

Assessment Report

Architecture

Tallinn University of Technology

Estonian Academy of Arts

Estonian University of Life Sciences

TTK University of Applied Sciences

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Introduction

Quality assessment of a study programme group involves the assessment of the conformity of study programmes and the studies and development activities that take place on their basis to legislation, national and international standards and developmental directions with the purpose of providing recommendations to improve the quality of studies.

The goal of quality assessment of a study programme group is supporting the internal evaluation and self-development of the institution of higher education. Quality assessment of study programme groups is not followed by sanctions: expert assessments should be considered recommendations.

Quality assessment of a study programme group takes place at least once every 7 years based on the regulation approved by EKKA Quality Assessment Council for Higher Education *Quality Assessment of Study Programme Groups in the First and Second Cycles of Higher Education*.

The aim of the assessment team was the evaluation of the Architecture Study Programmes within the Architecture and Building Study Programme Group (SPG) in four higher education institutions –Tallinn University of Technology, Estonian University of Life Sciences, Estonian Academy of Arts and TTK University of Applied Sciences.

The team was asked to assess the conformity of the study programmes belonging to the study programme group and the instruction provided on the basis thereof to legislation and to national and international standards and/or recommendations, including the assessment of the level of the corresponding theoretical and practical instruction, the research and pedagogical qualification of the teaching staff and research staff, and the sufficiency of resources for the provision of instruction.

The following persons formed the assessment team:

Matti Rautiola (Chair)	Professor, Architect, Director General, Building Information Foundation RTS (Finland) President, ARRAK Architects Kiiskilä, Rautiola, Rautiola Ltd (Finland)
Herman Neuckermans	Professor Emeritus, KU Leuven, Department of Architecture (Belgium)
Adri van den Brink	Professor of Landscape Architecture, Wageningen University (Netherlands)
Emma Järvenpää	Student, Leiden University (The Netherlands)

The assessment process was coordinated by Liia Lauri (EKKA).

After the preparation phase, the work of the assessment team in Estonia started on Monday, March 13, 2017, with an introduction to the Higher Education System as well as the assessment procedure by EKKA, the Estonian Quality assurance organization for higher and vocational education. The members of the team agreed the overall questions and areas to discuss with each group at the four institutions, who were part of the assessment process. The distribution of tasks between the members of the assessment team was organised and the detailed schedule of the site visits agreed.

During the following days, meetings were held with the representatives of Tallinn University of Technology (March 14th), TTK University of Applied Sciences (March 15th), and Estonian Academy of Arts and Estonian University of Life Sciences (March 16th). In all cases, the schedule for discussion on site for each of the various study programmes only allowed for short time slots to be available for team members to exchange information, discuss conclusions and implications for further questions.

On Friday, March 17th, the team held an all-day meeting, during which both the structure of the final report was agreed and findings of team meetings were compiled in a first draft of the assessment report. This work was executed in a cooperative way and the members of the team intensively discussed their individual views on the relevant topics.

In the following sections, the assessment team summarizes their general findings, conclusions and recommendations which are relevant across the whole SPG. The team provides an external and objective perspective on the programmes and the contexts within which they are delivered. The intention is to provide constructive comment and critique which may form the basis upon which improvements in the quality of the programmes may be achieved.

General findings and recommendations

Architecture and Building Study Programs Assessment

The meeting held in EKKA in the beginning of the evaluation process agreed on a principle that the two separate Assessment Teams, one on Building and the other one on Architecture (focusing in disciplines of Architecture, Urban Design, Urban Studies, Landscape architecture), would work partly together during the process. The site visits to Tallinn University of Technology and TTK University of Applied Sciences were shared, as were the interviews with the rectorates. The interviews in the faculties with the teaching staff, students, alumni, employers and collaborators were performed separately.

The assessment and visit to Estonian University of Life Sciences (Landscape architecture) in Tartu, was performed by one member of the Architecture Team. The doctoral education of EAA was assessed in a separate process by the Architecture Team with professor Tõnu Meidla as the chair. It does not belong to this assessment.

The shared visits gave a possibility to a common view into the balance and depth of different study programs, although the teams did not touch the question of overlapping educational themes between the two study areas. When in shared sessions the intermediate notions were reported to the interviewed group by both Assessment Teams in the presence of the other.

Architecture Study Program

Societal commission for architectural education in Estonia

During several years, Estonia has been one of the most dynamic economies in Europe and has invested heavily in the built environment. The need for construction and related services has grown remarkably along the years. In all of the assessed institutes the rectorates were clearly aware of the societal commission for education of designers in architecture, urban design and landscape architecture and saw the programs essential in investing for the future and success of the country. Consequently, the study programs enjoyed a steady and sustainable support from the administration, based on understanding that without continuous support and allocated funds the education would not be able to maintain its high quality, nor would it be able to aim for added international recognition, a major attraction in becoming internationally acknowledged and attractive.

The curriculums in the four schools visited represent full coverage of studies in different levels, well organized and according to European standards and conventions. Different from Europe, in Estonia the graduates of the Integrated Architecture program need 3 years of professional internship in order to become a licensed architect. For the European Directive PQD 2013 55 EC 5 years of study is sufficient.

The Assessment Team raised several questions about the future challenges in the society, especially concerning the built environment; demographic changes, environmental problems, technological revolution, globalization of economy, standards and industry, development in issues of citizen society, mobility of expertise, but the time was too short to discuss these topics in depth. **The Assessment Team recommends that the schools would take the societal challenges of the future into account and integrate selected contents into the study programs, within the realism of resources, to prepare professionals to be competent in professions of today and tomorrow.** In the rapidly changing world it would be useful to seek for cross-disciplinary

collaboration, especially between building and architecture, but also with other universities. In the everyday learning environment, the attitude seemed to be, if not absent, at least not widespread.

Resources on the national level

There are three architecture schools in Tallinn. They all have different backgrounds. TTK prepares for “technical architect” education, comparable to BA/BSc degree, and offers a path to continue in MA/MSc studies in universities. TUT acts in the context of technology and research, when again EAA in the context of an art university and has a practice based research profile in doctoral education. Landscape architecture is taught in Tartu at EMU, in the context to life sciences, and at TUT in the context of architecture and engineering. At EAA landscape architecture is offered as a specialization via optional courses within the curriculum of Architecture and Urban design. (SER, p.9)

Looking at the situation from the outside raises the question, why the undeniably limited resources have been split between three schools of architecture in the very vicinity to each other. **The recommendation of the Assessment Team is that advanced collaboration, differentiation between the schools and programs, or even further synergy should be studied and started.**

Adequate resources made possible by bigger entities help in the competition about the best students, teachers and collaborators.

Intellectual, human and physical resources

All the schools were characterized by dedicated, motivated academic staff, qualified professors in permanent positions and part time teachers from the top of the profession, recognized practitioners and foreign visitors. The schools demonstrated high quality performance within their scopes, this all despite of the low compensation of the work.

In all of the institutions the students expressed their high motivation to the studies and satisfaction with the education. They also valued the atmosphere of friendly togetherness as one of the major strengths of the their schools. This indeed is the key condition for mutual trust and a fundamental requirement for creativity. **Still, there is room for improvement; formalization of the feedback system/quality management system might be needed.**

The alumni, collaborators and the professional field work in good connection with the schools. The professional field values high education and its different levels.

In general, the well maintained facilities of the schools are functional and well equipped, with reasonable workshops or possibilities to use workshops nearby, good and accessible libraries, however, with the exception of the spaces of EAA, which are very crowded, insufficient in volume, functionality and accessibility.

The digital network services are good, e.g. Moodle system is managed at national level.

The Assessment Team proposes to enhance the good spirits and seek for new models of collaboration with the stakeholders. It is crucial to take special care of the teachers, especially their remuneration, because the low compensation level may become a risk of losing the key instructors or a hindrance in recruiting new talents, also from abroad. Collaborative structures should be endorsed to maintain the creative environment, not forgetting the importance of the facilities in supporting the atmosphere.

Committed students

The education attracts good students and the admission threshold is reasonable. Generally the number of dropouts is relatively low, although the studies tend to stretch because of foreign exchange and working opportunities. The number of graduates is in balance with the labor market and the employment perspective for the graduates is good; all the graduates seem to be employed. In some cases, the work has been available even too early, in the middle of the studies. Then it may happen that the time spent in school gets prolonged or the student may not come back at all. Although simultaneous, combined education and practical internship have been traditionally understood as a fruitful combination, also from the viewpoint of the practitioners, the consequence may be inefficient use of resources. Depending on the extent of the situation, it may endanger the quality of the education in the long run.

The country has been going through a demographic change and a decline in the population. This will be reflected in student numbers for some time during the coming years. There is a threat of too few students in a class. **To obtain the critical amount of good students, Estonia should reconsider how the programs are run effectively and competitively, how the achieved high quality can be maintained. Is there a need for consolidation of different programs, as well as consolidation within the programs?** See above "Resources on the national level".

International perspective

The international exchange of students and teachers has become a characteristic feature in architectural education all around the world. The Estonian schools have also succeeded in the game, some more than the others. The amount of exchange effects the atmosphere in the school premises, brings broadmindedness in the education and has clearly influenced in the English language skills of the students.

There are still problems in the exchange, the transfer of credits may be sometimes a problem in mobility. **This should be corrected.**

There are programs taught in English in EMU and TUT, but in TTK and EAA the number of English courses are too few if the schools want to attract more international students.

Contribution from Research

One of the schools, EAA has a doctoral education program with some ten students. It is still on the way and thus has not produced significant support to the teaching, yet. Research-driven teaching is a recognized goal as the benefits of doctoral studies to the basic education are evident. However, the schools have a long way to go to establish a functioning structure based on the knowledge brought by research.

The research assessment is not the subject of this assessment.

1. Assessment report of SPG at Tallinn University of Technology

1.1. Introduction

History of TUT dates back to 17 September 1918 when the Estonian Engineering Society opened an engineering school called Special Engineering. Qualification of the university was granted to Tallinn University of Technology in 1936. The status of a university in public law was granted on 12 January 1995 by the Universities Act.

In Estonia, TUT is recognized as a research university, providing research-based education, accountable for the new generation of engineers, the spirit and quality of engineering culture in Estonia and promoting sustainable development of the society and growth of national welfare by the innovative services. TUT provides opportunities for acquisition of higher education in line with developments of science and technology at all cycles in the areas of natural and exact sciences, engineering, manufacturing and technology, social sciences and in related areas. TUT fosters R&D in these areas, at the same time creating a synergy between different fields and areas.

Architecture and Building study programme group at Tallinn University of Technology consists of 11 curricula (2 PHE, 1 BA, 4 INT and 4 MA programmes). According to the performance agreement between TUT and the Ministry of Education and Research, TUT is responsible for the teaching and developing the programs in the field of Architecture and Building.

There are 11494 students studying in TUT (01.10. 2016), including 1083 students in the study programs of Building and Architecture SPG. The statistical data on the student numbers concerning Architecture study programs are

presented below. The study programs of Building in Estonia are evaluated within the separate assessment report.

Statistical data of the Architecture study programs in the Architecture and Building study program group

Title of a study program	Study	Academic year	2016/17	2015/16	2014/15	2013/14	2012/13
Architecture	INT	No of students	101	87	57	20	
		No of admission	22	35	37	20	
		No of drop-outs		2	6	0	
		No of graduates		8	12	8	
European Architecture	MA	No of students	13	6			
		No of admission	8	6			
		No of drop-outs		0			
		No of graduates					
Landscape Architecture	BA	No of students	61	57	57	53	43
		No of admission	15	15	10	20	34
		No of drop-outs		5	10	7	9
		No of graduates		9	8	0	4
Landscape Architecture	MA	No of students	11	22	23	30	74
		No of admission	0	15	0	0	10
		No of drop-outs		1	7	1	
		No of		0	3	6	5

		graduates					
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Source: Self-Assessment Report of Tallinn University of Technology (2016)

1.2. General findings and recommendations at the study program group level

“Architecture & Urban design” is a 5 year BSc-MSc integrated curriculum launched in 2011, as part of a well established and well ranked university.

“European architecture” is a 2 year International MSc program launched in 2014.

“Landscape architecture” is 5 year BSc-MSc program.

All these programs are part of the TUT Architecture and Building study program in 2016, (SER, Table 11, p.19) and run by the Faculty of Civil Engineering, Department of Architecture and Urban Studies.

On the level of the whole university education, TUT is strongly based upon research and thus fulfills the requirements of university education. Internationally known is the ZEBE Centre of Excellence in Research (SER, p.24). In addition to that TUT has numerous research projects in the area of building (SER, p.25). The history of the architectural education is short and has not yet reached a point where it could rely on in-house research.

It remains unanswered whether the “analysis of cooperation with EAA” (SER, p.92) made in 2016 has had concrete results.

“Architecture” as a five year integrated study program was worked out in cooperation with Construction sector professional societies. In 2021 all the new buildings in Estonia need to fulfill nZEB (nearly Zero Energy Building) requirements in Estonia. In the construction market there is absence of this kind of architects who understand the energy performance of buildings and who can combine beautiful architecture to energy efficient buildings (SER, p.18).

Whereas the Integrated Program fulfills the academic part of the requirements to access the profession of an independent architect, the European Architecture MSc does not.

“The objectives for the quality and the rules for the process of study programme development are set out in several documents: the EU directive, Estonian Standard of Higher Education and TUT Curriculum Statute.” (SER, p.79)

Strengths

- These programmes are well thought and rest on the solid backbone of TUT, “the flagship of Estonian engineering and technical education ” (SER,p.8), with outstanding staff, resources and facilities. TUT is known as a full-fledged high level polytechnical university.
- The education mainly complies with the international architectural education, with features that adjust to the cultural context and local construction processes (Building is always culture! prof.em. Ralf Lindberg, construction).

Areas of improvement and recommendations

- The distant location, away from the main TUT campus, makes collaboration more difficult with the risk of fading away in the future.
- Existing plans for moving the architectural education to the main campus of TUT, further away from the city centre, are not unanimously welcomed by the responsible staff. If the school wants to strengthen its technological and scientific profile, a closer contact and cross-disciplinary co-operation with the other areas of expertise in TUT would make a difference in education. TUT has to strengthen its polytechnic profile as much as possible within the framework of the 11 points of the EU Directive PQD_2013_55_EC art. 46. There is no other reason legitimizing this curriculum to exist together with 2 other schools within one square mile in Tallinn. The highest level in polytechnics should be the brand. This still needs improvement.
- The level of student work is one true measure of the achievements of education. In TUT it is on a good level, ambitious work has been done. However, there is still place for improvement, especially in applying research based knowledge and intellectual innovativeness in the project work of the students.

1.3. Strengths and areas for improvement of study programmes by assessment areas

1.3.1. Architecture (INT)

Study programme and study programme development

Standards

- ✓ The launch or development of the study programme is based on the Standard of Higher Education and other legislation, development plans,

- analyses (including labour market and feasibility analyses), and professional standards; and the best quality is being sought.
- ✓ The structure and content of modules and courses in a study programme support achievement of the objectives and designed learning outcomes of the study programme.
 - ✓ Different parts of the study programme form a coherent whole.
 - ✓ The study programme includes practical training, the content and scope of which are based on the planned learning outcomes of the study programme.
 - ✓ The study programme development takes into account feedback from students, employers, alumni and other stakeholders.

Comments

The architecture program is an integrated study program, directed by Irina Raud. "The architecture 5-year integrated studies curriculum has been built on the belief that in providing architecture education, creative activity and quality as well as practical capabilities should be considered equally important and should thus be granted through intensive architecture, urban construction and engineering studies." (SER, p.78)

"The curriculum development process is conducted in cooperation with several stakeholder groups: students, alumni, employers and teaching staff." (SER, p.79)

As per 2017 a new version of the program (EUAI12/17) will be implemented. The main changes will be the increase of architectural and urban design projects and increase of technical courses.(SER, p.78). The increase of these engineering courses from 63 ECTS to 79 ECTS is completely in line with the recommendations from the previous assessment.

The program is composed of: General studies (20 ECTS), Basic studies (58 ECTS), Core Studies (59 ECTS), Special studies (121 ECTS), electives (42 ECTS).

The feedback from the students is course based upon feedback via TUT's online study information system OIS (<http://ois.ttu.ee>). Feedback is also collected from the reports of Student Education Quality Working Groups and individually from meetings with students. Alumni feedback is acquired from surveys of recent graduates.

Until the academic year 2014/2015 the feedback from the students was voluntary. Usually, only 10 to 30 % of the students gave their feedback. Starting from the academic year 2015/2016 giving feedback is compulsory for all the students.

The teachers get the students' feedback in ÖIS at the beginning of the next semester (SER, p.25).

Study programs have been compared to other universities (EAA-Tallinn, University of Innsbruck, University of Ljubljana).

During the visit the committee was able to get a good idea of the project work by the students from the first project to the master thesis project. The master thesis project includes always a written part justifying the design decisions.

Strengths

- The study program development takes into account feedback from students, employers, alumni and other stakeholders and of the previous assessment.
- Feedback is well-organised via OIS and compulsory for students since 2016. It is discussed in the program committee. This feedback shows good average ratings for courses and lecturers; the scores range from 4.0 to 4.9. More in particular: 4.4 for Archit INT in 2015-16 and 4.5 for European Archit (SER, p.28, Table 13,14).
- TUT is active in international cooperation networks, such as CESAER, UNICA, EURAXESS, etc., and in organisations such as SEFI, EUA, EAIE, NAFSA, etc.
TUT is a member of the BALTECH consortium and TUT is participating in TEMPUS (SER, p.24).

Areas of improvement and recommendations

- Ten major learning outcomes are listed in SER. In order to be listed by EU it should show the famous 11 points. One learning outcome is missing, namely (c) from the European Directive 2013. The missing one is the fine arts competence. It looks like an omission because they seem to be taught in 'art subjects 22 ECTS' and in 'Art-Architecture and urban planning theories 26 ECTS'.
- Questions about ideas for future research themes were not touched upon during the visit, nor were the future design challenges presented. What will be the themes: renewal, conservation, reuse, energy, sustainability, cost, life cycle analysis, access for all? Many of these questions would benefit from closer collaboration with the other faculties in TUT.

- The visit showed that there is still room for improving the polytechnic approach to architecture in the design curriculum, for example by choosing more engineering oriented assignments, focusing more on detailing, including some very general computations like the one needed for EPC. That will need design tutors with a polytechnic background. A background that architects don't necessarily have.
- The station project is already a step in the right direction. The apartment building was interesting in its shape but banal in plan. (Information gathered through the exhibition, which was arranged on the request of evaluators.)
- Being a University of Technology research should be included/more present in the the 4th and 5th year inspired by future developments in the building industry, with focus in the competences within TUT.
- To make a difference from other schools Arch Int should emphasize the polytechnic character of the assignments by including for example computations in the design work. (Is already there according to the response, but not shown to the committee.)

Resources

Standards

- ✓ Resources (teaching and learning environments, teaching materials, teaching aids and equipment, premises, financial resources) support the achievement of objectives in the study programme.
- ✓ There is a sufficient supply of textbooks and other teaching aids and they are available.
- ✓ Adequacy of resources is ensured for changing circumstances (change in student numbers, etc.).
- ✓ Resource development is sustainable.
- ✓

Comments

TUT has the appropriate teaching materials, equipment and outstanding premises to conduct the study program. Premises at Tõnismägi 14 have been completed. The high standard but isolated situation is partly compensated by full electronic access via the Estonian EVS to ISO standards and the international architecture and building database.

Students can use educational versions of following software: Autodesk products (Autocad, Revit, 3D MAX), Graphtisoft products (Archicad, Artlantis Studio, MEP Modeler), EcoDesigner STAR, Tekla BIMsight, Solibri Model Viewer. Trial versions

of the following software are used in the courses: Adobe software (Photoshop, Illustrator, Indesign) Rhinoceros + plugins (SER,p. 83).

Strengths

- Availability of teaching materials and classrooms in TUT is up-to-date.
- Laboratory equipment is adequate for teaching purposes.
- Rooms are equipped with computers, Internet, wifi, beamers.
- The premises are convivial, independent and functional.

Areas of improvement and recommendations

- Resources from other faculties within TUT are shared, but could be improved. "Resources are missing for creating a department library". (SER, p.83)
- TUT_SER also mentions that the texts supporting the building acoustics course should be improved (SER, p.92-93).
- During the visit the committee was shown how the heliodon can be used for simulating sunshine on a building. Cooperation between departments could be improved.
- Modelling lab needs 3D-printer and another laser cutter, as stated in the SER.

Teaching and learning

Standards

- ✓ The process of teaching and learning supports learners' individual and social development.
- ✓ The process of teaching and learning is flexible, takes into account the specifics of the form of study and facilitates the achievement of planned learning outcomes.
- ✓ Teaching methods and tools used in teaching are modern, effective and support the development of digital culture.
- ✓ Practical and theoretical studies are interconnected.
- ✓ The organisation and the content of practical training support achievement of planned learning outcomes and meet the needs of the stakeholders.
- ✓ The process of teaching and learning supports learning mobility.
- ✓ Assessment of learning outcomes is appropriate, transparent and objective, and supports the development of learners.



Comments

The curriculum endorses the profile of the education as advertised. This refers especially to the proportion of engineering courses. In the curriculum version EAUI12/17 this amounts to approximately 25% (70 ECTS) of the curriculum. SER mentions by means of comparison that the proportion of engineering courses in architectural curriculum at the Estonian Academy of Arts is 12% (32 ECTS) and in EAA's partner schools Innsbruck University 15% (40 ECTS) and in Ljubljana University 19% (50 ECTS) (SER, p.84-85).

The connection between theory and practice happens on the one end via practitioners teaching design studios, on the other hand via the professional internship. That means that the connection is both synchronic and diachronic. Design tutoring in schools of architecture is done all over the world by practitioners.

Evaluation criteria and assessment methods explaining which scores correspond with which ratings between 0–5 are shown in Appendix 2 of TUT D-part appendices TUT, app.IV, p.235.

The master thesis is a design project with a subject proposed by the student; There is a written part besides the design work. These projects are judged by a jury comprising external members.

"The supervision of student research papers (seminar papers, specialty projects, workshops, applied projects, theses, etc.) is one part of all the architectural and urban design projects and theoretical courses. Research work results are presented by PowerPoint presentations or in written form, according to the course syllabus." (SER,p. 86)

Characteristic for architectural education is the extend of design work. This is by definition a creative and largely independent work, with tutoring accordingly.

Students did not complain about work overload during the visit.

Recognition of Prior Learning and work experience is regulated via APEL/RPL Procedure § 1 (Accreditation of Prior and Experiential Learning/Recognition of Prior learning) and done by the programme's academic advisor.

The department guarantees an opportunity for work placement for all students (SER, p.86). The question is how a school can make something compulsory when it depends on third parties.

Strengths

- Despite of the fact that the school has been operating only a few years and the first graduates are out, it seems clear that the teaching methods and processes compare with the international benchmarking properly.

Areas of improvement and recommendations

- Ideal would be that the master's thesis subjects would be agreed with the research teams of the staff. This would result in deepening the approach and the supervision.

Teaching staff

Standards

- ✓ There is teaching staff with adequate qualifications to achieve the objectives and planned learning outcomes of the study programme, and to ensure quality and sustainability of the teaching and learning.
- ✓ Overall student assessment on teaching skills of the teaching staff is positive.
- ✓ The teaching staff collaborate in the fields of teaching and research within the higher education institution and with partners outside of the higher education institution (practitioners in their fields, employers, and staff members at other Estonian or foreign higher education institutions).
- ✓ Recognised foreign and visiting members of the teaching staff and practitioners participate in teaching the study programme.
- ✓ The teaching staff is routinely engaged in professional and teaching-skills development.
- ✓ Assessment of the work by members of the teaching staff (including staff evaluation) takes into account the quality of their teaching as well as of their research, development and creative work, including development of their teaching skills, and their international mobility.

Comments

40 lecturers are from the department, mostly invited practitioners without PhD. It is not clear why the core professors of the program are qualified as being visiting or guest professors. 18 lecturers are from other TUT departments and have a PhD. It is not clear how much of their time they spend effectively to this program.

Besides this the program runs with lecturers and professors from other departments.

The committee can expect these professors coming from the engineering departments to practice research based teaching. Is that also the case for the architecture staff?

Strengths

- So far the staff is very versatile, adequate in numbers and brings expertise from different fields outside of the school.
- The staff is motivated and balanced in age structure.

Areas of improvement and recommendations

- Research volume by core staff could be improved.
- In regard to the recommendation to profile the curriculum in TUT context, it would be useful to have a plan for future and the structure of the staff, based on curriculum and stated objectives.

Students

Standards

- ✓ Student places are filled with motivated and capable students.
- ✓ The dropout rate is low; the proportion of students graduating within the standard period of study is large.
- ✓ Students are motivated to learn and their satisfaction with the content, form and methods of their studies is high.
- ✓ As part of their studies, students attend other Estonian and/or foreign higher education institutions as visiting or international students.
- ✓ Employment rate of alumni is high.
- ✓ Alumni and their employers are pleased with their professional preparation and social competencies.

Comments

Students entering the study programme fulfil the entrance requirements, and are very motivated as illustrated by the low dropout rate. The Admission procedure comprises: essay, drawing picture, composition and ratings from secondary school. The number of students is increasing steadily, which indicates the growing popularity of the study programme.

Generally students are very satisfied with the content of the curriculum. The study program meets their expectations and offers all the needed tools for the future practice. Students rate the most courses above 4 from the scale of 1 to 5. However, the students did mention that they sometimes give feedback halfheartedly which might affect the endresults.

The compulsory architectural internship in the eighth semester, in spring, brings students in touch with the worklife. A part of the students continue working after the internship while still studying, meaning that the link to the labour market is very strong. Even though this illustrates the good employment situation of architect students in the labour market, this could also become problematic if the work prevents students from graduating.

The amount of workload becomes an issue when several projects have a deadline at the same period. If students face a problem with finishing their projects, they can always negotiate a new date for handing in their work with the teaching staff. Students who wish to go to an internship, have difficulties with graduating within the standard period of time.

Communication between the teaching staff and students is generally very good. The groups are small, which enables informal information change within the study programme group. Furthermore, there are two employees at the Department whose duties include also student counselling besides to the university-wide counselling system. Therefore problems can be solved effectively should they arise.

Current international mobility rate of the students is average; the number of students taking part into international exchange programmes is low and no international students have enrolled in the study programme yet. However, the tools for the international exchange have been established and are well known to the students. TUT is a member of the Erasmus programme, and the Department of Architecture and Urban Studies cooperates with several foreign universities, such as University of Innsbruck, Ljubljana Technical University and Universidade Autonoma de Lisboa. Information on international mobility possibilities are shared by the teaching staff and via the email system to the students. Students are encouraged to learn at foreign universities for one semester, but this is not compulsory at the moment. In 2017 some students leave to Denmark and Spain to study, thus the mobility is growing. The annual ISOVER contests, arranged both home and abroad, have become a tradition for the students to participate in. The department also organizes regular architecture tours abroad.

Employees are pleased with the professional preparation and social competencies of the graduates. Alumni have received the Estonian Qualifications Authority the Authorized Architect level 7, and are employed in the field of architecture.

Strengths

- Low dropout rate
- High employment rate of students

- Highly motivated students, as illustrated by the low dropout rate
- Good connection between the teaching staff and students
- Good connections to the external stakeholders who are satisfied with the professional level of graduates
- The link to the labour market is strong
- Counselling of students is good

Areas of improvement and recommendations

- The education is provided in Estonian, thus there is little place for foreign students
- Although the international mobility of students is growing, it could still be enhanced
- It is important to take care of the good level of students, to ensure the attractivity and intensity of the program, by keeping the threshold up in the admission

1.3.2. European Architecture (M)

Study programme and study programme development

Standards

- ✓ The launch or development of the study programme is based on the Standard of Higher Education and other legislation, development plans, analyses (including labour market and feasibility analyses), and professional standards; and the best quality is being sought. The structure and content of modules and courses in a study programme support achievement of the objectives and designed learning outcomes of the study programme.
- ✓ Different parts of the study programme form a coherent whole.
- ✓ The study programme includes practical training, the content and scope of which are based on the planned learning outcomes of the study programme.
- ✓ The study programme development takes into account feedback from students, employers, alumni and other stakeholders.

Comments

This program started originally in Germany, Brandenburg University of Technology in 2010 and the first pilot lasted until 2013. The development the program in Estonia took from 2013 to 2015.

'The program has been approved and registered by the Ministry Of Education and Research during spring term 2015 to open in September 2015 with the first students at TUT.' 'After approval in 2015, the program started with first students 13 month ago in September 2015.' 'The first two-year cycle will be terminated in 2017. (SER, p.117)

It comprises 4 modules: one in Tallinn and Finland, one in the partner universities, one in Lisbon and a master thesis in different locations.

This European Architecture study programme operates with teachers from cities in six countries: Tallinn, Lisbon, Berlin, Ljubljana, Haifa, Innsbruck. The focus is on "European design research" (SER, p.115).

This programme is a 2 year postgraduate international Master's study program established in 2015. It offers a double degree with Universidade Autonoma de Lisboa (UAL): MSc in TUT and MA Architecture in Lisbon.

The programme was conceived with the idea in mind to combine the "classic" educational architectural journey abroad with project oriented workshops in different locations in Europe. This is reflected in the name of the programme.

The program sums up to 120 ECTS and comprises 8 project workshops, plus 3 reflective design workshops in the cities of the partner institutions. It all starts at TUT, integrates the North European context, moves on to Central Europe, then to Lisbon and ends with a one semester master thesis.

The modules and specific themes, each 30 ECTS, are:

Baltic Sea Area & Nordic Countries: Architectural Projects, Strategies & Reflections

Central Europe & Israel: Transforming Contexts of Architecture, Art & City

Lisbon & South Europe: Programming the City, Experiment & Reflection
Graduation thesis.

The master thesis process unfolds as follows:

defining master's thesis portfolio (in team)

public presentation + exhibition as part of an evaluative symposium.

The location of the thesis rotates between partners.

The programme is directed by prof. Dagmar Jäger. The head of the program is, according to OIS, prof. Irina Raud.

The time for the visit on site was too short to get a grip on the design assignments. Dagmar Jäger reported that the subjects are discussed/decided between partners before the start of the academic year.

The committee did not have the opportunity to see a thorough overview of the results of the workshops during the visit on site.

Strengths

- International exchange and excursions have even historically been important in architectural education, and they still are. The structure of the European Architecture Study Program has the potential of gaining from that arrangement.
- The main characteristic of the programme is the exposure of students to a multiplicity of international situations, contexts, problems and contacts.

Areas of improvement and recommendations

- Provided the resources are adequate to support this European Architecture Program, these studies should be clearer in goal setting, structure and documented results, this especially in order to grow along with experience.

Resources

Standards

- ✓ Resources (teaching and learning environments, teaching materials, teaching aids and equipment, premises, financial resources) support the achievement of objectives in the study programme.
- ✓ There is a sufficient supply of textbooks and other teaching aids and they are available.
- ✓ Adequacy of resources is ensured for changing circumstances (change in student numbers, etc.).
- ✓ Resource development is sustainable.

Comments

The financial resources of the programme consist of resources from the partner institutions, tuition fees and cost of teaching and administrative

staff. There is an agreement between partners on how these funds are allocated. 30% of the fees cover basic scholarships for the participants of the double degree and part of it is co-financing of the teaching load at TUT.

The students of the European Architecture programme have their own adequate design studio in the attic of the building at Tonismägi 14. This studio is equipped with a 3D-printer.

Strengths

- The program has a potential to grow into a genuinely international melting pot of architectural studies. To reach such a goal would require a tremendous strengthening of the contents, volume of interaction and versatile gallery of important teachers. If this is not possible, the opposite may happen.

Areas of improvement and recommendations

- "The development of an outstanding profile by the new department at TUT will need a realistic time frame and also a minimum financing of basics for an architecture education and adequate research activities of the department – the main resource for the future of the European programme at TUT and in Estonia." (SER,p.121).
- Stable financial resources covering the staff costs of TUT are needed, but have so far not been granted (SER, p.122).
- This raises the question whether the department has enough capacity, intellectual manpower and finances to run two architecture programmes in parallel, plus landscape architecture.

Teaching and learning

Standards

- ✓ The process of teaching and learning supports learners' individual and social development.
- ✓ The process of teaching and learning is flexible, takes into account the specifics of the form of study and facilitates the achievement of planned learning outcomes.
- ✓ Teaching methods and tools used in teaching are modern, effective and support the development of digital culture.
- ✓ Practical and theoretical studies are interconnected.
- ✓ The organisation and the content of practical training support achievement of planned learning outcomes and meet the needs of the stakeholders.
- ✓ The process of teaching and learning supports learning mobility.
- ✓ Assessment of learning outcomes is appropriate, transparent and

objective, and supports the development of learners.

Comments

The workshop programme, consisting of individual workshops, is prepared annually for each course, based upon the feedback/reflection/retrospect in The Reisuni Report. "The Reiseuni_lab (SER, p.125) acts as network, aiming at integration of the young professionals as assistant teachers in the actual and former partner universities of Sevilla, Tallinn, Marseille, Haifa etc." (SER, p.127).

Workshops are the main form of teaching and learning in this programme (SER, p.122).

Strengths

- The collaboration between people, teachers and students from different cultures offers a possibility to raise intellectual questions that would not otherwise come up. In the best case it could be a source of richness for creativity and open up a smooth way to international careers for the graduates.

Areas of improvement and recommendations

- Despite of the positive atmosphere, the results of students were not yet visible enough for the assessment team in order to prove that the educational idea brings added value to the skills and understanding of the students. The results need to be displayed also to the students and teachers to enable development.

Teaching staff

Standards

- ✓ There is teaching staff with adequate qualifications to achieve the objectives and planned learning outcomes of the study programme, and to ensure quality and sustainability of the teaching and learning.
- ✓ Overall student assessment on teaching skills of the teaching staff is positive.
- ✓ The teaching staff collaborate in the fields of teaching and research within the higher education institution and with partners outside of the higher education institution (practitioners in their fields, employers, and staff

- members at other Estonian or foreign higher education institutions).
- ✓ Recognised foreign and visiting members of the teaching staff and practitioners participate in teaching the study programme.
- ✓ The teaching staff is routinely engaged in professional and teaching-skills development.
- ✓ Assessment of the work by members of the teaching staff (including staff evaluation) takes into account the quality of their teaching as well as of their research, development and creative work, including development of their teaching skills, and their international mobility.

Comments

The responsible professors of all 6 partner institutions have excellent qualifications in practice, research and teaching.

The programme is run by 8 responsible professors together with 25 higher education professors from the partner institutions (Based on SER, p.122 but the TUT comment has different information).

The visit and SER proved that the TUT architecture staff capacity is rather limited for this ambitious initiative. This raises again the question whether TUT has the capacity/means/resources to run both architecture programs, one at the home institution and one in an international setting.

Strengths

- In an internationally focused program the teachers come up with their cultural characteristics, to emphasize the weight and importance of different approaches in different societies.

Areas of improvement and recommendations

- As mentioned above, the international team carries a possibility to broaden understanding of cultural meaning in tasks of the built environment. As this is an option, one would wish for greater visible influence of the condition.

Students

Standards

- ✓ Student places are filled with motivated and capable students.
- ✓ The dropout rate is low; the proportion of students graduating within the standard period of study is large.
- ✓ Students are motivated to learn and their satisfaction with the content, form and methods of their studies is high.
- ✓ As part of their studies, students attend other Estonian and/or foreign

- higher education institutions as visiting or international students.
- ✓ Employment rate of alumni is high.
- ✓ Alumni and their employers are pleased with their professional preparation and social competencies.

Comments

Students are very motivated and satisfied with the content, form and methods of the study program. So far, only one student has interrupted the studies due to family reasons (response of the school, but somewhat contradictory with SER, p.127). It also needs to be taken into consideration that the first students started only 13 months ago in Tallinn. The admission procedure includes i.a. the check of portfolio and certificates, TOEFL and Skype interview, verified by curriculum committee consisting of professors from 3 universities (SER, p.127).

This MSc does not lead to the profession of an independent architect, but is rather a personal enrichment and opening an international horizon.

The international profile of the MSc program is strong. More than 80% of the students are foreign, originating from nine different countries (SER. pp. 14, 127). As part of their studies the students will travel to a number of different countries. The flight tickets and accommodations are mostly financed by students themselves, but they can apply for a scholarship. TUT and the Department of Architecture supports the foreign students well and offer them all needed information in English.

The communication between teaching staff and students is good. Feedback is given mainly orally. Although providing feedback via OIS system is compulsory in TUT, it is found irrelevant by the students of this study program. There are no student feedback results available on courses.

Strengths

- Strong international profile.
- Students and teachers from different geographic and cultural contexts enrich each other by displaying their ways of approaching architectural problems and ways of solving them.
- Highly motivated students.
- Counselling is OK.
- Low dropout rate.
- Good connection between the teaching staff and students.

- There are no graduates yet but the graduates are expected to be employed well, based on the success of graduates from 2012 and 2013 (SER, p.127). The future expectations of current students are positive, since the study programme offers them a chance of building an extensive international portfolio, to work in a diversity of international architectural companies.

Areas of improvement and recommendations

- Some Estonian students have difficulties in financing their studies, which leads into too few applications. It would be therefore advisable to develop financial support system for the students (SER, pp.127-128 and comment to the report after visit).
- Currently students provide no formal feedback via OIS, which should be encouraged.

1.3.3. Landscape Architecture (B,M)

Study program and study program development

Standards

- ✓ The launch or development of the study program is based on the Standard of Higher Education and other legislation, development plans, analyses (including labour market and feasibility analyses), and professional standards; and the best quality is being sought.
- ✓ The structure and content of modules and courses in a study program support achievement of the objectives and designed learning outcomes of the study program.
- ✓ Different parts of the study program form a coherent whole.
- ✓ The study program includes practical training, the content and scope of which are based on the planned learning outcomes of the study programme.
- ✓ The study program development takes into account feedback from students, employers, alumni and other stakeholders.

Comments

Before 2011 several versions of bachelor and master study programs in landscape architecture were taught at TUT Tartu College. In 2011 it was decided to relocate these programs to TUT Tallinn College. The wider mission of landscape architecture at TUT is not only to educate skilled landscape

architecture professionals but also to create general awareness about the importance and role of landscape architecture in society both through teaching and their alumni (SER, p.133).

Following the relocation from Tartu to Tallinn, both bachelor level and master level study programs were redeveloped according to the International Federation of Landscape Architects (IFLA) Charter of Landscape Architectural Education and IFLA accreditation guidance documents. Equally important in redeveloping the study programs was the Landscape Architect Level 7 Occupational Qualification standard (Estonian Qualifications Authority), international benchmarking (e.g. Aalto University, DADK Denmark), and consultations with the representatives of Estonian Association of Architects and Estonian Association of Landscape Architects, as well as with members of Landscape Architecture Occupational Qualification committee, representatives of Ministry of Environment, Ministry of Finance (spatial planning division) and National Heritage Board (SER, p.133-134).

There are now a 3y Bachelor and a 2y Master Estonian language taught study program. Recently the decision was made to consolidate the bachelor level program with the program Management of Environment (last intake of students in study year 2016/17), but landscape architecture will remain a major in this new joint program. The master level program will stay independent (SER, p.135).

Landscape architecture training is in general based on three pillars of knowledge: creativity and design, including the knowledge and skills to conceive spaces; materials of the natural and built environment; and technical landscape engineering and planning skills. Both study programs support these principles. The programs include design studios, supporting courses, and internships. Because practical training is an important part of the study there are three different internships in the bachelor and master programs with total volume of 16 ECTS: landscape construction or maintenance (5 ECTS), architecture or landscape architecture office or public office (5 ECTS), selective practices of fieldwork and excursions; ecology and drawing/painting (all 2 ECTS). Students find the companies or public offices for an internship on their own. If necessary they can ask for help from head of program, TCs Internship Specialist or TUTs Career and counselling centre (SER, p.135).

An important part of program development has been bridging cooperation with other study programs dedicated to urban- and landscape planning and development. Instead of duplicating courses, elective studies in other universities are promoted, e.g. studies that offer a course or studio also relevant to landscape architects. New joint studios are currently being developed with Estonian Academy of Arts programs of Design and programs of Architecture. Another joint studio course is prepared with Aalto University Department of Architecture. International study trips are used for visits to renowned universities and landscape offices.

So far there is no collaboration with the landscape architecture program at EMÜ in Tartu. During the visit the Head of Program explained that it has been difficult to get in touch. She has tried to organize collaboration but unfortunately received no helpful response. According to her the TUT program is more about design compared to the program at EMÜ that is more oriented on planning.

At TUT the reform of the curricula is accompanied with strategic decision-making about e.g. e-learning (in 2020 all courses should be supported by e-learning) and research (more external research funding, more publications; current targets are 1.3 publications for each staff member and per research group 1 PhD defense every five years).

Among the landscape architecture teachers no one has a PhD (except for two of the external lecturers) and research that goes beyond purely applied research is absent. This means that research-driven teaching will be difficult to develop and implement without a research plan. Such a plan needs to be developed, to which end it might be appropriate to search for collaboration with more experienced research groups (within or outside TUT) that shares common research interests. The SER, (p.146) shows that first steps in this direction have already been made (e.g. H2020 application submitted).

Strengths

- Broadly-based program that enables to prepare graduates for a variety of jobs.
- A relatively large volume of electives that allow students to follow his or her own interests.
- Continued renewal of study programs to respond to societal challenges and new regulations. Theoretical and related subjects are integrated in studio project work; this integration will be enhanced (SER, p.136).

Areas of improvement and recommendations

- The coherence of the program could be enhanced, including the collaboration with Architecture (e.g. in joint multidisciplinary courses). There is a need to include more training of visual skills and to extend e-learning.
- There are only a few courses in English which limits the international exchange of staff and students.
- Further explore opportunities for research and teaching collaborations, both within and outside TUT, including the landscape architecture program at EMU.

Resources

Standards

- ✓ Resources (teaching and learning environments, teaching materials, teaching aids and equipment, premises, financial resources) support the achievement of objectives in the study program.
- ✓ There is a sufficient supply of textbooks and other teaching aids and they are available.
- ✓ Adequacy of resources is ensured for changing circumstances (change in student numbers, etc.).
- ✓ Resource development is sustainable.

Comments

The landscape architecture program is situated at Tallinn College (TC), with Architecture and European Architecture. Rational organization of studies and schedules shows that the size of premises and number of seats is sufficient at the moment. Auditoriums and working rooms are contemporary refurbished with sufficient technical equipment. All computers are connected to the Intranet of the College and to the Internet, WiFi campus wide. TC has its own library; students can also use the main TUT library (SER, p.137).

The decision to locate TC in a different building outside campus has been taken in 2011 together with the start of the architecture programs and the relocation of the landscape architecture programs from Tartu to Tallinn. In relation to decision-making about the future of TC it may be considered how to better relate to the technological profile of TUT and how to build sustainable collaborations (in research and teaching) within the university.

Strengths

- All classrooms are in good condition and well-equipped. ICT is functioning well and infrastructures allow access to students with disabilities.
- The size of premises and number of seats is sufficient at the moment.

Areas of improvement and recommendations

- Looking for possibilities to enhance the use of IT in teaching. Action plan will be made to allow flexibility, improve connectivity with the University information system, and extend e-learning (e.g. e-study materials and digitalization of basic landscape design courses) (SER, p.139-140).
- Capitalize on the profile of TUT as a technological university.

Teaching and learning

Standards

- ✓ The process of teaching and learning supports learners' individual and social development.
- ✓ The process of teaching and learning is flexible, takes into account the specifics of the form of study and facilitates the achievement of planned learning outcomes.
- ✓ Teaching methods and tools used in teaching are modern, effective and support the development of digital culture.
- ✓ Practical and theoretical studies are interconnected.
- ✓ The organisation and the content of practical training support achievement of planned learning outcomes and meet the needs of the stakeholders.
- ✓ The process of teaching and learning supports learning mobility.
- ✓ Assessment of learning outcomes is appropriate, transparent and objective, and supports the development of learners.

Comments

The program head is responsible for having a balance between program objectives and the content and learning outcomes of the individual courses. Observations are being discussed with and among the teachers. This constant development process and feedback loops in course and program development are especially relevant for the landscape architecture studios, because there are many co-tutors and lecturers from outside TUT involved in studio teaching. All studio teachers have annual meetings, while issues regarding further development of studio courses are also shared and discussed via email (SER, p.140).

The learning outcomes of the courses and their linkage to the outcomes at the level of the program is reviewed by the Programme Committee and by the Development and Quality Office before the program is confirmed by TUTs council (SER, p.140). According to TUT policy the Program Committee is composed of academic staff, employers and other stakeholders, and students, each having a share of one-third of the committee members.

Lecturing has become more (inter-)active, students also have to experience landscapes. Study methods support discussion and presentation skills. Project work is linked to the real world. Courses are fully documented in ÖIS. Assessment of studio works not only includes evaluation of the results but takes also into account their daily work and contribution to group work (SER, p.141).

Thesis topics are mostly design projects of public or semi-public areas. Students choose their thesis supervisor. There is always one from TC and one from practice. This is considered important for a number of reasons. Firstly, to be able

to include professional expertise outside university and supervise theses that require expertise in areas with only a few experts in Estonia. Secondly, having supervisors from both within and outside the academia also introduces students better to the professional network not included in university teaching, while also informing future employers about the content of the teaching program and the skills of graduates. Generally, students remain satisfied with the supervision – according to the 2014 graduates survey the satisfaction level was 4.17 out of 5 (SER, p.142).

A relatively large share of teaching is done by professionals from outside TUT. This is not different from the situation at many other universities that offer education in landscape architecture. It offers students the opportunity to improve their understanding of real-world problems in the solving of which landscape architecture plays a role and also gives them insight in future job opportunities. However, because student numbers are very low, own TUT staff is limited and has barely time to do other things (e.g. carrying out research, research grant acquisition, exploring opportunities for collaborations) than teaching.

The interviews with stakeholders/employers during the visit showed that they are satisfied with the profile and quality of the students. According to them there is a good balance between architecture/arts and engineering (knowledge of materials, constructions, etc.). In Tartu (EMÜ) they said that the studies are more oriented on planning, more research-driven, and less connected with urban issues.

International learning mobility is low. Currently there is only one international partner. The number of international partners will increase due to the merging of the bachelor program with the program Management of Environment. To stimulate students to make (more) use of opportunities for international mobility TC organizes seminars where exchange students share their experiences. TC also uses email and social media to raise the awareness of students about Erasmus programs.

The average students' feedback over all courses during the academic year 2015/2016 on the scale 1 ... 5 was 4,5 (bachelor's program) resp. 4,45 (master's program). More specifically, according to the OIS feedback (2015/16 autumn, spring) students thought that their courses were well planned and organised and that the teaching and learning methods were good (4,36 [bachelor], 4,25 [master] out of 5 point scale) (SER, p.144).

Strengths

- Experts and professionals from outside TUT play a substantial and valued role in teaching and thesis supervision, which provides students with a good understanding of practical applications and the societal relevance of landscape architecture.

- Feedback from students is routinely gathered and used for improvements at course level.
- Nevertheless, the best experts are also invited to be guest speakers in studio and lecture courses (e.g. Landscape Project V: Professional Limits).

Areas of improvement and recommendations

- Increase field work, field trips, and excursions to private and public organizations (future employers).
- Improve the international staff and student mobility by making more use of Erasmus possibilities.
- Enhance collaboration within TUT (SER, p.144).

Teaching staff

Standards

- ✓ There is teaching staff with adequate qualifications to achieve the objectives and planned learning outcomes of the study programme, and to ensure quality and sustainability of the teaching and learning.
- ✓ Overall student assessment on teaching skills of the teaching staff is positive.
- ✓ The teaching staff collaborate in the fields of teaching and research within the higher education institution and with partners outside of the higher education institution (practitioners in their fields, employers, and staff members at other Estonian or foreign higher education institutions).
- ✓ Recognised foreign and visiting members of the teaching staff and practitioners participate in teaching the study program.
- ✓ The teaching staff is routinely engaged in professional and teaching-skills development.
- ✓ Assessment of the work by members of the teaching staff (including staff evaluation) takes into account the quality of their teaching as well as of their research, development and creative work, including development of their teaching skills, and their international mobility.

Comments

Staff members have qualifications, training, subject knowledge and experience relevant to their roles and they use these to plan and deliver courses appropriate to students of all abilities, reflect good public sector/company practice and meet employers' needs. Some of the teachers from outside TUT have a PhD; TC staff is still working on their doctoral thesis. The TC core staff in landscape architecture is very small (< 2 fte).

Many of the obligatory courses in the program are taught by the lecturers who work at other institutions/organisations or who are entrepreneurs themselves. A risk related to this situation is that these lecturers feel more involved in activities at their parent organisations than in academic activities and related institutional considerations at TC. Moreover, the managerial burden of having many teachers from outside may be high. Nonetheless, students highly value the practical experience that these people are able to share with them.

The lack of full-time teaching staff may pose a didactic risk to the unequivocal teaching and the further progress of programme development, and also limits possibilities for starting-up research.

According to the OIS feedback (2015/16 autumn, spring) students were of the opinion that their courses were well-planned and organised and that the teaching and learning methods were good (4,36 [bachelor], 4,25 [master] on a 5-point scale). The qualification of the academic staff is assessed by the management considering the students' evaluations and visiting lecturers. Suggestions for improvement are made after every semester, together with the Program Committee. If feedback is very negative or suggestions for improvement are not taken into account by the lecturer, this lecturer will be replaced (SER, p.144).

Research is still in its infancy. Before 2015/16 the TC focus was on applied research and had no funding for scientific research. Developing research has been difficult due to lack of staff. Since the reopening of the bachelor and master programs (in 2013 and 2015 respectively) staff members have been predominantly occupied with programme redevelopment, teaching, tutoring and giving feedback while the majority of lecturers have been employed by other units. Now these programmes are running successfully, staff has started to actively concentrate on research. Even more so, as there are also now master students that require extensive academic input and after graduation might want to continue academic work. The Head of Program works on finalizing her PhD and is involved in a Academy of Finland research project (SCENSLECO, together with Aalto University and Tampere University) and in several submitted research grant applications in cooperation with other TUT divisions and partners from Aalto University (SER, p.146).

Strengths

- Academic staff has opportunities for regular training; novice members are supported and mentored; staff members have a great deal of autonomy in how they design, teach and assess their courses (SER, p.146-147).
- Teachers from outside TUT bring in a practical experience and knowledge about the role and application of landscape architecture in society.

Areas of improvement and recommendations

- Improve international staff and student mobility by making more use of e.g. Erasmus opportunities.
- Enhance focus on research and research-driven teaching by e.g. creating room for developing research collaborations and writing research grant applications.
- Develop a plan for the staffing of the program with own versus external lecturers in relation to the teaching, research and managerial duties.
- More staff with PhD is needed.
- Academic staff involvement in research needs to be strengthened and research-driven teaching encouraged.

Students

Standards

- ✓ Student places are filled with motivated and capable students.
- ✓ The dropout rate is low; the proportion of students graduating within the standard period of study is large.
- ✓ Students are motivated to learn and their satisfaction with the content, form and methods of their studies is high.
- ✓ As part of their studies, students attend other Estonian and/or foreign higher education institutions as visiting or international students.
- ✓ Employment rate of alumni is high.
- ✓ Alumni and their employers are pleased with their professional preparation and social competencies.

Comments

Admission to the bachelor program takes place once a year by way of a public competition and is based on the results of the state-exams in mathematics and Estonian language as well as an internal admission exam. That exam consists of a motivational letter, creativity test and an interview. There are 15 study positions for candidates with the highest scores.

BSc students are capable and motivated. The study groups have consisted of 15-20 students (all together 78 students per four years, 58 of these state-funded student places, 20 self-financed). The number of students has increased steadily, but at the same time the dropout rate has been quite high. Reasons for dropout have been students' inability to cope with mathematics, physics and creative part of the studies; high workload; difficulties with finding a balance between work

and studies; lack of interest in the study program. However, recently the dropout rate has decreased by half (SER p. 12). The admission exams, a system of tutors and ending of distance-learning opportunities have helped to decreased the fallout rate (SER, p.149).

Master program admission also operates via admission exams. Candidates are asked to present a professional portfolio and a letter of motivation. Contents of the portfolio will be further discussed during the interview with the admission committee. Portfolio and interview scores combined create the admission list, where top 15 candidates are accepted (SER, p.147).

The number of MSc students has seemingly decreased since 2012/2013. At that time 74 students followed the curriculum, whereas in 2016/2017 the number was only 11 (SER, p.14). This could be partly explained by the biennial admission of students and the re-opening of the program a couple of years ago as mentioned above. In 2014/2015 there was a slight peak of dropouts; 7 students interrupted their studies, while on the other years the amount has been only 1 or 2 (SER, p.14). Studies are mainly interrupted because of student's inability to combe full-time studies with work.

The international student mobility has been low in BSc as well as MSc program. Only a few students have gone to study abroad, since the most students have no opportunity because of the financial reasons. Both programs are carried out majorly in Estonian, meaning that there is little opportunity for foreign students to participate in it. Some courses and studios in both BSc and MSc are available in English language if necessary, but currently there's little interest in these among the exchange students. The department aims to offer a full English language module by 2020 (SER p.147).

Student feedback has been mostly positive. Students consider the workload to be manageable. Sometimes students do not foresee or manage the amount of workload as required by the study program.

The department has no extensive estimation or conclusion made of students' success on the job market after graduation. Most of the current final year master students work already part-time for architecture offices or for their own companies (SER, p.149). The external stakeholders consider current graduates as practice-based employees who have a good understanding of both architecture and engineering.

Strengths

- Good support system of the students
- Small groups, which creates a community kind of feeling
- Good communication between the teaching staff and students

Areas of improvement and recommendations

- Internationality; the student mobility is low and there are only a few options for courses in English in BSc en MSc programmes. The study programs are not attractive to foreign students
- The system for managing alumni relations should be enhanced
- It would be advisable to have an estimation of the labour market for the future graduates
- The dropout rate of BSc students is still high in comparison to other architecture study programs in TUT.

2. Assessment report of SPG at Estonian Academy of Arts

2.1. Introduction

The Estonian Academy of Arts (EAA, established in 1914) is one of the six public universities in Estonia. Today, EAA has become the leading interdisciplinary competence centre of living environment, spatial, material and visual culture in Estonia, thus giving EAA its special role in the higher education scene.

There are four faculties in EAA: the Faculty of Architecture, Faculty of Design, Faculty of Fine Arts, and Faculty of Art and Culture. The Faculty of Architecture includes two departments: Architecture and Urban Design and Interior Architecture. The curriculum of Architecture was established at EAA (at the time known as the State Art Institute of Estonian SSR) in 1951 and EAA is the oldest Estonian higher education institution providing the given instruction.

The curriculum group of Architecture and Construction in the EAA includes two curricula: Architecture and Urban Design and Urban Studies both in the department of Architecture and Urban Design of the Faculty of Architecture.

There are altogether more than 1000 students studying at the university with about 11% of them at the Faculty of Architecture. Despite the decrease in the total number of students in Estonia, it has remained relatively stable both in the Academy in general and in the Faculty of Architecture.

Statistical data of the Architecture study programs in the Architecture and Building study program group in EAA

Curriculum	Year	Admission	Dropout cases	Student numbers
Architecture and Urban Design INT	2015	13	6	97
	2014	19	10	105
	2013	15	11	103
Urban Studies MA	2015	4	9	16
	2014	4	3	15
	2013	5	4	19

Source: Self-assessment report of EAA (2016)

2.2. General findings and recommendations at the study program group level

EAA is the oldest one of the institutions giving architecture education. It has reached high recognition among international schools, ranking among the 200 best ones in the world. For a school of a small nation it is a remarkable achievement - the level of the student work is true evidence of the quality of the school, as well as the confessed status of the school within the profession.

The educational program complies with the European standards giving a possibility to the graduates to work all over Europe. At the same the contents are adjusted to follow the best and tested international models, combining architecture, interior design, urban design, landscape architecture, technology and practise based research. In a small country the generalilty of studies is a sound basis for a student to grow further skills and expertise in the professional life. In the end of the day the generality is a principle of using the limited resources in a balanced way and leaving the graduates as many possibilities open in the future as possible.

The connections with the other parts of the art university exist but do not profile the education in other than the atmosphere and the reputation. Actually, the entity of studies resembles very much the polytechnical tradition. During our visit we heard frequently that the "fame" of the graduates is artistic but it may not necessarily be correct in describing the professional skills. More propably the school influences the high ambition of the graduates, which in the everyday professional environment may surpass the societal commission and financial framework, and thus may overshadow the actual skills and professionalism educated by the school.

The art university context could be used even more intensively in developing the programs to meet the heavily changing society, to bring alternative contents into the degrees, to support research, to open creative societal perception and enhance crossdisciplinary methods of working among the graduates.

The composition of the staff is versatile and characterized with very high quality. The education makes use of the best professional practitioners and researchers in the country, as well as well known foreign visitors.

As mentioned in the Self-evaluation report ESTONIAN ACADEMY OF ARTS and its Faculty of Architecture have a strong and established status in the field of education in the area of its responsibility. It is recognized both abroad and locally by main stakeholders of the branch. According to the SER and interviews the school is very much aware of the situation and takes full and ambitious responsibility of the situation, even within the resources, which are not adequate in relation with the dreams and plans.

The curriculum is a combination of several professional areas thus giving a generalistic education to the students and a cross-disciplinary understanding of the profession, or relevant professions.

The teaching methods follow the most efficient examples of small groups and interactive supervision.

The school is so far the only architecture education institution in the country that arranges doctoral studies.

Pursuant to the mission stated in the development plan for 2016-2020, EAA is „the main educator and developer of the arts, design, architecture, art history, heritage and arts education professionals in Estonia, the promoter and introducer of visual culture, and an important driver of the Estonian society. The instruction provided by EAA is modern and interdisciplinary, creative and exploratory“. According to the vision stated in the development plan for 2016-2020, “through our alumni, faculty and students, we are the key local and significant international creator, designer and interpreter of art, visual culture and living environment and an essential enriching contributor to the cultural environment and quality of life.” (SER, p.3)

EAA runs 4 faculties:

1. Faculty of Architecture (dean Toomas Tammiss) with 2 departments:
 - dpt: Architecture and urban design (established in 1951), running 2 curricula Arch &Urban Design (design oriented)
 - Urban Studies (analysis, research, understanding)
 - dpt: Interior design
2. Faculty of Design
3. Faculty of Fine Arts
4. Faculty of Art and Culture.

The mission of the faculty of Architecture and Urban design is to “continue as the study and research center of Estonian architecture, interior architecture, urban design, landscape architecture and urban studies responsible for the organisation and quality of the integrated education, life-long learning, research and development in the entire spatial culture related to living environment (SER, p.3).

Pursuant to EAA development plan for 2016-2020, the priority research areas include socially engaged and autonomous art, inclusive design, innovation of the living environment, Soviet culture studies, cultural heritage studies and art education (SER, p. 3).

The main research methodologies include textual research as well as creative practice based research and research by design (SER, p.7).

All curricula of the Faculty of Architecture are concerned with the analysis, design

and research of the living environment on various scales and thus closely interconnected (SER, p.7).

The main values that EAA cherry are: creativity, individuality, professionalism, critical thinking, openness (SER, p.3-4).

Strengths

- The set-up of studies is very logical, growing in difficulty logically, step by step. The progress is linked with necessary courses. In all, the program is ambitious and very well organized and followed.
- Introduction of new technology already during the first year gives a firm basis for the students to express and communicate their creative thinking to the future clients and the users of the built environment.
- Constant review of the curriculum development by the collaborating schools, professional associations, practitioners and in-house parties.

Areas of improvement and recommendations

- Cross-disciplinary requirements for future architects are stated in the SER, but the volume and creative combining to the project work could be stronger as a driver to intellectual reasoning and research based design.

2.3. Strengths and areas for improvement of study programs by assessment areas

2.3.1. Architecture and Urban Design (INT)

Study program and study program development

Standards

- ✓ The launch or development of the study program is based on the Standard of Higher Education and other legislation, development plans, analyses (including labour market and feasibility analyses), and professional standards; and the best quality is being sought.
- ✓ The structure and content of modules and courses in a study program support achievement of the objectives and designed learning outcomes of the study program.
- ✓ Different parts of the study program form a coherent whole.
- ✓ The study program includes practical training, the content and scope of which are based on the planned learning outcomes of the study program.
- ✓ The study program development takes into account feedback from students, employers, alumni and other stakeholders.

Comments

The study program complies very well with the general requirements set by the law, European and national standards and professional expectations. Its quality is regularly benchmarked in the international context through architectural competitions, vivid exchange and continuous contacts with foreign institutes. The measuring is mostly based on understanding of the situation but not documented as an assessment. However, the ranking of the school is internationally recognized.

The development of the five-year integrated curriculum of Architecture and Urban Design is based on the Standard of Higher Education, the framework requirements prescribed by the Regulation of the Government of the Republic of 29 October 2004 (amended 16 June 2010), the European Union Qualifications Directive No 2005/36/EC, the professional standard of architect (qualified architect, level 7, chartered architect – expert, level 8), the development plan of EAA, other legislative acts as well as the sincerest wish to provide the best architectural education in its most contemporary manner.

(Qualifications Directive has been updated in 2013: PQD 2013/55/EC20 Nov 2013) (SER, p.15)

The continuous need for spatial and cultural innovation, the increased technological capabilities and progressively higher demands for the project documentation in the professional practice are present in the core of the education.

Graduates are automatically awarded the qualification of Qualified architect, Level 7 and may apply for the qualification of Chartered architect, Level 7 after 3-year professional experience).

Interdisciplinary teamwork in the curriculum has been increased.

Current program has been notified to and accepted by EU in 2016. (Programs in order to be listed as a diploma that fulfills the EU Directive 2005/36/EC, have to be submitted/notified to the EU commission via the national competent authority.)

New developments since previous evaluation: closing of landscape architecture as a separate program and starting new specialisation: landscape architecture, heritage and conservation.

The former subjects of building physics and indoor climate supervised in cooperation with the engineering studies of Tallinn University of Technology will remain and they are still considered valuable and integral components of

architectural studies. However, the student projects have revealed that the implementation of the principles of energy efficiency at the initial level of architectural projects requires further support by a specialist with a qualification in architecture. Such an expert could not be found in Estonia. In order to include an external specialist, new established positions are the part-time position of Professor (0.25) and Associate Professor (0.25) of Energy Efficiency which at present is filled by professor Bernhard Sommer and associate professor Galo Moncayo based permanently at Universität für Angewandte Kunst Wien (SER, p.10).

Student feedback via ÕIS had low participation level, thus informal meetings with students take place each semester, with documented minutes (according to response by EAA). Feedback is performed yearly with alumni and employers, meetings documented in minutes. All this is discussed in department meetings once a year with minutes (SER, p.12).

EAA has a significant contribution to the sensibilisation of society and future students for space and architecture. It offers classes to secondary schools, it organizes yearly exhibition of its master's thesis. It organizes an open lectures series (SER, p.13).

The structure of studio projects moves from less complex small-scale assignments to more complex and interdisciplinary large-scale projects. In terms of methodology, it means that the focus of the basic structure of studio projects moves from the simple spatial design at the early stages of the studies to more interdisciplinary research-led design at the end of the studies resulting in the strong symbiosis of research and spatial design in their Master's thesis. The key ambition in curriculum development has been to retain the interconnectedness of various academic subjects.

Curriculum is on display on the wall of the room of the coordinators and lecturers. There is a short explanatory extract from the curriculum for the supervisors in order to teach them what is before and after their project (SER, p.17).

Students have to find themselves places for internship or with help of supervisor.

For further and more efficient inclusion of contemporary digital technologies in the integrated curriculum of Architecture and Urban Design, there is a project "The increase of the efficiency of constructional prototyping and computational modelling in the instruction of architecture and urban design" funded by HITSA and described in greater detail in section 1.5 (SER, p.19).

Discussion is going on about integration of subjects in project work or to keep it separate. Curriculum is now too scattered in small units with too few ECTS credits per subject.

Strengths

- The education is of high quality and ambitiously operated.
- The study program is taught as a comprehensive 5 year continuous study, following the European standards and Bologna agreement, thus opening a possibility to the students to apply to another school, normally during the 4th year.
- The balance of the program is well proportioned, the project work supported by a multitude of special courses.

Areas of improvement and recommendations

- Despite of the fact, that for the size of a class and within the 5 years of studies it is not possible to arrange an extensive set of alternative courses, the needs of the society are changing and thus opening up new tasks for architects. Practise based research is an answer into that direction, but still, there are many other, the ecological problems, demographic challenges of ageing population and vast immigration, globalization in economy, politics and cultures, technology innovations and change of societal structures, development of citizen society and co-creation, urbanization, just to mention some of the major drivers.
- Building design does not survive without strong connection to urban consciousness and research based foundation of design principles. So far the urban studies have produced interesting work but the amount of students, the volume of studies and the connection to the architectural design projects could be strengthened.
- In order to avoid fragmentation, the plan to integrate more special courses into the project studios is mentioned in the SER and is on the way.

Resources

Standards

- ✓ Resources (teaching and learning environments, teaching materials, teaching aids and equipment, premises, financial resources) support the achievement of objectives in the study programme.
- ✓ There is a sufficient supply of textbooks and other teaching aids and they are available.
- ✓ Adequacy of resources is ensured for changing circumstances (change in student numbers, etc.).
- ✓ Resource development is sustainable.

Comments

Each year has its own studio room. The department has its own modelling room with hot wire cutter and medium size laser cutter, a 3D-lab with two 3D printers, a 3D digitizer microscribe and a digital caliper. Since the autumn of 2013 a small biotechnology lab with microscope, Petri dishes and 3 aquariums for cellulose growth. Beginning 2017 the 3D lab will be equipped with a small 6-axis industrial robot.

Students can make use of the university wood and metal workshop in the department of Interior Architecture and other specialities. In 2018, as the new building of EAA will be completed, new equipment will be acquired namely a 3D Milling machine and a larger industrial robot (SER, p.20).

Financial resources (SER. p.20-21) have increased gradually, but remain all in all scarce. Thus firstly, the remuneration for teaching at EAA should rise to the same level as the salary of teaching other subjects in other Estonian universities. Salaries now are much lower than in Oslo or Copenhagen for example.

Funding 2015: by state 267221 €
 and external third parties 86015 €
 plus share in ADAPT-r: 36201 €
 AS Merko Ehitus is paying 42000 €/y for the professorship
 Energy design.

The 3D Lab brings together the research projects in keeping with the faculty's research and development strategy and the research interests and topics of our researchers and doctoral students. The work includes writing projects for research funding, individual research, conducting small-scale studies for external stakeholders, and also workshops for architecture students conducted by researchers (for instance, Parametric Design by R. Puusepp 2013). These workshops establish a direct connection between R&D and students of architecture by bringing some clearly delineated aspects of research into the five-year architectural studies (SER, p.11).

Strengths

- The atmospheric quality of the spaces is very pleasant. The students have their own studio rooms for each year, closely connected to modelling facilities and use of modern equipment, but only within the limits set by the small spaces.
- A good library is available within the building.
- The students are allowed to use the wood and metal workshops of the Interior Architecture department outside of the building.

- Outside collaboration has led to financial support to establish a professorship in the area of energy efficient design.
- The students have a variety of technological equipment in their use. The development of the instruments is continuous.
- Yearly exhibition and study trips are organized.
- Faculty of Architecture has published since 2012 arch journal Ehituskunst (SER,p.12).

Areas of improvement and recommendations

- Limited floor area of the facilities does not allow for extensive exhibitions or other events of spacious character. The student work has to be exhibited along the walls of the various rooms. The overlapping uses of the spaces cause extra work in arranging the various events one after the other. All the time is away from the substantial teaching and learning time.
- Equal accessibility to the building is impossible. The stairs are steep and there is no elevator.
- Even though the financial resources allocated for the faculty have gradually increased and allow for running the program on the present level, the compensation for teachers represents a risk as it is lower than in other Estonian universities and disciplines, not to speak about the private sector or European equivalent institutes, competitors in education.
- The lack of teaching resources also means that the variety of different courses in the student's degree is limited.
- International exchange and excursions are essential in architectural education. Without reasonable financial support this is hard to implement.

Teaching and learning

Standards

- ✓ The process of teaching and learning supports learners' individual and social development.
- ✓ The process of teaching and learning is flexible, takes into account the specifics of the form of study and facilitates the achievement of planned learning outcomes.
- ✓ Teaching methods and tools used in teaching are modern, effective and

- support the development of digital culture.
- ✓ Practical and theoretical studies are interconnected.
- ✓ The organisation and the content of practical training support achievement of planned learning outcomes and meet the needs of the stakeholders.
- ✓ The process of teaching and learning supports learning mobility.
- ✓ Assessment of learning outcomes is appropriate, transparent and objective, and supports the development of learners.

Comments

The teaching program and concepts are up-to-date and internationally benchmarked. The display of student work extends over several years, thus building a tradition and a bridge of silent knowledge.

In studio works, the systematic individual approach and the respective outcomes providing at best new knowledge and/or spatial experience have always been valued highly.

The students are advised not to copy the intellectual, creative or aesthetic concepts of their supervisors, but rather demonstrate their ability to generate their own equally clear and socially relevant constructs and propositions.

Term projects, tutoring: weekly once or twice, min. one interim assessment with external reviewer(s); plus simultaneous smaller scale projects called 3DL Studium projects. Term projects end jury with 2-5 external reviewers. 3DL supervised by research-oriented 3DLab researchers, doctoral students and practicing architects.

Master's thesis is 'divided' over several studios; next year also heritage studio. (SER, p. 23): Master's studios are generally supervised by two professional architects who meet the students once a week. The students are expected to present the progress made in every meeting. There are four interim assessments for MA theses in the autumn term and two in the spring term. The schedule of the MA theses supervision and assessments is one of the tightest in the course of the five-year studies and it should result in a thorough architectural project developed together with the research and presented in the form of model, poster and book linking the project to research, and also as an oral presentation before the defence committee.

In essay writing also the issue of scale is brought to play, as the students are asked to take the volume of the format as an example of architectural scale setting the limit to the sharpness of the focus and level of detail in designing, describing or analysing the object.

EAA is considering the close interconnection between practical and theoretical instruction highly important in architectural studies (SER, p.24).

Strengths

- An exhibition was put up to demonstrate the study program entity, the sequence of the different courses, theoretical line of the progress of teaching through years and level of students project work. All this proved of clever project based build-up of architectural understanding and high quality work of students – an outcome of good educational planning and good performance of the teachers.
- The studies begin with exposure to information technology. The students adopt the modern tools already in the beginning of their studies.
- The study program consists of a vast variety of subjects to ensure general understanding of the complexity of the profession.
- Interaction between students and teachers belongs to the core of education.
- The problem of subjective assessments is identified by EAA: solved via free choice of master thesis studio. The representatives of the master thesis studios collectively decide whether the choices are adequate according to the theme of the project and make the final decision on the composition of the studios.

Areas of improvement and recommendations

- Cross-disciplinary projects should be still increased, not only by linking small subjects into the project studios, but integrating other main subjects within the studios, perhaps even with other faculties and other schools.
- Timetable and balance problems of the studies should be solved, to avoid too many simultaneous submissions of project work.

Teaching staff

Standards

- ✓ There is teaching staff with adequate qualifications to achieve the objectives and planned learning outcomes of the study programme, and to ensure quality and sustainability of the teaching and learning.
- ✓ Overall student assessment on teaching skills of the teaching staff is positive.
- ✓ The teaching staff collaborate in the fields of teaching and research within

- the higher education institution and with partners outside of the higher education institution (practitioners in their fields, employers, and staff members at other Estonian or foreign higher education institutions).
- ✓ Recognised foreign and visiting members of the teaching staff and practitioners participate in teaching the study program.
 - ✓ The teaching staff is routinely engaged in professional and teaching-skills development.
 - ✓ Assessment of the work by members of the teaching staff (including staff evaluation) takes into account the quality of their teaching as well as of their research, development and creative work, including development of their teaching skills, and their international mobility.

Comments

The teaching staff is highly qualified and from the top of the profession. It is composed of a convincing group of doctors, practitioners and appreciated foreign visitors.

The lecturers are informed of the aims and learning outcomes of the curriculum by the head of the curriculum. The same issues also emerge in the process of writing the syllabi which is coordinated by the study coordinator (SER, p.26).

Supervisors of studios are leading practitioners, with many awards.

10 subjects out of 19 engineering subjects are taught by TUT and 1 from University of Tartu.

Professorship of energy design with funding from AS Merko Ehitus (SER,p.25).

EAA has close contacts with Aalto Univ Helsinki, and also with TUT and University of Tartu. Twice a year there are regular Nordic Academy of Architecture meetings with the representatives of Nordic and Baltic architecture schools discussing the issues related to the regional architectural education, including the curricula, research and doctoral studies (SER, p.9).

The student feedback on the academic staff is given and made visible to the lecturer and head of curriculum on ÕIS. A more detailed description is given in section 7 of the SER. The students may also directly inform the study coordinator of any current problems. Based on the given sources, the head of curriculum will gather the information on the lecturer's performance and possible problems and pass it on to the lecturer. The main focus here is on less experienced lecturers, the head of curriculum will have a discussion with the

more experienced lecturers in case there is a need for considerable changes or the results have been exceedingly positive (SER, p.25-26).

Strengths

- The versatile group of teachers are able to bring enriching, varying views into the questions of the profession and theory. The number of part time teachers still enforces the aspect. In addition to acting as instructors the visitors are invited to review the projects, as well.

Areas of improvement and recommendations

- As mentioned about the resources, the level of compensation is a growing risk. Competition of skilled and talented people is getting hotter in Europe and even outside.
- There is too little time and money for continuing development of the teachers.

Students

Standards

- ✓ Student places are filled with motivated and capable students.
- ✓ The dropout rate is low; the proportion of students graduating within the standard period of study is large.
- ✓ Students are motivated to learn and their satisfaction with the content, form and methods of their studies is high.
- ✓ As part of their studies, students attend other Estonian and/or foreign higher education institutions as visiting or international students.
- ✓ Employment rate of alumni is high.
- ✓ Alumni and their employers are pleased with their professional preparation and social competencies.

Comments

Students are motivated and pleased with the education they receive.

The entrance exams are thorough and time-consuming and have been adapted later on as a result from feedback. The first part includes the state examination either in mathematics or physics, in the Estonian language/Estonian as a second language and in a foreign language/equivalent with international foreign language examination certification. After that the students take one exam in drawing and two in spatial composition, which are evaluated by a committee including the head of curriculum, a professor and a studio supervisor of the curriculum. At the end of the examination session, every applicant will be interviewed on their exam work by the committee (SER, p.27).

The curriculum is conducted in Estonian, thus 'the participation of foreign students is somewhat problematic' (SER p.19). Although the number of Erasmus exchange students is growing, the lack of English-learned courses in the curriculum has not become a large problem yet. It is partly possible to execute the studies in English, and students may also select subjects in the curriculum of Urban Studies conducted in English if wanted. EAA has made future plans for providing more optional courses in English.

A large number of students go abroad (SER, p.25). The international mobility of students is made possible with the Erasmus projects. In EAA as whole, 11,6% of the students went abroad via Erasmus in 2014 and 9,9% in 2015. In the Faculty of Architecture 17% of the students (in total 18) went abroad in 2015 (SER, tables 6.7, p.6-7 and 25).

Every student is encouraged to leave outside Estonia at least three times during their studies. This improves the language skills of Estonian students remarkably, which is notable in the interviews.

Completing the curriculum in a nominal time proves to be challenging for students who have gone to an internship, wish to go to an exchange abroad or enroll at the fourth year to EAA from TTK University of Applied Sciences. In addition the amount of workload is quite high for the students, which has caused some dropouts of the 2nd and 3rd year students. Despite these issues the dropout rate is low and has even decreased during the last few years; in 2013 11 students discontinued their studies, in 2015 6 students (SER, p.6; table 3).

The former TTK UAS students are supported with an extra course that helps them to gain experience in research. If a student is in a danger of failing his/her studies, s/he is invited for one-to-one discussion with the Dean. These occasions are, however, rare.

Due to the small size of the study group, many issues are discussed informally. In the beginning of each semester the Head and coordinator of the curriculum arrange an informal meeting with the students, where students are asked to provide feedback on previous courses and curriculum in general. In case of complains concerning the curriculum or the teaching staff, the students go straight to the Dean. Feedback can also be provided via the study information system OIS, but the response rate has been low and thus less effective than informal meetings.

Counselling system has not been formally regulated, but there are opportunities for this at the main building of EAA, which are accessible with an appointment. However, not all students were aware of this possibility. There is no special support program for students with special needs (SER p. 28). By so far it has not

been needed due to small number of groups, which enables the individual supervision in many subjects.

The employment expectations of the students are very good. The students are introduced to the labor market with an internship. Some students are already employed during their last years of studies.

78% of the students graduate in nominal time (SER, Table 4, p.6). However, students from TTK, who enter on the 4th year in EAA, have difficulties with finishing their MA thesis since they have no experience in linking research with their projects. This may end up in discontinued studies (SER, p.28).

Once a year the Department gathers its alumni for informal meetings. These meetings are also used as an opportunity for collecting feedback from the external point of view. Many of the alumni are employed in the field, and some have returned to EAA as lecturers. The external stakeholders are satisfied with the quality of the students, although they wish that they had more knowledge in the budgeting of building projects.

Strengths

- Internationality; the international mobility rate of students is high, and the amount of exchange students from abroad is increasing.
- Low dropout rate.
- Good communication between the teaching staff and students
- Good atmosphere at the department
- High employment rate
- Good connections to the external stakeholders who are satisfied with the professional level of graduates
- The students produce high quality projects
- Close relationship to alumni
- High admission threshold, only skillfull and capable applicants approved.

Areas of improvement and recommendations

- The existence of the central counselling system is not mentioned in SER, but was mentioned during the interviews with the teaching staff and students. Not all of the students were aware of it, but some of them were. Thus the awareness could be improved.

- Only part of the studies are available in English; if the amount of exchange students continues to increase this could become a problem.
- No support program for the students with special needs yet.
- High workload of students is still a current issue. Although high workload of students is present in most schools of architecture due to the open-ended nature of design assignments, EAA has to try to keep the workload within the scheduled ECTS workload by for example including milestones in the design process and by tighter monitoring of the schedules.
- Completing the curriculum in a nominal time is challenging for students who have gone to an internship, wish to go to an exchange abroad or enroll from TTK UAS.
- Most feedback is informal; although it is more effective to give oral feedback in a small group, it would be advised to enhance the formal way of providing feedback at some extend.

2.3.2. Urban Studies (M)

Study program and study program development

Standards

- ✓ The launch or development of the study program is based on the Standard of Higher Education and other legislation, development plans, analyses (including labour market and feasibility analyses), and professional standards; and the best quality is being sought.
- ✓ The structure and content of modules and courses in a study program support achievement of the objectives and designed learning outcomes of the study program.
- ✓ Different parts of the study program form a coherent whole.
- ✓ The study program includes practical training, the content and scope of which are based on the planned learning outcomes of the study program.
- ✓ The study program development takes into account feedback from students, employers, alumni and other stakeholders.

Comments

The Urban Studies take place on the MA level. The aim of the studies is related to very contemporary challenges in the urban environment, a highly interesting and global topic.

The strength of the program is its interesting contents and international reference. The program can be seen as one path to doctoral studies.

The curriculum of urban Studies is a 2y Master of Science in Engineering curriculum of 120 ECTS, headed by prof. Maros Krivy and organized by the Department of Architecture and Urban Design.

(https://artun.ois.ee/en/curriculum/view?curriculum_id=30&year=2016, as per 9 March 2017) It is a fully English taught and speaking program (SER, p. 31).

The objective of the program is to create a broad, interdisciplinary platform of urban practice, situated between architecture, arts and social sciences, and educate students towards these diverse skills and knowledge.(SER, p.30)

Uniqueness of profile: our ambition to balance between urban planning/design and social research/knowledge (SER, p.31).

Translated in expected learning outcomes this reads as:

The curriculum will provide an adequate knowledge of urban studies and professional skills to participate in interdisciplinary nature of contemporary urban research, policy and administrative areas. Learning outcomes: - knowledge of the investigation methodology and philosophy of science, and their historical background in the field of urban studies; - an understanding of the historic city form and the spatial, social, economic, and cultural aspects of the urbanization process; - knowledge of contemporary issues and trends in cities; - knowledge of fine arts and the media influence the formation of cities, towns and their usefulness for understanding; - an understanding of human and spatial relations, and the user point of view of urbanism and planning (°same Artun site)

To mention only a few positions taken by graduates: municipal architect, planning expert in a ministry, CEO of an NGO consultancy, community advocacy leader, continuing studies as a PhD student, etc. (SER, p.35).

Recent changes to the curriculum: (SER, p.30)

1. Increase exposure to international trends
2. increase no of foreign/international lecturers or professionals educated abroad
3. have tried to optimize the balance between the focus on design and planning, experimental practices and the theoretical knowledge.
4. Have integrated alumni into the teaching process. Was that not already the case for the lecturers?

"Students' feedback is most valuable. They have highlighted the lectures and seminars on the history and theory of architecture and urbanism, conducted from an interdisciplinary perspective. While there is a general belief that theory is irrelevant and what counts is the "practice", the students' response proves otherwise. It seems students would love to be more critical and open-minded, but their previous education has not given them this opportunity. Students also comment positively on the intensive teaching format, which is used with foreign lecturers. Students are most critical about the scheduling of the courses, and the time pressure created by accidental overlapping or over-concentration of

workload. The clash is often between the courses organized internally and the courses organized for the entire Academy. We have taken steps to eliminate these overlaps by creating better communication between the staff responsible for course scheduling. Students are also critical if there is lack of communication, confusing information or missing study materials. Since last year we ask every lecturer to provide a course syllabus before the beginning of the semester, including the basic reading material/information pack. These are distributed to students during the first introductory meeting together with detailed information on the content and scheduling of the courses.”

Also feedback on the curriculum by alumni and employers is considered extremely important” (SER, p.30).

Strengths

- Intellectual urban approach in touch with architectural education strengthens the whole school and the educational entity. Understanding the historical phases in urban development helps make solutions that are based on knowledge and multiple features of sustainability. As the urban environment tends to last even for centuries, it has to meet in a flexible way the changes in the long perspective.
- The awareness and collaboration with foreign individuals and institutions are priceless valuable, not only in recognizing the latest discussions but also being able to critically place local trends into the wider international context.

Areas of improvement and recommendations

- Unfortunately the resources seem to allow for only MA level studies. This means that there is not enough time to go through all the aspects of urban development, especially in the form of planning and the research in obtaining the data for making strategic urban conclusions. Although the studies are of high quality, a 2 year study entity is not adequate to educate the graduates to be fully professional town planners or qualified urban designers, when out of school.
- Scheduling of the studies with other main subjects need to be organized more fluently, to give the students competence in combining professional areas.

Resources

Standards

- ✓ Resources (teaching and learning environments, teaching materials,

- teaching aids and equipment, premises, financial resources) support the achievement of objectives in the study program.
- ✓ There is a sufficient supply of textbooks and other teaching aids and they are available.
 - ✓ Adequacy of resources is ensured for changing circumstances (change in student numbers, etc.).
 - ✓ Resource development is sustainable.

Comments

The program is on the MA level. This means that the resourcing and amount of students are critical to the functioning of the program. This applies to the money but also time allocated for the program, especially in problems with trying to avoid overlapping, demanding studies in the time schedule.

Uncompetitive salary/wage level makes it difficult to host foreign teachers and experts or offer international fieldwork to students. Offered remuneration is not a motivation for foreign teachers and experts to come. Erasmus+ helps a little bit. (SER, p.31,32).

Strengths

- Despite of the low compensation level the teachers are committed in the teaching work and intensive presence in the use of students.
- The facilities, equipment and functions are of good standard.
- The school lives in expectation of the new premises, which are already under construction. The new spaces represent possibilities to arrange programs and events that have not been possible so far in the school.

Areas of improvement and recommendations

- Within the existing curriculum and level of compensating the teachers it seems difficult to expand the urban studies. This represents a risk of losing some of the significance of the studies depending on the availability of skillfull staff in the future, critical volume of students, integrating the studies with urban planning, urban design and architectural design.

Teaching and learning

Standards

- ✓ The process of teaching and learning supports learners' individual and

- social development.
- ✓ The process of teaching and learning is flexible, takes into account the specifics of the form of study and facilitates the achievement of planned learning outcomes.
- ✓ Teaching methods and tools used in teaching are modern, effective and support the development of digital culture.
- ✓ Practical and theoretical studies are interconnected.
- ✓ The organisation and the content of practical training support achievement of planned learning outcomes and meet the needs of the stakeholders.
- ✓ The process of teaching and learning supports learning mobility.
- ✓ Assessment of learning outcomes is appropriate, transparent and objective, and supports the development of learners.

Comments

The staff uses both traditional and new, progressive and experimental methods in teaching. It gives education in English and has been able to attract foreign teachers and students but still suffers from the small size of the class.

The distinctive quality of the Master in Urban Studies is its reliance on theoretically informed action in the field.

Students have the flexibility and free choice in “designing” their own curriculum.

The education prepares students for engagement in urban issues at the intersection between design practice, political practice and theoretical knowledge (urban design, urban and spatial planning, state and municipal policy making, public expertise, community advocacy, social activism, academic and practice based research). The graduates work in public administrations, urbanism, focused NGOs, architecture design offices, private consultancies and advocacy organizations.

The 3D Lab brings together the research projects in keeping with the faculty’s research and development strategy and the research interests and topics of our researchers and doctoral students. The work includes writing projects for research funding, individual research, conducting small-scale studies for external stakeholders, and also workshops for architecture students conducted by researchers (for instance, Parametric Design by R. Puusepp 2013). These workshops establish a direct connection between R&D and students of architecture by bringing some clearly delineated aspects of research into the five-year architectural studies (SER, p.11).

Strengths

- Enthusiastic teachers work in a interactive way.
- Internationality as an important context.

- Experimental dimensions in educating.

Areas of improvement and recommendations

- Problems in scheduling with overlapping timetables, events, international experience.
- Structured and documented development of teaching could be encouraged

Teaching staff

Standards

- ✓ There is teaching staff with adequate qualifications to achieve the objectives and planned learning outcomes of the study program, and to ensure quality and sustainability of the teaching and learning.
- ✓ Overall student assessment on teaching skills of the teaching staff is positive.
- ✓ The teaching staff collaborate in the fields of teaching and research within the higher education institution and with partners outside of the higher education institution (practitioners in their fields, employers, and staff members at other Estonian or foreign higher education institutions).
- ✓ Recognised foreign and visiting members of the teaching staff and practitioners participate in teaching the study program.
- ✓ The teaching staff is routinely engaged in professional and teaching-skills development.
- ✓ Assessment of the work by members of the teaching staff (including staff evaluation) takes into account the quality of their teaching as well as of their research, development and creative work, including development of their teaching skills, and their international mobility.

Comments

The staff is very committed and qualified to their work. The risk lies in the stability of the program, if it depends on the personalities and not so much on structures.

EAA has close contacts with Aalto Univ Helsinki, and also with TUT and Univeristy of Tartu. Twice a year there are regular Nordic Academy of Architecture meetings with the representatives of Nordic and Baltic architecture schools discussing the issues related to the regional architectural education, including the curricula, research and doctoral studies (SER, p.9).

“We regularly cooperate with foreign partners. We conduct joint modules (e.g. in past years we have cooperated with Aalto University in Helsinki (2 courses), KTH School of Architecture in Stockholm, Oxford School of Architecture in UK,

to name a few. As mentioned above, we have lecturers from foreign schools or companies (from Russia, UK, Italy, Sweden, Finland, etc.). We organize field trips abroad (France, Germany, Netherlands, Baltic countries, etc.). Our students have often foreign supervisors and we invite foreign professionals as Master's thesis reviewers and members of the Master's thesis committee. We host Erasmus students, with good cooperation established with partner universities in Germany and Hungary. We have compared the curriculum with similar programs abroad. In fact, there are not so many, if we consider our ambition to balance between urban planning/design and social research/knowledge – the existing programs are usually tilted towards one or the other direction. I would risk saying that the increasing interest of foreign students in studying Urban Studies in Tallinn testifies to the relevance of such an interdisciplinary knowledge.” (SER, p.30)

Most of the courses are taught by external teachers from other Estonian institutions and mostly from abroad (SER, p.34).

Strengths

- Teaching staff consists mainly on foreign tutors and foreign students, which is a richness.
- The teachers bring in a versatility of theories to the learning environment.

Areas of improvement and recommendations

- Building on foreign teaching resources is a risk in the long run. If the attractivity of the studies is on the shoulders of a personality, not so much in structured program, it may represent a risk.

Students

Standards

- ✓ Student places are filled with motivated and capable students.
- ✓ The dropout rate is low; the proportion of students graduating within the standard period of study is large.
- ✓ Students are motivated to learn and their satisfaction with the content, form and methods of their studies is high.
- ✓ As part of their studies, students attend other Estonian and/or foreign higher education institutions as visiting or international students.
- ✓ Employment rate of alumni is high.
- ✓ Alumni and their employers are pleased with their professional preparation and social competencies.

Comments

The curriculum attracts mainly international students since the study program is fully in English. The amount of incoming students has increased from one student in 2013/2014 to seven students in 2015/2016 (additional material; Answers-before-visit.docx). However, parallel to this development the dropout-rate has doubled in two years' time from 21% in 2013 to 56% in 2015 (SER, p.6, table 3). The dropouts are caused by the lack of interest in courses or different kind of expectations, and could be prevented with different admission procedure (SER p. 34). The dropout rate is caused also by the fact that in the previous years, when fewer candidates applied, candidates with lower qualification were taken in. Students who remain are motivated and satisfied with the curriculum.

The admission of students is based on their portfolio, motivation letter and interview. The relevance of these components is continually evaluated by the Department of Architecture and Urban Design (SER, p.34).

The students are encouraged to take part into international mobility for at least two times; in compulsory observation practice and workshop or studio related excursion. A large number of students have spent one semester abroad and few students have left outside Estonia for an internship (additional material; Answers-before-visit.docx).

The curriculum contains a special segment for practical training outside academia and "academic practice" for those who seek to continue with PhD research. Students are free to choose the type of practice, but it must be relevant to urban studies and to the objectives of the curriculum. The Department reviews the students' choice, after which the students are advised and helped to find a training position, if necessary (SER p. 32).

It seems particularly challenging for students to graduate on time, especially if they wish to practice or study abroad, or to do an internship. The Department encourages the students to finish their studies on time, but finds their professional development, as well as the high quality of the Master's thesis, equally – if not more – important. Regarding the study duration issue due to an exchange, the Department hopes to improve the oversight of courses that students study on their exchange visit in the future (SER p. 34).

Virtually all of the alumni are employed in the field, and are later invited to EAA as guest reviewers or, if successful, as lecturers in the program. Employers are generally satisfied with the professional level of graduates.

For aspects regarding counselling and feedback, see 2.3.1.

Strengths

- Internationality; students are largely international
- Good communication between teaching staff and students

- Satisfied employers
- Close connection with alumni
- Small groups receive very personal tutoring

Areas of improvement and recommendations

- Admission procedure should be improved to prevent the high dropout-rate of students
- Number of students completing the curriculum in a nominal time could be higher
- Small groups have an advantage of intensive interaction and co-learning, but also represent a risk in lack of critical variety of approaches, if adequate exchange is not arranged.

3. Assessment report of SPG at Estonian University of Life Sciences

2.1. Introduction

Eesti Maaülikool, the Estonian University of Life Sciences (EMU) is founded in 1951 and is registered as a public legal entity – public university.

According to the QS World University Rankings by Subject, the EMU is one of the top 100 universities in the world in the field of agriculture and forestry, ranked 51 out of 100. The Thomson Reuters Essential Science Indicators database places the EMU into the top 1% most cited research facilities in the world in the field of plant and animal science, as well as environment and ecology.

Due to the national demographic situation, in 2011–2015 the number of students studying at Estonian universities decreased from 48,408 to 39,037 (decrease 19.4%). At EMU the number of students has fallen, from 4,670 to 3,627 in 2011–2015 (decrement 22.3%), whereas the number of students in Architecture and building has suffered a loss of 223 students (decrement 30.1% at EMU). The study programs of Landscape Architecture is under responsibilities of Institute of Agricultural and Environmental Sciences (IAES) in EMU.

IAES is responsible for activities and research in eleven areas. IAES monitors and organises studies in environmental protection, horticulture, production and marketing of agricultural products, applied biology of aquatic and terrestrial ecosystems, nature tourism (commenced in 2006), landscape conservation and maintenance and landscape architecture.

The statistical data on the student numbers concerning Architecture study programs are presented below. The study programs of Building are evaluated within the separate assessment report.

Statistical data of the Architecture study programs in the Architecture and Building study program group in EMU

Curriculum	Level	Academic year	Admission	Graduates	Dropout cases	Total number of students as of 01.01.16
Landscape Architecture	MSc	2016/2017	8			
		2015/2016	9	6	10	42
		2014/2015	10	7	4	42
		2013/2014	12	11	9	51
		2012/2013	19	15	10	64
		2011/2012	20	15	6	68
Landscape Architecture	MSc(Eng)	2016/2017	4			
		2015/2016	9	5		15
		2014/2015	6			6

		2013/2014	1		1	
		2012/2013				
		2011/2012				

Source: Self-Assessment Report of EMU (2016)

3.2. General findings and recommendations at the study program group level

The goal of the curriculum Landscape Architecture is “to prepare professionals with a deep and extensive knowledge of landscape architecture, who can carry out planning and design projects from conception to implementation, taking into account technical, ecological social and economic aspects” (SER, p.40). Graduate landscape architects are ready to take the final steps (i.e. three years of practical training) to become a professional registered by the Estonian Union of Landscape Architecture (EMAL), or to continue his/her studies at the doctoral level.

In this context it should be noted that according to EMAL and the International Federation of Landscape Architects (IFLA), which regulates the profession, four years’ minimum study is needed in order to be eligible to become a professional landscape architect and in Estonia, with a Bologna 3+2 system, this means a Master’s degree is necessary to be able to qualify.

EMÜ attaches a lot of importance to fostering a sustainable and environmentally-friendly way of thinking. That is why the University has developed its *Green University* concept and follows the principles of sustainability in every-day life and in developing the infrastructure. The University is also a research entity which is mirrored in the involvement of the Department of Landscape Architecture in 21 research projects, including 6 COST projects and 1 H2020 project.

EMÜ has a whole campus WiFi coverage. EMÜ has a Study Information System (ÖIS) and a digital learning environment Moodle.

The University has about 240 bilateral Erasmus+ agreements with European universities, 42 of them cover the the curriculum group of Architecture and Building, and about 30 Erasmus Mundus partners. The University has also signed contracts for Erasmus+ credit mobility, while it is also involved in many networks for the exchange of information and provision of staff and student mobility. To facilitate student exchange, a procedure for studying abroad has been worked out.

EMÜ aims to speed up internationalisation. It aims to increase the number of international master programmes (one of them is the already existing landscape architecture curriculum in the English language). Targets are to increase the

number of international students to 12 % of total student population in 2020 and to increase international staff members to 10 % of total staff in the same year.

To maintain and/or improve its place in international rankings research at EMÜ has become very important. Teaching hours have become much lower than 10 to 15 years ago, but at the same time pressure on good research performance and publishing articles has increased. In its strategy EMÜ strives for a better balance between research and teaching.

Against this background it is relevant to note that Landscape Architecture has a well-known British Head of Department who shows strong leadership and who has managed, by several successful research grant acquisitions (including H2020 and COST), to further develop the profile of the curricula in terms of research-driven teaching. The Department has also been successful in making use of the existing opportunities for international mobility, which has thus far resulted in increasing student numbers from abroad.

During the visit a brief discussion was devoted to the master program in landscape architecture that was recently launched at Tallinn University of Technology. Information about this initiative was said to be very scarce and thus far there seem to have been no or hardly any contacts between the two schools. In the interviews with students and employers it was mentioned that the study at TUT is more technical and engineering, while the study at EMÜ is more focused on environment and design (the latter being very important for participation in international competitions). It was also said that EMAL has been consulted about the TUT initiative, saying that in principle it was a good initiative but that it was also important to find a good balance between the characteristics of the two programs. In general doubts were expressed about the need for having two schools in Estonia because of the rather limited job opportunities.

General findings and recommendations

- Graduate landscape architects educated at EMÜ are eligible to become a professional registered by the Estonian Union of Landscape Architecture (EMAL), or to continue their studies at the doctoral level.
- The Landscape Architecture Department exemplifies the EMÜ strategy for internationalisation. It has been successful in acquiring international research funds and recruiting international students.
- It is recommended to get in touch with TUT about the study program in landscape architecture that it has recently launched. Talks are encouraged about the specific profiles and characteristics of the programs at both universities and about exploring ways for collaboration.

3.3. Strengths and areas for improvement of study programs by assessment areas

3.3.1. Landscape Architecture (M)

Study program and study program development

Standards

- ✓ The launch or development of the study program is based on the Standard of Higher Education and other legislation, development plans, analyses (including labour market and feasibility analyses), and professional standards; and the best quality is being sought.
- ✓ The structure and content of modules and courses in a study program support achievement of the objectives and designed learning outcomes of the study programme.
- ✓ Different parts of the study program form a coherent whole.
- ✓ The study program includes practical training, the content and scope of which are based on the planned learning outcomes of the study programme.
- ✓ The study program development takes into account feedback from students, employers, alumni and other stakeholders.

Comments

There are currently two curricula in landscape architecture at the Master's level, one in Estonian and one in English (both 120 ECTS). These curricula are closely linked. There is no specific target as to whether one curriculum should become dominant over the other, for example in relation to internationalisation policy.

The Bachelor's degree Environmental Planning and Landscape Design, which is also taught at EMÜ, is seen as the precursor degree for Estonian Master students. Although this program is not under consideration in this review, it is worth mentioning that it contains a number of design studio courses from the first semester onwards, culminating in the bachelor project carried out for graduation. These courses are all taught by landscape architecture staff members. Usually, between 10 and 15 graduates (out of a class starting with 20 to 23 students) continue their Master's study in landscape architecture at EMÜ. For the English curriculum Bachelor's degrees from other countries in landscape architecture or in 'neighbouring disciplines' such as architecture, ecology, planning or geography, are also accepted as base degrees to the master's study.

The ECLAS recommended in its *Guidance on Landscape Architecture Education, The Tuning Project ECLAS – LE:NOTRE* (2010) that in a landscape architecture curriculum 40-60 % of total student's work load should be reserved for studio learning (which is at the core of landscape architecture education). A detailed

assessment of the amount of credits related to studio learning, carried out by the landscape architecture staff, has convincingly showed that in both Master curricula these credits represent over 50 % of all credits counting towards 'core competences' as described in the ECLAS *Guidance* document.

The current program in Estonian originates from a complete revision of the program in 2005/2006. At that time a benchmarking was carried out with several programs across Europe (UK, Germany, Norway). The program has since been further developed and refined as well as converted into an English language option aiming at international students (SER, p.40), although, according to staff members, there were no big changes in the past ten years.

In this process the ECLAS *Guidance* document and IFLA recommendations have been taken into consideration. Furthermore, the Landscape Architecture Department participates in the Eastern Baltic Network of Landscape Architecture Schools (EBANELAS), with curriculum development as one of its core activities.

Against this background it can be concluded that in curriculum development there is continuous attention for international benchmarking and development of new teaching modes, including e-learning. The Department has also been successful in acquiring (international) research grants, which strongly stimulates the further development of research-driven teaching and provides students with interesting and relevant topics for studio learning and master thesis research and design (see also below).

In terms of curriculum development it is also relevant to note that both students and representatives of the professional field confirmed that the programmes well prepare for work after graduating. Although there are signals of 'overproduction' (not that many jobs in landscape architecture compared to e.g. architecture) it was also stated that landscape architects more and more play an important role in addressing today's and future societal challenges, such as climate change, energy transition, urban planning and development, and health issues. Not all of these topics may be addressed in the programs, but the overarching focus on sustainability certainly helps preparing the students in dealing with these topics after graduation.

However, there are also several points of concern. The first is the threatening imbalance between research and teaching. In the past ten years or so the focus changed from almost purely teaching to enhancing research and research-driven teaching. The number of research projects steadily grew, with most notably last year's big success of the H2020 *Blue Health* project, providing the Department with a research grant of 800k€ ("a tremendous boost", as it was called during the visit). While such projects strongly contribute to national and international exposure and profiling, they also bear the risk of domination of research over teaching. The Department acknowledges this risk and looks at the ways of using staff more efficiently in order to meet both teaching and research objectives. It is

important to present and implement clear solutions on the short run to prevent staff from being overloaded.

The second point of concern is the relatively large number of small courses (2-3 ECTS), both at the Bachelor's and Master's level. In general, small courses cause inefficiency of staff deployment because attention gets fragmented. At the same time this fragmentation is confusing for students. Solving this inefficiency by e.g. merging courses into bigger ones cannot be done solely at the department level, but relates to other departments and university policy as well. Secondly, in relation to this, the names of quite a number of courses do not clearly explain their content. 'Spine' (design education in studios) and 'ribs' (supporting courses) of the programs would benefit if they would be better explained and represented. This would also help in matters of student recruitment.

A third point of concern is that the collaboration with other departments seems to be relatively low. Some of the courses are taught by other departments, but, as staff members explained, "in previous years we had more connections". Co-supervision of master theses from other departments does not seem to occur frequently ("we are more co-supervising others"). Room for improvement may be found in common research projects, e.g. in the fields of horticulture and forestry. As indicated in the SER (p. 41) the course content offered by other departments or outside lecturers could be strengthened.

Finally, staff members, students and employers clearly indicated that there are ample opportunities for giving feedback on individual courses and the programme as a whole. Within the department regular meetings are being held on education and staff performance. The students mentioned an example in which their feedback helped to replace the teacher of a course. One of the employers, who is or was also active in EMAL, referred to an advice on programme development that was sent by email to the Department. A 'thank you reply' came in return, but this employer stressed that lines are short and there are many good personal contacts so that she was able to monitor that the advice indeed had had influence.

However, although there is a Program Committee (with employers, but no students) and another committee in which students are represented, it seems that giving feedback mainly takes place on an informal and personal basis. So far this may work well in practice (no major complaints were heard) but there may be room to reconsider or recreate the existing arrangements. In this respect it should be considered to not only depend upon 'short lines' and 'personal contacts' but to also create or better use more formalised arrangements for giving and discussing feedback of both students and employers. Their taking part in program development may the more be necessary if student numbers increase and the sphere of activity of future graduates broadens.

Strengths

- Two curricula, one in Estonian and one in English, that are closely linked and attractive for both domestic and international students.
- Curricula that equip graduates to become accredited professionals able to work at home or abroad.
- The two curricula are closely aligned with international standards (ECLAS, IFLA) and ongoing international developments in landscape planning and design education.
- Both curricula well-prepare students on their future work in a gradually broadening field of activity in relation to topical societal challenges. The overarching focus on sustainability is very helpful as a frame that brings these challenges together.
- According to QS World university Rankings by subject EMÜ is ranked 51 out of the top 100 worldwide (SER, p.5).

Areas of improvement and recommendations

- On the short run clear managerial measures should be implemented to maintain a realistic, that is practicable balance between research and teaching and to prevent staff from being overloaded.
- Reconsider the structure of the curricula by reducing the number of small (i.e. 2-3 ECTS) courses and adapting course names. This will improve the recognisability of the 'spine' and the 'ribs' of the curricula for students and employers, and also increase the efficiency of staff deployment. University policy should stimulate and accommodate such changes.
- The functioning of student's and employer's feedback could be improved by paying more attention to formal arrangements than currently seems the case.
- Expanding on collaboration with other departments within EMÜ is highly recommended against the background of the increasing complexity of societal challenges for which landscape architects are more and more invited to contribute to finding solutions. In this context the intended meetings with teaching staff from other departments at the end of each semester (SER, p.41) are strongly supported. The same applies to the intended strengthening of course content offered by other departments or outside lecturers.
- In relation to the previous recommendation it should be considered to develop collaborations with new public and private societal partners, without, of course, alienating from existing successful collaborations.

Resources

Standards

- ✓ Resources (teaching and learning environments, teaching materials, teaching aids and equipment, premises, financial resources) support the achievement of objectives in the study program.
- ✓ There is a sufficient supply of textbooks and other teaching aids and they are available.
- ✓ Adequacy of resources is ensured for changing circumstances (change in student numbers, etc.).
- ✓ Resource development is sustainable.

Comments

According to the SER (p.41) the Department has good resources for its research and teaching activities. It has its own floor of the building where it is housed and a set of studio spaces equipped with large moveable tables for project work. In addition the Department possesses a Virtual Landscape Theatre (the only one in the Baltics) which is mainly used for research but also available for use in certain courses. Furthermore, there is a computer lab (with slightly outdated computers), a small kitchen and offices for staff. The campus serves very well as a learning environment for trees and shrubs and for practising tree management and other green space management skills. The students have access to the libraries at the campus, while the own book collection is in the process of being updated. The financial resources are sufficient.

The good quality of the resources has been confirmed during the visit. Some small improvements of lighting and colour in the corridor are intended and can easily be carried through. The computers need to be upgraded. There is enough space for the students, but, as staff members pointed out, this may change if student numbers would increase (for example more Erasmus students). They also mentioned that the didactics of landscape design are changing, due to e.g. e-learning, internationalisation and more active participation of students in education. These changes are being discussed regularly, also with students at the end of each semester.

Strengths

- Generally speaking the resources for research and teaching are good.
- EMÜ has a whole campus WiFi coverage. EMÜ has a Study Information System (ÖIS) and a digital learning environment Moodle (SER, p.9).

Areas of improvement and recommendations

- Carry through the improvements that are already intended, in particular the upgrading of the computers.
- Consider in what ways the changes in didactics of landscape design may influence future resource needs. Look for possibilities to make more use of the Virtual Landscape Theatre in teaching.
- Develop a strategy for resource adaptation in case of increasing student numbers, in particular Erasmus students.

Teaching and learning

Standards

- ✓ The process of teaching and learning supports learners' individual and social development.
- ✓ The process of teaching and learning is flexible, takes into account the specifics of the form of study and facilitates the achievement of planned learning outcomes.
- ✓ Teaching methods and tools used in teaching are modern, effective and support the development of digital culture.
- ✓ Practical and theoretical studies are interconnected.
- ✓ The organisation and the content of practical training support achievement of planned learning outcomes and meet the needs of the stakeholders.
- ✓ The process of teaching and learning supports learning mobility.
- ✓ Assessment of learning outcomes is appropriate, transparent and objective, and supports the development of learners.

Comments

The program offers two routes to a degree: for students wishing to focus on design rather than research there is an option based around a practical semester and a research-by-design thesis while those interested in research will follow the path of a large design project followed by a research-based thesis. As such the project represents the method of research together with critical review or assessment of the results of the design. The learning outcomes of the thesis therefore are the same for the two routes although the detailed assessment criteria are to some extent different (SER, p.41).

As customary in landscape architecture teaching real-world design and planning examples play an important role. Studio-based learning in particular is organised around projects of various scales which often have a real client. Practical training is also considered an important part of the study process, which is achieved by a

large number of field trips and several practical experience courses. Some of these courses are compulsory, others optional. The program offers the option of a Practical training in landscape architecture (internship 18 ECTS) which helps to prepare students for future jobs. Students and employers urged to make this internship compulsory in stead of voluntary, because such practical training is an important part of landscape architecture education and it also helps the students to learn about the societal relevance of landscape architecture. Employers have communication with the Department and the students about possible internships.

The teaching staff is a strong mix of internationally experienced teachers (SER, p. 41). This and the increasing international research collaboration assure that fresh ideas and experiences are brought into teaching. Opportunities to recruit visiting professors (Fullbright grants, cooperation with the University of West Virginia) are explored and sometimes used to increase international mobility of staff and students. Erasmus teaching exchanges are also used from time to time. The Department also makes effective use of the Erasmus+ system to ensure student mobility. Students value the contributions of teachers from outside the university.

Professionals from outside the university regularly take part in teaching courses, which helps to include real-world planning/design challenges in the education. There are also good collaborations with professional organizations, such as the Association of Estonian Surveyors, Estonian Association of Water Engineers, Estonian Association of Civil Engineers. Many people from academic staff are members of these organizations. The organizations are involved in the curricula development process.

Strengths

- International mobility of staff and students (Erasmus and Erasmus+, Fullbright and University of West Virginia connections).
- Practical training through field trips and connecting with real-world design and planning examples in various stages of the study.
- Increasing relationships between research and teaching.

Areas of improvement and recommendations

- Consider to make the at present voluntary Practical training in landscape architecture (internship 18 ECTS) a compulsory part of the program for all students.
- Further improve international mobility of staff and students by making agreements with universities abroad (developing a formal exchange plan with University of West Virginia is already intended) (SER, p.42).
- Use the potentials offered by e.g. the EULand21 project and develop a strategy for making more use of e-learning courses offered by partner universities and other organisations (SER, p.42).

Teaching staff

Standards

- ✓ There is teaching staff with adequate qualifications to achieve the objectives and planned learning outcomes of the study program, and to ensure quality and sustainability of the teaching and learning.
- ✓ Overall student assessment on teaching skills of the teaching staff is positive.
- ✓ The teaching staff collaborate in the fields of teaching and research within the higher education institution and with partners outside of the higher education institution (practitioners in their fields, employers, and staff members at other Estonian or foreign higher education institutions).
- ✓ Recognised foreign and visiting members of the teaching staff and practitioners participate in teaching the study program.
- ✓ The teaching staff is routinely engaged in professional and teaching-skills development.
- ✓ Assessment of the work by members of the teaching staff (including staff evaluation) takes into account the quality of their teaching as well as of their research, development and creative work, including development of their teaching skills, and their international mobility.

Comments

The academic/research staff of the Department is well-qualified in general, of a good age range. At the present moment there are 10 staff who teach design and supporting courses (such as landscape history, computer graphics, research methods, green space management), 2 research staff (who so far do a small amount of teaching), two external landscape architects who do studio teaching and have private offices, 5 PhD students of whom 2 help on studio courses for around 5-10 % of their time. Two of the teaching staff do not engage with the master programme except as thesis supervisors. The Professors and Associate Professors are well-qualified with a PhD and one lecturer has completed a PhD. However, all other staff are registered on PhD programmes.

A main point of concern is possible imbalance between research and teaching, in particular for those staff members who are working on their PhD besides their regular work. It is vital for them and their future academic prospects, and also for the further enhancement of landscape architecture as an academic discipline, that they have appropriate time to finalize their doctoral thesis without being overloaded. This would need to further improve time management skills of all staff more activitively (SER, p.43), but also to provide specific individual arrangements. In so far making such arrangements is beyond the scope of the Department there is also, related to the EMÜ strategy, a responsibility for the Institute and/or University to assist the Department.

Strengths (SER, p.43)

- Well-balanced age and gender structure.
- Lecturers have a strong scientific and/or professional practice background.
- Academic staff numbers are sufficient to guarantee academic succession; there are enough young researchers and lecturers involved in the study process.
- Research work and teaching is generally balanced, while scientific research is valued.
- Strong mix of internationally experienced teachers.

Areas of improvement and recommendations

- Reduce stress from overloaded staff members.
- Develop a strategy to enable lecturers who work on their doctoral thesis to finalize the thesis within a reasonable time frame, while avoiding the risk of being overloaded.
- Increase lecturers' mobility for teaching in other universities; encourage them to make use of the available mobility opportunities and financing (SER, p.43).

Students

Standards

- ✓ Student places are filled with motivated and capable students.
- ✓ The dropout rate is low; the proportion of students graduating within the standard period of study is large.
- ✓ Students are motivated to learn and their satisfaction with the content, form and methods of their studies is high.
- ✓ As part of their studies, students attend other Estonian and/or foreign higher education institutions as visiting or international students.
- ✓ Employment rate of alumni is high.
- ✓ Alumni and their employers are pleased with their professional preparation and social competencies.

Comments

Student recruitment to the Estonian program is from graduating Bachelor's students (EMÜ Environmental Planning and Landscape Design programme) and from the Bachelor's program at Tallinn University of Technology while the English language program recruits fee-paying foreign students directly. Recruitment is

varying per year but generally classes are full enough and there is no more capacity if the Erasmus+ student numbers hold at current level.

The number of incoming Erasmus students is substantial. It varies to some extent but in recent years up to 12 students were received for the first semester, some of whom stayed for the second semester and then a replacement group for the second semester. This compares with 10-15 home students and 4-7 full time international ones. As an example, in semester 1 of 2016-2017, in the 1st year master course there were 26 students from 13 nationalities, 11 being Erasmus. The students usually take the design courses from both the 1st year master program and sometimes from the 3rd year bachelor program (some are bachelor students). Due to the substantial amount of Erasmus students there is a wide range of nationalities among the student body who share experience.

The drop out rate of students is relatively high. There is a problem in maintaining the graduation rate where students graduate within 2 years. Some go on an academic leave, work or sometimes have families and while many of these students eventually graduate, some do not. The students who did not manage to graduate on time are followed up regularly and coaxed back to complete their master thesis, usually the main problem for not graduating (SER, p.43). This corresponds with the general EMÜ policy which is described in the SER (p.25).

The students are generally satisfied with the study program and with the opportunities they have to give feedback. They have no major complaints about the workload of the courses. They value the increased emphasis on research ("good to have research projects for master theses"), but also noticed the overload of staff, in particular those staff members who are still working on their PhD.

The employers said that the students they have learned to know via internships and/or employment are open-minded and well-prepared for work (in general delivering good-quality work). Of course, the program cannot prepare the students for everything they will encounter in practice. Therefore the internship is very important and should be compulsory for all students. Involving more professionals from outside university in teaching would also be a good thing to do.

The students have their own association: Estonian Landscape Architecture Students' Association (EMÜS). EMÜS organizes social events (e.g. photo competition, workshops, field trips) and also plays a role in integrating the foreign and Erasmus students into activities. Students from both programs said to know each well and to meet regularly ("we are classmates and have common courses and common group-works"). Students are well aware of the different possibilities they have to become a visiting abroad (Erasmus+, DoRa+, BOVA-NOVA network and others). Students are active in using such opportunities and are assisted by the Departmental Erasmus+ Coordinator, as well as the one in the Department of Academic Affairs and by Study Specialists.

Strengths

- The students have their own Association - EMÜS.
- They are generally satisfied with the study programs and with the opportunities to give feedback on courses and lecturers.
- High number of foreign students.
- Master's students have ample opportunities for international mobility.

Areas of improvement and recommendations

- Ensure students to graduate on time; improve the contact with students at risk of dropping out (SER, p.43).

4. Assessment report of SPG at TTK University of Applied Sciences

3.1. Introduction

TTK University of Applied Sciences (TTK) is a state institution of professional higher education administered by the Estonian Ministry of Education and Research. In 1992 an institution of vocational secondary education was reorganized into an institution of professional higher education, and since 1999 its name has been TTK University of Applied Sciences.

There are five Faculties in TTK in which instruction is provided in 14 curricula within three study program groups: Architecture and civil engineering, Machinery, manufacturing and technology and Transportation Services. Besides teaching and learning, TTK is also engaged in research, development and creative activities, including the following: research and development, applied research, publication of the results, communication of expert knowledge at public events and implementation of expert analyses.

The total number of students in the academic year 2016/17 was 2249 and in 2015/16 was 2,457; 716 of them are studying in the curricula of Architecture and civil engineering study program group (as of 01.11.2016).

Statistical data of the Applied Architecture study program in the Architecture and Building study program group in TTK

Curriculum	Academic year	Admission	Graduates	Dropout cases	Total number of students
Applied Architecture	2016	32	10		145
	2015	35		26	
	2014	36		22	

Source: Self-assessment report of TTK (2016)

4.2. General findings and recommendations at the study program group level

TTK UAS offers “internationally recognized competitive professional higher education in the broad areas of engineering”.(SER, p.3) It runs a curriculum of Applied Architecture within its Faculty of Architecture and Environmental Engineering, a sister faculty of the Faculty of Construction, within the study program group Architecture and civil engineering. It prepares the graduates to

work “at the post of applied architect”, Level 6 of Estonian QF (SER, p.22 and Curricula appendix 1, p.2).

TTK sets itself the goal to offer „an education in applied architecture“. Although the term applied architecture is not clearly defined, the supposition is that TTK offers an education in architecture from an applied sciences perspective.

The program is a full-time 4y study program (240 ECTS) and hence the graduates need to perform 2y of professional traineeship after graduation in order to fulfil the requirements of the Directive 2013/55/EU dd 20 nov 2013 – art. 46 (amending 2005/36/EC).

It became however clear during the visit that in Estonia these graduates either have to work for 3 years in practice, plus another 3 years practice in order to become licensed architects; either go for a 2 years (in practice 3 years) master degree at EAA or TUT, followed by 3 years of professional practice to become licensed architect. To be a licensed architect in the home country is a prerequisite to practice as an independent architect in a host country of EU.

Strengths

- The employment rate of graduates is 93%. That means that the education produces graduates who find easily a job. That also means that there is a market for what the education is producing.
- In general the applied architecture curriculum is well conceived within the scope and limits of this kind of education (level 6 Estonian QF). The school is well organised and has the resources needed to perform its mission.

Areas of improvement and recommendations

- Connectivity with the higher institutes could be improved to help the adaptation of continuing students into the more “research-based” studies.

4.3. Strengths and areas for improvement of study programs by assessment areas

4.3.1. Applied Architecture (ProfHE)

Study program and study program development

Standards

- ✓ The launch or development of the study program is based on the Standard of Higher Education and other legislation, development plans, analyses (including labour market and feasibility analyses), and professional standards; and the best quality is being sought.

- ✓ The structure and content of modules and courses in a study program support achievement of the objectives and designed learning outcomes of the study program.
- ✓ Different parts of the study program form a coherent whole.
- ✓ The study program includes practical training, the content and scope of which are based on the planned learning outcomes of the study program.
- ✓ The study program development takes into account feedback from students, employers, alumni and other stakeholders.

Comments

Strategic objectives of teaching and learning derive from:

- TTK UAS Development Plan 2016-2020
- The Directive of TTK UAS Operating Subsidies (SER, p.5).
- The curriculum coordinator, the dean, the academic affairs specialist are in charge of improving and monitoring the curriculum (SER, p.31,32).

Curriculum development is coordinated by the Curriculum Council which includes the Head of the Institute of Architecture, Dean, at least one students' representative and at least two members from a professional association or employers' representatives. The lecturers of the Institute are also actively involved in the development activities. Cooperation with the Faculty of Construction is taking place. In curriculum development the general trends in architecture as well as the needs of the labour market and society are being considered. Curriculum development is an ongoing process (SER, p.22).

The curriculum consists of the following modules:

- | | |
|--------------------------|--|
| 1. Humanities | 9 ECTS i.e. 3 ECTS compulsory and 6 optional courses |
| 2. Engineering | 45 ECTS compulsory |
| 3. History and Theory | 30 ECTS compulsory |
| 4. Media and Methods | 33 ECTS compulsory |
| 5. Architectural Designs | 54 ECTS compulsory |
| 6. Electives | 18 ECTS out of 30 ECTS |
| 7. Practical Training | 36 ECTS compulsory |
| 8. Graduation thesis | 15 ECTS compulsory. Curricula Appendix 1, pp.3-9. |

The new module Media and Methods contains the courses aiming at mastering technical skills of / digital literacy in architectural design and planning, including the study related to new trends in construction and architecture, e.g. BIM (Building Information Modelling) and the courses related to 3D programming skills (SER, p.23).

Foreign languages compulsory 6 ECTS out of 9 ECTS in Humanities.

Great emphasis on practical courses, labs and practical learning classes (SER, p.6).

Students are encouraged to study and have their practical experience abroad. During the bureau practice students familiarize themselves with professional tasks and work environment and apply their theoretical knowledge, participating in everyday team work of the company. Due to practical training students are better prepared for employment after graduating from school, and many of them have found a job through practical training. The feedback on bureau practice is positive (SER, p.26).

TTK UAS gathers feedback about graduate competencies from the Advisory Board, Curriculum Councils and Diploma Theses Evaluation Committees (both with participation of professionals external to TTK), employer round tables and other stakeholders (SER, p.6).

The curriculum has been compared to the curricula of partner higher education institutions abroad in order to enhance students' international competitiveness (SER, p.6).

In 2015 the Curriculum was developed following the example of the Construction Architecture Curriculum of the Helsinki Metropolia University of Applied Sciences. The above-mentioned Curriculum contains intensive lecture cycles where each subject's volume is 5 ECTS credits. In addition, the Master's studies curricula of EAA and Tallinn University of Technology (TUT) have been considered. The curricula of the following schools have also been taken into account: foreign Erasmus partner schools, 4-year Bachelor's studies curriculum of Yokohama University in Japan, 5-year Bachelor's studies curricula of Cornell University (USA) and Virginia Technology University (SER, p.23,24).

Strengths

- High employment rate of graduates and a large number of students continuing studies (at EAA).
- There is a contract between TTK and EAA to admit 20 students / 4 years in EAA.
- Feedback from alumni and employers are confirming the correctness of the program (SER, p.24).

Areas of improvement and recommendations

- There is room for improvement of the design quality in student's project work. Look for inspiration in the best schools of architecture in Europe.

Resources

Standards

- ✓ Resources (teaching and learning environments, teaching materials, teaching aids and equipment, premises, financial resources) support the achievement of objectives in the study program.
- ✓ There is a sufficient supply of textbooks and other teaching aids and they are available.
- ✓ Adequacy of resources is ensured for changing circumstances (change in student numbers, etc.).
- ✓ Resource development is sustainable.

Comments

The information centre has been enlarged in order to create more space for independent work (SER, p.24).

It is the goal to make a better use of facilities from other faculties in TTK UAS like the BIM CAVE, 3D-printer,... (SER, p.25)

Financing is sufficient for the time being. There is however a risk of decrease in governmental financing with the forecasted decrease of number of students in Estonia.

Strengths

- Accessibility for all was planned for 2016 and the committee found indeed elevators serving all floors of the building during the visit.
- TTK has a perfectly organised and equipped library, containing also the course handbooks. A quick check of a couple of these handbooks (mathematics, descriptive geometry) proved the appropriate level of the education.

Areas of improvement and recommendations

- Adding an attic storey to the building will create room for a better and larger modelling class, which is far too small nowadays.
- The committee did not see nor read about a collection of samples of building materials and building elements for the students in order to make detailed design having seen the real materials and building elements, which is the case in some good architecture schools in Europe.

Teaching and learning

Standards

- ✓ The process of teaching and learning supports learners' individual and social development.
- ✓ The process of teaching and learning is flexible, takes into account the specifics of the form of study and facilitates the achievement of planned learning outcomes.
- ✓ Teaching methods and tools used in teaching are modern, effective and support the development of digital culture.
- ✓ Practical and theoretical studies are interconnected.
- ✓ The organisation and the content of practical training support achievement of planned learning outcomes and meet the needs of the stakeholders.
- ✓ The process of teaching and learning supports learning mobility.
- ✓ Assessment of learning outcomes is appropriate, transparent and objective, and supports the development of learners.

Comments

The design assignments (54 ECTS) as well as the practical training (36 ECTS) and thesis (15 ECTS) are individual work. 30 ECTS Electives guarantee flexibility. The topics of the design assignment vary in time according to changes in society.

Teaching methods and tools used in teaching are modern, effective and support the development of digital culture. The design studios and classes are digitally equipped and the BIM-cave allowing virtual simulation of design projects is an asset that most schools do not have.

As everywhere in Estonia also this education follows a credit system.

A commission of at least 3 lecturers assesses the progress the students' progress and detects courses where effective credits surpass the programmed ECTS (SER, p.23).

49% of teaching subjects have e-support in 2015 (SER, p.12).

Practical training and reporting on it are conducted according to "The Practical Training Instruction" available at home page TTK UAS.

Students have to practice in an office as part of the curriculum. They have to look for a bureau practice work place themselves in coordination with the supervisor from the school. Practical training and reporting on it is ruled by the Practical training Instruction available on the home page of TTK UAS. During the bureau practice students familiarize themselves with professional tasks and work environment and apply their theoretical knowledge, participating in everyday

team work of the company (SER, p.26). Students have to prepare a practical training reports that also serve as feedback on the organization of practical trainings and on the compliance of the curricula with the world of practice (SER, p.12).

105 out of the 240 ECTS are individual work, be it that design work also includes group work.

Recognition of prior learning (RPL) is widely used (SER, p.26).

Students are taught how not to plagiarize in "Instruction for Written Papers", also at the graduation seminars, lecturers also pay attention to this aspect (SER, p.26).

Check via KRATT software (SER, p.27).

Two cases of plagiarism were reported in the period 2014-2015; that was due to insufficient knowledge of the Estonian language (SER, p.26).

Strengths

- Students are immediately ready to practice after graduation.
- Workload is taken care of via intermediate checks.

Areas of improvement and recommendations

- Keep an eye on future developments in the building industry and not only prepare students to be operational immediately after graduation. Educate students so as to be able of coping with (today) unknown evolutions in the profession.

Teaching staff

Standards

- ✓ There is teaching staff with adequate qualifications to achieve the objectives and planned learning outcomes of the study program, and to ensure quality and sustainability of the teaching and learning.
- ✓ Overall student assessment on teaching skills of the teaching staff is positive.
- ✓ The teaching staff collaborate in the fields of teaching and research within the higher education institution and with partners outside of the higher education institution (practitioners in their fields, employers, and staff members at other Estonian or foreign higher education institutions).
- ✓ Recognised foreign and visiting members of the teaching staff and practitioners participate in teaching the study program.
- ✓ The teaching staff is routinely engaged in professional and teaching-skills development.
- ✓ Assessment of the work by members of the teaching staff (including staff

evaluation) takes into account the quality of their teaching as well as of their research, development and creative work, including development of their teaching skills, and their international mobility.

Comments

The academic staff counts 26 lecturers amongst which 14 ordinary and 12 visiting lecturers with a Master's degree; the speciality lecturers are mostly authorised 7th and 8th level architects (SER, p.28).

The staff members who spend the majority of their professional life at the school collaborate with colleagues in TTK and partners outside TTK.

During the last 4 years 6 foreign visiting lecturers came to lecture in the programme. Five visiting lecturers participated in the assessment of course projects. Graduation theses reviews are exclusively written by external practising architects (SER, p.28).

The school is not only surveying regularly the students, it also has a system of teaching staff evaluation. The courses taught by staff under evaluation are included in the monitoring. Results are available in the SIS to the relevant student groups, teaching staff, Heads of faculty Chairs and Deans. Results of each survey are summarized at institutional level, as well as at structural unit levels and compared to previous years (SER, p.12).

Strengths

- The school and especially the teachers, behave like a big family, students are like friends and come back to the school, was said during the meeting with staff.
- The teachers commit themselves into the disposal of the students.

Areas of improvement and recommendations

- The challenge is (to find a way) to attract the best practitioners as design teachers.

Students

Standards

- ✓ Student places are filled with motivated and capable students.
- ✓ The dropout rate is low; the proportion of students graduating within the standard period of study is large.
- ✓ Students are motivated to learn and their satisfaction with the content, form and methods of their studies is high.
- ✓ As part of their studies, students attend other Estonian and/or foreign

- higher education institutions as visiting or international students.
- ✓ Employment rate of alumni is high.
- ✓ Alumni and their employers are pleased with their professional preparation and social competencies.

Comments

Students of TTK UAS are motivated, capable and satisfied with the content of the curriculum. The dropout rate has been low at the Institute of Architecture, being 13.8 % in 2013–2015 (SER, p.29). However, the amount of dropouts in the curriculum 'Applied Architecture' has steadily increased during the last few years, from 11.2%, i.e. 17 students, to 17.4% in 2015, i.e. 26 students (SER p. 8; table 5). Main reasons for interrupting studies are unsuitable speciality or economic and family-related reasons. TTK UAS aims to reduce the dropout proportion to 10%. Each dropout case is dealt individually (SER, p.29).

Applicants are ranked according to the average grade on the certificate of secondary education and a threshold of minimum grade of 3.5. During last three years the average of candidates has been 4.3. Furthermore, students are required to take an entrance test on drawing and composition. There is also an optional preparatory course (SER, p.28). Those students who attended the preparatory course of the Faculty receive 0.5 additional point at the entrance competition (SER, p.29).

The admission rates of students have been in 2014: 1/4.7; 2015: 1/4.1; 2016: 1/3.4 applicants. The number of students admitted are in 2014: 36; 2015: 35; 2016: 32 daytime students. There are no part-time students in this program. The numbers mentioned in table 3 (SER, p.7) differ from numbers presented on p. 28, mentioning 35 in 2013, 37 in 2014 and 35 in 2015.

The number of students in HEI in Estonia has decreased with 30%; therefore the admission numbers have been reduced to 30 in 2016. Despite a reduction in applications TTK UAS succeeded in filling all planned students places (SER, p.7).

The student counselling system of students is good and is arranged by the Faculty and institutionally (SER, pp.10, 30).

After each semester students are asked to give formal feedback on courses via the SIS system. However, since giving feedback is not compulsory the response rate varies greatly from time to time, from 10% to 60%. Most student feedback is given orally which works effectively in the small study groups.

Students find that their amount of workload is good. Despite that students often graduate later than they should according to the standards.

The international student mobility rate is very satisfactory, and the tools for such are well established in TTK UAS (SER, pp.29-30, additional materials; Students' international mobility 2014-2016.xlsx). In 2013 – 2016 17 students went to partner universities in the framework of Erasmus program and 20 foreign visiting students studied at the Institute of Architecture. The staff of International Relations Office of TTK UA helps students in matters relating to international study opportunities, mobility programs and practical trainings. TTK UAS offers Erasmus+, EEA Norway and NordPlus networks programs, among others, and has mutual student exchange with partner institutions in Portugal, Germany, Spain, Finland, Czech Republic, Hungary, Croatia, Lithuania and Turkey (SER, p.10). The Faculty of Architecture organizes every spring semester a week-long sketching practice for II year architecture students in a European city. However, the trip has to be partly financed by the student which is not always possible.

20 foreign students visited TTK UAS in the period 2013-2016 (SER, p.29). The school expects a 30% increase via contracts with new partners in Finland in concreto with Aalto University, Metropolia (SER, p.30). For the visiting exchange students TTK UAS has a buddy system since 2015 and welcome weeks since 2014. Since 2008 TTK UAS is a member of the Erasmus Student Network (SER, p.11).

The labour market situation is very good; it is not uncommon that students receive job offers already during their studies. Statistics spanning the period 2013-2016 show that 70% graduates work as applied architects, 20% continue studying in the Master's programme of EAA or TUT and 10 % work outside their speciality or are unemployed (SER, p.30). Graduates who wish to continue their studies at the MA level, go to TUT, EAA, or to study abroad (approximately one student a year; SER, p.30).

Although a part of the alumni have continued their studies after graduation in different institutions, they still keep in touch with TTK UAS. They are every autumn personally contacted by the assistant Dean, or are active as members of the advice body of TTK UAS. Some alumni are employed as teaching staff.

TTK UAS collects annually feedback from graduates. The surveys have shown that the planning of student places has met the needs of the labour market and alumni employment rates have been high. According to the statistics of the last three years, 70% of the graduates are working in their profession, 20% are studying in the Master's program and 10% do not have speciality-related jobs or are unemployed (SER, p.30).

The feedback from employers is positive. They describe TTK UAS graduates as practice-based employees who are immediately ready for work after graduation.

Strengths

- High international student mobility rate

- Effective support system of foreign students
- The employment rate of students is high; 93% in 2013/14/15.
- A large number of students continue studies after graduation (mostly at EAA)
- Employers are very satisfied with the professionalism of graduates, and find that students are immediately ready for practice after graduation
- Good communication between the teaching staff and students
- Good atmosphere at the faculty

Areas of improvement and recommendations

- Although informal feedback system works effectively within small groups, it would be advisable to enhance the formal feedback system
- The effective duration of studies deserves special attention from the school, because students tend to postpone graduation too easily.
- Even though the percentage of dropouts is still low, the statistics from 2013-2015 show that the amount of dropouts is steadily increasing (SER, p.8; table 5)