke**	**Rad**	**Korrigering**

LUNDS UNIVERSITET

Lunds Tekniska Högskola

2018-04-17

Dnr
U 2018/8

Universitetskanslersämbetet
Reg nr 411-00465-16

Response to the preliminary panel report concerning the assessment of the third cycle subject area "Architecture" at Lund University

We have received the preliminary report regarding the research subject Architecture: *Assessment panel's assessments and justifications*, (ID no. A-2016-11-4121).

We have read the report and we view the assessments and suggestions as clear and accurate. The description of the subject, and its environment is fair and aligns with how we ourselves view the current state of the research subject. We have nothing to add to the report in terms of missing facts or misunderstandings. We will bring the suggestions into our future work and development of the research education.

Professor Annika Mårtensson

Deputy Dean,
Faculty of Engineering, LTH
Lund University

Ana Betancour, rector
School of Architecture
Umeå University

UMEÅ UNIVERSITY

Answer to the preliminary assessment panel report of the third-cycle education in architecture, UKÄ

We have received the preliminary assessment panel report of the third-cycle education in architecture at Umeå University and we were pleased to read your acknowledgment of our ambition to work with ethical and global issues through local conditions. We also highly appreciate that you raised the relevance of our current collaborations, projects, and our substantial amount of staff publications. We would like to emphasise that the assessment is of great importance for UMA, since it will have a strong impact on the research education, the development and future of the school. Our school has a strong international profile and very dedicated staff. The comments by the evaluation panel are significant and helpful in our ongoing long-term development work, which is focused on pedagogy, research, organisation and structures for the first, second and third cycle education. We think that the panel has pointed out important issues regarding the research education at UMA. However, there are some points that we would like to clarify and comment on.

Aspect area: Environment, resources and area

Aspect: Third-cycle subject area

The assessment panel has identified the programme's transdisciplinary approach, together with what they consider to be an open field of knowledge areas mentioning in specific the example of neuroscience. We would like to clarify that the list of related research areas including 'neuroscience' was referred to as examples of the importance of transdisciplinarity, quoted from the governmental report Gestaltad livsmiljö – *Designed Living Environment* (SOU 2015:88); a report which addresses our assignment as a Swedish Higher Educational Institution in Architecture. Our "Emerging research areas" could be further exemplified with the initiative for a joint PhD position together with the Umeå Centre for Gender Studies and Sliperiet (Umeå Arts Campus) focusing on artistic research and gender perspectives in architectural digital manufacturing.

Aspect: Staff

The assessment panel has identified the necessity of a five-year plan for the development of the programme. We fully agree and therefore would like to clarify that a development plan and related resourcing are integrated in UMA's Operational Plan and Competence Provision Plan. In this context, important factors are future resources and funding from the University as well as forthcoming changes in its organisational structure. We are currently awaiting the results of an ongoing review of the organisation of Umeå Arts Campus (UAC). The review is carried out by an external analyst with the assignment to find a model that can create long-term stability and further strengthen the collaboration between the university's operations at UAC. Below is a summary of our planned recruitments for 2018 – 2022 related to research and third-cycle education.

Year	Recruitment	Competence need	Timetable
2018	Senior lecturer, permanent position, full-time incl. 40% research the first 3 years	Social sustainable development and application of new digital technologies.	Ongoing recruitment. Appointment in 2018.
	Senior lecturer, permanent position, full-time incl. 40% research the first 3 years	Theory and history of architecture with focus on ethics in design thinking.	Ongoing recruitment. Appointment in 2018.
	Guest professor *or* 2-year extension of adjunct professor, 50 %	Sustainable architecture with experience in social sustainable development.	Recruitment process & appointment in 2018
2019	Professor in wood architecture, 50 – 100%	Experience in emergent technologies and materials in wood construction.	Recruitment process: fall 2018. Appointment in 2019/2020.
	Senior lecturer, permanent position, full-time	Architectural technology and applied sustainable construction.	Appointment in 2019
	1–2 doctoral students	2nd-cycle level degree in architecture.	Appointment in 2019
2020	Guest professor, 30 – 100%		Appointment in 2020
	1–2 doctoral students	2nd-cycle level degree in architecture.	Appointment in 2020
2021	Guest professor, 30 – 100%		Appointment in 2021
	1–3 doctoral students	2nd-cycle level degree in architecture.	Appointment in 2021
2022	1–3 doctoral students	2nd-cycle level degree in architecture.	Appointment in 2022

The total number of doctoral students, senior lecturers and professors for each research area is dependent on funding, outcomes of recruitment processes and the development of each area. The following table indicates a vision for the optimal size for the whole research environment by year 2022.

	Currently Employed	Planned Recruitments	Optimal Total Size by 2022
Doctoral Students	0	6 – 10	**10**
Senior Lecturers	4	3	**7**
Guest Professors	0	2 – 3	**3**
Professors	3	1	**4**

Aspect: Third-cycle programme environment
The assessment panel has identified the importance of the Swedish Research School in Architecture (ResArc) for our research education. We would like to clarify that an agreement has been made between the Schools of Architecture in Sweden, to continue this cooperation at least until 2021 after Formas' funding of ResArc comes to an end in 2018. The joint framework (Arkitekturakademin/The Architecture Academy) will organise the basic offering of four postgraduate courses. Each school will be responsible for one course and provide funding for its own doctoral students to participate in the other courses given nationally. UMA will finance its PhD students' participation. Another evident area of development when Formas' funding of ResArc has come to an end, is to develop a platform for collaborations in research and research education within Umeå Arts Campus (UAC). This is something we expect that the above-mentioned UAC review proposal may suggest and that the collaboration within UAC will make possible to enable. The departments may share resources, courses and develop joint projects in research, and advanced level- and research education within this framework.

Aspect area: Design, teaching/learning and outcomes

Aspect: Achievement of qualitative targets for 'knowledge and understanding'
The assessment panel finds it unclear what is meant by 'artistic/creative foundations of architectonics'. We agree and would like to clarify that this is an unfortunate error in the translation of the General syllabus for third-cycle studies in architecture. The correct English translation of the Swedish legal document of the expected learning outcomes for knowledge and understanding, should be as follows (as stated in the General Syllabus):

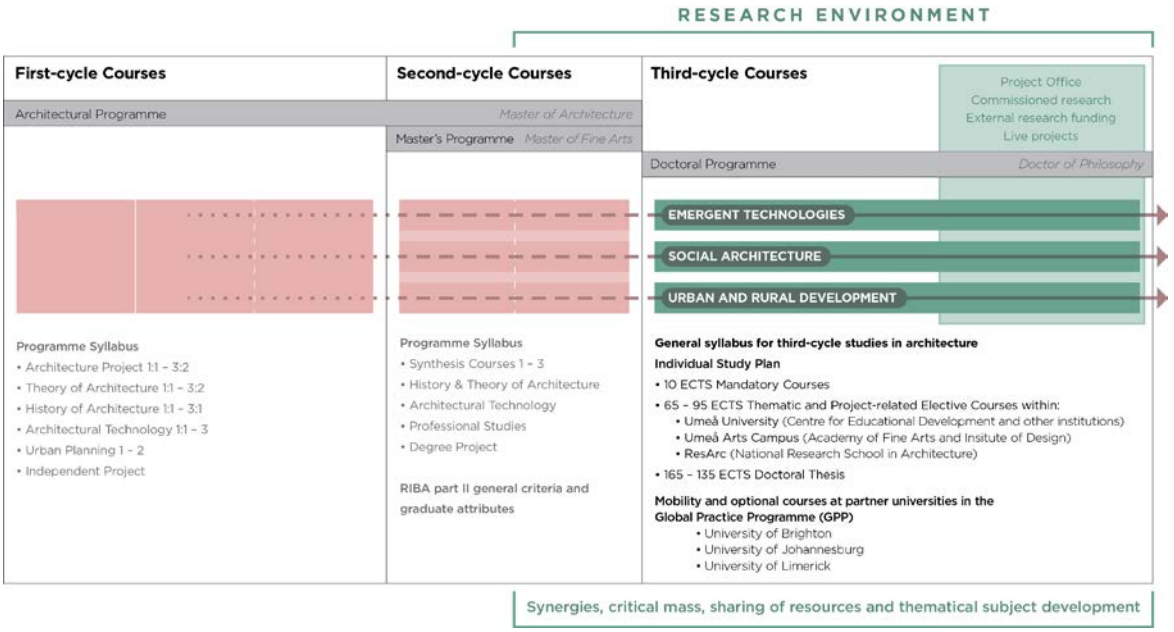
Knowledge and understanding
For the degree of Doctor of Philosophy, the third-cycle student shall

- *demonstrate broad knowledge and systematic understanding of the research field as well as advanced and up-to-date specialised knowledge in a limited area of this field, and*
- *demonstrate familiarity with research methodology in general and the methods of the specific field of research in particular.*

The assessment panel considers the relationship between the three educational cycles to be important for how scientific quality is guaranteed and how the qualitative targets and progression are to be achieved. We agree and therefore would like to further clarify, in the diagram below, how these are structured and related with the aim to:

- Create opportunity for critical mass around subject areas.
- Allow for multiple perspectives on the same topic (e.g. across historical and technology-based research).
- Strengthen the progression and development of the subject areas.

Relationship between first-, second- and third-cycle
Integrated research and education



Overall assessment of the aspect area 'design, teaching/learning and outcomes'
The assessment panel asks for a specific account of changes implemented to improve the programme. We would like to clarify that the improvements that we have achieved since 2015 consist of an extensive development project with the support of external experts, incorporating all parts of the education, including a full overview needed for the research education to ensure that it follows the rules and regulations of the University. Policy documents, routines and regulations regarding the educational and administrative structure, which were earlier not in place, have been developed and implemented. We have reviewed the progression for all three educational cycles and are further developing the general syllabus for third-cycle education. We have established a leadership organisation with various committees and councils, including a research council with representatives from Umeå University as well as experienced national and international researchers. We have developed the school's first Operational Plan, Competence Provision Plan, Working Environment Plan, Strategies for Common Basic Values and Teaching Ethics, and many other important key documents have been put in place as well as a committee for Equal Opportunities. Furthermore, several formal agreements of cooperation and exchange have been established with various other universities, research networks and entities.