



STUDIJŲ KOKYBĖS VERTINIMO CENTRAS

ALEKSANDRO STULGINSKIO UNIVERSITETO

STUDIJŲ PROGRAMOS

*ŽEMĖS ŪKIO INŽINERIJA IR VADYBA (valstybinis kodas –
621H10001)*

VERTINIMO IŠVADOS

EVALUATION REPORT

*OF AGRICULTURAL ENGINEERING AND MANAGEMENT (state
code – 621H10001)*

STUDY PROGRAMME

At ALEKSANDRAS STULGINSKIS UNIVERSITY

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DUOMENYS APIE ĮVERTINTĄ PROGRAMĄ

Studijų programos pavadinimas	<i>Žemės ūkio inžinerija ir vadyba</i>
Valstybinis kodas	621H10001
Studijų sritis	Technologijos mokslai
Studijų kryptis	Bendroji inžinerija
Studijų programos rūšis	Universitetinės studijos
Studijų pakopa	Antroji
Studijų forma (trukmė metais)	Nuolatinė (2)
Studijų programos apimtis kreditais	120
Suteikiamas laipsnis ir (ar) profesinė kvalifikacija	Bendrosios inžinerijos magistras
Studijų programos įregistravimo data	1997 m. gegužės 16 d.

INFORMATION ON EVALUATED STUDY PROGRAMME

Title of the study programme	<i>Agricultural Engineering and Management</i>
State code	621H10001
Study area	Technological Sciences
Study field	General Engineering
Type of the study programme	University studies
Study cycle	Second
Study mode (length in years)	Full-time (2)
Volume of the study programme in credits	120
Degree and (or) professional qualifications awarded	Master in General Engineering
Date of registration of the study programme	16 May, 1997

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I. INTRODUCTION

1.1. Background of the evaluation process

The evaluation of on-going study programmes is based on the **Methodology for evaluation of Higher Education study programmes**, approved by Order No 1-01-162 of 20 December 2010 of the Director of the Centre for Quality Assessment in Higher Education (hereafter – SKVC).

The evaluation is intended to help higher education institutions to constantly improve their study programmes and to inform the public about the quality of studies.

The evaluation process consists of the main following stages: *1) self-evaluation and self-evaluation report prepared by Higher Education Institution (hereafter – HEI); 2) visit of the review team at the higher education institution; 3) production of the evaluation report by the review team and its publication; 4) follow-up activities.*

On the basis of external evaluation report of the study programme SKVC takes a decision to accredit the study programme either for 6 years or for 3 years. If the programme evaluation is negative such a programme is not accredited.

The programme is **accredited for 6 years** if all evaluation areas are evaluated as “very good” (4 points) or “good” (3 points).

The programme is **accredited for 3 years** if none of the areas was evaluated as “unsatisfactory” (1 point) and at least one evaluation area was evaluated as “satisfactory” (2 points).

The programme **is not accredited** if at least one of evaluation areas was evaluated as “unsatisfactory” (1 point).

1.2. General

The Application documentation submitted by the HEI follows the outline recommended by SKVC. Along with the self-evaluation report and annexes, no additional documents have been provided by the HEI before, during and/or after the site-visit.

1.3. Background of the HEI/Faculty/Study field/ Additional information

The second cycle study programme *Agricultural Engineering and Management* (hereinafter AEM or Study Programme) is implemented at Aleksandras Stulginskis University (hereinafter ASU or University), a state higher education institution having deep roots of traditions in agriculture science and studies. The University was renamed to Aleksandras Stulginskis University in 2011 and then a new University Council and University Rector were

elected. The new mission of the University was: “*We, University community, are creating and disseminating scientific knowledge, sincerely striving for safe and healthy food and full-fledged living environment for all people of Lithuania*”. Since 2011 University mission and vision were refined, new strategic documents were developed, approved and implemented. “ASU Strategy 2020” goes in line with provisions of the development of higher education in Lithuania.

No question that the 48 running programmes of first and second cycle in biomedical, social and technological sciences demonstrate the important role of ASU at National level. Study programmes are unique in Lithuania because no other university is implementing programmes directly related to the agricultural sector. In 2011 it was supported by a study that training of specialists at higher education level in the field of agriculture should not be reduced, and in some study programmes, due to demand, it should even be increased.

Within the University the Department of Studies is responsible for coordination of the study process, its quality and improvement. Self-assessment report was prepared following the methodology approved by the Centre for Quality Assessment in Higher Education (hereinafter SKVC) and performed by the self-assessment group of 5 people, i.e. 3 employees of ASU, one student and one representative of social stakeholders (employers), which was composed following the Decree of the Dean of the Faculty, No. 63(12-6)-45 of December 2, 2014. The external evaluation of the study programme conducted in the study field of General Engineering was carried out in 2012. The study programme was assessed positively and evaluated by 17 evaluation area points and received conditional accreditation for 3 years.

1.4. The Review Team

The Review Team was assembled in accordance with the *Expert Selection Procedure*, approved by Order No 1-55 of 19 March 2007 of the Director of the Centre for Quality Assessment in Higher Education, as amended on 11 November 2011. The Review visit to HEI was conducted by the Team on 11th May, 2016.

1. Prof. dr. Torgrim Log (team leader), Advisor Technical Safety at Statoil ASA, Professor of Technical Safety and Fire Dynamics at Department of Engineering, Stord/Haugesund University College (SHUC), Sweden.
2. Assoc. Prof. Berit Andersson, Senior lecturer at Division of Fire Safety Engineering, Lund Institute of Technology, Norway.
3. Prof. Csaba Forgács, Professor at the Department of Agricultural Economics and Rural Development, Corvinus University of Budapest, Hungary.
4. Prof. Dr. Linas Kliučininkas, Head of the Department of Environmental Technology at Kaunas University of Technology, Lithuania.
5. Mr. Ignas Gaižiūnas, 3rd year student of Energy Physics at Faculty of Physics, Vilnius University, Lithuania.

II. PROGRAMME ANALYSIS

2.1. Programme aims and learning outcomes

The demand for the study programme is based on the Lithuanian National Sustainable Development Strategy (until 2020) providing a necessity to combine interests of environmental protection and social economic development. The demand of the study programme is mainly justified by the analysis of trends of technology development, the needs of labor market and students. Implementation of innovative technologies requires specialists of high qualifications.

Globalization also challenges graduates to improve competences. Employers gave feedback to University on their need for specialists having competences wider than just technical ones, e.g. management competences as well. Trends in labor market show that *“employers confer priority to universal, technologically advanced and flexible workers”*.

The aim of the study programme is to provide future Masters with knowledge of the study field of General Engineering extended by management and abilities to use knowledge and competences autonomously and creatively in research and creative work. Graduates are intended to deal with research activity, requiring appropriate qualification (including doctoral studies), creative or any other professional activity in different field of engineering management. Skills needed for these activities are directly connected with the learning outcomes of the study programme. The study programme meets requirements established in the National Qualification Framework and the Descriptor of the General Requirements for Master Study Programmes and is also based on the provisions of Dublin descriptors. The learning outcomes of the study programme have been formulated in cooperation with specialists from the Ministry of Agriculture of the Republic of Lithuania, Lithuanian Agricultural Advisory Service, AB “Lytagra”.

Learning outcomes are achieved by the study subjects that build up knowledge and abilities which are needed to identify and understand specialized scientific problems. Learning outcomes of the studies reveal peculiarities of the field of general engineering combined with managerial knowledge and abilities implementing progressive technologies integrating engineering, safety, environmental engineering and management.

Connections of learning outcomes of the study programme with those of its study subjects, as well as methods of studies and evaluation of students’ achievements, are developed in a transparent way. Links between outcomes as knowledge and awareness, research abilities, special- , social- and personal abilities described clearly, however, the same connections are not developed in case of some of the subjects, e.g. ‘Reliability of mechanical and energy systems’

(A8.1, page 59) or ‘Biomass production engineering’ (A8.1, page 77).

Study programme and its results are subject to review on a yearly basis taking into account changes in labor market, after external self-assessment or after changes in requirements of legal acts or provisions in studies’ organisation in the University. Following previous assessment of the study programme, learning outcomes were revised in 2013. After discussions and consultations with stakeholders, the Programme Committee has taken responsibility and updated the study quality assurance system. Based on suggestions made by previous assessment team the following actions have been taken: changes took place by introducing new study subjects, increasing the level of statistical methods used, new topics were implemented in two subjects, alternative study subjects were offered enabling formation of competences directly related to Master’ thesis and practical activities.

It is the fact that agricultural and engineering studies are not popular amongst the students, that has to be kept in mind by the Faculty leadership.

There is a need to review the aims and learning outcomes of the study programme according to newly developed and approved Description of Engineering Studies’ Directions. In addition, there is a need for constant review of study subjects and the more active use of modern teaching methods. The stakeholders underlined the need of marketing and sales’ skills of students and added that study program should be prepared to include more management courses/education on a wider basis as communication, public presentation and entrepreneurship. The alumni claimed they were solving many problems during their work, but had not had any teaching in creative problem solving techniques during their studies.

The aim of the study programme is defined as to provide future Masters with knowledge of the study field of General Engineering and abilities to autonomously and creatively apply it in research and creative work. The possible areas of graduates’ activities are clear; skills required for these activities are in close connections with the learning outcomes which can be achieved by learning the study subjects. Technologically advanced and multi-skilled graduates are demanded in labor market and the programme covers such market needs. Programme aims and learning outcomes are well defined, clear and publicly accessible and based on the academic and/or professional requirements and are consistent with the type and level of studies. Since last accreditation the title of the programme has become more consistent with curriculum (the previous title was Agricultural Mechanical Engineering). However, it is suggested to develop a new marketing concept and apply further marketing policies and actions to make the study programme more attractive for Master and foreign students.

2.2. Curriculum design

The volume of the study programme AEM is 120 ECTS credits, i.e. 3200 hours. The duration of the study programme is 2 years or 4 semesters. Study programme AEM meets legal requirements for both programme and staff structure. The logic of connections among groups of study subjects and their sequence is based on the following principles:

1. Studies deal with application of research methodology, measurement, statistics and modelling methods in engineering using them during scientific research and working on Master's paper;

2. Study subjects create a system of integrated knowledge of management and forecast of a human factor and its environmental parameters;

3. Applied knowledge allow student to make integrated solutions.

The curriculum of the study programme was changed since the last accreditation. Based on the suggestions from the previous assessment, study subjects in management (mostly in the group of alternative study subjects) were updated (TQM, Environmental engineering and management and Business project management). But, according to the Review Team, still there is a need to consider launching a new subject of "Agribusiness management" creating a framework of management education in the curriculum.

The current structure of the study programme is in line with the outcomes of study programme and comprises innovative and problem based study approach. Different working methods (for example situations, case studies and practical activities) provide preparedness for practical work and doctoral studies. The aims of the study programme for each semester is clearly designed. There is a mechanism to improve the content of the subject if such a demand occurs. Yearly meetings with the students reveal such problems. During the meeting with the members of the evaluation group, students expressed need for more teaching on management. Following the discussion with relevant teacher the project management was integrated into curriculum. To improve skills and knowledge of students, different tools are used: team (group) work, case studies, PowerPoint presentations and discussions, public presentations and discussions, analysis of scientific papers. Students have to produce research paper and present it during the annual University conference.

AEM meets legal requirements for both study programme and Descriptor of the General Requirements for Second Level Study Programmes, the Law on Science and Studies of RL. Subjects are scheduled by semester evenly; their content is in line with the level of studies. Methods used are appropriate to achieve, and the program is sufficient to ensure the learning outcomes. Alternative study subjects enable students to further develop competences directly

related to Master' Thesis and practical activity. Results of latest research are integrated into subject content. However, attention should be paid to consider the reallocation of contact hours enabling students to improve missing skill. Review Team suggests considering launching a separate subject of "Agribusiness management".

2.3. Teaching staff

As many as 14 teachers are involved in delivering study subjects of AEM. Data of teachers employed in the study programme, as well as CV's of coordinating teachers of the study subjects, were available for the Review Team. Practically, all teachers are well qualified having long experience both in research and pedagogical fields; several of them have practical work experience. 4 professors, 9 associate professors and one lecturer with doctor's scientific degree deliver core and alternative study subjects. Study programme also employs other teachers helping with laboratory works and practical classes. 93 % of teachers employed in the study programme are working full-time. At the same time teachers are also involved in teaching in other study programmes; only part of their teaching time is connected with AEM. Evaluation team was convinced that staff meets legal requirements.

The Self Evaluation Report (SER) gives a clear picture on teachers' time capacity allocated for different fields: a. pedagogical work, b. methodological work, c. scientific work and d. personal qualification improvement and organizational work. Roughly half of the lecturing load is provided by the associate professors, 16 % by lecturers and the rest by full professors. Average age of the teacher is 46,7 years; it decreased by 4,3 years in the period of 2011-2015. It can be concluded that teaching staff has rejuvenated; the composition of teachers reflects good capacities in teaching, research and pedagogical work. The teaching is based on research, thus, providing agricultural engineering and management studies with newest developments in this field. Both qualifications and number of the teaching staff are adequate to ensure learning outcomes. The Methodology of Financing State Universities of Lithuania proposes the norm of 12:1 students-teacher ratio in the study field of technology, however, in case of AEM "the ratio of students to academic teachers is 1,5 for the whole degree programme". This figure should be carefully used as teachers are involved in several study programmes.

According to the national requirements, teachers for all positions are attested on a competitive basis. Based on their pedagogical, methodological and scientific work teachers are attested every 5 years. In order to meet University needs teachers are motivated to increase qualification and personal development. The teachers involved in the study programme have pedagogical experience from 5 to 36 years (20,9 years on average). Teaching staff can ensure

smooth study process and provide high level education.

The previous assessment note recommended that the proportion of teacher's time spent in pedagogical activity should be decreased. Faculty leadership took the suggestion seriously and reduced contact hours for first and second cycle studies from the study year 2015-2016. Due to the fact that many students have jobs teachers are flexible and during working days, consultancy is provided in the evenings. Company people are also involved in teaching of certain topics.

Teachers to meet the requirements actively participate in conferences and write articles in research journals. Total number of 217 (average 15,5 per teacher) attendances in conferences and 159 (average 11,9 per teacher) articles of science popularization were published during the analyzed period. Teachers are actively encouraged to participate in international conferences organized abroad. There is a list of EU 6FP and 7FP projects described in SER where scientists of the Study Programme have been involved in research related to Study Programme profile. It was, however, mentioned by the teachers that more time was needed in research to generate new material for teaching. Scientific activity of study programme teachers improved significantly since previous accreditation (2010-2014).

Teachers dedicated significant contribution to organizing scientific conferences. Some half of the teachers actively involved in international and national scientific organizations. Representation of Faculty is also significant in different committees within ASU (University, Senate, Faculty, Studies and Assessment of Student research works).

Concerning increasing quality assurance, the Review Team got a feedback from teachers mentioning that round table discussion is organized with students to talk about experience e.g. on teaching methods and teacher behavior. If any problem is raised by students teachers and leadership try to find acceptable solution to the problem. It was confirmed by the students that several issues were solved right away. For thesis writing students can choose advisor but after consultation students can change their mind.

Generally, teachers have strong research activities related to study programme and having long term pedagogical experience. Teachers are well qualified and staff composition is adequate to ensure learning outcomes having low level of turnover. On average teachers are deeply involved in attending international scientific conferences, however, differences between teachers can be observed in research and international activities. Connections between staff and students are good. Scientific activity of teachers improved significantly since previous accreditation (2010-2014).

The issue of teaching and doing research abroad for a longer period is still a field where teachers have to make progress. Teachers should be encouraged to participate in mobility

programmes with provision made for longer visits (3 to 6 months). 4 out of 9 teachers attending the meeting with the team were involved in EARS MUS mobility. However, at this time there is no direct mechanism to encourage teachers to participate in long-lasting visits, as there is a formal requirement to have mobility visits at least two weeks in duration over five-year period, otherwise it is the interest of teachers to be more internationalized to help their own personal development.

Encouragement of teachers to improve foreign language knowledge and skills should be a continuous task both for leadership and the individuals themselves. At the same time staff needs to make efforts to be more involved in teaching abroad. Composition of teachers reflects very strong capacity but still there is a need to plan having new young people involved in the study programme.

2.4. Facilities and learning resources

Faculty of Agricultural Engineering and its premises in Buildings 2, 3, 8 and Technology Safety Laboratory (TSL) are used to implement the teaching process in the form of lectures, seminars, practical classes and laboratory work. Altogether 20 rooms and 88 computerized work places offer space for teaching. Rooms are equipped with computers and software and, part of them, with video facilities as well and meeting employees' safety and hygiene norms. Concerning software student can use Microsoft Office, STATISTICA, MathLAB, MathCAD, CADS Planner, SIMULINK etc. Internet access is provided across the University hostels (Eudoroam). In total, as many as 866 workplaces are available for students. In previous years renovation took place. For increasing efficiency of energy consumption, significant amount of money was invested in Building 2. Majority of classrooms have been renovated. At the same time 38 laboratories were established or modernized part of them are used for AEM study programme.

ASU library offers more than 30 thousand copies of learning materials available for students. Database of the library is continuously updated, readers can access to eLABAa database of Lithuania containing full text documents and various foreign resources. Two Readers' Departments and 5 Reading Rooms provide services to readers in University Central Building and Building 3. Such important databases are available for studying and doing research as MEDLINE, Oxford Journals, Science Direct, Springer Link, Wiley InterScience etc. The students have a possibility to borrow editions from reading rooms for an evening or the weekend. University library cooperates with faculties, institutes, teacher of study subjects when ordering needed literature for research and studies.

Student and Staff of AEM study programme have excellent facilities for teaching, research and studying as well. ASU library has good resources concerning books, journals, other printed publications as well as access to important databases. Modern equipment is used in study process and research activities. Internet is available across university hostels. Renovation and investment have significantly increased the service level for teaching and Lab work. Classrooms are well equipped, teaching software supply is at high level and adequate to study programme needs. ASU Library has access to major databases and invested significant budget for buying journals and books. Library service facilities are good offering self and e-services.

However, it is an issue that students' interest in using available resources is insufficient. Faculty has to explore what are the reasons behind it, how to make a shift towards good development. At the same time, it is also needed to increase learning resources of the latest issue of books and journals. Getting work based experience helps students to have a more smooth transition from training to world of work that could be supported by improving arrangements for practical placement of students.

2.5. Study process and students' performance assessment

The admission requirements to the Aleksandras Stulginskis University are clear and well founded. The admission to study programme is based on competitive score. Competitive score is calculated using formula provided in SER and also available at ASU website. ASU is providing opportunities for students from colleges with similar study profile and students from universities with different study profile to study at this master programme after yearlong "bridging" courses. As the students admitted to this study programme come from very different background education supplementary courses are valuable. The University has a stable amount of students admitted to the study programme every year.

The studies are two year long. Each year is divided into autumn and spring semesters. In SER it is stated that students study according to time table confirmed by Dean, and which cannot be changed during semester. However, it was learned that time table is actually quite flexible and students together with teachers change time table to fit their needs. Until recently studies of this study programme were organized in a traditional manner. Starting study year 2015 ASU implemented a new way of carrying out study process. Now, students instead of continuous semester studying cycles, have two weeks long intensive study periods. This practice seems to be well founded and appreciated by the students as majority of them are working. It allows students to cope with their work and studies at the same time. It is appreciable that ASU is in constant search of the best way to organize studies. The review team learned that part-time studies would

be appreciated by the students as well. It is positive that some lectures are being held at enterprises and social partners are invited to read lectures at ASU as well as at their enterprises. There is a good electronic environment used in the study process and majority of the teaching staff are using it. There is an electronic environment used by the University to quickly and efficiently provide students with relevant study material. The duration of exam session is determined by the study subjects and all compulsory assignments of a particular study subject must be presented before session.

Surveys about study subjects are carried out at the end of every semester. Results of these surveys are analyzed and actions are taken. In addition to this discussion of teachers, students and administration are being held in middle of semester in order to learn about teaching methods, content and to receive suggestion on how to improve teaching process. Some teachers collect feedback on their own initiatives during the study semester. Overall, there seems to be a good system of receiving student feedback and implementing changes according to it in this study programme.

Students of the study programme participate in scientific activities. Students must participate in conferences and present at least one publication. This is a commendable practice. Students have publications as co-authors with teachers and there are other possible scientific activities. Whenever it is possible students are employed as laboratory assistants. It seems to be quite good base for developing students professional and scientific skills. There is also some cultural and sports activities cultivated in ASU.

The University has International Relations Office responsible for informing students about mobility possibilities. It must be noted that ASU has international ties with 82 other institutions across the Europe. There is uncertainty regarding the number of students participating in Erasmus as only numbers on faculty level, but not the study programme, are given. During the visit it was learned that students abstain from using mobility programs. The reasons are incompatibility with their work and lacking students' English skills. During the visit the review team also met with some students having studied abroad for some time during their studies. Those students had a very good opinion about mobility programs and the experience gained from them. Social partners also expressed the need for students to see practices implemented in other countries besides Lithuania. As majority of the students are working there could be put some consideration in establishing short term foreign exchanges. An effort should be put in improving students' English level as well.

The University uses various channels for information distribution. ASU also organizes "Career Days" to provide students with career perspectives. Students and social partners are also

content with the events held at ASU where students are able to get contacts with their possible future employees. Teaching staff is also flexible in providing consultations for students. There is a system developed regarding financial support of the students. Students are eligible for many different forms of social support. There are scholarships for good learning outcomes provided by ASU, memorial scholarships provided by social partners and also one-off scholarships awarded to students who reached good result in scientific, cultural or other activities. It is stated in SER scholarships provided by ASU are given to students with average score above 8 and ranges from 37 to 145 EUR. However, during the visit to ASU it was learned that to receive scholarship average score must be at least above 9. The size of scholarship is of average size in Lithuania. There is a lack of information on how many students of the study programme receive such scholarships. It has to be noted that ASU also provides financial support for orphans and students with disabilities.

Evaluation system of particular study subject is clearly described in that study subject descriptions. Students have easy and good access to them and the evaluation system is always presented by teacher during first lecture of a particular subject. Main assessment method used is cumulative score consisting from tasks or test performed during the semester and examination. The students are able to choose the topic of the master thesis according to their needs and the expertise area of the teaching staff. Not unusual practice is for employees to suggest topics for students as well. Topics of master thesis are related to the study programme. The master thesis is evaluated in a commission formed by Rectors' order. Chairman of this commission is always not ASU teacher. Final result of the master thesis is average of evaluation of every commission member.

There seems to be some social partners indicated as possible employers of the programmes graduates. From meeting with social partners it was learned that graduates of this study programme are usually employed as salesman and not as engineers. However, Review team found this note of social partners as a short term issue which does not have to be taken into account to be focused in long term. In SER (page 27) there is given a sort of analysis on the employability of the programmes graduates. From given numbers it is difficult see a situation regarding how many of the graduates are unemployed and how many are employed outside the agricultural field. It is positive to see that ASU uses nationwide system to monitor their graduates' career path as well as their own system.

It is suggested to make efforts for creating new ways to improve student mobility and considerations should be made on how to improve language skills of students.

2.6. Programme management

The Faculty administrator is responsible for organization of studies, administration of students' work and their achievements and carries out tasks from admission of entrants' documents, through registration of students to studies, devising of timetables of classes, consultations and examinations, accumulation etc. till finalization of graduation. Structure of management is clearly described in Figure 2.4. (SER, p. 28) indicating the division of labor between Faculty Council and Faculty Administration. Faculty Council has student representative among its members who can initiate meeting at Dean's office on study quality related issues and opinions about experience of separate study subjects, organization of study process. Committee of Study Program is responsible for monitoring the programme and organizing a review of learning outcomes, revision of list of study subjects, for evaluating competences, study subject descriptions, detailed content and plan and cooperate with people in the study process. In the Committee besides teachers' one student and one stakeholders' representative also work as members. Decisions in the Committee are made on collegial basis. Members working in groups analyze outcomes, prepare project for improvement, submit proposal for further improvement to the Council and approve them based on majority votes. Proposals and suggestions are also discussed by the Study and Science Commission of the Faculty Council.

In the focus of internal quality assessment is the quality so the feedback of students, graduates, employers on the formation of graduates' abilities in the study programme receives considerable attention. The process of administration and internal quality assurance is outlined in the University Statute and the Description of Internal Quality Assurance at ASU. Study subject descriptions are approved for the period of two years and revised and improved accordingly. Partial assessment can be made in every year following the spring semester. Systematic assessment and self-assessment are conducted in accordance with the methodology developed by SKVC. Changes affecting formal requirements are first discussed with students in department meetings and finally on Faculty Council meeting. Teachers are also involved in changing quality assurance by making notes, proposals and being involved in discussion. Computer dataset including 7 major sections, starting from admission to graduates' contact information, supports quality issues as well as monitoring. Respect to internationalization is also given. Student's representatives are involved in the whole line of quality assurance as Faculty Council, Teachers' Attestation Commission, Committee meeting at Dean's office and Study Quality expert Group. The university also pays attention to get latest information on labor market needs and incorporate it into quality assurance process.

ASU and AEM study program as well have a comprehensive system of monitoring

students' study process starting from admission, through taking courses and finishing studies with Master theses. Responsibilities in decision making and monitoring have been described clearly. The internal quality assurance system is described and students have possibilities to follow quality control and making notes and proposals when appropriate. The system receives notes and feedback on quality related issues both from students' and teachers' side. There are committees and meetings where any raised issue can be discussed and closed by a collegial decision. Increasing number of data sources makes internal quality assurance system more effective. The basis of providing an effective and efficient internal quality assurance measures is given, however, its content should be strengthened. It looks like there is a need for continuous improvement of subject descriptions as well as study material renewal in spite of the fact that teachers have tight schedule.

III. RECOMMENDATIONS

1. Although, the management aspects have been developed by integrating it into subjects, however, it is suggested to consider launching a separate subject with a title "Agribusiness management" giving the frame for improving competences of students in management fields.

2. The number of study subjects taught in foreign languages should be increased to encourage receiving more in-coming international students.

3. Faculty leadership has to focus on including more experts from practice into teaching process and having more young people in teaching staff.

4. Efforts should be made to further strengthening internationalization of both research and teaching activities.

5. It is suggested to have students more involved in assessment of study subjects and stakeholders in evaluating the process of further improvement of feedback system.

IV. EXAMPLES OF EXCELLENCE (GOOD PRACTICE)

1. Both university and faculty leadership follow a clear and open minded policy to figure out new trends and future challenges.

2. During last years big investments have been made to improve facilities providing good working conditions in laboratory work and in library services resulting in very good facilities and learning resources.

3. Teacher and student relationship is characterized by students as very effective and the level of cooperation with social partners is an example of excellence.

V. SUMMARY

The second cycle study program in Agricultural Engineering and Management (AEM) is well thought through based on labor market and national needs and has been continuously improved and backed by an open minded university and faculty policy approach towards trends and future needs. Significant development has been achieved in curriculum development since the previous assessment. The study program is unique and in line with labor market needs and ready for meeting new challenges. The graduates have very good job opportunities.

The aim of the study programme is defined as to provide future Masters with knowledge of the study field of General Engineering and abilities to autonomously and creatively apply it in research and creative work. In order to achieve even better compliance with this aim the Review Team suggests including a course in the area of "Agribusiness management". This course may focus on topics such as creative processes, problem solving techniques, communication, sales and entrepreneurship.

The well qualified and experienced staff meets all qualification requirements. They publish much scientific work and the research is related to the study programme. Investments implemented during the last years significantly increased the capacity and level of laboratories as well as the library services. The laboratories now offer very good conditions for teaching and research work. The study process is well organized and the effectiveness of student-teacher relation is much appreciated by the students. The program management is doing well in handling feedback both from students and staff.

The University has international ties with 82 other institutions across the Europe. However, as most AEM students work alongside studying only a few of them participate in mobility programs. Those who did participate gained good experience from their stay in other countries. This experience was also appreciated by the employers. Further efforts are still suggested in internationalization, this also include making the staff more involved in longer teaching and research periods abroad. Teachers dedicated significant time to organizing scientific conferences.

The study process meets student needs and evaluation of student performance is supported by a transparent internal quality assurance system handling student feedback in a good way. The University provides opportunities for students from colleges with similar study profile and students from universities with different study profile after yearlong "bridging" courses. As the students admitted to this study programme come from very different education background supplementary courses are valuable. The time tables were recently changed to allow the students to work alongside studying. Instead of a continuous semester studying cycles there are now two-week long intensive study periods. This change was much appreciated by the students. The teaching is based on research, thus, providing agricultural engineering and management studies

with newest developments in this field. The study programme has very good cooperation with their social partners who give feedback on the study program outcomes and suggests future changes for continuous improvements. The social partners also teach some practical issues and give equipment demonstrations at their own premises. Different study methods (for example situations, case studies and practical activities) provide preparedness for practical work and doctoral studies.

The study program is unique and needed for the country. It holds the necessary international standard. Students, graduates, social partners and employers were all positively evaluating the study program. It is also evaluated positively by the Review Team.

VI. GENERAL ASSESSMENT

The study programme *Agricultural Engineering and Management* (state code – 621H10001) at Aleksandras Stulginskis University is given **positive** evaluation.

Study programme assessment in points by evaluation areas.

No.	Evaluation Area	Evaluation of an area in points*
1.	Programme aims and learning outcomes	3
2.	Curriculum design	3
3.	Teaching staff	3
4.	Facilities and learning resources	4
5.	Study process and students' performance assessment	4
6.	Programme management	3
	Total:	20

*1 (unsatisfactory) - there are essential shortcomings that must be eliminated;

2 (satisfactory) - meets the established minimum requirements, needs improvement;

3 (good) - the field develops systematically, has distinctive features;

4 (very good) - the field is exceptionally good.

Grupės vadovas: Team leader:	Prof. Dr. Torgrim Log
Grupės nariai: Team members:	Assoc. Prof. Berit Andersson
	Prof. Csaba Forgács
	Prof. Dr. Linas Kliučininkas
	Mr. Ignas Gaižiūnas

**ALEKSANDRO STULGINSKIO UNIVERSITETO ANTROSIOS PAKOPOS STUDIJŲ
PROGRAMOS ŽEMĖS ŪKIO INŽINERIJA IR VADYBA (VALSTYBINIS KODAS –
621H10001)**

2016-07-15 EKSPERTINIO VERTINIMO IŠVADŲ NR. SV4-172 IŠRAŠAS

<...>

V. APIBENDRINAMASIS ĮVERTINIMAS

Aleksandro Stulginskio studijų programa *Žemės ūkio inžinerija ir vadyba* (valstybinis kodas – 621H10001) vertinama **teigiamai**.

Eil. Nr.	Vertinimo sritis	Srities įvertinimas, balais*
1.	Programos tikslai ir numatomi studijų rezultatai	3
2.	Programos sandara	3
3.	Personalas	3
4.	Materialieji ištekliai	4
5.	Studijų eiga ir jos vertinimas	4
6.	Programos vadyba	3
	Iš viso:	20

* 1 – Nepatenkinamai (yra esminių trūkumų, kuriuos būtina pašalinti)

2 – Patenkinamai (tenkina minimalius reikalavimus, reikia tobulinti)

3 – Gerai (sistemiškai plėtojama sritis, turi savitų bruožų)

4 – Labai gerai (sritis yra išskirtinė)

<...>

IV. GEROSIOS PRAKTIKOS PAVYZDŽIAI

1. Ir universiteto, ir Žemės ūkio inžinerijos fakulteto vadovybė laikosi skaidrios ir nešališkos politikos stengdamasi perprasti naujas tendencijas ir būsimus iššūkius.

2. Pastaraisiais metais skirta daug lėšų priemonėms, užtikrinančioms geresnes laboratorinio darbo sąlygas ir bibliotekos paslaugas, gerinti; taigi dabar materialieji ištekliai yra labai geri.

3. Dėstytojų ir studentų santykius studentai apibūdina kaip labai veiksmingus, o bendradarbiavimo su socialiniais partneriais lygis yra gerosios praktikos pavyzdys.

V. SANTRAUKA

Antrosios pakopos studijų programa *Žemės ūkio inžinerija ir vadyba* yra gerai apgalvota atsižvelgiant į darbo rinkos ir šalies poreikius, nuolat tobulinama ir palaikoma nešališko universiteto ir fakulteto požiūriu į tendencijas ir būsimus poreikius. Po ankstesnio vertinimo padaryta didelė pažanga tobulinant programą. Ši studijų programa yra unikali, atitinkanti darbo rinkos poreikius ir parengta naujiems iššūkiams priimti. Absolventų įsidarbinimo galimybės labai didelės.

Šios studijų programos tikslas yra suteikti būsimiesiems magistrams bendrosios inžinerijos studijų krypties žinių ir gebėjimų savarankiškai bei kūrybingai pritaikyti tas žinias moksliniame ir kūrybiniame darbe. Kad būtų dar geriau laikomasi šio tikslo, vertinimo grupė rekomenduoja *Agroverslo vadybos* dalyką. Jo objektas galėtų būti, pavyzdžiui, šios temos: kūrybiniai procesai, problemų sprendimo metodai, komunikacija, pardavimai ir verslumas.

Kvalifikuoti ir patyrę dėstytojai atitinka visus teisės aktų reikalavimus. Dėstytojai skelbia daug mokslinių darbų, jų tyrimai susiję su šia studijų programa. Pastaraisiais metais investuotos lėšos padidino laboratorijų pajėgumus ir kokybės lygį, taip pat pagerino bibliotekos paslaugas. Dabar laboratorijos užtikrina labai geras sąlygas mokymui ir mokslo tiriamajam darbui. Studijų procesas yra gerai organizuotas, studentai labai vertina veiksmingą studentų ir dėstytojų ryšį. Programos vadovybei sekasi rinkti studentų ir dėstytojų grįžtamąjį ryšį.

Universitetas palaiko tarptautinius ryšius su 82 Europos aukštosiomis mokyklomis. Tačiau, kadangi daugelis studijų programos *Žemės ūkio inžinerija ir vadyba* studentų studijuodami dar ir dirba, tik nedaugelis iš jų dalyvauja judumo programose. Tie, kurie dalyvavo, įgijo gerą patirtį išvykę į kitas šalis. Šią patirtį gerai įvertino ir darbdaviai. Rekomenduojama ir toliau stengtis didinti tarptautiškumą, kuris apima ir ilgesnį dėstytojų buvimą užsienyje, kur jie dėsto ar atlieka tyrimus. Dėstytojai daug laiko skiria mokslinių konferencijų rengimui.

Studijų procesas atitinka studentų poreikius; studentų rezultatų vertinimą sustiprina skaidri vidinio kokybės užtikrinimo sistema, pagal kurią gerai tvarkomas studentų grįžtamasis ryšys. Universitetas suteikia galimybes panašaus profilio kolegijų studentams ir skirtingo profilio universitetų studentams po metų trukmės išlyginamųjų studijų studijuoti ASU šią programą. Kadangi į šią studijų programą priimami studentai yra labai skirtingo išsilavinimo, naudingi papildomi kursai. Neseniai buvo pakeisti tvarkaraščiai, kad studentai galėtų kartu studijuoti ir dirbti. Semestro trukmės studijų ciklai pakeisti dviejų savaitių trukmės intensyvių studijų

laikotarpiais. Studentams šis pakeitimas labai patiko. Mokymas yra pagrįstas moksliniais tyrimais, taigi žemės ūkio inžinerijos ir vadybos studijos praturtinamos naujausiais šios srities pasiekimais. Įgyvendinant šią studijų programą puikiai bendradarbiaujama su socialiniais partneriais, kurie teikia grįžtamąjį ryšį apie šios studijų programos numatomus rezultatus ir teikia pasiūlymus dėl būsimų pakeitimų nuolat tobulinant programą. Be to, socialiniai partneriai moko kai kurių praktinių dalykų ir savo patalpose demonstruoja įrangą. Įvairūs studijų metodai (pavyzdžiui, situacijos, atvejų tyrimai ir praktinė veikla) padeda pasirengti praktiniam darbui ir doktorantūros studijoms.

Studijų programa *Žemės ūkio inžinerija ir vadyba* yra unikali ir šaliai reikalinga, ji atitinka būtiną tarptautinį standartą. Studentai, absolventai, socialiniai partneriai ir darbdaviai teigiamai vertino šią programą. Vertinimo grupė taip pat teigiamai ją įvertino.

<...>

III. REKOMENDACIJOS

1. Nors ASU studijų programos *Žemės ūkio inžinerija ir vadyba* vadybos aspektai buvo tobulinami įtraukiant juos į studijų dalykus, vis dėlto rekomenduojama apsvarstyti, ar nereikėtų įtraukti atskirą dalyką pavadinimu Agroverslo vadyba, kuris padės pagerinti studentų gebėjimus vadybos srityje.

2. Reikėtų didinti užsienio kalbomis dėstomų studijų dalykų skaičių, kad atvyktų daugiau tarptautinių studentų.

3. Fakulteto vadovybė turi pasirūpinti, kad į mokymo procesą būtų įtraukta daugiau specialistų praktikų ir kad tarp dėstytojų būtų daugiau jaunimo.

4. Reikėtų pasistengti toliau didinti tarptautiškumą mokslinių tyrimų ir mokymo srityje.

5. Rekomenduojama labiau įtraukti studentus į studijų dalykų vertinimo procesą, o socialinius dalininkus – į vertinimo, kaip toliau tobulinti grįžtamojo ryšio sistemą, procesą.

<...>

Paslaugos teikėjas patvirtina, jog yra susipažinęs su Lietuvos Respublikos baudžiamojo kodekso 235 straipsnio, numatančio atsakomybę už melagingą ar žinomai neteisingai atliktą vertimą, reikalavimais.

Vertėjos rekvizitai (vardas, pavardė, parašas)