

APPLICATION

Studiju virziens "Economics" for assessment

Study field	<i>Economics</i>
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Self-evaluation report

Study field "Economics"

Latvia University of Life Sciences and Technologies

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I - Information on the Higher Education Institution/College

1.1. Basic information on the higher education institution/ college and its strategic development directions, including the following information:

Latvia University of Life Sciences and Technologies (LLU) is the *fourth largest university in Latvia* (established in 1936 as an independent higher education institution) that implements studies and research for various industries of the national economy and has built up relevant educational and research competence and expertise in:

- the following unique fields: agriculture, forestry, veterinary medicine, food technology and landscape architecture;
- and the following universal fields: information technology, economics and social sciences, agricultural engineering, environmental sciences, construction and pedagogy.

LLU:

Vision – Latvia University of Life Sciences and Technologies is one of the leading science and technology universities of the Baltic Sea region, with a specialisation in the sustainable exploitation of natural resources to improve the life quality of society.

Mission – to build internationally competitive intellectual potential based on excellence in research, application of research results in the economy, high quality of studies and effective university administration.

LLU long-term goals:

1. Excellence in research that promotes technology and innovation and is integrated into the study process.
2. High-quality studies that provide the development of internationally competitive specialists.
3. Effective university administration that ensures the targeted and efficient use of resources for high-quality studies and excellence-focused research.

LLU medium-term objectives are subordinated to the vision, the mission and the long-term goals and are as follows:

1. Excellence in research.
2. Application of research results in the national economy (research results are understood to mean the University's knowledge, technology and innovation accumulated and generated).
3. Integration of studies and research.
4. Internationalisation of studies and lifelong education.
5. High quality and competitive studies meeting the current demand.
6. Diversified supply of lifelong education that meets the current demand.
7. Effective university administration at all the levels.

The LLU Development Strategy for 2015-2020

(<https://www.llu.lv/sites/default/files/2019-06/Startegy.pdf>) prescribes three action programmes with relevant targets to achieve the long-term goals:

1. Research Programme;
2. Education Programme;
3. Administration Enhancement Programme.

LLU is comprised of the following eight faculties:

1. **LF** – the Faculty of Agriculture (established in 1863);
2. **VMF** – the Faculty of Veterinary Medicine (established in 1919);
3. **MF** – the Forest Faculty (established in 1920);
4. **TF** – the Faculty of Engineering (established in 1944);
5. **VBF** – the Faculty of Environment and Civil Engineering (established in 1947);
6. **PTF** – the Faculty of Food Technology (established in 1948);
7. **ESAF** – the Faculty of Economics and Social Development (established in 1968 as the Faculty of Agricultural Economics; in 2013, the Faculty of Economics merged with the Faculty of Social Sciences);
8. **ITF** – the Faculty of Information Technologies (established in 2001).

Totally, the LLU Faculties implement **59** study programmes within **14** study directions (data as at 1 October 2019).

Table 1.1

Number of students in the LLU study directions

B – bachelor programmes; M – master programmes; D – doctoral programmes

No	Study direction	Number of programmes				Number of students (01/10/2019)	Faculties
		Total	B	M	D		
1	Agriculture, forest management, fishing, veterinary medicine and food hygiene	10	4	3	3	1133	LF, MF, VMF
2	Architecture and construction	10	5	2	3	441	VBF
3	Production and processing	8	4	2	2	409	PTF, MF, TF
4	Information technology, computer engineering, electronics, telecommunications, computer management and computer science	4	2	1	1	268	ITF
5	Environmental protection	3	1	1	1	103	VBF
6	Health care – a joint programme with LU and RSU	1		1		17	PTF
7	Mechanics and metalworking, heat power industry, heat engineering and mechanical engineering	5	3	1	1	302	TF

No	Study direction	Number of programmes				Number of students (01/10/2019)	Faculties
		Total	B	M	D		
8	Power industry, electrical engineering and electrical technologies	1	1			103	TF
9	Sociology, politology and anthropology	2	1	1		54	ESAF
10	Economics	3	1	1	1	386	ESAF
11	Management, administration and real estate management	6	2	3		320	ESAF
12	Hotel and restaurant service, tourism and recreation organisation	1	1			137	PTF
13	Internal security and civil defence	1		1		60	MF
14	Education, pedagogy and sports – the direction to be closed in 2023	5	2	2	1	112	TF
Total		59	27	19	13	3845	

LLU personnel, job positions and age group statistics information are in Table 1.2.

Table 1.2.

LLU personnel, job position and age group statistics

	Total	incl. women
University personnel	995	668
incl. academic personnel who have been elected at LLU	322	199
professors	58	35
associate professors	55	32
assistant professors	59	44
lecturers	39	30
assistants	0	0

leading researchers and researchers	112	52
Academic personnel – professors, associate professors, assistant professors, lecturers or assistants – who are also elected as leading researchers and researchers	X	107
Other personnel	673	469
Academic personnel who have not been elected at LLU (visiting professors, visiting assistant professors, visiting lecturers)	147	95
of which foreign visiting professors, visiting assistant professors, visiting lecturers	1	0
Distribution of <i>academic personnel</i> by age:		
under 25 years	0	0
25–29 years	1	1
30–34 years	28	15
35–39 years	53	28
40–44 years	49	37
45–49 years	36	26
50–54 years	26	21
55–59 years	33	25
60–64 years	43	25
65 years and over	53	21

Of the total academic personnel, 242 individuals have a scientific degree (73.78%).

LLU promotes and supports the engagement of young teaching personnel in academic work. Of the current academic personnel, 52% are aged less than 50 years, 32% are aged from 50 to 65 years and only 16% are aged over 65 years.

Changes in the number of students of LLU. In the period from the academic year 2013/2014 to the academic year 2019/2020, the total number of students was more than 4000. The decrease in the number of students over the six-year period reflects overall negative demographic trends concerning reproduction of population and migration. The total number of students at LLU decreased by 18% over the six-year period, yet a positive fact is that the number of students tends to stabilise. Overall, the total number of students was affected by the processes occurring in the country: 1) the number of individuals who finished secondary school decreased by 20% in the reference period; 2) the number of individuals who finished secondary school and continued their education at university was very volatile from year to year: a 5% decrease in 2015 and 2017 and a

1-2% increase in 2014 and 2018. At present (in 2019), the total number of students is at the stage of stabilisation, as no negative trend, compared with the previous year, was observed in the number of students studying at LLU.

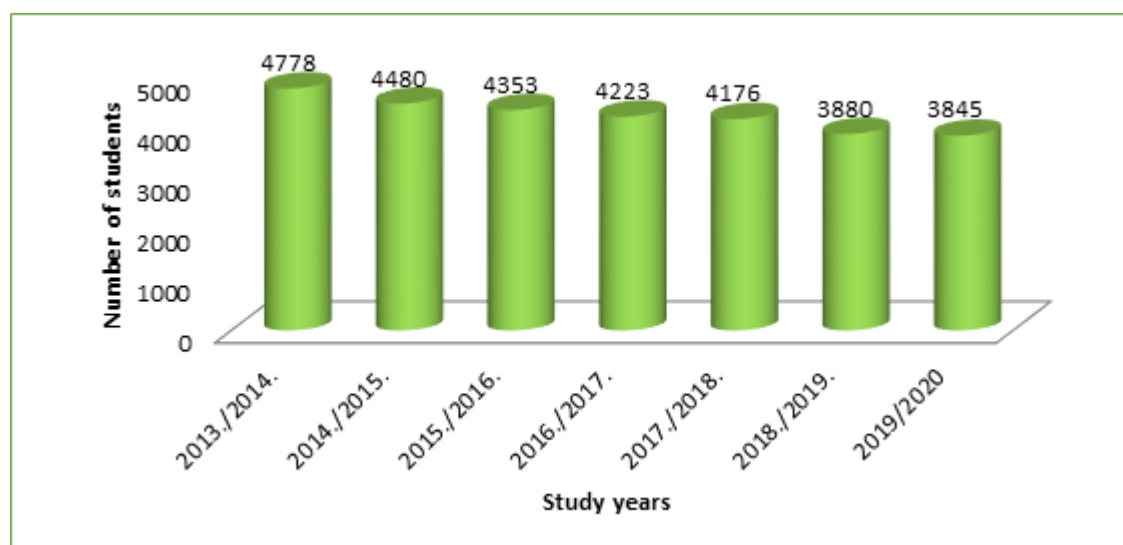


Fig.1.1. Changes in the number of students at LLU in the period 2013-2019

The university succeeded in neutralising the external factors affecting the number of students, and a number of reasons for the decrease in the number of students have been currently established; the reasons could be identified after the matriculation of students. The major reasons are as follows:

1. The number of students who stopped their studies during the first semesters owing to the wrong study programme or study direction chosen, their jobs or private life problems considerably increased;
2. First-year students often stopped their studies at LLU because they could not combine their jobs with their studies;
3. Some students could not continue their studies because of financial problems or because the schedule of studies, especially for working part-time students, could not be reconciled with their working hours;
4. Individuals' interest in doctoral studies tended to decrease because financial support for doctoral students was insufficient (the monthly scholarship was set at EUR 113.83) and the availability of funding for research was limited.

The breakdown of students by level of studies at LLU in the reference period was as follows:

1. Bachelor studies – 83-84%;
2. Master studies – 13-16%;
3. Doctoral studies – 4%.

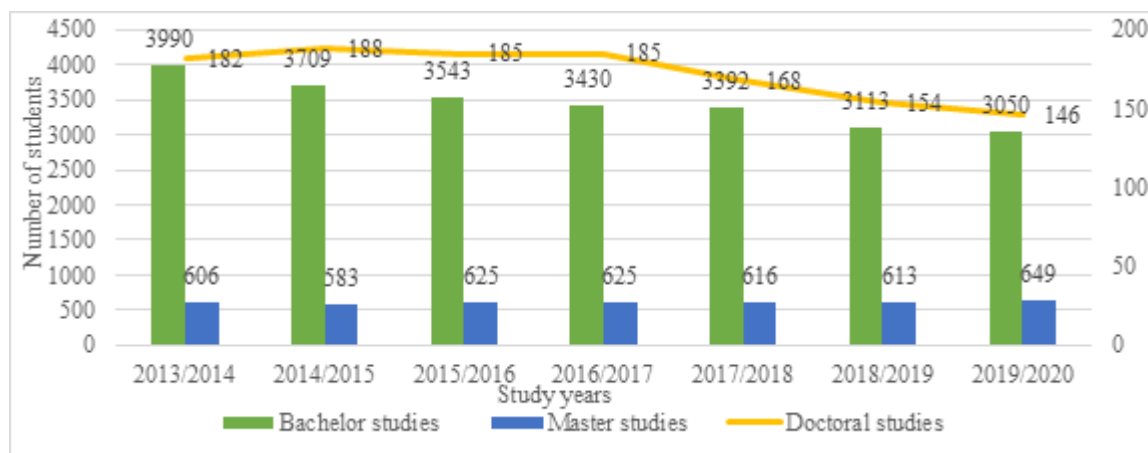


Fig.1.2. Breakdown of students by level of studies at LLU 2013.-2019.year

An analysis of changes in the number of students broken down by level of studies allows concluding that the numbers of bachelor and master students were the most volatile (negative trend). The decrease in the number of bachelor students could be rationally explained: over the six-year period, several study programmes were consolidated; the regional affiliates of LLU were closed; a decrease was observed for part-time students in particular. The decrease in the number of doctoral students could be explained by the insufficient amount of funding allocated to science and research as well as the fragmented nature of that funding.

The main activities that LLU carried out to increase its number of students:

1. In the academic year 2015/2016, LLU began admitting foreign students studying in English. In the academic year 2019/2020, 112 foreign students studied at LLU in 11 study programmes (at all the levels of studies);
2. Students are given an opportunity to acquire a bachelor's degree of social sciences in sociology in the form of e-studies.
3. In the conventional study process, teaching personnel intensively employ the Moodle system as a support tool for e-studies (learning materials, multiple choice tests, tests, homework etc.);
4. Infrastructure for studies and research has been enhanced and modernised.
5. Opportunities to get a scholarship paid by patrons tend to increase.
6. LLU provides doctoral students with internal research grants.

Research activities and motivation measures for teaching personnel are defined in the LLU Development Strategy and the relevant targets set have to be achieved by the Faculties, administrative centres and scientific institutes and laboratories. Each organisational unit of LLU approves these plans for an annual period. The decision-making bodies of the organisational units have to approve the targets set and the achievement of the targets. Each organisational unit collegially reports on the progress made to the LLU rectorate, and the details of the implementation of the plans are published on the LLU intranet: <https://mans.llu.lv/lv> and are available to teaching personnel and students.

1.2. Description of the management of the higher education institution/ college, the main institutions involved in the decision-making process, their composition (percentage depending on the position, for instance, the academic staff, administrative staff members, students), and the powers of these institutions.

In making **strategic decisions** on LLU, the following key (collegial) institutions are involved:

The **Council** is a supreme collegial representation, management and decision-making body for academic and scientific matters authorised by the personnel of LLU.

The **Council**:

- approves and amends the Constitution of LLU;
- elects and dismisses the members of the Senate of LLU;
- elects and dismisses the rector of LLU;
- elects the Academic Arbitration Court of LLU and dismisses its members;
- hears reports by the Senate, the rector and the Academic Arbitration Court;
- approves and amends regulations on electing the Council, electing and dismissing the rector and the statutes of the Senate and the Academic Arbitration Court;
- discusses and makes decisions on conceptual matters on the performance and development of LLU.

The Council is composed of 240 members who are elected by the organisational units of LLU by secret vote for three-year terms in the following composition:

- 160 academic personnel (67%);
- 50 students (21%);
- 30 other personnel (13%).

The Council functions in accordance with its Statute, which is available at: https://www.llu.lv/sites/default/files/2019-02/Konventa_nolikums_2019.pdf

The **Senate** is a collegial management and decision-making body of the personnel of LLU, which approves the rules and regulations that govern all the spheres of LLU activity, with the exception of those that fall within the remit of the Council in accordance with the Constitution of LLU.

The Senate is approved by the Council for a period of three years. The Senate consists of 60 senators, of which:

- 41 are representatives of academic personnel who represent all the Faculties (68%);
- one representative of other personnel (2%);
- the rector of LLU, the vice-rectors for studies and science and the chair of the Council as representatives of academic personnel, the director and financial chancellor of LLU as representatives of other personnel (10%);
- 12 representatives of students who have been nominated by the Student Self-government (20%).

The Senate functions in accordance with its Statute, which is available at: https://www.llu.lv/sites/default/files/2019-02/Senata_nolikums_2019.pdf

Ordinances, decisions and rules in relation to the matters pertaining to the basic activity of LLU are also passed, within the scope of competence, by:

1. Rector;
2. Vice-rectors for studies and science;
3. Financial chancellor;
4. Director;
5. Deans of the Faculties.

The Faculties and research institutes of LLU as well as their collegial administrative bodies are defined in relevant statutes and internal order rules.

Annex 1 provides a list of main internal documents of LLU.

Annex 2 shows the LLU administrative structure.

1.3. Description of the mechanism for the implementation of the quality policy and the procedures for the assurance of the quality of higher education, as well as the stakeholders involved in the development and improvement of the quality assurance system and their role in these processes.

Quality management system at the University. The quality management of study processes is part of the overall quality management system of LLU. Since 2016, the quality management system of LLU has been based on international standards for excellence (see *Investors in Excellence Standard*, www.investorsinexcellence.com).

The quality management system of LLU is externally audited every two years (audits may be done by the organisations recognised by the Investors in Excellence organisation, which either grant or do not grant an Investors in Excellence certificate to the organisation audited). Such a certificate was granted to LLU both in 2016 (first audit) and in 2018 (repeated audit).

The quality management system of LLU is part of the overall LLU Development Strategy and covers a broad spectrum of matters. A general description of the LLU Quality Management System and the Quality Assurance Plan are available at https://www.llu.lv/sites/default/files/2016-10/KV_cepure_4_1.pdf. (Only in Latvian)

Quality management system in the context of studies. The quality management system of LLU covers all the spheres of LLU activity. The academic personnel and other employees of LLU are involved in the quality management system. The coordinating body of the quality management system is the Administrative Centre of LLU, which is subordinate to the rector.

LLU has developed a detailed joint scheme of study processes that includes 90 major study processes, their sequence and interaction. Each of the 90 processes is described and arranged sequentially.

The description contains the following parts: activities; responsible organisational units and employees; reference to the legislative or regulatory framework governing the activities. The detailed joint scheme of study processes provides a common approach to study processes across all the organisational units.

The descriptions of quality of studies at LLU are restricted access documents and are intended for internal use at LLU as well as are part of the management and strategic documents of LLU.

Detailed information on the internal quality management system and its effectiveness is contained in Section 2.2 of the self-assessment report, describing, assessing and defining the quality management system in the context of a particular study direction.

1.4. Fill in the table on the compliance of the internal quality assurance system of the higher education institution/ college with the provisions of Section 5, Paragraph 21 of the Law on Institutions of Higher Education by providing a justification for the given statement. In addition, it is also possible to refer to the respective chapter of the Self-Assessment Report, where the provided information serves as evidence for the full compliance, partial compliance or non-compliance.

1.	The higher education institution/ college has established a policy and procedures for assuring the quality of higher education.	<p>Complies</p> <p>Investor in Excellence certificate issued in 2016 Detailed information is provided in Section 1.3 of the report</p>
2.	A mechanism for the creation and internal approval of the study programmes of the higher education institution/ college, as well as the supervision of their performance and periodic inspection thereof has been developed.	<p>Complies</p> <p>New study programmes are developed in accordance with the regulation approved by the Senate – the Regulation regarding Drawing up, Approving and Changing Study Programmes (No. 10-5 of 13 March 2019) The Regulation stipulates that:</p> <ol style="list-style-type: none"> 1. A programme shall be developed by a Faculty, discussed by the Methodological Commission of the Faculty and approved by the Board of the Faculty; 2. The programme developed shall be discussed by the Board of Studies and recommended for approval by the Senate; 3. The Senate shall approve the programme and a director for the programme; 4. Relevant documents shall be submitted to the Academic Information Centre for being licensed; 5. New students shall be admitted to LLU and enrolled on the programme after the licence has been granted. <p>Every year, annual reports are drawn up for all study programmes; the reports are approved by the Senate and published on the LLU website. https://www.llu.lv/lv/studiju-un-reglamentejosie-dokumenti</p>

3.	The criteria, conditions, and procedures for the evaluation of students' results, which enable reassurance of the achievement of the intended learning outcomes, have been developed and made public.	<p>Complies</p> <p>The student learning outcome assessment system is described in:</p> <ul style="list-style-type: none"> • the Statute of Studies (bachelor and master studies). • the Statute of Doctoral Studies. <p>The requirements for assessing student learning outcomes for each particular course are given in course curricula available in Latvian and English in the LLU IS course register at https://lais.llu.lv/pls/pub/kursi.startup?l=1</p>
4.	Internal procedures and mechanisms for assuring the qualifications of the academic staff and the work quality have been developed.	<p>Complies</p> <p>LLU has developed procedures and regulations (approved by the Senate) to guarantee the qualifications and work quality of academic personnel:</p> <ol style="list-style-type: none"> 1. The LLU Regulation regarding Elected Academic Positions. 2. The Regulation regarding the Calculation of Academic Workload. 3. The Motivation System for LLU Academic Personnel. 4. Classes for students are scheduled in accordance with the procedures approved by the Rector – for full-time studies, classes are scheduled in a centralised way, while for part-time studies it is done by each Faculty. Class schedules are publicly available two weeks before the beginning of the semester (for part-time studies – before the beginning of the examination period).

5.	The higher education institution/ college ensures the collection and analysis of the information on the study achievements of the students, employment of the graduates, satisfaction of the students with the study programme, efficiency of the work of the academic staff, the study funds available, and the disbursements thereof, as well as the key performance indicators of the higher education institution/ college.	<p>Complies</p> <p>LLU uses an information system that aggregates information about the entire study process of each student (decisions on the student, marks earned, payments made). Every semester, a survey of students is conducted on the courses taken, satisfaction with the way the courses are organised, the content of the courses and the teaching personnel delivering the courses (electronic questionnaire). The survey results are available to each teaching personnel member, study programme directors, department/institute directors, deans of the Faculties and the vice-rector for studies. For financial planning and accounting, LLU employs the accounting system Horizont that is a single system connected with the Ministry of Agriculture. Every year, the achievement of the goals and targets set by the LLU Development Strategy is reported at different levels: Faculties – at dean office meetings; Administrative units – at the Board of Studies; Vice-rectors, the financial chancellor and the LLU director – at rectorate meetings; Rector – at Convent meetings.</p>
6	The higher education institution/ college shall ensure continuous improvement, development, and efficient performance of the study direction whilst implementing their quality assurance systems.	<p>Complies</p> <p>Study direction reports are produced every year, which are reviewed by the Board of Studies and approved by the Senate. Once approved, the reports are made public on the LLU website - https://www.llu.lv/lv/studiju-un-reglamentejosie-dokumenti (Only in Latvian)</p>

II - Description of the Study Direction (1. Management of the Study Direction)

1.1. Economic and/or social grounds for the creation of the study direction and the relevant study programmes, the assessment of the interrelation among the study programmes, as well as the analysis of the significance (singularity) of the study programmes in comparison with other similar study programmes in Latvia and abroad.

A constantly changing economy requires the integration into the labour market of high-level professionals and scientists who are able to assess the situation and make decisions to tackle core economic problems. *The design and development of programmes contained in the field of study Economics could not be associated with or attributed to some particular industry; it has to be*

viewed as a comprehensive scientific matter in the context of development of the national economy and of global trends. Accordingly, the economic and social justification for the programmes contained in the field of study Economics is determined by the tactical and strategic documents of Latvia and the European Union.

The National development Plan 2014-2020 (NDP 2020), which is hierarchically the highest national medium-term planning document, states a leitmotiv – *an economic breakthrough* – as well as sets priorities such as *growth of the national economy* and *growth-friendly areas*, which determines the relevance, further development and priorities of the field of study Economics.

The EU strategy Europe 2020 points to the bioeconomy as a key element for smart and green growth in Europe. The bioeconomy is based on three basic principles of sustainable development: **nature, the economy and society**, and refers to the transition to a completely circular economy in which the waste product of one process is a raw material of the other process. According to Decision No. 746 of the Cabinet of the Republic of Latvia “On Priorities in Science for 2018-2021” (<https://likumi.lv/ta/id/295821-par-prioritarajiem-virzieniem-zinatne-2018-2021-gada>), one of the priorities is research on sustainable use of domestic natural resources for a knowledge-based bioeconomy, which plays an important role in the learning process and research within the field of study Economics.

In 2014, the Strategic Alliance for Bioeconomy Research aiming to increase the performance and competitiveness of bioeconomy industries at regional and international level and Latvia’s contribution to achieving the EU’s common goals was established in Latvia. The Alliance is comprised of: 1) Latvia University of Life Sciences and Technologies; 2) derived public persons of LLU. The Working Group also included *several teaching personnel members and scientists of the field of study Economics* who developed the *Bioeconomy Strategy of Latvia until 2030* (https://www.llu.lv/sites/default/files/2018-07/Latvian-Bioeconomy-Strategy-Summary-WEB_0.pdf). Latvia is the first of the new Member States to develop the National Bioeconomy Strategy. Achieving the goals of the strategy requires applying the interministerial approach and involving all the industries, and this principle is integrated into the learning process and research within the field of study Economics.

The Sustainable Development Strategy of Latvia 2030 (Latvia 2030) sets seven priorities that are more or less binding on the implementation of the programmes contained in the field of study. The most important programmes of the field of study are as follows: 1) Innovative and Eco-efficient Economy; 2) Nature as Future Capital; 3) Investments in Human Capital; 4) Innovative Government and Participation of the Society.

Since LLU is the main higher education institution for the agricultural industry, the curricula of the programmes have to take into account the *Rural Development Programme of Latvia 2014-2020 (RDPL)* developed by the Ministry of Agriculture (https://www.zm.gov.lv/public/files/CMS_Static_Page_Doc/00/00/01/50/34/Programme_7.pdf) that is subordinated to hierarchically the highest national medium-term planning document – the National Development Plan 2014-2020.

The relevance of the knowledge provided by the field of study is also stressed by an RDPL finding that not only insufficient agricultural education but also an insufficient knowledge of matters pertaining to environmental protection and *economic planning and management of farms* among agricultural employees are the major reasons preventing the introduction of innovations and modern technologies in the agricultural industry, thereby negatively affecting the competitiveness of the industry as a whole.

The mentioned strategic documents highlight the prospects for *team science* and define the need

for interdisciplinary knowledge, which represents the basis of the field of study Economics and pervades all the programmes contained in the field of study.

The field of study Economics ensures succession for all the three levels of studies of economics (see Table 2.1). The programmes were designed in a way to fit into a single organisational and methodological cycle: the academic bachelor programme *Economics*, the academic master programme *Economics* and the doctoral programme *Agricultural and Regional Economics*.

Table 2.1

Programmes contained in the field of study

No.	Name	Degree earned
1.	Economics, a(b)	Bachelor degree of social sciences in economics
2.	Economics, a(m)	Master degree of social sciences in economics
3.	Agricultural and Regional Economics, (d)	Doctoral degree (Ph.D.) in Economics and Business

a(b) - academic bachelor programme *Economics*

a(m) - academic master programme *Economics*

d - doctoral programme

The **academic bachelor programme Economics** was designed based on the strategic priorities of LLU and global trends. The uniqueness of the programme is determined by the fact that it is the first and only one in Latvia, and the curriculum of the programme contains courses on bioeconomics and sustainable development, along with courses on economics. A number of courses provide knowledge of agricultural processes and how to deal with them. The purpose of it is to prepare specialists for higher-level studies and scientific research work in the research areas for social sciences set by the LLU Development Strategy.

The LLU bachelor programme Economics was compared with other bachelor programmes delivered by universities in Latvia and Europe: the University of Latvia, Tilburg University (Netherlands) and IE University (Spain). *Similarities* with the programme delivered by the **University of Latvia**: 1) the compulsory part of the curricula of both universities are similar in terms of content and workload. The curricula contain general study courses and theoretical and methodological courses in economics and its sub-branches; 2) studies end with a bachelor thesis (15 ECTS); 3) both programmes provide five specialisations, which allows students to make choices based on their own interests; 4) the workload of the field of study is 48-50 ECTS. *Differences*: 1) duration (4 years in LLU, 3 years in the University of Latvia); 2) the LLU programme contains unique courses: Bioeconomics, Regional Economics, Economic Management Studies and European Union Projects and, being aware of the need for managerial skills in decision-making, it also includes Management; 3) the LLU programme provides also interdisciplinary knowledge needed for dealing with economic problems, whereas the University of Latvia programme contains only economics courses; 4) the LLU programme includes practical training that ensures theoretical knowledge is put into practice; 5) the LLU programme is delivered also in English to foreign students; 6) the LLU tuition fee is relatively lower.

Tilburg University (Netherlands) is in the Best Global Universities list. Its programme's duration is

three years. Tilburg University's programme applies a unique approach: unlike other universities of the Netherlands that combine business and economics, Tilburg University delivers a specific programme placing a focus on economics in all the specialisations of it. In their third year of studies, students choose one of three specialisations (Experimental and Behavioural Economics; Competition Policy and Regulation; Economics of Banking and Finance), and the graduation thesis is written for the relevant specialisation.

At **IE University** (Spain), the duration of its programme is four years, and students have an opportunity to choose one of two specialisations (Country, Sector and Policy Analysis; Economic and Financial Analysis for Business). The programme associates economic theory with policies and business. Students acquire knowledge and learn instruments needed for predicting the effects of policies on the market and society.

A comparison of the mentioned bachelor programmes allows *concluding* that: if a programme provides not only an in-depth economic knowledge but also builds up the skills to think, work and introduce interdisciplinary innovations, the duration of it is longer. The similarities of all the programmes compared are as follows: they provide basic economic knowledge and focus on use of quantitative research and analytical methods. All the programmes build up economic knowledge and skills by means of similar courses.

Table 2.2

Comparison of the bachelor programme Economics with similar programmes delivered by other universities

Profile	Latvia University of Life Sciences and Technologies	University of Latvia	IE University, Spain	Tilburg University, Netherlands
Name	Economics	Economics	Economics	Economics
Degree earned	Bachelor degree of social sciences in economics	Bachelor degree of social sciences in economics	Bachelor degree in economics	Bachelor degree in economics
ECTS	240	180	240	180
incl. bachelor thesis	15 ECTS	15 ECTS	12 ECTS	18 ECTS
Duration	4 years (8 semesters)	3 years (6 semesters)	4 years (8 semesters)	3 years (6 semesters)

Specialisation	<ul style="list-style-type: none"> · <i>Agricultural and environmental economics;</i> · <i>Business process management;</i> · <i>Accounting and finance;</i> · <i>Regional development and administration;</i> · <i>Law</i> 	<ul style="list-style-type: none"> · <i>Analytical economics;</i> · <i>Finance and credit;</i> · <i>Accounting, control and analysis;</i> · <i>Macroeconomic analysis; Business economics</i> 	<ul style="list-style-type: none"> · <i>Country, sector and policy analysis;</i> · <i>Economic and financial analysis for business</i> 	<ul style="list-style-type: none"> · <i>Experimental and behavioural economics;</i> · <i>Competition policy and regulation;</i> · <i>Economics of banking and finance</i>
Practice	12 ECTS	No	No	No

The bachelor programmes Economics (specialisations: Agricultural and Environmental Economics, Business Process Management) is also delivered to also foreign students who mostly come from Asian and African countries. Therefore, the programme Bachelor of Science in Agricultural Economics and Agribusiness (<https://www.sua.ac.tz/programme/bachelor-science-agricultural-economics-and-agribusiness>) delivered at Sokoine University of Agriculture in Tanzania is examined in order to identify potential students' understanding of university studies in Latvia. The duration of it is 3 years (6 semesters), and there is an opportunity to acquire a [Postgraduate Diploma in Agricultural Economics](#) after additional one-year studies. The programme contains economic and management courses as well as specific agricultural courses, including a course on use of natural resources. The tuition fee for foreign students is USD 3100 per years, which is similar to that for the LLU bachelor programme Economics – EUR 2000 per year. Sokoine University of Agriculture has set some extra fees for registration, use of the library, etc. This indicates the LLU bachelor programme Economics is competitive for students in this region.

The LLU **academic master programme Economics** is compared with three programmes in economics – one is implemented in Latvia by Riga Technical University (RTU), the other two in Sweden: by Stockholm University and by Lund University.

Table 2.3

Comparison of the master programme Economics with similar programmes delivered by other universities

Profile	Latvia University of Life Sciences and Technologies	Riga Technical University	Stockholm University	Lund University
Name	Economics	Economics	Economics	Economics
Degree earned	Master degree of social sciences in economics	Master degree of social sciences in economics	Master degree in economics or econometrics	Master degree in business and economics or economics

ECTS	120	120	120	120
incl. master thesis	30 ECTS	30 ECTS	30 ECTS	30 ECTS (2 master essays, each 15 ECTS, one a year)
Duration	2 years (4 semesters)	2 years (4 semesters)	2 years (4 semesters)	2 years (4 semesters)
Specialisations	<ul style="list-style-type: none"> · <i>Business and logistics;</i> · <i>Financial management and accounting;</i> · <i>Sustainable territorial development and marketing</i> 	<i>no</i>	<ul style="list-style-type: none"> · <i>Economics</i> · <i>Econometrics</i> 	<ul style="list-style-type: none"> · <i>Econometrics</i> · <i>Financial economics</i> · <i>International and development economics</i> · <i>Macroeconomics</i> · <i>Microeconomics</i> · <i>Public economics with health and labour economics</i>

All the programmes are academic, with a workload of 120 ECTS, of which 30 ECTS are for a master thesis. At Lund University, a master thesis could be replaced by two master essays, 15 ECTS each. In Latvia, both universities award a master degree of social sciences in economics upon completing their programmes, while in Sweden Stockholm University awards a master degree in economics or econometrics and Lund University awards a master degree in business and economics or in economics. The duration of the programmes is the same – two years. The specialisations are diverse, depending on the specific field of each programme. RTU does not offer specific specialisations, while LLU offers three specialisations pertaining to business, finance and sustainable territorial development. Stockholm University offers two specialisations: economics and econometrics, while Lund University provides the most specialisations, six in total, among them the sub-branches of economics, public economics and labour economics, as well as international and development economics. The programmes compared are the same in terms of duration and workload, while the difference lies in the specialisations they offer, and there are minor differences in the degree earned.

The **doctoral programme Agricultural and Regional Economics** is unique because in the sub-branch of agricultural economics, it is the only one in Latvia and one of the few ones in Europe, while in the sub-branch of regional economics, it has the longest experience in Latvia. This doctoral programme is important from the perspective of succession, as on average 6% of the graduates of LLU master programmes begin studies in this doctoral programme. In addition, the doctoral programme Agricultural and Regional Economics is of high quality, competitive and interesting at national level, since every year around 70% of newly admitted doctoral candidates are graduates of other universities, including those who have graduated abroad.

In order to assess the curriculum and competitiveness of the doctoral programme Agricultural and Regional Economics, a comparison of the programme was made with equivalent doctoral programmes in Latvia and abroad (Estonia, Germany and Chile). The following programmes have been compared: the University of Latvia doctoral programme Economics, the Tartu University doctoral programme Economics and Business Administration, the joint doctoral programme Agricultural Economics of the Georg-August University of Göttingen (Germany) and the University of

Talca (Chile). Major differences lie in the following characteristics:

- Duration: at Tartu University, it is 4 years, while the other universities, including LLU, offer 3-year long programmes. The 4-year programme has a workload of 240 ECTS, while the 3-year programmes, including that of LLU – 180 ECTS.
- Taking theoretical courses is organised as follows: at the University of Latvia, the foreign language course and the course in the sub-branch belong to restricted elective courses, while at LLU such courses are part of theoretical studies. Compared with LLU, the foreign universities allocate a smaller number of credit points to compulsory courses. Tartu University gives more flexibility regarding earning credit points through the choice of restricted elective courses and elective courses.
- The production of a dissertation and the approbation of it at LLU, compared with the other universities, has the lowest workload (5 ECTS), whereas the other universities allocate more credit points, e.g. the University of Latvia allocates 150 ECTS, Tartu University – 180 ECTS, the Georg-August University of Göttingen (Germany) and the University of Talca – 162 ECTS.
- The specialisation in agricultural and regional economics is unique for LLU, as the other universities did not offer such a doctoral programme.

Table 2.4

Comparison of the doctoral programme Agricultural and Regional Economics with similar programmes delivered by other universities

Profile	LLU	University of Latvia	Tartu University (Estonia)	GAUG+UT*
Name	Agrarian and Regional Economics	Economics	Economics and Business Administration	Agricultural Economics
Number of CP (ECTS)	120 CP (180 ECTS)	120 (180 ECTS)	240 ECTS	180 ECTS
Duration	3 years (6 semesters)	3 years (6 semesters)	4 years (8 semesters)	3 years (6 semesters)
Degree earned	Doctoral degree (Ph.D.) in Economics and Business	Doctor degree in economics (Dr.oec.)	Doctor of philosophy (PhD)	Philosopher

Specialisation	<ul style="list-style-type: none"> · <i>Agrarian economics;</i> · <i>Regional economics</i> 	<ul style="list-style-type: none"> · <i>Economy of Latvia;</i> · <i>Finance and credit;</i> · <i>Accounting and bookkeeping theory;</i> · <i>Econometrics;</i> · <i>Statistics;</i> · <i>Marketing</i> 	<ul style="list-style-type: none"> · <i>Economics;</i> · <i>Business administration</i> 	<ul style="list-style-type: none"> · <i>Agricultural economics</i>
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* joint doctoral programme Agricultural Economics of the Georg-August University of Göttingen (Germany) and the University of Talca (Chile)

1.2. Aims of the study direction and their compliance with the scope of activities of the higher education institution/ college, the strategic development directions, as well as the needs and the development trends of the society and the national economy.

The common **goal** of the field of study Economics and programmes contained therein is to ensure the succession of all the higher education levels (bachelor, master, doctoral) in economics and develop adequate skills in students to research and predict changes in the domestic and global environments.

The goal of the field of study is consistent with the vision of LLU – to become one of the leading universities in the field of science and technology in the Baltic Sea region, specialising in the sustainable use of natural resources for the improvement of the quality of life of the society. In addition, the goal of the field of study is relevant in relation to challenges for Latvia, the Baltic Sea region, the EU and the world, among them: 1) a growing demand for natural resources to meet the economic needs of society; 2) a growing demand for technologies for efficient use and management of natural resources and development of competitive products and services; 3) the need to ensure and improve the quality of life of the society now and in the future, which includes a wide range of issues: economic and social development of regions and communities, sustainable use and availability of natural resources, quality of the environment, availability of safe and healthy products and provision of services; 4) the need to increase the competitiveness of the Baltic Sea region on a global scale, where ensuring the sustainability of the environment, including natural resources, in the region is one of the key aspects.

The consistency of the field of study Economics with the needs of society and the economy are determined by:

- The need for professionals with higher economic education by various businesses, private and public institutions.
- The opportunity for individuals to study at all the levels of higher education (bachelor, master, doctoral), which allows ensuring the learning process effectively, efficiently and successively.
- The uniqueness of the programmes contained in the field of study ensures the knowledge, skills and competences necessary for the labour market are built up.
- Students are provided with the broadest opportunities (in relation to studies, research,

available resources, international cooperation, etc.), taking into account the fact that LLU has prioritised studies and research in the fields prescribed by the Smart Specialisation Strategy of Latvia.

The goal of the field of study is in line with the trends in the labour market projected by Latvia and the EU and aims to meet the projected demand for labour. For example, the report made by the Ministry of Economics of the Republic of Latvia “Informational Report on Medium and Long-term Labour Market Forecasts” (https://em.gov.lv/files/tautsaimniecibas_attistiba/dsp/DT_zin_2018_eng.pdf (Only in Latvian) states that in the near future, economic development will boost the demand for economic specialists with analytical thinking in all sectors of the economy. The EU forecasts, however, indicate that the situation in the EU labour market will continue to improve, yet the demand for labour is expected to grow very slowly. Globalisation and technological advancement will lead to a continued focus on a *service and knowledge-based economy*; therefore, employment growth until 2025 is expected to be determined mainly by service industries, yet in view of the high demand for replacement labour, job opportunities will be in all industries and in all professions. *The strongest increase in the labour demand in the EU is expected in the business services industries, among them real estate activities and the area of professional, scientific and technical services.*

1.3. SWOT analysis of the study direction with regard to the set aims by providing explanations on how the higher education institution/ college expects to eliminate/improve weaknesses, prevent threats, and avail themselves of the given opportunities, etc. The assessment of the plan for the development of the study direction for the next six years and the procedure of the elaboration thereof. In case there is no development plan elaborated or the aims/ objectives are set for a shorter period of time, information on the elaboration of the plan for the development of the study direction for the next assessment period shall be provided.

In general, the field of study **Economics** and the programmes contained therein are prospectively analysed in the context of the overall social, economic and political situation in Latvia. The prospects for the field of study is determined by socio-economic trends, national policies in specific areas, labour market forecasts, as well as an assessment of the field of study and the programmes contained therein, which is concisely presented in a SWOT analysis (see Annex SWOT analysis)

Based on the SWOT analysis matrix, the enhancement of the programmes will be done in the *context of a strategy for strengths and opportunities*: 1) using the uniqueness of programmes in Latvia and applying the interdisciplinary approach to the curricula of the programmes, it is possible to meet the demand for specialists with integrated knowledge of the economy in the domestic and international labour markets; 2) a growing demand for national institution and company commissions to do research in the bioeconomy industries requires scientists in this field, which is one of the priorities of the doctoral programme. The weaknesses in the field of study mostly relate to the problem of availability of funding, yet the threat of a decrease in the number of students could be mitigated by attracting more foreign students, including the delivery of the master programme in English by engaging qualified academic personnel.

The Development Plan for the field of study Economics was designed based on the research results of ESF project No. 8.2.3./18/A/009 Enhancement of the Governance of Latvia University of Life Sciences and Technologies. One of the goals of the project is to increase the quality of curricula of

LLU programmes, which involves enhancing the curricula of the current programmes to match the programmes with the needs of industries. The Development Plan for the field of study Economics is going to take into consideration the following expert recommendations:

- study by Dynamic University Ltd on trends in the demand for labour in the labour market in the period until 2030;
- comparison with two similar programmes delivered by foreign universities done by a foreign expert (Estonian University of Life Sciences);
- results of an assessment of the curricula of programmes by an industry expert from PricewaterhouseCoopers Ltd;
- recommendations of an expert in science concerning interconnection between science and the curricula. (Annex 3)

1.4. The structure of the management of the study direction and the relevant study programmes, and the analysis and assessment of the efficiency thereof, including the assessment of the role of the director of the study direction and the heads of the study programmes, their responsibilities, and the cooperation with other heads of the study programmes, as well as the assessment of the support by the administrative and technical staff of the higher education institution/ college provided within the study direction.

Administrative personnel for the field of study are as follows: the dean, vice-deans, programme directors and ESAF institute directors. Support personnel are also involved – ESAF institute secretaries (3) control office workflow, keep student files, keep faculty documentation, inform students and manage and account for internal and external documentation.

The field of study is implemented at the LLU **Faculty of Economics and Social Development** (ESAF), which is fully in accordance with the goal defined by its Statute. The goal of ESAF is to provide students with academic and professional education and to do scientific research in the fields of economics, philosophy, sociology and management science. All the ESAF institutes are engaged in implementing the field of study: the Institute of Business and Management Science, the Institute of Economics and Regional Development, the Institute of Finance and Accounting and the Institute of Social and Human Sciences. The other faculties of LLU (Faculty of Information Technologies; Faculty of Environment and Civil Engineering; Faculty of Food Technology; Faculty of Engineering; Faculty of Agriculture; Forest Faculty), centres (Language Centre; Lifelong Education Centre; Sports Centre), research institutes (Institute of Agricultural Resources and Economics) and the research and training farm Vecauce are also involved in implementing the field of study.

The field of study is consistent with the structure of LLU, and the institution responsible for implementing the field of study and programmes contained therein is the Faculty of Economics and Social Development (see Annex 4).

A programme director is responsible for implementing the programme in accordance with the Statute on Programme Directors (LLU Senate Decision No. 9-81 of 12 April 2017). A programme director is approved by the LLU Senate on the basis of the decision of the Council for Studies. The main responsibilities of a programme director are to:

- organise the development of a programme on the basis of the decision of the Board of the Faculty on the creation of a new programme and the decision of the LLU Senate Regulations regarding the Development, Approval and Change of Programmes at LLU;

- prepare information for an annual self-evaluation report;
- organise and ensure the development of syllabuses of courses according to the requirements;
- coordinate the development of courses, ensuring the succession and compatibility of courses;
- submit a study plan, as well as the syllabuses of courses, practice and other programme components to the Faculty's Methodology Commission for assessment;
- cooperate with the Faculty's dean and department/institute/centre heads/directors, teaching personnel and students in order to enhance the programme;
- regularly inform students about current developments, activities and requirements for studies;
- organise surveys of alumni, employers and students and analyse the results of the surveys as well as propose elimination of the shortcomings identified;
- follow the evaluations of the teaching personnel involved in the programme in the LLU Information System (LLU IS) and analyse the results;
- cooperate with the LLU Centre for Studies and the LLU Communication and Marketing Centre to promote the programme.

The rights of a programme director: to propose changes to the programme by informing the head/director of the relevant department/institute/centre/dean; to request information related to the programme from LLU organisational units; to make proposals for drawing up LLU internal regulatory documents and enhancing the current ones.

Programme directors and responsible departments and/or institutes are involved in the work of the **Methodology Commission**, thereby establishing cooperation aimed at interconnecting the programmes and practically implementing the programmes (Statute of the Methodology Commission, LLU Senate Decision No. 6-107 of 9 April 2008). Members of the Methodology Commission are approved by the Board of the Faculty. The key functions of the Methodology Commission are as follows: examining and approving programme plans in accordance with the applicable legal acts of the Republic of Latvia and LLU internal regulatory documents; reviewing and assessing new courses and plans; evaluating programme licensing, accreditation and self-assessment reports; reviewing and coordinating study plans; reviewing and evaluating the programme, its curriculum in accordance with to the guidelines for the programme/specialisation. A Methodology Commission is established for each level of studies (bachelor, master and doctoral).

The field of study is administered in accordance with the external regulatory framework and the LLU Quality Management System Assurance Plan, which form a single **system for effective process management and supervision**. All the stakeholders are involved in the management of the field of study: students, alumni, personnel, other educational institutions (secondary, secondary professional and higher) both in Latvia and in the Baltic States, research institutes and other organizations related to research, employers, industry experts and organizations and the State.

1.5. Description and assessment of the requirements and the system for the admission of students by specifying, inter alia, the regulatory framework of the admission procedures and requirements. The assessment of the study period, professional experience, and the options for the students to have their previously acquired formal and non-formal education recognised within the study direction by providing specific examples of the application of these procedures.

Admission at LLU is held in accordance with the Constitution of LLU, the Law on Higher Education Institutions, Cabinet regulation No. 846 of 10 October 2006 Regulations regarding Requirements, Criteria and Procedure for Enrolment on Study Programmes, the vice-rector for studies ordinance On the Procedure of Admission to LLU, the Senate decision Regulations regarding Enrolment on Bachelor Studies at LLU, the Senate decision Regulations regarding Enrolment on Master Studies at LLU and the vice-rector for studies ordinance On the Rights and Obligations of Applicants and LLU during Admission.

The regulations regarding enrolment on any LLU programme are approved by the LLU Senate every year in October and available on the LLU website. For website visitors, the regulations in Latvian are available at <https://www.llu.lv/lv/uznemsana>, while in English at <https://www.llu.lv/en/degree-programmes>. Applicants are admitted on a competitive basis according to the criteria set by the regulations. The admission is carried out by the LLU Admission Commission and the Admission Commissions of the Faculties in accordance with the vice-rector for studies ordinance On the Procedure of Admission to LLU.

The following mandatory requirements are set for enrolment on bachelor programmes: **general secondary education or secondary vocational education**. Applicants are admitted on a competitive basis according to the results of centralized exams in Latvian, foreign languages (English, German, French or Russian) and mathematics. Applicants who meet the minimum requirements and who are the winners of first three places/prizes in international and national contests approved by the Ministry of Education and Science and in national school student research contests in the courses and science branches set by the Faculties are admitted automatically.

Applicants could apply for admission by using e-services (on the portal www.latvija.lv) and the unified admission system, where the applicants' applications are processed simultaneously for 12 higher education institutions of Latvia (Latvia University of Life Sciences and Technologies, University of Latvia, Riga Technical University, Daugavpils University, Liepaja University, Vidzeme University of Applied Sciences, Rezekne Academy of Technologies, Ventspils University College, BA School of Business and Finance, EKA University of Applied Sciences, RISEBA University of Business, Arts and Technology and ISMA). The unified admission system provides a number of advantages: 1) higher education institutions can identify the interest of potential applicants for their programmes; 2) applicants can apply for studies at a university being close to their places of residence and remotely follow the opportunities to study in the chosen programme, as well as receive the competition results immediately. However, the unified admission system has also some disadvantages: 1) applicants may choose several programmes and often the number of applications does not reflect the actual number of applicants; 2) no possibility to get feedback on the choice made and any change made in the choice; 3) some applicants do not have a clear principle of prioritization of the programmes they apply for.

A description of the admission process for foreign applicants is available at <https://www.llu.lv/en/how-to-apply>, and the Regulations regarding Enrolment on Programmes Delivered in English approved by the LLU Senate apply to the admission. The regulations stipulate that: 1) admission of foreigners to LLU is held in accordance with Section 83 of the Law on Higher Education Institutions; 2) admission of foreigners to LLU is organised by the International Cooperation Centre (ICC) in cooperation with the Centre for Studies (CS) and the Language Centre. Foreigners matriculate at LLU if meeting the following requirements: 1) the level of education acquired and the final marks earned comply with the general admission requirements set by LLU; 2) in accordance with Section 85 of the Law on Higher Education Institutions, the applicant has received a certificate from the Academic Information Centre (AIC) regarding the academic recognition of educational documents in Latvia; 3) the applicant has met the admission requirements of the programme concerned; 4) the applicant has met the requirements for entry

and stay in Latvia; 5) the applicant has paid the tuition fee for the first academic year. The admission process is finished by the ICC by creating a personal document file of the applicant and submitting it to the CS.

Enrolment on doctoral programmes is carried out in accordance with the Regulations regarding Enrolment on Doctoral Studies at LLU approved by the LLU Senate, and all information on the admission process and documents is available at: <https://www.llu.lv/en/degree-programmes>. The requirements for enrolment on the programme Agrarian and Regional Economics: a master degree in economics, management or company management. If the master degree has been earned in another field, the future doctoral student must pass an entrance examination in economics. The entrance examination is an oral examination in which the applicant demonstrates his/her knowledge of three economic matters. The examination is taken by a committee of three people who hold a doctor degree in economics. If the entrance examination is passed, the applicant may submit the documents needed for enrolment on the doctoral programme.

The following mandatory requirements are set for enrolment on master programmes: **a bachelor degree or higher vocational education with the right to enrol on master studies**. The admission is held on a competitive basis, based on the average weighted mark earned at the previous level of studies. LLU graduates may apply for master studies electronically, using the LLU Information System, while graduates of other higher education institutions have to do in person.

Applicants may also commence their studies in the programmes of the field of study **at later stages** if they have previously acquired knowledge, skills and competences in formal education or in non-formal education. The commencement of studies at later stages is stipulated by: the Law on Higher Education Institutions, Cabinet Regulation No. 932 of 16 November 2004 Procedure for Commencing University Studies at Later Stages, the LLU rector ordinance On Commencing Studies at Later Stages at LLU, and the relevant information is available at: <http://www.llu.lv/lv/pariesana-no-citas-augstskolas> ; <http://www.llu.lv/lv/atjaunosanas-studijam>. (Only in Latvian). Academic recognition at later stages of studies is done in accordance with the relevant legal framework. If a student's educational documents (a higher education diploma or the diploma supplement, an academic certificate, a transcript of marks) have already been recognized upon commencing his/her studies at a later stage, the recognition is done based on source documents, which sometimes causes difficulties (as it takes some time) because the source documents have not been added to the original document package.

In the bachelor programme Economics (2013/2014-2018/2019), 123 students have started their studies at later stages. There were two reasons for it: 1) some restarted their studies after interrupting the studies (exmatriculation) – 18 full-time and 83 part-time students; 2) the others transferred from another university or another LLU programme – 22 students.

The **recognition of learning outcomes achieved through previous education or professional experience** is based on the Law on Higher Education Institutions, Cabinet regulation No. 36 of 10 January 2012 Regulations regarding the Recognition of Learning Outcomes Achieved through Previous Education or Professional Experience, the vice-rector for studies ordinance On the Assessment and Recognition of Learning Outcomes Achieved through Previous Education or Professional Experience at LLU, the Statute on the Recognition of Learning Outcomes Achieved through Previous Education or Professional Experience approved by the LLU Senate. The relevant information is available at: <http://www.mc.llu.lv/index.php/2016-03-22-07-50-03/pieredzes-atzisana>. (Only in Latvian) For example, this opportunity was used by one student, and her 16 CP were transferred.

1.6. Assessment of the methods and procedures for the evaluation of students' achievements, as well as the principles of their selection and the analysis of the compliance of the evaluation methods and procedures with the aims of the study programmes and the needs of the students.

The following complex indicators are selected as the most important common criteria, which shape the programmes contained in the field of study, the field of study and the strategy of ESAF, for assessment of students' achievements: student satisfaction level, employer references, graduate competitiveness in the labour market (application of knowledge, skills and competence in practice), accreditations – national and international –, graduation/admission ratio, financial performance, etc.

The key principles and procedure of assessment of students' knowledge are prescribed by the Regulations regarding the Academic Education National Standard (Cabinet Regulation No. 240 of 13 May 2014) as well as LLU internal regulatory documents.

The achievements of students are assessed based on the following principles:

- transparency of assessment – a set of requirements for assessment of learning outcomes according to the goals and objectives of programmes, as well as the goals and objectives of courses. The quality of students' knowledge is assessed both **qualitatively** – (tests are marked on a 10-point marking scale, some tests – with pass or fail) and **quantitatively** – with credit points (CP) (contact hours and independent work). The number of credit points to be obtained is specified in the study plan;
- compulsory assessment – it is required to earn a passing mark for the entire curriculum of the programme;
- an opportunity for reassessment of learning outcomes – LLU has adopted a procedure for reassessing the learning outcomes;
- diversity of kinds of assessment – various kinds of assessment are used to assess the learning outcomes of students.

Criteria, requirements and procedures for assessment of learning outcomes of LLU students are described in the **Statute on Studies at LLU**, which are available in Latvian at <https://www.llu.lv/lv/studiju-un-reglamentejosie-dokumenti> and in English at <https://www.llu.lv/en/study-guide-documents>.

The syllabus of a course (see Annex 19, course descriptions) is designed by the responsible teaching personnel member according to the programme's map and goal as well as learning outcomes – knowledge, skills and competences. In the syllabus of a course, the teaching personnel member defines the expected learning outcomes – **knowledge, skills and competences** – as well as the **way they are achieved** and the **ways of learning**. The syllabus of a course states: test and examination methods; assessment criteria and methods as well as criteria for awarding marks; the syllabus is available on Moodle and the lecturer, upon starting delivering the course, familiarises the students with it; student assessment is based on the principle of summing up positive performance, which allows the students to demonstrate the extent to which they have achieved the learning outcomes.

The principles of assessment of a graduate thesis are stipulated by the Regulations regarding Final Examinations passed by the Senate and the subordinated ordinances of the rector and the vice-rector for studies (<http://www.llu.lv/lv/studiju-nosleguma-parbaudijumi-un-saistibas>, (Only in Latvian). The documents, among them the ESAF Guidelines for Writing and Defending a Graduate Thesis (2018), the LLU rector ordinance (No. 4.3.-8/72 of 4 October 2017) On Violations of Academic

Integrity in Graduate Theses, contain anything needed for assessing the graduate theses quantitatively and qualitatively. The overall mark, on a 10-point marking scale, is comprised of a mark for the graduate thesis, the review(s) and the marks given by the Thesis Defence Committee during the defence of the graduate thesis.

The **assessment of students' performance during practice** is based on the LLU Traineeship Regulation approved by the Senate and the vice-rector for studies ordinance On the Preparation of Decisions on Work Placements in the LLU Information System; the assessment is done in line with the goal and objectives of students' practice and the individual objective set for the student's practice. The assessment of students' performance during practice is based on: a practice report, a reference of the work placement supervisor and the presentation of the report. The student's performance during practice is assessed on a 10-point marking scale or on a pass/fail basis. The assessment is done by a Traineeship Defence Committee, taking into account the report, the defence results and the work placement supervisor's reference.

The **assessment of doctoral dissertations** and the procedure and criteria for awarding a doctor degree is prescribed by Cabinet Regulation No. 1001 of 27 December 2005 Procedure and Criteria for Awarding a Doctor of Science Degree, the Statute of the Doctoral Council on Awarding a Doctor Degree approved by the LLU Senate (https://www.llu.lv/sites/default/files/2017-05/Promocijas_nolikums_2017%20apstiprin%C4%81ts.pdf), (Only in Latvian). In accordance with the mentioned documents, the Doctoral Council for the Sub-branch of Agrarian and Regional Economics, the members of which are appointed by an LLU rector ordinance (https://www.llu.lv/sites/default/files/2019-07/Promocijas_padomes_2019_TT_5.pdf), (Only in Latvian), is responsible for assessing doctoral dissertations and awarding doctor of science degrees. The requirements for a doctoral dissertation are set in the Guidelines for the Design and Formatting of a Doctoral Dissertation to be Submitted to the Doctoral Council (https://www.llu.lv/sites/default/files/2019-06/Zinatniska_darba_tehniska_noformejuma_noteikumi.pdf), *only in Latvian*), approved by the Council for Studies, and the Guidelines for Writing and Approbating a Doctoral Dissertation, which were developed on the basis of the former.

The above-mentioned procedure, criteria and principles for assessing the achievements of students contribute to achieving the goals of the programmes and to student-focused learning.

1.7. Description and assessment of the academic integrity principles, the mechanisms for the compliance with these principles, and the way in which the stakeholders are informed. Specify the plagiarism detection tools used by providing examples of the use of these tools and mechanisms.

Academic integrity, which involves various parties, implies performing academic work at the highest standards of professionalism and accuracy, objectivity and truthfulness, moral and ethical principles, integrity, including the prevention of plagiarism, sincere reporting and accuracy in academic research papers, communications and publicity events, which form the image of the academic environment.

The academic integrity of LLU is **aimed** at:

- practising a high academic and scientific culture,
- promoting public confidence in the quality of education and the results of scientific research,

- preventing and avoiding violations of the principles of academic integrity,
- imposing liability for unfair and unauthorized behaviour.

Students and the academic, general, scientific and administrative personnel of LLU are equally responsible for complying with the principles of academic integrity and for the consequences of violating academic integrity. LLU has developed and introduced certain procedures for the examination of plagiarism in graduate theses and actions if it is found:

- LLU rector ordinance Procedure for Submitting Electronic Copies of Graduate Theses and their Examination in the Plagiarism Control System;
- LLU rector ordinance Violations of Academic Integrity in Graduate Theses and Doctoral Dissertations.

In 2014, LLU concluded an agreement on the use of an inter-university unified computerized plagiarism control system (hereinafter – the System) and started examining all graduate theses on plagiarism in both bachelor and master programmes. In the 2017/2018 academic year, LLU decided that a compulsory examination of doctoral theses for plagiarism would be performed as well.

The plagiarism procedure stipulates that if in a graduate thesis the System finds 10% of the text to coincide with another thesis, the LLU graduate thesis has to be reviewed by a committee established by the Faculties that decides on the presence or absence of plagiarism after having first received explanations from the author and the supervisor. Since the introduction of the unified computerized plagiarism control system, the LLU has totally found 124 suspicious theses. Interviews were conducted with all the authors of the theses, 18 students were prohibited from taking the final examination and exmatriculated, of which two students were exmatriculated in the academic year 2018/2019.

Between 2014 and 2019, 704 theses have been tested in the field of study Economics. Of them, two were recognized as plagiarism – the thesis of a part-time student of the bachelor programme in the 2015/2016 academic year and the thesis of a student of the master programme in the academic year 2016/2017.

In view of the plagiarism control results, Plagiarism Assessment Committees were established in accordance with an ordinance of the dean. They included the programme director, the supervisor, the director of the institute, a representative of the Faculty administration, and the head of the Methodology Commission. Students were also invited to the meetings of the Committee, and written explanations were received on the situation. The Committees found that the theses had plagiarism in both the theoretical part and the research part. Students were expelled from LLU for failing to comply with academic integrity. In accordance with the LLU procedure, the student may re-write his/her graduate thesis not earlier than after one year, and the research has to be done on another topic.

1.8. Specify the websites (e.g. the homepage) on which the information on the study direction and the relevant study programmes is published (in all languages in which the study programmes are implemented) by indicating the persons responsible for the compliance of the information available on the website with the information published in the official registers.

Information on the fields of study and the programmes contained therein is published on the website of LLU at: **www.llu.lv**, including on current developments in the relevant programmes, as

well as basic information about each programme. Detailed information (descriptions of the programmes) is available in the section *Studijas / Studiju programmas* -> <https://www.llu.lv/lv/studiju-programmas> and in the section *Nāc studēt / Ko studēt? Palīgs studiju programmu izvēlē* -> <https://www.llu.lv/lv/studiju-programmas>.

Information in **English** on the programmes is available on the LLU website: *Studies / Degree Studies / Degree Programmes* -> <https://www.llu.lv/en/degree-programmes>.

The descriptions of all the programmes are available on the website of LLU ESAF at: <http://www.esaf.llu.lv/>: *Studijas / Studiju iespējas* -> <http://www.esaf.llu.lv/lv/studiju-iespejas>.

Information about the programmes is also available in **electronic informative materials** (booklets), incl. information on each particular programme and graduate feedback:

- booklet for bachelor programmes at: <https://www.llu.lv/sites/default/files/2019-02/LLU-pamatstudiju-buklets-2019-WEB.pdf>;
- booklet for master programmes at: https://www.llu.lv/sites/default/files/2019-03/LLU-Magistra-studijas-2019-web_0.pdf;
- information on doctoral programmes at: <https://www.llu.lv/lv/doktora-studiju-programmas> and the topics of dissertations defended and success stories at: <https://www.llu.lv/lv/zinatnu-doktoru-godinasana>.

The **organisational units responsible** for the consistency of the information available on the LLU website with the information available in the official registers are as follows:

- Centre for Studies – bachelor, master and doctoral programmes delivered in Latvian;
- International Cooperation Centre on programmes delivered in English.

Information on the LLU website is prepared in cooperation with the director of each programme.

Information on LLU programmes is also available on the portal **www.prakse.lv**: <https://www.prakse.lv/edu/profile/84/latvijas-lauksaimniecibas-universitate>; the responsible person is a project manager of the Lifelong Education Centre.

Information on LLU programmes is also available in the **Database for National Education Opportunities** at: http://niid.lv/niid_search?qy=Latvijas%20Lauksaimniec%C4%ABbas%20universit%C4%81te&level_1=7 [www.niid.lv](http://niid.lv/niid_search?qy=Latvijas%20Lauksaimniec%C4%ABbas%20universit%C4%81te&level_1=7);

Information available for **foreign students**.

The LLU website provides comprehensive and detailed information for potential and current full-time students from abroad on:

- LLU programmes delivered in English at: <http://www.llu.lv/en/degree-programmes>, and a description of each programme gives details even about the study plan, e.g. at: https://www.llu.lv/sites/default/files/2016-10/MBA_LLU%281%29.pdf;
- admission requirements at: <http://www.llu.lv/en/how-to-apply>;
- immigration procedures at: <http://www.llu.lv/index.php/en/immigration>;
- conditions for studies and living at: <http://www.llu.lv/sites/default/files/2018-11/LLU-Celvedis-EN-2018-17.10.pdf>; <http://www.llu.lv/index.php/en/before-arrival>; <http://www.llu.lv/index.php/en/about-university-0>;
- foreign student testimonials at: <http://www.llu.lv/en/student-testimonials-7>.

The LLU website provides information on academic mobility eligibility criteria and procedures in

accordance with the Erasmus+ University Charter and the programme guidelines:

- in Latvian at: <https://www.llu.lv/lv/starptautiska-mobilitate>;
- in English at: <https://www.llu.lv/en/exchange-studies>.

LLU subscribes the following e-marketing websites:

- <https://www.masterstudies.com/universities/Latvia/LLU/>;
- <https://www.educations.com/search/jelgava>.

Responsibility for the consistency of the content available on the websites or changes therein with official information lies with the programme director or the external relations coordinator of the Faculty, while the external communication coordinators of the LLU International Cooperation Centre (ICC) are responsible for placing the information on the websites.

The LLU ICC has produced and published informative booklets: the Erasmus+ Mobility Information Handbook and Degree Studies, leaflets and other materials that are used for advertising the programmes and international student exchange at marketing events.

II - Description of the Study Direction (2. Efficiency of the Internal Quality Assurance System)

2.1. Assessment of the efficiency of the internal quality assurance system within the study direction by specifying the measures undertaken to achieve the aims and outcomes of the study programmes and to ensure continuous improvement, development, and efficient performance of the study direction and the relevant study programmes.

The **internal quality assurance system** represents a continuous cyclic process aimed at persistently improving and developing the study field and the programmes contained therein. The internal quality assurance system is based on E.Deming's cycle (plan-do-check-act).

In order to ensure fact(data)-based decision making ("plan" stage), as well as to assess the effectiveness of improvement and enhancement measures or the internal quality assurance system ("check" stage), there have to be individuals responsible for collecting data, targets have to be set and there have to be individuals responsible for achieving the targets.

The indicators showing the effectiveness of an internal quality assurance system are classified into three categories:

- indicators of quality of studies;
- indicators of qualifications and work quality of teaching personnel;
- indicators of the environment for studies.

Targets or expected performance are set for admission and forecasts for LLU in the ESAF Operational Plan for implementing the LLU Development Strategy 2015-2020 and in the LLU Development Strategy 2015-2020 (<https://www.llu.lv/sites/default/files/2019-06/Startegy.pdf>).

The internal quality assurance system and its performance indicators are summarized in Table 2.6.

Table 2.6

Indicators showing the performance of the internal quality assurance system

Indicator	Data collection frequency	Data collection mechanism
Indicators of quality of studies		
Number of matriculated first-year students	Once a year before 1 October	The data collected by the LLU Centre for Studies are sent to the dean of ESAF and programme directors for preparation of annual self-assessment reports and execution of the ESAF Operational Plan as well as for analysis of the data
Applicant to place ratio	Once a year before 1 September	The data collected by the Admission Committee are sent to the dean and discussed at an ESAF Board meeting
Number of students in a programme	Once a month	The data collected by the LLU Centre for Studies are sent to the dean of ESAF and the programme director for preparation of an annual self-assessment report and execution of the ESAF Operational Plan as well as for monthly analysis of the data
Number of occupied government-funded study places	Once a month	The data collected by the LLU Centre for Studies are sent to the administration of LLU and the deans and vice-deans of the Faculties
Number of drop-out students	Once a year before 1 October	The data collected by the LLU Centre for Studies are sent to the dean of ESAF and programme directors for preparation of annual self-assessment reports and execution of the ESAF Operational Plan as well as for analysis of the data
Number of matriculated students at later stages	Once a year before 1 September	The programme director collects the data for an annual self-assessment report
Student mobility	Once a year before 1 September	The data collected by the LLU International Cooperation Centre are sent to the dean of ESAF and programme directors for preparation of annual self-assessment reports and execution of the ESAF Operational Plan as well as for analysis of the data
Change in the number of students	Once a month	The data collected by the LLU Centre for Studies are sent to the programme director for analysis and identification of further actions
Graduation to admission ratio in a programme	Once a year	The programme director collects the data for an annual self-assessment report

Number of graduates	After defence of graduate thesis	The data collected by the LLU Centre for Studies are sent to the dean of ESAF and programme directors for preparation of annual self-assessment reports and execution of the ESAF Operational Plan as well as for analysis of the data
Average mark for graduate theses	After defence of graduate thesis	The Thesis Defence Committee collects the data for a report on the Committee's work
Number of graduate theses to be used in practice	After defence of graduate thesis	The Thesis Defence Committee collects the data for a report on the Committee's work
Number of best graduate theses	After defence of graduate thesis	The Thesis Defence Committee collects the data for a report on the Committee's work
Alumni employment	Once a year/ Once every five years / continuously	The LLU Centre for Studies and the programme director conduct a survey of alumni before the alumni gathering. The organisers (responsible organisational unit) of the Alumni Week collect relevant data
Quality of studies (student average rating on a 5-point scale)	Once a year	The LLU Centre for Studies collects the data for execution of the ESAF Operational Plan
Student satisfaction with a programme, student expectations	Once a year	The programme director conducts a survey of students
Alumni assessment of a programme	Once a year	The programme director conducts a survey of alumni
Employer assessment of a programme	Once a year	The programme director conducts a survey of employers
Number of proposals and complaints submitted	Every month	The responsible person collects the data and reports at a monthly Faculty Board meeting
Indicators of qualifications and work quality of teaching personnel		
Conformity of the qualifications of teaching personnel with the requirements of the regulatory framework	Once a year	LLU Personnel Department
Teaching personnel to student ratio	Once a year	The programme director collects the data for an annual self-assessment report

Turnover of teaching personnel involved in delivering courses, cooperation among the teaching personnel to deliver the courses	Once a year	The programme director collects the data for an annual self-assessment report in cooperation with the heads of organisational units
Teaching personnel's participation in professional development courses, seminars etc.	Once a year	The heads of organisational units collect the data for an annual self-assessment report and for execution of the ESAF Operational Plan
Number of research papers produced by teaching personnel	Once a year	The heads of organisational units collect the data for execution of the ESAF Operational Plan and for an annual self-assessment report and a report Research Performance
Teaching personnel's participation in research projects	Once a year	The heads of organisational units collect the data for execution of the ESAF Operational Plan and for an annual self-assessment report and a report Research Performance
Teaching personnel's participation in mobility programmes	Once a year	The LLU International Cooperation Centre collects the data for an annual self-assessment report and for execution of the ESAF Operational Plan
Number of teaching aids produced by teaching personnel	Once a year	The heads of organisational units collect the data for an annual self-assessment report and for execution of the ESAF Operational Plan. A contest of teaching aids
Assessment of teaching personnel members	Twice a year	The LLU IS administrator, the heads of organisational units and the programme director
Cooperation between teaching personnel and students in research activities	Once a year	The programme director collects the data for an annual self-assessment report
Number of teaching personnel hospitated	Once a year	The heads of organisational units collect the data on hospitation
Number of the syllabuses of courses enhanced	Once a year	Programme directors collect the data for an annual self-assessment report in cooperation with the heads of organisational units
Teaching personnel's participation and representation of ESAF in public organisations, public activities and opinion-shaping events	Once a year	The heads of organisational units collect the data for an annual self-assessment report and for execution of the ESAF Operational Plan

Number of visiting lecturers from foreign universities	Once a year	The heads of organisational units collect the data for an annual self-assessment report and for execution of the ESAF Operational Plan
Number of visiting lecturers with whom LLU has concluded a contract for delivering a course	Once a year	The LLU Personnel Department collects the data for execution of the ESAF Operational Plan
Number of industry professionals involved in the learning process	Twice a year	The heads of organisational units collect the data for an annual self-assessment report and for execution of the ESAF Operational Plan

Indicators of the environment for studies

Numbers of books purchased and databases subscribed	Once a year	Programme directors collect the data for an annual self-assessment report in cooperation with the head of the LLU Library and the head of the ESAF Centre for Studies and Scientific Information
Material and technological resources	Once a year	Programme directors collect the data for an annual self-assessment report in cooperation with the heads of organisational units

The data collected are analysed, assessed and interpreted to:

- prepare an annual report and a self-assessment report on the field of study, which are reviewed by the ESAF Board, the LLU Council for Studies and approved by the LLU Senate;
- prepare a report on execution of the ESAF Operational Plan for implementing the LLU Development Strategy 2015-2020, which is reviewed by the ESAF Board, and afterwards the ESAF dean reports on the performance at an LLU Rector Office meeting. Based on the collected performance data on the Operational Plans of the Faculties, the LLU rector reports to the LLU Convent on the results of implementation of the LLU Development Strategy 2015-2020;
- prepare reports of thesis defence committees, which are reviewed and approved by the ESAF Board;
- use the performance results to assess, review and enhance the field of study and the programmes contained therein;
- assess the effectiveness of the internal quality assurance system for the self-assessment report (see Section 3, characteristics of the relevant programme).

The field of study involves carrying out the following **quality assurance activities**:

- preparing an annual self-assessment report for the field of study (responsible: the Methodology Commission, programme directors);
- enhancing and developing the programmes (responsible: programme directors, the Methodology Commission, the ESAF Board);
- planning and controlling the implementation of the programmes (responsible: the LLU Centre for Studies, programme directors, heads of organisational units);
- enhancing and changing a study plan (responsible: programme directors, the Methodology Commission, the ESAF Board);
- enhancing the syllabuses of courses (responsible: teaching personnel, programme directors,

the Methodology Commission, the ESAF Board);

- analysing the learning outcomes and attendance of students (responsible: programme directors);
- hospitation of teaching personnel (responsible: heads of organisational units, programme directors, teaching personnel);
- provision of material and technological resources (responsible: the dean);
- provision of methodologies and information for the learning process (responsible: LLU Library personnel, teaching personnel, the head of the ESAF Centre for Studies and Scientific Information).

At the end of every academic year, a survey of students, a survey of alumni and a survey of employers are conducted. The survey results are aggregated, discussed and used to enhance the field of study and its programmes and courses.

In accordance with the internal regulations of LLU (<https://www.llu.lv/lv/ar-studijam-saistitie-dokumenti>), the syllabuses of courses/practice are reviewed and enhanced at least once every two years as well as during preparing a self-assessment report.

Twice an academic year after graduate theses have been defended, the theses are analysed both at the institutes of ESAF that are responsible for delivering the programme, which discuss the theses defence results, and at the ESAF Board, which approves a report by the Thesis Defence Committee.

After the reports by the Thesis Defence Committees have been approved, the programme director reviews the guidelines for writing and formatting a thesis and, if necessary, amends the guidelines. Amendments to the guidelines are discussed at the institute responsible for implementing the programme, the Methodology Commission and approved by the ESAF Board.

In order to improve the quality of the learning process, guest lectures are organised both within the ESAF Alumni Week and within specific courses. During the ESAF International Week, guest lecturers from LLU partner universities also deliver guest lectures. Study tours are also organised when students visit specialists and entrepreneurs of the relevant field.

Efforts are persistently made to attract new teaching personnel to the field of study. Doctoral and master students as well as alumni as professionals in the relevant field are also involved in it.

The quality of teaching personnel engaged in delivering courses in the field of study is also regularly assessed. At the end of each semester, a survey of students on the courses taken and the quality of work of the teaching personnel delivering the courses is conducted. The survey is conducted electronically in the LLU Information System. The survey results are summarised and available to the programme director and the heads of organisational units, while each teaching personnel member can see a rating of his/her performance. The survey results give teaching personnel an opportunity to analyse and enhance their work, while programme directors are given valuable recommendations on how to enhance the quality of the programmes. In addition, the administration of LLU and the heads of its organisational units use the information acquired to implement activities aimed at contributing to the quality of studies at university level. The survey results represent one of the key criteria in the teaching personnel motivation system. The questionnaire for surveys is regularly reviewed, and representatives of the LLU student self-government are involved in it.

In the academic year 2018/2019, LLU introduced hospitation, which is carried out by the programme director, the heads of LLU organisational units or other teaching personnel (LLU Council for Studies decision On the Procedure of Hospitation of Classes at LLU). The hospitation of classes is

carried out at least once every six years, while the classes delivered by teaching personnel with 0-3-year service length are hospitated at least once a year. The classes of a teaching personnel member are hospitated no more than once or twice an academic year. In case of unsatisfactory student ratings, the hospitation of classes could be organised more frequently to ascertain whether the students' ratings are unbiased. The total results of class hospitation are examined once an academic year at meetings of LLU organisational units. The teaching personnel who had been given suggestions/recommendations for improvement of their classes in the hospitation form have to provide information about the way they have improved their classes.

The collections of the LLU Fundamental Library and the ESAF Centre for Studies and Scientific Information is persistently supplemented with the literature in Latvian and in English that has been suggested by teaching personnel. The teaching personnel themselves also write textbooks and monographs.

The administration of ESAF and other organisational units of LLU ensure the quality of material and technological resources meets the learning needs of students.

2.2. Analysis and assessment of the system and the procedures for the development and review of the study programmes by providing specific examples of the procedures for the development of new study programmes within the study direction (including the approval of study programmes), the review of the study programmes, the aims, and regularity, as well as the stakeholders and their responsibilities. Description of the mechanism for obtaining and providing a feedback, including with regard to the work with the students, graduates, and employers.

LLU has developed a programme implementation system, which consists of eleven system elements, including the procedure **Development, Approval and Licensing of a New Programme in an Accredited Field of Study**. This procedure consists of eleven successive, subordinate steps. A responsible person or institution is assigned to each procedural step at LLU. The main internal legal document governing this procedure is the Senate decision No. 10-5 of 13 March 2019 Regulations regarding the Development, Approval and Change of Programmes at LLU (available at: <https://www.llu.lv/lv/ar-studijam-saistitie-dokumenti> (Only in Latvian)). The procedure stipulates that the ESAF Board makes a decision on the development of a new programme and appoints a potential programme director who directs the development of the programme's curriculum. The curriculum of the programme is reviewed by the ESAF Methodology Commission and the ESAF Board. An independent assessment and expert evaluation of the programme have been done before the programme's documents are discussed by the Council for Studies and approved by the LLU Senate; doctoral programmes are also submitted for approval to the Doctoral Council for the relevant branch of science.

The independent expert evaluation of the programme includes a justification of the usefulness of the programme, also indicating the most significant differences of the programme from similar programmes of the same level and the programmes of the same field of study implemented by LLU. The independent expert evaluation of the programme could be done by specialists of the relevant field (industry) (but not those involved in designing the programme) or representatives of other universities/colleges. The expert evaluation is organised by the Faculty being responsible for the programme.

The Senate, making a decision on the approval of the programme, appoints the programme director

as well.

The procedure of development and approval of a new programme and the persons or institutions responsible for the implementation and supervision of it ensure that:

- the programme has been developed in line with the goal, which is subordinated to both the strategic goal of the field of study and is consistent with the LLU Development Strategy;
- expected learning outcomes have been clearly defined for the programme;
- the curriculum of the programme ensures the learning outcomes are achieved;
- the programme has been developed by involving students, employers, external experts and other stakeholders;
- the programme is in line with the four higher education objectives recommended by the Council of Europe;
- the programme has been developed in conformity with the level of higher education as defined in the national qualifications framework and, consequently, it is extended to the corresponding level of the qualifications framework of the European Higher Education Area;
- the programme has been developed to ensure that students can progress in their studies, and there are no barriers;
- the programme defines the expected workload of students;
- the programme provides an opportunity for students to have practical training.

The programmes contained in the field of study are regularly assessed and reviewed in order to ensure their proper performance and create a supportive and effective learning environment for students. Students, alumni, employers, industry experts and other stakeholders are involved in enhancing the programmes contained in the field of study.

In assessing a programme, students are involved in various ways. As regards the programmes with a large number of students, such as Economics, the programme directors conduct a survey of students at the end of the academic year in order to identify the students':

- satisfaction with the content delivered and the way their learning is organised;
- ratings of the work of teaching personnel and mutual communication;
- opinions about whether the resources available for learning meet the standards defined by the programme.

Besides, students are given an opportunity to express their objections, suggestions as well as their wishes for the necessary improvements in the programme. In accordance with Paragraph 3.18. of the LLU Senate decision No. 9-81 of 12 April 2017 Regulations regarding Programme Directors, the programme director summarizes the data of student survey questionnaires, the students' objections, suggestions and wishes and designs measures for improvement. The programme director reports on the survey results at the responsible institute as well as at a meeting of the ESAF Board when discussing an annual self-assessment report. Students are informed about the survey results at meetings with the programme director. In addition, students get feedback by attending ESAF Board meetings as student representatives.

As regards programmes with a small number of students, the students are involved in enhancing the programmes during focus group meetings with the programme director. During such meetings, the learning process and the way it is organised, the content to be learnt, the work of teaching personnel, communication between a student and teaching personnel and the availability of material and technological resources are discussed. Students are given also an opportunity to express their opinions, suggestions and wishes. During focus group meetings, students get feedback on the matters being important to them. If solving a problem requires additional activities time, students are informed about the activities after having been implemented. The programme

director summarises the results of focus group meetings and reports on the results to the institute responsible for implementing the programme as well as at a meeting of the ESAF Board when discussing an annual self-assessment report, in which students also take part.

Programme directors regularly meet with their students, ensuring information exchange and feedback during the meetings.

In assessing a programme, alumni are involved by means of surveys to identify the alumni's:

- satisfaction with the programme and its curriculum;
- ratings of the work of teaching personnel and mutual communication;
- satisfaction with the learning environment and the performance of university support services;
- future plans in the context of the programme.

In their questionnaires, alumni are provided with an opportunity to give their recommendations regarding the curriculum of the programme in order to update it so that it meets labour market needs, as well as recommendations on the way the learning process is organised. The programme director summarises the survey results and reports on the results to the institute responsible for implementing the programme as well as at a meeting of the ESAF Board when discussing an annual self-assessment report. Alumni get feedback by:

- joining the association Club of LLU Economists;
- participating in the ESAF Alumni Week;
- representing employers in the State Final Examination Committee;
- taking part in alumni gatherings (once every five years) when it is reported on what has been achieved over the past five years.

On 20 March 2013, the association Club of LLU Economists was founded for the purpose of closer cooperation between ESAF and its alumni, i.e. employers and professional associations. The objectives of the Club of LLU Economists are as follows:

- promote cooperation and experience exchange between ESAF and its alumni to raise the quality of studies;
- participate in lectures, seminars, conferences and support study tours and other similar activities;
- cooperate, as far as possible, in the development of projects and the build-up of research skills and competences in academic personnel;
- encourage potential students to study at the university by arousing their interest in the professions of economist and manager and explaining their importance in the national economy of Latvia;
- contribute to knowledge transfer and cooperation with employers through finding work placements and potential jobs for students.

The membership of the association Club of LLU Economists totals 82 alumni. During meetings, the members discuss the curricula of programmes in view of the latest findings in a particular industry as well as the enhancements needed.

The assessment of a programme (especially in the context of learning outcomes achieved) through graduate theses and their defence is done also during the work sessions of final examination committees, in which employers are also included. After a Final Examination Committee has completed its work session, a report is prepared on the work of the Committee in accordance with the vice-rector for studies ordinance No. 02.1-03 / 78 On the Procedure of Preparation of Reports on Final Examinations at LLU. Before preparing a report at the end of the session, the quality of

graduate theses, the learning outcomes demonstrated by the students during their defences and suggestions for enhancing the learning process and the programme are discussed. The marks of graduate theses also reflect the level of learning outcomes achieved in the programme.

In accordance with the above-mentioned procedure, when approving a report at an ESAF Board meeting, its content is reported by either the chair of the final examination committee or the vice-chair of the committee, that is, the programme director. The report is also delivered at the ESAF graduation ceremony, thereby providing feedback.

Paragraph 5.2 of the LLU Traineeship Regulation (available at: in Annex file "Traineeship Regulation") states that the student has to have a reference of the work placement supervisor from the hosting organisation, which is submitted to the institute within the timeframe specified. During the defence of the work placement report, the reference is also analysed for the purpose of enhancement of the programme. The content of the reference is discussed with the student during the defence of the work placement report. Along with the work placement supervisor's reference, the student has to also submit a questionnaire completed by the employer – the hosting organisation –, which aims to find out the employer's:

- opinion on the student's preparedness for the labour market;
- assessment of the student's competences.

The employer is also asked to make suggestions for enhancement of the programme. The questionnaires and references of work placement supervisors are summarised by the programme director or the teaching personnel member responsible for the organisation of training, and the results are reported at a meeting of the institute responsible for the implementation of training as well as at an ESAF Board meeting when discussing the annual self-assessment report.

The programmes contained in the field of study are assessed by also industry professionals within project No. 8.2.3.0/1/A/009 Enhancement of the Governance of Latvia University of Life Sciences and Technologies. The project intends to:

- assess the programmes;
- draw up a modernisation plan for the programmes;
- enhance the programmes;
- build up the programme directors' knowledge of and skills and competences in curriculum development and management of the quality of the learning process and learning outcomes as well as in development and introduction of innovative curriculum content and teaching approaches etc.

During the assessment of the programmes, industry professionals meet with the programme directors and discuss the curricula of the programmes and their conformity with labour market needs. Any programme director follows the learning outcomes of students in the courses contained in the programme, which is an indicator of the level of expected learning outcomes achieved. The programme director meets with the teaching personnel members delivering courses in which learning outcomes are poor to discuss the reasons of it and find solutions to this problem. The students are also heard in relation to the reasons of poor learning outcomes.

The programme's goal and expected learning outcomes are also revised along with the approval of a new planning period for the LLU Development Strategy, as the goals of the programmes contained in the field of study are subordinated to the strategic goal of the field of study, which, in its turn, is subordinated to the LLU Development Strategy. Any strategic goal, programme goals and expected learning outcomes to be enhanced are discussed when approving the annual self-assessment report.

LLU has developed the procedure Preparation of an Annual Report on the Field of Study, which prescribes activities for the preparation and review of an annual report on the field of study according to vice-rector for studies ordinance No. 2.4.-5/70 of 29 September 2015 Procedure of Preparation of a Self-assessment Report and an Annual Report on the Field of Study. In accordance with the procedure, reports on the field of study are discussed at a meeting of the ESAF Board, then reviewed at a meeting of the Council for Studies, approved at a meeting of the LLU Senate and published on the LLU website.

The programme director's obligation is also to revise the programme's curriculum and make amendments to it according to the enhancements necessary for the programme. LLU has developed the procedure Making Amendments to the Study Plan of a Programme, which regulates the study plan of any programme and the procedure of approval of amendments to it at LLU in accordance with vice-rector for studies ordinance No. 2.4-5-5 of 27 February 2015 On Plans of Programmes and the Approval of Amendments to the Plans and other internal regulatory documents. The procedure stipulates that the programme director has to inform the head of the relevant department/centre/institute and the dean of the relevant Faculty about the amendments made and the amendments have to be discussed by the Methodology Commission and approved by the Faculty Board; besides the LLU Centre for Studies has to be informed about the amendments, submitting an enhanced study plan and a justification for the amendments made. The stakeholders are informed about the amendments by making the enhanced study plan on the LLU website.

2.3. Description of the procedures and/or systems according to which the students are expected to submit complaints and proposals (except for the surveys to be conducted among the students). Specify whether and how the students have access to the information on the possibilities to submit complaints and proposals and how the outcomes of the examination of the complaints and proposals and the improvements of the study direction and the relevant study programmes are communicated by providing the respective examples.

During their studies, students have an opportunity and the right to submit suggestions and complaints about their learning process and related matters. Students may submit suggestions:

- in writing or orally at Faculty level – to the programme director, the director of the institute, the vice-dean or dean;
- in writing or orally at LLU level – to the Centre for Studies, the vice-rector for studies, the Council for Studies and the Senate that discusses and approves various internal regulatory documents.

The LLU **Regulation of Studies** (Paragraph 5), which is available on the intranet Mans LLU, prescribes the procedure of submitting and processing complaints (appeals).

The student has the right to submit a complaint about:

- the mark assigned for his/her graduate thesis;
- the way the learning process is organised and managed;
- the tuition fee;
- exmatriculation.

If a student has submitted a written complaint, after processing it, s/he will receive a written reply if the complaint has been processed without the student being present.

The highest dispute settlement body where a student can submit a complaint is the LLU Court of Arbitration, which is governed by its Statute.

Not a single complaint has been submitted in writing by a student of the field of study. All the complaints have been settled orally. For example, students complained to the programme director that, in their opinion, the course English for Economics Students was mismanaged. First, the content delivered within the course was discussed with the students – whether it matched the curriculum of the course. The students admitted that it matched the curriculum. To find out the reasons of the student dissatisfaction, further discussions revealed that the main reason was too much independent work given, which was inadequate for the workload of the course. The programme director turned to the head of the Language Centre and, together with the teaching personnel member delivering the course, discussed the situation. The teaching personnel member was ready for cooperation. A month later, the programme director met again with the students to discuss whether there had been any change in the course. The students admitted that the situation had changed, and they no longer pursued their claim.

The Faculty of Economics and Social Development has developed the **Procedure for the Consideration of Suggestions and Complaints**, which has been approved by the dean (http://www.esaf.llu.lv/sites/esaf/files/2019-10/lerosin%C4%81jumu%20un%20s%C5%ABdz%C4%ABbu%20izskat%C4%AB%C5%A1anas%20proced%C5%ABra%20ESAF_2019.pdf). (Only in Latvian)

The need for the procedure of processing suggestions and complaints is determined by the LLU Quality Management System that is based on the key principles and requirements of the international Investors in Excellence standard.

The procedure of processing suggestions and complaints pertains to the quality of:

- the learning process;
- infrastructure and material and technological resources;
- methodologies and informational materials;
- functional quality.

A suggestion or complaint **may be submitted** to ESAF by:

- a student;
- a student group;
- academic and administrative personnel;
- a group of personnel or an ESAF organisation unit.

The procedure defines the way a suggestion or complaint is processed.

2.4. Provide information on the mechanism for collecting the statistical data, as developed by the higher education institution/ college. Specify the type of the data to be collected, the collection frequency, and the way the information is used to improve the study direction.

Statistical data and performance (learning and research) data are collected at certain intervals according to the purpose of use and functional levels of the learning process and research. **Learning performance data are collected** based on both external requests for data on students, alumni and academic personnel and internal requests in line with the purpose of use defined.

At LLU level, data on all the Faculties, fields of study and programmes are collected and analysed. One a month, the following statistics are collected: (1) the number of students by programme, kind and form of studies, field of study and Faculty – the data are sent to the administration of LLU and the deans of the Faculties. The data are used to track the change in the number of students at LLU; (2) the number of occupied government-funded study places – the data are collected by programme to track this statistic. The data are used to project the number of students to be admitted to fill in vacant government-funded study places and for the rotation of students every semester (the government-funded study places are filled on a competitive basis); the data are sent to the administration of LLU and the deans of the Faculties as well as the vice-deans, if needed. Once an academic year, data are collected on: (1) the number of graduates by programme, field of study, Faculty and kind of finance – the data are used to prepare various reports (e.g. an annual report on LLU, available only in Latvian); (2) the number of admitted students by various categories. The number of students admitted is used to project and plan the admission for the next year; (3) an LLU statistical data summary, Augstskola-1 (University-1), is prepared for the Central Statistical Bureau (CSB) based on the forms supplied by the CSB. The data summarised are sent to the Ministry of Education and Science and are available to the public (<https://izm.gov.lv/lv/publikacijas-un-statistika/statistika-par-izglitiba/statistika-par-augstako-izglitibu>) (Only in Latvian). The data are also used to draw up various reports (e.g. an annual report on LLU). Once a calendar year, data are collected on: (1) the fields of study – a statistical summary is based on data for the previous year: the number of students by programme, kind and form of studies, the number of graduates and drop-out students and the reasons of drop-out and the number of foreign students. The data are given to all the programme directors, and the data are used for analysis and to prepare an annual report on the field of study (<https://www.llu.lv/lv/studiju-un-reglamentejosie-dokumenti>) (Only in Latvian) ; (2) the number of occupied government-funded study places on an annual basis – the data are used to prepare reports on compliance with the terms and conditions of an agreement among LLU, the Ministry of Agriculture and the Ministry of Education and Science; (3) performance of the programmes in accordance with the LLU Development Strategy 2015-2020 – the data are used to prepare annual reports on achieving the targets set by the strategy and to set new targets for the next year. The reports are presented and discussed at in-person meetings at each Faculty.

At Faculty level, data are collected (for collection frequency and responsible persons, see Table 2.6) and analysed against the targets set in the Education Section of the Strategy (see Table 2.7).

Table 2.7

Education/learning performance of ESAF (for 2018)

Performance indicator	2018	
	Target	Achievement
Number of students as at 1 October, incl.:	839	751
Bachelor	521	504
Master	214	199

Doctoral	49	31
Foreign students at all the levels of studies	55	17
Revenue from tuition fees (excluding foreign student tuition fees), thou. EUR, a year	521	349.53
Revenue from foreign student tuition fees, thou. EUR, a year	98	71.79
Quality of studies (student average rating on a 5-point scale)	4.25	4.31
Number of foreign visiting lecturers whom LLU has concluded a teaching contract with, a year	2	2
Number of teaching personnel who developed their competences	30	39
Number of joint programmes implemented in cooperation with foreign partners	1	1
Number of master and doctoral programmes implemented by use of modules	2	0
Number of programmes employing innovative distance learning methods	1	1
Number of programmes funded by the government in which the number of students is below the minimum set by the Ministry of Education and Science	x	x
Number of bachelor programmes in which the number of students is less than 60	1	1
Number of master programmes in which the number of students is less than 30	1	1
Number of doctoral dissertations supervised by representatives (incl. as second supervisors) of LLU institutions to be consolidated and of foreign cooperation partners, incl.:	4	1
representatives of LLU institutions to be consolidated	4	0

representatives of foreign cooperation partners (incl. foreign research institutions)	0	1
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Research performance data are collected for a specific performance purpose and broken down by level:

At Faculty level, the data are collected once a year to analyse and assess the performance against the targets. The operational plan of ESAF contains a section for research performance, and an analysis and assessment of the performance is used to examine the performance in relation to the targets set by the LLU Strategy (see Table 2.8).

Table 2.8

Research performance of ESAF

Performance indicator	2018	
	Target	Achievement
Number of full-time equivalent (FTE) researchers	10	7.45 elected researchers 27.74 acad. personnel 0.54 research assistants
Number of new doctors of science (degree earned less than 10 years ago) working at LLU, incl.:	20	22
doctors of science who earned the degree less than 5 years ago	23	9
Research project funding and basic funding for science and research, thou. EUR a year, incl.:		1 422 211
<i>Enterprise (private) funds for research, thou. EUR a year</i>	30	45 938
Number of research papers a year, incl.:	170	189
international research papers indexed by <i>Scopus</i> and <i>Web of Science</i> , a year, incl.:	65	27
doctoral student international research papers indexed by <i>Scopus</i> and <i>Web of Science</i> , a year	14	3
<i>Number of research papers published in journals indexed by Scopus and Web of Science, a year</i>	8	7
<i>Number of research papers published in journals indexed by Scopus and Web of Science, the impact factor of which is at least 50% of the average citation index for the industry, a year</i>	1	1
<i>Number of popular science articles, a year</i>	20	44

<i>Number of international conference abstracts</i>		47
<i>Number of international research papers with at least one foreign co-author</i>	7	10
<i>Number of research papers co-authored by private sector participants, a year</i>	3	13
<i>Number of EU programme Horizon 2020 project proposals prepared and submitted that acquired at least a minimum score</i>	6	1

Individual performance - the contribution of each academic personnel member to science is identified once a year, and part of the performance relates to that of ESAF as stated by the Operational Plan, while part of the performance is assessed individually for each personnel member in accordance with the LLU Council of Science decision (29 November 2017) On the Assessment of the Scientific Performance of LLU Academic Personnel, Leading Researchers and Researchers. Such an assessment analyses the numbers of research projects, research papers, patents, doctoral dissertations supervised, publicity, the number of papers peer-reviewed and organisational activities. The data are uploaded to the LLU Information System (in accordance with the LLU rector ordinance (9 November 2015) On the Classification of Research Papers, Data Collection and Uploading to the LLU Information System), and an individual scientific performance portfolio is maintained therein.

At institute level, the individual performance of each academic personnel member as well as each institute's activities in science and research are summarised once a year and submitted to the LLU Science Centre to analyse the institute's performance in science and research with regard to the LLU Strategy.

The data obtained (on learning, scientific performance, business performance and management performance) are used for annual assessments of the LLU Strategy, the Strategies of the LLU Faculties, the strategies of fields of study and programmes and for drawing up future operational strategies and plans.

2.5. Description and assessment of the integration of the standards set forth in Part 1 of the ESG. Specify which of the standards are considered a challenge and which require special attention.

The internal quality assurance system in the field of study and the programmes contained therein for all the levels of studies is developed in accordance with the European standards, quality assurance requirements and key principles in higher education as prescribed by the European Network for Quality Assurance in Higher Education (ENQA). The internal quality assurance system is based on the key principles of European quality management and the standards set in Part 1 of the guidelines of the European Foundation for Quality Management (EFQM). This approach is used to ensure continuity in the identification of problems, the analysis of their causes and effects, the development of a plan for potential solutions and the assessment and implementation of a new solution.

The programmes contained in the field of study are regularly assessed according to the internal quality assurance system (see Section 2.2.1) and in accordance with the European standards and guidelines for internal quality assurance according to nine criteria as prescribed by relevant LLU and national documents.

An essential part of the internal quality standards and guidelines **is incorporated** in the field of study. The standard Learning Resources and Support for Students has **been partly implemented**. Assigning and allocating learning resources and support to students takes into account the diversity of the student community (students with life experience, part-time, working and foreign students and students with special needs). At several student hostels and Faculties of LLU, where reconstruction was carried out, necessary facilities for the disabled are available, thereby ensuring access to education for any student. Lifts, specially equipped amenities, ramps, as well as well-equipped rooms are available in some buildings. Information on the environment in particular LLU buildings is available at: <https://www.llu.lv/lv/vides-pieejamiba-personam-ar-invaliditati>. Still, a **challenge** is the accessibility of the ESAF building for students with special needs – no ramp, lift and facilities are specially adapted for disabled persons.

Table 2.9

Standards and guidelines for quality assurance in the European Higher Education Area (EHEA). Part 1

Standards	Guidelines	Integrated	partly integrated	Challenge
1.1. Quality assurance policy	• introduction of a quality assurance system	X		
	• all the organisational units, the administration and individual personnel members and students are responsible for quality assurance	X		
	• academic integrity and freedom, no tolerance for academic fraud	X		
	• combating of all the forms of lack of tolerance for and discrimination against students or personnel	X		
	• involvement of external stakeholders in quality assurance	X		

1.2. Development and approval of programmes	• programmes are designed in accordance with the strategic goal, which is in line with the LLU Strategy, and have expected learning outcomes clearly defined	X		
	• programmes are designed by involving students and other stakeholders	X		
	• external expert evaluations are done and benchmarks are employed	X		
	• four higher education objectives recommended by the Council of Europe are taken into account	X		
	• expected workloads of students are identified by using the ECTS	X		
	• if necessary, well-planned work placement is included	X		
	• programmes are subject to the procedures of approval set by LLU	X		
1.3.1. Student- focused learning - introduction and delivery	• the diversity of the student community and their needs have to be taken into consideration and respected in designing appropriate learning pathways	X		
	• various programme delivery ways, where applicable, have to be taken into consideration and used	X		
	• where appropriate, a variety of pedagogical methods are used	X		
	• learning approaches and pedagogical methods are regularly analysed and applied	X		
	• students' desire for independence is promoted, while providing leadership and support to teaching personnel	X		
	• mutual respect in the relationship between the student and teaching personnel is promoted	X		
	• appropriate procedures exist to deal with student complaints	X		

1.3.2. Student-focused learning - assessment	<ul style="list-style-type: none"> teaching personnel are familiar with the methods of testing and examination and receive support to develop their skills in this area 	X		
	<ul style="list-style-type: none"> assessment criteria and methods, as well as the criteria for marking, have been made public in advance 	X		
	<ul style="list-style-type: none"> assessment gives students an opportunity to demonstrate the extent to which they have achieved the expected learning outcomes. If needed, students receive feedback that provides guidance on the learning process 	X		
	<ul style="list-style-type: none"> where possible, more than one examiner does the assessment 	X		
	<ul style="list-style-type: none"> assessment rules take into account the different circumstances that students have encountered 	X		
	<ul style="list-style-type: none"> assessment is consistent, fair to all students and implemented in accordance with the procedures approved 	X		
	<ul style="list-style-type: none"> there is a procedure for processing student appeals 	X		

1.4. Student matriculation, learning, recognition of qualifications and certification	• there are appropriate procedures for admission, qualification recognition and programme completion, including especially in case of student mobility both within and between higher education systems	X		
	• admission policies, matriculation procedures and criteria are implemented in a consistent and transparent manner. Introductory information about the institution and the programme is given	X		
	• there are a procedure and tools for collecting and summarizing data and monitoring the progress of student learning	X		
	• an unbiased recognition of higher education qualifications, periods of study and previous education, including non-formal and informal learning	X		
	• at the end of their studies, students receive documents specifying their qualifications, including learning outcomes, as well as the context, level, content and status of the studies they have done	X		
1.5. Teaching personnel. The environment at LLU and the Faculties	• clear, transparent and fair procedures for personnel recruitment and working conditions that demonstrate the importance of learning are established and maintained	X		
	• opportunities encouraging teaching personnel to develop their professionalism are provided	X		
	• scientific research activity is stimulated, thus strengthening the link between education and science	X		
	• innovation in teaching methods and the use of new technologies are promoted	X		

1.6. Resources for learning and support for students	• there is a range of resources for student learning: libraries, equipment, IT infrastructure and human resources – teaching personnel, learning consultants, support services and other advisers are available	X		
	• the diversity of the student community (students with life experience, part-time, working, foreign students, students with special needs) is taken into account when planning, allocating and assigning learning resources and support for students	X	X	X
	• all the resources are fit for the purpose for which they are intended, and students are aware of the services available to them	X		
	• support and administrative personnel are qualified and have opportunities to develop their competencies	X		
1.7. Information management	• key performance indicators of the university	X		
	• the profile of the student community	X		
	• student learning progress, marks earned and drop-out rates	X		
	• students' satisfaction with the programme	X		
	• available teaching aids and support for students	X		
	• career opportunities for graduates	x		
1.8. Publicity	• information on the activities of LLU is useful for current and potential students, alumni and other stakeholders and the public	X		
	• LLU provides information on its activities, incl. on the programmes delivered, selection criteria for admission, expected learning outcomes upon completing the programmes, the qualifications to be awarded, the teaching, learning and assessment procedures used, passing marks or minimum requirements for completing courses and learning opportunities available to students, as well as graduate employment	X		

1.9. Assessment and periodic updating of programmes	• the curriculum of a programme takes into account the latest research findings in the particular field, thus ensuring the programme meets labour market needs	X		
	• changing needs of the society	X		
	• student workloads, progress in student learning and graduation	X		
	• effectiveness of student performance assessment procedures	X		
	• students' expectations, needs and satisfaction with the programme	X		
	• the learning environment and support services and their conformity with the programme's goal	X		

II - Description of the Study Direction (3. Resources and Provision of the Study Direction)

3.1. Provide information on the system developed by the higher education institution/college for determining the financial resources required for the implementation of the study direction and the relevant study programmes. Provide data on the available funding for the relevant study programmes, as well as the sources of the funding for the scientific research and/or artistic creation activities and their use for the development of the study direction. Provide information on the costs per one student (for each relevant study programme of the study direction) by specifying the headings indicated in the calculation of costs and the percentage of the funding among the indicated headings.

The LLU Financial Planning Centre, which performs financial planning in accordance with the financial management regulations of the Republic of Latvia and other regulatory documents, is responsible for spending financial resources in accordance with the LLU financial management policy, strategy and tactics. Each year, the LLU Senate approves the distribution of **LLU consolidated budget revenues and expenditures** and the LLU budget, which is drawn up in accordance with the (annual) Law on the State Budget passed by the Saeima. Budgetary control and audit is carried out by an independent group of auditors whose report is also approved by the LLU Senate. Prior to the approval of the consolidated budget estimate by the LLU Senate, the financial plan and results are discussed and reviewed by the Working Group on Resource Use and Development (LLU rector's ordinance No. 4.3.3-13168), which includes all the deans, the financial chancellor, the rector, the vice-rector for studies, the head of the Resource Accounting Centre, an economist, a lawyer, the head of the Financial Planning Centre, etc.

The key line items of consolidated budget revenues and expenditures for 2019 are as follows:

- a State budget transfer for ensuring the learning process: EUR 9 451 938, including EUR

7 598 273 for remuneration, EUR 587 109 for scholarships, EUR 882 271 for cost-shared expenditures and EUR 384 285 are at the disposal of the Faculties;

- LLU tuition fee revenue: EUR 1 885 268, including EUR 1 121 161 for remuneration, EUR 377 053 for cost-shared expenditures and EUR 377 054 are at the disposal of the Faculties;
- research revenue/expenditure: EUR 4 483 825, including basic research funding of EUR 935 223, research performance funding of EUR 346 196 and EUR 3 202 406 from other research projects;
- ERASMUS revenue/expenditure: EUR 506 850;
- donations: EUR 10 000.

The LLU Senate has approved a procedure for proportional budget revenue/expenditure distribution, which stipulates that of the total State funding for the implementation of programmes, 80% could be spent on remuneration and 20% could represent other costs. Of the total tuition fee revenue, 60% is spent on remuneration and 40% represents other costs, of which 20% is at the disposal of the Faculty implementing the particular programme and the other 20% is cost-shared expenditure. Of the total basic funding for research, 50% is at the disposal of the Faculty and the other 50% is cost-shared expenditure.

The distribution of the study places funded from the government budget and the basic costs of a study place are agreed in a trilateral agreement among LLU, the Ministry of Agriculture and the Ministry of Education and Science. The trilateral agreement of 2019 was concluded on 21 December 2018. The agreement stipulates that the basic costs of one study place is EUR 1518.98 and the social security costs of a study place is EUR 164.34 (for bachelor and master studies) and EUR 2034 for doctoral studies. The cost factor for social sciences – the corresponding field of studies – is 1 for bachelor programmes, 1.5 for master programmes and 3 for doctoral programmes.

The consolidated budget of LLU and the budgets of the Faculties show total revenue broken down by source and by expenditure purpose as well as by type and code of the expenditure. The main line items of budgets of the Faculties for 2019 are as follows:

- goods and services: 17%, of which the most significant ones are electricity, sewerage, heating, waste costs – 30%, building maintenance costs – 16% and equipment maintenance costs –12%;
- room repairs and computer hardware repairs, technical maintenance, copier maintenance and servicing, security equipment maintenance, etc. total 12%;
- costs of services provided by other organisational units of LLU – transport services, Science and Technology Centre services, warehouse services, sanitary engineering services, Communication Centre services, communication services, etc. amount to 14%;
- 10% of the budget is spent on office supplies and stationery, subscriptions to the press by the Centre for Studies and Scientific Information, learning materials, textbooks, e-materials, databases and manuals.

The total revenue of the Faculty is shown in the Faculty's annual strategy report, which is presented to the Faculty Board.

At LLU, tuition fees are approved each year in June by a rector's ordinance. For the academic year 2019/2020, the rector's ordinance (No. 4.3-8/63 of 17 June 2019) specifies the following tuition fees:

Table 2.10

Annual tuition fees for the academic year 2019/2020, EUR

Level of studies and programmes	Full-time studies	Part-time studies	Full-time studies in English
BACHELOR STUDIES			
Economics, a	1320	1000	2000
MASTER STUDIES			
Economics, a	1600		
DOCTORAL STUDIES			
Agricultural and Regional Economics	2000	1600	3400

Research funding consists of funding for projects that is allocated for the implementation of specific scientific and research projects, remuneration for researchers and leading researchers within the projects, and the costs of performing specific project tasks. Basic funding for research, which is acquired owing to active research, is distributed according to the research performance of leading researchers and researchers. In accordance with LLU Council of Science decision No.17-6 of 28 November 2017 On the Assessment of the Scientific Performance of LLU Academic Personnel, Leading Researchers and Researchers, basic funding for research is allocated to: 1) remuneration for the contribution of each leading researcher and researcher, which is measured in points, and their research performance, in points; 2) co-funding for research projects implemented; 3) development of research infrastructure; 4) co-funding for research activities; 5) financial support for leading researchers and researchers – conference attendance, conference fees, participation in scientific symposia, etc. The amount of research funding for ESAF is shown in Table 2.11.

Table 2.11

Research funding for ESAF in 2014-2018, EUR

Year	Funding attracted through research projects	Basic funding for research
2014	206 384	0
2015	117 933	20 000
2016	207 111	45 840
2017	509 761	88 791
2018	1 225 963	110 077

3.2. Provide information on the infrastructure and the material and technical provision required for the implementation of the study direction and the relevant study

programmes. Specify whether the required provision is available to the higher education institution/ college, availability to the students, and the teaching staff (the specific equipment required for the relevant study programme shall be indicated in Part III, Chapter 3 below the respective study programme).

The learning process in the field of study occurs mostly in the building of the **Faculty of Economics and Social Development** at 18 Svetes Street, where there are 19 classrooms with a total floor area of **4123 m²**, and at the LLU main building at 2 Liela Street, where five auditoriums are available, as one of the organisational units of ESAF – the Institute of Social and Human Sciences – is located there. There are 21 classrooms equipped with desktop computers and projectors or TV sets, and two classrooms with projectors. There are 36 printers and 14 copiers, 23 portable computers available at ESAF. Three computer classrooms with 64 places are at the disposal of students. Computer software is available for learning project management and accounting. The material and technical resources of the ESAF classrooms are modernised and supplemented each year within the financial means available.

The delivery of the programmes contained in the field of study requires using the common material and technical resources of LLU and those of the other Faculties or facilities, which are as follows:

- *Faculty of Agriculture;*
- *Faculty of Engineering;*
- *Forest Faculty;*
- *Faculty of Environment and Civil Engineering;*
- *Faculty of Information Technologies;*
- *Faculty of Food Technology;*
- *LLU Sports Centre, where a swimming pool is also available, etc.*

Classrooms in all the Faculties are equipped with audio and video equipment (e.g. computers, projectors, screens, interactive whiteboards and chalkboards).

Students and teaching personnel have at their disposal the Technology and Knowledge Transfer Division (TEPEK), which aims to promote the protection of intellectual property of scientists and companies and the commercialization of research results at LLU.

Hostels are available to students and academic personnel. LLU offers the services of seven hostels – at 1 Liela Street, 7 J.Cakstes Boulevard, 4 Akademijas Street, 26 J.Matera Street, 1 Peter Street, 19 Liela Street and 2 K.Helmana Street.

The LLU Sports Centre is available to students and academic personnel, at 1 Raina Street, Jelgava.

LLU has a modern and large library; for the opportunities and services provided by it, see Section 2.3.3.

Access to the wireless (Wi-Fi) Internet is provided to students, academic personnel and guests in all the LLU Faculties and other LLU buildings.

3.3. Provide information on the system and procedures for the improvement and purchase of the methodological and informative provision. Description and assessment of the availability of the library and the databases to the students (including in digital environment) and their compliance with the needs of the study direction by specifying whether the opening times of the library are appropriate for the students, as well as the

number/ area of the premises, their suitability for individual studies and research work, the services provided by the library, the available literature for the implementation of the study direction, the databases available for the students in the respective field, the statistical data on their use, the procedures for the replenishment of the library stock, as well as the procedures and options for the subscription to the databases.

System of methodological and information resources

The main goal of LLU with regard to the library collection is to provide the programmes with literature and learning materials. The Fundamental Library of LLU (hereinafter – the LLU FB) is an accredited library of national significance, which provides users with information resources.

The LLU FB aims to provide library users with information resources and services necessary for the learning process and scientific research. In order to ensure student-focused and up-to-date access to library resources for students, academic and research personnel, an information and methodological support system consisting of five mutually subordinate components has been established:

1. LLU FB documents governing the functioning of the information and methodological system;
2. administration and structure of the information and methodological system;
3. procedures for acquiring information and methodological resources;
4. basic processes of the information and methodological system;
5. the way the information and methodological system is funded.

The Statute of the LLU Fundamental Library specifies the principles of functioning of the LLU FB as well as the obligations, rights and liability .

The Rules for Using the LLU FB govern the general operational principles of the library, the acquisition of library user status and the exclusion from the list of library users .

Information are available at : <https://llufb.llu.lv/en/general-information>

Information, research and communication contact points have been established in some Faculties to ensure a student-focused and more accessible learning process:

- *Faculty of Economics and Social Development: the **Centre for Studies and Science Information**;*
- Institute of Social and Human Sciences: the Methodology Office;
- Faculty of Environment and Civil Engineering: the Information Centre;
- Forest Faculty: the Information Centre;
- Institute of Education and Home Economics of the Faculty of Engineering: the Information Centre;
- Faculty of Veterinary Medicine: the Information Centre.

The resources available at the above-mentioned centres are associated with the LLU FB, as the resources could be accessed through the LLU FB website (<https://llufb.llu.lv/en/catalogues-and-databases/electronic-catalogues-information-centres-latvia-university-life-sciences>).

A **special website** has been created for **Social Science** : <http://socialsciences.llu.lv/en/about-us>, which includes all major research areas, doctoral students, dissertation topics, promotional papers, projects, publications, and collaboration partners.

The library collection is **supplemented** based mostly on recommendations of teaching personnel. The Library Request Form is available on the Library's website (<https://llufb.llu.lv/lv/pakalpojumi/gramatu-iegade-llu-fb-krajumam>). (Only in Latvian) Based on the requests of teaching personnel and other users of the library, the LLU FB purchases the requested publications. The LLU FB has developed a Collection Supplementation Policy, which states that the main priority is placed on the programmes delivered at and the research fields of LLU. In accordance with the Legal Deposit Law, the LLU FB, as a library of national significance, receives one copy from each printed and electronic publication in the LLU profile area.

Accessibility of the library online

The LLU FB provides library users with the literature or information necessary for teaching, research, scientific and consultative activities. The library collection is constantly supplemented to meet the needs of the fields of study.

Industry publications for studies and research are **available**:

- at the Lending point;
- at the Textbook Lending point;
- at the library reading room;
- at the FAO Depositary Library (United Nations);
- factual and bibliographic references on related topics could be obtained from the Bibliographic Information Division.

The sources of information that are not available in the library collection could be searched for through LLU network-subscribed databases or outside the LLU network through the LLU Information System, at the LLU Fundamental Library Reference and Information Centre, or **interlibrary loan services** could be used.

Information on the breakdown of the library's collection by science (% of the total collection) could be found at <https://llufb.llu.lv/en/general-information/collection>.

The library's opening hours are tailored to the needs of the library's main users – students and teaching personnel. On weekdays, the **library is open** to its users from 8.30 to 19.00, on Fridays – from 8.30 to 17.00. The library is also open to the public on the first Saturday of every month, from 9.00 to 14.00. The working hours of the library's reading room and Reference and Information Centre during the period of individual studies and examinations are extended to 24.00. The catalogue and online databases are accessible all the time.

In order to make the library suitable for independent and research work, the LLU FB reader service total **area** is 787.1 m². The reading room has comfortable workspaces both in the hall and on the balcony. The Internet and Wi-Fi are available. The reading room has also a lounge with comfortable sofas. There is also the quiet reading room. The Reference and Information Centre has desktop computers and provide qualified consultant services.

Accessibility elements for persons with disabilities have been built in the LLU FB:

- signs with a schematic layout of the building and the location of a lift are available on the building wall;
- the building has a lift;
- specially equipped amenities have been built for persons with reduced mobility;
- signs for finding a room;
- marked stairs;
- the building could be entered with a guide dog.

Library in the digital environment - databases and search engines

The LLU FB offers its users various online databases and databases on other data carriers. Before being offered to users, databases are analysed for search capabilities, thematic coverage, chronological coverage, and access capabilities to meet the needs of the fields of study. Information on the databases and their descriptions are placed on the LLU FB website.

The library has purchased the search engine PRIMO DISCOVERY, which enables users to simultaneously search for information in subscribed and open access online databases, in the Electronic Joint Catalogue of libraries of national significance and in the databases created by the LLU FB (research papers by LLU teaching personnel and researchers, LLU master theses, etc.). Registering with an LLU IS user account allows the users to view their user accounts and extend expiration dates for borrowed items, order publications, access full texts in subscribed online databases and save the search results. The library's website provides the PRIMO Information Search Assistant. Access to online databases is provided 24/7 on the LLU network, and there is an opportunity to connect to subscribed e-journal and e-book databases outside the LLU network by using the LLU IS user account or EZproxy and the LLU IS user account.

The LLU FB users have an opportunity to search for information in the following subscribed foreign and national online databases:

- *CAB Abstracts*,
- *CRC Press* e-books,
- *EBSCO eBook Academic Collection* database covering a wide range of multidisciplinary topics and containing more than 228515 e-books,
- *EBSCO host* databases *Academic Search Complete*, *MasterFILE Premier* and others,
- *ScienceDirect Journals*,
- *Scopus*,
- *SciVal*,
- *Web of Science*,
- *Wiley Online Journals*,
- *Lursoft*.

The intensity of use of foreign databases subscribed by the LLU FB has been summarized by analysing the databases available to students, academic and research personnel in the relevant field and their usage statistics. As of 1 January 2019, the total **number of connection sessions** was 73.6 thousand, the **number of searches** was 408.7 thousand. The most popular database for users in terms of number of sessions was EBSCO and ScienceDirect Journal, while in terms of number of searches – Britannica and EBSCO.

In cooperation with the Cultural Information System Centre, various online databases are periodically available for trial for information search purposes.

The databases created by the personnel of the LLU FB are also offered to readers (<https://llufb.llu.lv/en/catalogues-and-databases>):

- research papers by LLU teaching and research personnel;
- doctoral dissertations defended at LLU;
- conference proceedings of LLU;
- patent research papers by LLU teaching and research personnel;
- publications on LLU.

The LLU FB as a depositary library of the FAO and the national AGRIS centre takes part in developing the international AGRIS database.

Services offered by the library

The following **free-of-charge** services are available at the LLU FB:

- use of computers with access to the Internet and Wi-Fi;
- an opportunity to use Autodesk EDU Master Suite 2018 (AutoCAD, AutoCAD Structural Detailing, Autodesk Robot Structural Analysis Professional, etc.), CorelDRAW X7, SPSS Statistics v21 and VISIO 2013;
- 4/7 access to library-based, subscribed and free online databases;
- borrowing of books, periodicals and other documents;
- training in use of full-text and bibliographic databases, a computer and the Internet;
- training for LLU teaching personnel, including online, in how to search for and retrieve information, create a personal account, add research papers from the LLU teaching personnel and researcher research paper database to the LLU IS personal account, use Mendeley, create a researcher identification number ORCID and research ID etc.;
- classes for doctoral, master and bachelor students, including in English;
- instructional aids for each target audience (scientists, students, other users) that are sent them on request;
- provision of references and advice on the library and its use;
- editing of bibliographies, a delivery of examples of a bibliographical description on request via e-mail;
- tailor-made exhibitions.

The following **paid** services are offered by the LLU FB:

- copying (coloured, black and white),
- printing (coloured, black and white),
- scanning,
- provision of written thematic references,
- SBA and SSBA services (costs of postal services must be covered),
- delivery of copies of documents (at the supplier's price),
- spiral binding.

The library offers the following **e-services**:

- use of the electronic catalogue 24/7,
- electronic book reservation, expiration date extension for borrowed items 24/7,
- use of the unified search engine PRIMO DISCOVERY,
- 24/7 access to library-based, subscribed and free online databases (both full-text and bibliographic),
- an opportunity to connect to subscribed e-journal and e-book databases outside the LLU network by using EZproxy and the LLU IS user account 24/7,
- use of Mendeley – a scientific information search application,
- an opportunity to use other online information resources from the library website,
- access to the electronic catalogues of the LLU Information Centres and Information Offices (BIS ALEPH500),
- an opportunity to use instructional materials on information resources, available on the library website, that have been prepared either by the LLU FB or by database maintainers,
- an electronic delivery of documents,
- “Write to the Librarian” on Skype,
- a Book Request Form on the library's website.

The Centre for Studies and Science Information (hereinafter – the Centre) has been operating at the Faculty of Economics and Social Development since 1973. Originally known as the Economic Information Office, the purpose of its establishment pertained to the availability of subject-specific literature to the students of ESAF, so that the bibliographical collection would be closer to the place where students study. The Centre has grown into a Centre for Studies and Science Information whose primary role is to provide students and academic personnel with an environment where diverse and up-to-date student-focused approaches could be applied: there is an opportunity to find subject-specific literature: books, newspapers and magazines, digitally work with all the available databases and search engines and receive services: printing, scanning and copying.

The Centre is a place for studies, research and communication for national and foreign students, academic personnel and researchers. Students have four desktop computer workstations with Internet access for their competence development. The Centre's interior design is modern and creates a sense of an informal atmosphere; in a student-focused atmosphere, visitors have an opportunity to find an informative, scientific and creative solution to the problem by communicating, taking over other students' experience, creating a broader worldview, learning and exploring.

The collections of books and periodicals of the Centre are available to students and academic personnel of the other Faculties by directly visiting the library and using the unified LLU FB electronic catalogue for remote selection (<https://llufb.llu.lv/en/catalogues-and-databases/electronic-catalogues-information-centres-latvia-university-life-sciences>).

The working hours of the Centre of ESAF are suitable for full-time and part-time students – on weekdays from 8.15 to 17.00, on Saturdays from 8.15 to 15.00.

To make the Centre suitable for independent and research work, its total reader service **area** is 84.7 m². The reading room has comfortable workstations both in the communication and service room and in the separate quiet room with four desktop computer workstations. The Internet is available as well. There is a qualified consultant available at the Centre.

The communication and service room has a lounge with comfortable sofas and rocking chairs, where periodically discussions between academic personnel and guest scientists take place.

Financing of information and methodological resources and the number of publications available

The funds of the **LLU FB** are an independent part of the LLU budget. The property of the LLU FB is the property of LLU and the LLU FB is directly subordinated to the vice rector for studies. The funds invested in the development of the LLU FB increased every year and reached **EUR 103 892** in 2018: purchases of books totalled – EUR 30 092, subscriptions to databases – EUR 64 179, periodicals – EUR 9621 and ALEPH – EUR 7664. As at 31 December 2018, the total collection of the LLU FB reached 406 593 copies and **123 949 titles**.

The LLU FB collection contains **5 325 various publications**: scientific monographs, books, proceedings of scientific research papers, results of scientific research, etc. for the needs of implementation of the programmes contained in the field of study. In the reporting period (2013-2019), the number of titles of publications has increased by 375, of which 209 or 55.7% are in foreign languages.

For the **Centre for Studies and Science Information**, books and other sources are purchased from the budget of the Faculty of Economic and Social Development. The Centre (2013 - 2018) has purchased **books** worth EUR 4976.22: EUR 605.85 worth books in Latvian, while EUR 4370.37 or

88% of the total – in foreign languages.

The Centre has a wide range of **Dienas Bizness (Daily Business) manuals** covering all the areas of the field of study. The subscription of Dienas Bizness manuals for the period of 2013 - 2016 amounted to EUR 3.9 thousand. At present, the Dienas Bizness manuals are updated in their digital editions. Dienas Bizness manuals are available only at the Centre of the Faculty of Economics and Social Development, and the volumes purchased are also used by students and academic personnel from the other Faculties.

The Centre offers a wide range of periodicals that provide information necessary for the field of study. In the period 2013-2018, EUR 5.7 thousand were spent on periodicals. These periodicals are only available at the Centre of the Faculty of Economics and Social Development.

According to the inventory data as at 1 October 2018, the Centre has purchased 632 books from the budget of ESAF, while the total number of books was **2116**, 70% of which was made up of gifts and donations. In the repository, books are organised by 59 topics.

In Latvia, **subscriptions to databases for libraries** are made by the Culture Information Systems Centre (KISC), an institution subordinate to the Ministry of Culture. KISC project specialists and lawyers perform database trials and conclude contracts with database suppliers. LLU concludes a contract for access to databases with the KISC, taking into account the profile and financial capacity of LLU as well as the results of database trials.

3.4. Provide information on the procedures for attracting and/or employing the teaching staff (including the call for vacancies, employment, election procedure, etc.), and the assessment of their transparency.

At LLU, the attraction and employment of teaching personnel (incl. job vacancy announcement, recruitment, election etc.) is governed by the Statute of Latvia University of Life Sciences and Technologies on Academic Job Positions approved by the LLU Senate (https://www.llu.lv/sites/default/files/2016-05/8-36_Nolikums_par_akademiskajiem_amatiem.pdf). (Only in Latvian)

The number of positions of professors, associate professors and assistant professors in the relevant branches and sub-branches of science is determined by financial possibilities and the need for research activities and programmes as well as according to the personnel development plans of the Faculties. The number and positions of academic personnel are approved by the Boards of the Faculties, the Council for Studies, the Science of Council and the LLU Senate. Open academic positions are filled on an open competitive basis.

The general requirements, rights and obligations of applicants for academic positions are stipulated by the Law on Higher Education Institutions, Part IV, which defines the tasks to be performed by each group of academic personnel and the procedure for assessment of scientific and pedagogical qualifications.

All applicants for academic positions have to meet the following requirements:

- knowledge of the official language in accordance with the requirements of the regulatory framework;
- knowledge of foreign languages to the extent required for fulfilling duties of the academic position (including conducting classes in these languages);

- continuous improvement of their academic and scientific qualifications.

The **selection of academic personnel** is governed by the Statute of Latvia University of Life Sciences and Technologies on Academic Job Positions. Based on the information received from the organisational units of LLU on vacant academic positions, the LLU Personnel Department prepares a draft advertisement and submits it to the LLU Commission for Academic Personnel and Structural Policy for review (hereinafter – the Commission). Following the decision of the Commission, the Personnel Department prepares a draft proposal for vacant academic positions and submits it for consideration to the LLU Council for Studies or the LLU Council of Science, which forwards it to the LLU Senate for approval. Following the decision of the LLU Senate, the Personnel Department announces an open competition for vacant academic positions by publishing an advertisement in the newspaper Latvijas Vēstnesis (Latvian Herald) and on the LLU website.

According to the electoral procedure, the election of a candidate to the academic position is done by secret ballot: professors and associate professors are elected by the Board of Professors of the relevant branch of science not later than four months from the date of invitation to the competition; assistant professors, leading researchers, researchers, lecturers, assistants and research assistants are elected by the Boards of the Faculties not later than three months from the date of announcement of the competition; leading researchers, researchers and research assistants are elected by the Council of Science of the relevant research institute not later than two months from the date of announcement of the competition.

The Rector concludes an employment contract with the person elected for the term of office.

If LLU has a vacant academic position, the LLU Senate, based on the proposal of the Board of the Faculty, may decide not to announce the competition. In this case, the Rector may enter into a contract with a visiting professor, a visiting associate professor, a visiting assistant professor, a visiting lecturer or a visiting assistant for a fixed period of up to two years.

In accordance with the rector's ordinance On the Procedure of Recruitment of Foreign Visiting Lecturers, the LLU has developed a procedure for recruitment of foreign visiting lecturers. The procedure stipulates that a visiting lecturer may be invited by the responsible Faculty, or a foreign visiting lecturer has expressed a wish to carry out pedagogical /scientific activity at LLU.

The responsible Faculty assigns a course or research and pedagogical tasks to the foreign visiting lecturer that correspond to his/her competences. A legal employment relationship is established with the foreign visiting lecturer.

Academic personnel is hired on a full-time or part-time basis, depending on the **individual academic workload**, which is planned for each academic year in accordance with the LLU Statute on Academic Workloads and the rector's ordinance On the Planning, Accounting for and Control of Individual Workloads of Academic Personnel, which defines the components of workload of academic personnel, workload rates and the procedures of accounting for and control of the workload.

Salaries for academic personnel are determined in accordance with the Cabinet regulation Regulations regarding Remuneration for Pedagogues (<https://likumi.lv/ta/id/283667-pedagogu-darba-samaksas-noteikumi>) (Only in Latvian) and the rector's ordinance On Remuneration for Pedagogues.

Academic personnel professional development involves participation in appropriate professional development programmes, exchange of experience and participation in conferences and seminars, as evidenced by the documents issued upon the completion. Every six years, academic personnel are entitled to six-month paid academic leave for research or for research

activities outside their workplace. The procedure for professional development to be performed is stipulated by the Cabinet regulation On the Education Required for Teachers and the Procedure for Development of Professional Qualifications of Teachers (<http://likumi.lv/ta/id/269965>) (Only in Latvian). The regulation stipulates that the teaching personnel of a university have to acquire the necessary pedagogical qualification through continuing education in professional development programmes on innovations in the higher education system, university didactics or educational work management, 160 academic hours in length (including at least 60 contact hours), prior to the end of the term of office.

LLU implements the professional development programme for higher education pedagogues Innovations in University Didactics. The aim of the programme is to build up higher education pedagogues' knowledge of university didactics and possibilities of its application in pedagogical activity. Upon completion of this programme, a certificate is awarded.

3.5. Specify whether there are common procedures for ensuring the qualification of the academic staff members and the work quality in place and provide the respective assessment thereof. Specify the options for all teaching staff members to improve their qualification (including the information on the involvement of the teaching staff in different activities, the incentives for their involvement, etc.). Provide the respective examples and specify the way the added value of the possibilities used for the implementation of the study process and the improvement of the study quality is evaluated.

Requirements for academic positions are prescribed by the Law on Higher Education Institutions of the Republic of Latvia (<https://likumi.lv/ta/en/en/id/37967>). Qualifications of teaching personnel are stipulated by the Statute of Latvia University of Life Sciences and Technologies on Academic Positions

(https://www.llu.lv/sites/default/files/2016-05/8-36_Nolikums_par_akademiskajiem_amatiem.pdf).

(Only in Latvian) The statute prescribes the qualifications to be possessed by elected academic personnel for each kind of positions. The teaching personnel who are not elected at the relevant organisational unit need to meet the same requirements and have the same qualifications as those of the same academic level. The mentioned requirements are in accordance with the current regulatory framework of the Republic of Latvia that clearly specifies criteria for teaching personnel taking a particular academic position.

LLU has identified and described processes that contribute to the qualifications and work quality of teaching personnel. One of them is the process of **election and re-election of academic personnel**. It allows assessing the work quality of teaching personnel in the previous period and determining their eligibility for the positions for which they are applying (lecturer, assistant professor, associate professor or professor), and their compliance with the work quality criteria set by the regulatory frameworks of the Republic of Latvia and LLU. Professors and associate professors have to meet the unified national requirements for assessment of their scientific and pedagogical qualifications in accordance with Cabinet Regulation No. 391 of 4 September 2001. The procedure of assessment of scientific and pedagogical qualifications of a professor and an associate professor is intended to assess his/her scientific qualification achievements according to 8 criteria, pedagogical qualifications – 9 criteria, while organisational competence – 6 criteria.

To contribute to continuous professional development in higher education didactics, LLU delivers the **professional development programme for higher education pedagogues** Innovations in University Didactics (160 h) that has to be taken by the academic personnel of LLU every six years. In the period 2014 - 2019, 33 teaching personnel have completed this programme (see the table).

Since 2017, LLU has introduced a **motivation system for teaching personnel** (LLU rector ordinance No.43-8/10), thereby achieving the objective set by the LLU Development Strategy 2015-2020 – to update the motivation system for teaching personnel. The motivation system assesses the teaching personnel according to 14 criteria, which are divided into 5 categories: student assessment; preparation of teaching aids; learning process; organisational work; and professional development. Professional development involves taking various professional development courses, learning an additional foreign language, mastering theoretical and practical skills in alignment with the professional interests of the teaching personnel. Statistical data on professional development courses taken by the academic personnel engaged in the delivery of the field of study are summarized in a table below. The table gives the data on the courses, upon completion of which the teaching personnel had acquired certificates or other documents providing evidence of their professional development.

Professional development courses taken by the academic personnel engaged in the delivery of the field of study in the period 2014-2019

Year	Professional development courses		Average number of courses taken by an academic personnel member a year
	total	incl. a 160 h pedagogical course under the professional development programme	
2014	39	6	1.0
2015	71	7	1.9
2016	48	3	1.3
2017	146	5	3.9
2018	142	7	3.8
2019	152	5	4.1
total	598	33	2.7

During the period analysed, every teaching personnel member built up his/her knowledge in, on average, 2 to 3 professional development courses per year. The number of courses taken significantly increased from 2017 onwards. In 2017, professional development performed by LLU academic personnel was begun to be registered in the LLU IS system; the personnel have to register the courses taken and attach the documents certifying the completion of the courses.

The established motivation system allows earning an extra bonus for high-quality work. The quality assessment points obtained by a teaching personnel member are summed up, and each criterion is assigned a weight. The LLU Financial Planning Centre calculates the size of a bonus for each teaching personnel member based on the total score earned. This system allows the quality of

teaching personnel to be assessed and the personnel to be rewarded according to uniform and comparable criteria. Teaching personnel are very positive about this system, which motivates them to raise the quality of their work. Another very important assessment of teaching personnel' work quality is **student surveys**. At the end of each semester, each teaching personnel member's work is assessed by students. Students make this assessment anonymously, electronically in the LLU IS. Students assess the work of their teaching personnel by answering six questions and giving ratings on a 5-point scale, with 5 points being very high and one point – very low. The ratings given by students are electronically available to each teaching personnel member who delivers a course, as well as to the director of the relevant programme and the director of the institute involved in the delivery of the programme. The programme director and the director of the institute take the ratings into account as far as possible when planning the work of teaching personnel for the next year. Based on the ratings, any teaching personnel member is encouraged to improve the performance and eliminate shortcomings in his/her work.

Since February 2019, in accordance with Council for Studies decision No. 2.4-14/2, LLU has introduced a unified **class hospitation procedure**, which is intended for the control of delivery of classes and exchange of experience. Hospitation is carried out by the programme director, the director of the institute or other LLU teaching personnel members. The teaching personnel who had been given suggestions or recommendations for improvement of their classes after the hospitation have to provide information about the improvement activities done (or planned). The hospitation practice introduced allows assessing and improving the work quality of academic personnel, making suggestions for the improvement and controlling the progress.

The opportunities offered by LLU to raise the qualifications of its teaching personnel are provided through several measures: 1) **ERASMUS + mobility programme**, which allows for the exchange of experience; 2) **participation in international scientific conferences and seminars** is funded within financial possibilities; 3) the annual **LLU Academic Conference** aiming to encourage teaching personnel to systematically develop their didactic competence and share their success with their colleagues has been held (since 1981).

The LLU Language Centre offers an **English language course** (32 h) to university teaching personnel. This opportunity has been used by 26 teaching personnel in the period 2014 – 2017. Since 2010, LLU has been providing a professional development course Moodle e-Course Creation Management System.

Since 1998, LLU has been holding an annual contest of textbooks and teaching materials to promote the publication of new, original textbooks and teaching materials needed for the implementation of LLU courses. Textbooks and teaching materials for the contest are submitted by LLU teaching personnel to the Assessment Committee approved by the rector's ordinance.

In the reporting period (2013-2018), 88 works were submitted to the contest.

Teaching personnel have an opportunity to participate in international **scholarship contests and EU-funded projects** aimed at raising the qualifications of teaching personnel through acquiring new knowledge and skills. For example, one doctoral student received a Fulbright Fellowship from the US Embassy in 2015 and, at the Agricultural and Environmental Research Centre of Oregon State University, mastered the Mathematical Methodology for Assessment of State Support Policy and Support Instruments, which was adapted to bioeconomic research. LLU implements the following ESF projects: No. 8.2.2.0/18/A/014 Development of LLU Academic Personnel, with the aim of raising the quality of the learning process through enhancing the competencies of the personnel and collaboration with industry and engaging doctoral students as well as foreign academic personnel; No. 8.2.3.0/18/A/009 Enhancement of the Governance of Latvia University of Life Sciences and Technologies, which intends to enhance the quality of the curricula of LLU

programmes and, by making effective use of the resources available, to ensure better governance of the university and build up the competencies and skills of its administrative management personnel. The personnel engaged in the field of study are involved in implementing these projects. For example, in the academic year 2019/2020, within project No. 8.2.2.0/18/A/014, professional English was studied by nine teaching personnel members, five members were provided with internships at Green-Tech Latvia, which is an interdisciplinary business cooperation organisation bringing together businesses, education and research institutions as well as other organisations operating, in whole or in part, in the green and smart technology sectors. The project involves new doctoral students and foreign professors.

The teaching personnel engaged in the programmes of the field of study actively use and appreciate the opportunities offered by the university and the Faculty to build up their qualifications. The opportunities used result in updating syllabuses of the courses taught and enhancing the delivery of the courses technically, as the teaching personnel incorporate new techniques in their courses and apply them in their work. They learn the latest scientific findings, which are used to build up their professional skills and competences, and the overall quality of the programmes increases. Most of the teaching personnel participate in the decision-making body of ESAF – the Board – and in the Methodological Committees of the Faculties, thereby applying their experience in achieving the overall strategy of ESAF and organising the work process. Skills development provides an opportunity for teaching personnel to progress in their academic and research careers, be engaged in higher-level programmes and receive higher remuneration for higher-quality work.

3.6. Provide information on the number of the teaching staff members involved in the implementation of the relevant study programmes of the study direction, as well as the analysis and assessment of the academic and research workload. Provide the assessment of the incoming and outgoing mobility of the teaching staff over the reporting period, the mobility dynamics, and the issues which the higher education institution/ college must tackle with regard to the mobility of the teaching staff.

In delivering the field of study Economics in the academic year 2019/2020, 92 teaching personnel were engaged; their total number varied in the range of 83-97 over the last six years. According to the calculations of workloads of LLU academic personnel for the academic year 2019/2020, the field of study Economics requires 34.49 FTE academic positions, with 26.2 FTEs for the bachelor programme. Both elected and nonelected academic personnel are engaged in delivering the field of study Economics. Of the total academic personnel, elected academic personnel represented 66% for the bachelor programme, 81% for the master programme and 76% for the doctoral programme. To deliver the programmes contained in the field of study Economics, the annual total number of academic hours worked by academic personnel equals 32387 hours, of which the largest number or 14377 hours are worked by lecturers, 7292 hours – by assistant professors, 4576 hours – by professors and 6140 hours – by associate professors. The academic workloads of the teaching personnel engaged in the field of study Economics broken down by academic position are shown in Figure 3.1. The proportional distribution of academic positions is in line with the LLU policy on personnel.

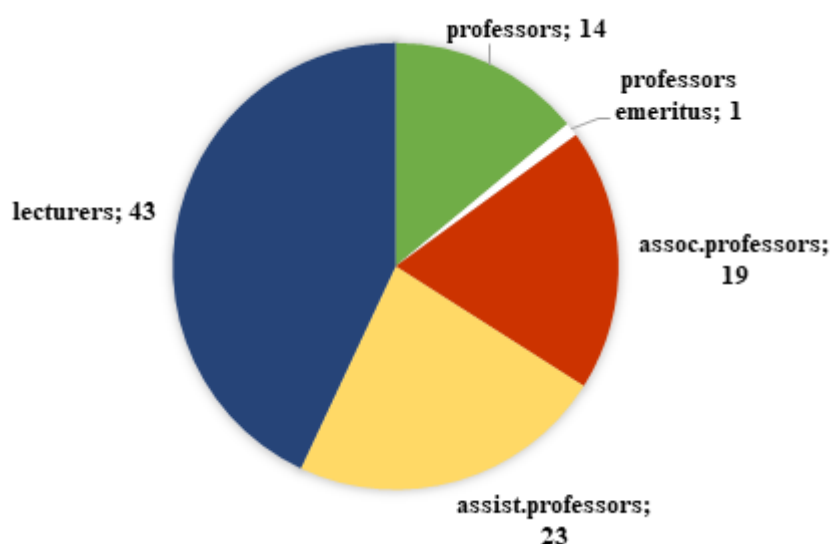


Fig.3.1. Academic workloads of the teaching personnel engaged in the field of study Economics broken down by academic position in the academic year 2019/2020, %

In addition to academic work, the teaching personnel engaged in the field of study are also employed in research. Since the research workload of personnel is not constant and changes during the year, it is not possible to calculate it for the academic year 2019/2020, while in the academic year 2018/2019 the research workload of all the teaching personnel engaged in the field of study was 57.68 full time equivalents.

The mobility of the teaching personnel engaged in the field of study was quite high, especially in relation to ERASMUS + opportunities. Over the last five years, on average 12 teaching personnel delivered their lectures at higher education institutions of other countries a year, while 3-4 personnel made experience-sharing tours. Besides, in the last two years, the mobility of personnel increased, compared with the average. The countries where teaching personnel delivered their lectures at other universities varied; in the academic year 2018/2019 there were a total of 9 countries, while experience was shared at the higher education institutions of Lithuania, German and Cyprus. The incoming mobility of the teaching personnel engaged in the field of study has particularly increased owing to the International Week held by ESAF. During this week, lecturers from other universities of similar profile are invited to deliver lectures and conduct classes.

The incoming and outgoing mobility of personnel has made a positive impact on mutual contacts, interuniversity cooperation, and no difficulties have been identified in respect to the teaching personnel mobility. As a result of the mobility, the teaching personnel have gained new insights and learnt new teaching techniques, which are used in their lectures, found new cooperation partners for research projects and successfully carried out the projects, as well as wrote joint scientific research papers. For example, Erasmus + mobility resulted in a joint project proposal with German and Romanian partners, and from 2016 to 2018, an Erasmus + (KA2) project Education in Rural Entrepreneurship through Producing and Valorising of Medicinal and Aromatic Plants was implemented; its purpose was to contribute to training and the development of small/family farms in rural areas. Research papers co-authored by colleagues from other countries, e.g. the West Pomeranian University of Technology in Szczecin, the Warsaw University of Life Sciences and Transylvania University in Brasov, were produced as well. The mobility of LLU teaching personnel allows popularising LLU and ESAF, which, in its turn, make foreign students interested in taking advantage of the opportunities provided by the ERASMUS + programme with regard to LLU.

3.7. Assessment of the support available for the students, including the support provided during the study process, as well as career and psychological support by specifying the support to be provided to specific student groups (for instance, students from abroad, part-time students, distance-learning students, students with special needs, etc.).

Financial support

Financial support in the form of scholarships is available to students during their studies (<https://www.llu.lv/scholarships>). On a complete basis, students may apply for:

1. State scholarship – monthly bachelor's and master's scholarship is EUR 99.60, for doctoral studies – EUR 113.83;
2. One-time scholarship – during the semester, students may apply for one-time scholarship in the amount of two minimum scholarships;
3. Scholarship for acquiring a scientific degree – EUR 85.37 – equivalent to one credit point.

In addition, the LLU Development Fund offers students a total of 18 scholarship programmes ranging from EUR 40 to 1500. The scholarships are both monthly and one-time. Students of the programmes of the field of study may participate in the following scholarship contests:

- bachelor students – eight scholarship programmes: the Kārlis Ulmanis Scholarship, the LLU Senate Scholarship, the Janis Čakste Scholarship, the Jānis and Millija Kāvuši Scholarship, the Mirdza Oškalne Scholarship, the LLU Student Self-government Scholarship, the Jānis Vanags Scholarship and the Pēteris Birkerts Scholarship);
- master students – six scholarship programmes: the Kārlis Ulmanis Scholarship, the LLU Senate Scholarship, the Janis Čakste Scholarship, the Jānis and Millija Kāvuši Scholarship, the Mirdza Oškalne Scholarship and the Latvian Agricultural Cooperatives Association Scholarship).

Tuition fee relief for students

In accordance with LLU rector ordinance No. 4.3.-8./12 of 21 February 2018 Procedure of Granting Tuition Fee Relief to Students, (50-100%) relief may be granted to the following categories of **non-failing students**:

1. working employees of LLU who are enrolled on a doctoral programme;
2. LLU employees' children aged under 24 years of age;
3. persons with Group I or Group II disability who study full-time or part-time in bachelor or master programmes;
4. orphans or persons without parental care;
5. students being sportspersons (team members or candidates of the Republic of Latvia; if the team has a cooperation agreement with LLU and the team name includes the abbreviation LLU).

Support for foreign students

LLU provides support to students from abroad in relation to the following issues:

1. Foreign students apply for studies via the e-admission system Dream Apply, which provides partially formalized admission procedures, thereby significantly facilitating communication with LLU; coordinators of the International Cooperation Centre (SSC) individually answer specific questions of the applicants.
2. Any foreign student is provided with a room in a well-equipped student hostel.

3. To introduce foreign students to LLU and the learning and living environments and the Latvian cultural environment, a Welcome Week is organised in the first week of each semester, during which student consolidation events are held.
4. The LLU SSC provides technical support regarding acquiring/extending visas, residence permits as well as insurance.
5. The LLU SSC and foreign relations coordinators of the Faculties, as well as programme directors inform students from abroad about the internal rules of LLU and the relevant practices, give advice on learning and everyday life issues, help with paperwork and help to solve various problems.
6. There is an Erasmus Student Network group at LLU, as well as the LLU Student Self-government, which organises leisure and cultural activities for students.
7. LLU foreign relations coordinators inform foreign students about available health care by family physicians and at the Jelgava Polyclinic and, if necessary, perform the functions of an attendant.
8. Every semester, starting with the academic year 2019/2020, a survey of foreign students on the courses delivered is conducted, which reveals their satisfaction with the quality of the courses.

The **LLU Lifelong Education Centre** has active volunteer students who unite to develop their organisational and managerial skills, teamwork skills, critical and creative thinking, change management skills and teamwork skills. The League of Excellent Students has been established to represent ESAF and LLU at various events, exhibitions, promotional events etc. – from 2014 to 2019, 16 students represented ESAF. The LLU Lifelong Education Centre has created a system for taking courses as listeners, which is open to anyone interested. In the reporting period (2013-2018), 67 interested individuals used the status of listener. Students are offered various non-formal education courses. In May 2012, LLU introduced a *system for recognition of competences acquired outside formal education or through professional experience and learning outcomes achieved in previous education*, which was used by one student from ESAF in 2015; the student's 16 CP were transferred.

The **LLU Student Self-government** (LLU SP) is an organisation representing LLU students, which deals with important issues in the students' academic, social, cultural and sports life, represents and defends the students' opinions and rights. The LLU Student Self-government provides significant support for student involvement, adaptation and learning through:

1. Holding an introductory event On the Start Line at LLU for first-year students (freshers) as well as a seminar LLU & CHILL for them, during which the new students get familiarised with the learning environment, the Faculties, each other and later-year students.
2. Holding a seminar Breakthrough, which is open to any LLU student to gain experience in their own growth.
3. Representing LLU students' opinions in the Student Union of Latvia and the Senate, the Council, the Council for Studies and the Maintenance Board of LLU.
4. Holding social events with other HEIs that give students a greater opportunity to get familiarised with future professionals in similar fields.
5. Providing students with an opportunity to relax after their studies by organising educational and reunion events, sporting events as well as informal atmosphere events, e.g. Smart Owls, LLU SP Street Sports Games, FSP Sports Games, Meet & Greet and Loco Fiestos.
6. Participating in events organised by other HEIs, as well as organising events with other HEIs, e.g. KUBS, KRS?
7. Organising an LLU Annual Award contest together with student self-governments of the other Faculties, thereby contributing to communication among the Faculties of LLU.

8. Cooperating with companies in Jelgava City, organising joint events, giving students an opportunity to participate in informal events, e.g. On the Start Line at LLU, Halloween and Unity Trip.

The **LLU Information Technology and Scientific Equipment Centre** provides all students with IT and technical support by providing the following IT support services:

- creating an LLU IS user account to provide the student with access to his/her personal and learning assessment data;
- creating a unified e-mail account;
- providing access to the Wi-Fi network;
- providing users with instructions (<https://www.llu.lv/index.php/lv/llu-informativa-sistema>). (Only in Latvian)

All LLU students are provided with technical and methodological support for e-studies by a methodologist of the Centre for Studies (<https://estudijas.llu.lv/course/view.php?id=570>).

The programme directors, directors of the institutes and chief specialists of ESAF and the personnel of the ESAF Dean Office provide significant support in the learning process.

II - Description of the Study Direction (4. Scientific Research and Artistic Creation)

4.1. Description and assessment of the directions of scientific research and/or artistic creation in the study direction, their compliance with the aims of the higher education institution/ college and the study direction, and the development level of scientific research and artistic creation (provide a separate description of the role of the doctoral study programmes, if applicable).

In the field of study, research is done in the following branches of social science (Group 5): economics and entrepreneurship (5.2), social and economic geography (5.7). **The research priorities for the field of study** are as follows: economics of sustainable development of bioresource industries; exploration of the potential for sustainable development of territories; efficiency of production processes and competitiveness of enterprises. <https://www.llu.lv/en/research-fields>; <http://socialsciences.llu.lv/en> The mentioned priorities were selected based on scientific competence and expertise in the field of study and meet the needs of the prospective economic industries as defined in the Smart Specialization Strategy of Latvia, in which the innovation capacity of Latvia has to be built up. Research activity is focused on two directions – fundamental and applied research. Strategic and long-term research goals for the field of study are defined in the Research Programme of Latvia University of Life Sciences and Technologies 2015-2020 (hereinafter – the Research Programme), which stipulates the need to ensure excellence in research, which enhances technology and innovation, and is incorporated into the learning process (www.llu.lv/sites/default/files/2016-09/Latvian%20University%20of%20Agriculture%20research%20programme%202015-2020.doc) The LLU Research Programme defines specific, measurable targets to be achieved, such as the number of research papers published in SCOPUS and WoS-indexed publications, the number of research papers published in journals, participation in Horizon 2020 projects, the number of research papers co-authored by representatives of private sector

companies and (private) funding for research. To achieve the targets, several action plans have been developed at LLU level: 1) a targeted cooperation enhancement plan; 2) a plan for participation in the EU Framework Programmes for Research and Innovation Horizon 2020 and other research and innovation support programmes and technology initiatives; 3) a plan for increasing the number of international research papers; 4) a plan for knowledge and technology development; 5) a plan for developing human resources for research, which contributes to the overall LLU, incl. research, activity in the field of study and the creation and dissemination of a new knowledge and the transfer of it to the national economy. Progress in science and research activities and the achievement of the targets are assessed according to the following objectives of the action plans:

1) attracting new scientists, while also contributing to an increase in the number of doctoral students:

- 1.1.2. activity Postdoctoral Research Support – the project Assessment of the Bioeconomic Efficiency of Use of Legumes for Feed is being implemented;
- LLU internal support tools for new scientists: a grant competition Strengthening Scientific Research Capacity at Latvia University of Life Sciences and Technologies – in the first round, a doctoral student working on the topic: Smart Territorial Development in Latvia: the Concept and Nature was supported;

2) developing and renewing research personnel (researchers) in the areas where the proportion of researchers aged 60 and over exceeds 25% (in our field of study, the number of researchers and leading researchers is 39, of which 22% are aged over 60);

3) identifying and informing researchers about the opportunities offered by international networks for researcher training:

- informative seminars are regularly held on the latest developments in international scientific cooperation programmes and projects;
- cooperation agreements have been concluded (e.g. in the academic year 2017/2018, LLU has concluded 48 bilateral cooperation agreements with universities and research institutions of 22 countries, and LLU is a member of 39 international academic institution associations or networks);

4) finding targeted cooperation partners abroad (including outside the EU), doing preparatory work for establishing and strengthening cooperation with selected universities and research institutions (international projects – ERA-NET, the ERDF, the Norwegian financial instrument, territorial cooperation projects, Nordplus, Erasmus +). Within this framework, good cooperation has been established with: Vytautas Magnus University; Klaipeda Science and Technology Park, the Estonian University of Life Sciences; Laurea University of Applied Sciences; University of Helsinki, the Ruralia Institute, Wageningen University; the Nordic Council of Ministers; Tallinn University of Applied Sciences;

5) continuing establishing and developing cooperation between enterprises and researcher groups, addressing problems in research, technological development and innovation that are important for the development of enterprises and finding solutions to implementing joint projects and other initiatives:

- participation in various exhibitions and seminars and the promotion of new products developed by scientists (e.g. Riga Food, Tech Industry, Agricultural Machinery. Farmstead. Forestry Machinery, Entrepreneur Days in Zemgale, contact establishment event Scientist. Entrepreneur. Cooperation and the forums Government Support for Businesses and Rural Area Days);

- participation in cooperation and commissioned research contracts. Every year, several research investigations are commissioned, e.g. a Survey of Sampled Persons Crossing the Border commissioned by the CSB, the Identification of the Profile of Airport Passengers – by the State JSC Riga International Airport, an Active Youth Council to Support Work with the Youth – by a local government, Training and Involvement of Forest Owners in the Management of Protected Areas – by the Latvian Environmental Protection Fund, Intellectual Services Relative to Preparing a Background Report on the Agricultural Innovation System of Latvia – by the OECD, an Assessment of Land Use Optimization Opportunities in Latvia in the Context of Climate Policy – by the JSC Latvian State Forests;

6) designing and implementing a system that provides each LLU researcher with a financial opportunity to publish at least two scientific research papers in journals indexed by Scopus or Web of Science. This is sourced from research performance funding for individual research results and basic research funding for a particular organisational unit of LLU;

7) involving private sector cooperation partners (businesses) – researchers – in the production of research papers. In the academic year 2017/2018, LLU produced 21 research papers in cooperation with private sector researchers, of which 13 research papers related to our field of study. Most of the research papers involved the participation of private entrepreneurs, as well as cooperation partners from the Latvian Rural Advisory and Training Centre (LLKC) and members of the Latvian Farmers Federation, the Latvian Agricultural Cooperatives Association, the agricultural services cooperative society LATRAPs and the Latvian Organic Farming Association;

8) familiarising all LLU researchers, bachelor, master and doctoral students with the rules and procedures of intellectual property management and knowledge commercialization and the potential of commercializable knowledge. TEPEK (<https://www.llu.lv/en/llu-innovation-and-technology-transfer-centre>) actively involved in explaining and popularising such issues. The LLU has developed and implemented the Intellectual Property Management Policy (<https://www.llu.lv/sites/default/files/2018-01/Intelektu%C4%81l%C4%81%20%C4%ABpa%C5%A1uma%20p%C4%81rvaldes%20konceptija.pdf>) (Only in Latvian) and the Regulations regarding Intellectual Property Management (<https://www.llu.lv/sites/default/files/2018-01/LLU%20intelektu%C4%81l%C4%81%20%C4%ABpa%C5%A1uma%20p%C4%81rvald%C4%ABbas%20noteikumi.pdf>). (Only in Latvian)

9) holding activities for cooperation between entrepreneurs and scientists (seminars, conferences, contact establishment events, training, joint thematic discussions on necessary knowledge and technologies and cooperation in their creation and implementation as well as the terms and conditions of their use and other activities facilitating knowledge transfer), international conferences Economic Science for Rural Development, Research for Rural Development and Bioeconomics and Rural Development. Representatives of scientific research institutions of the relevant branch of science, Ministry of Agriculture specialists, members of associations, business executives, and prospective specialists gather in the following annual scientific and practical conferences: Balanced Agriculture as well as Land Management and Surveying, while the international student conference Students on their Way to Science give an opportunity for students to show the results of their research.

Achieving the above-mentioned objectives make a positive impact on the international visibility of LLU, contribute to high-level research and allow making internationally recognized research findings. Progress in relation to the field of study leads to an increase in FTE positions, funding for scientific projects and the number of international research papers produced (indexed by SCOPUS and Web of Science) in the reporting period. For details, see Table 2.8 that shows expected and

achieved research performance for 2018. Information on major achievements in the areas of social science could be found at: <http://socialsciences.llu.lv/en>

For the purpose of conducting and advancing fundamental research at LLU, an internal grant competition “Conducting Fundamental Research at LLU” has been developed and announced; project proposals may be submitted to the competition by leading researchers elected at LLU or researchers with a doctor degree who, at the moment of submission of their proposals, have completed, still implement or have received approval for commencement of industrial (applied) research or an experimental project. The total funding of one research project is up to EUR 10 000, the implementation period – up to two years.

The field of study Economics contains the ***doctoral programme Agrarian and Regional Economics***. This programme plays an important role in training new scientists, as 26% of all the LLU doctoral students study in this doctoral programme, which significantly enhances the attraction of human resources to science and builds up research potential. Doctoral students’ scientific capacity is built up within the priority fields clearly defined by the LLU Research Programme, which are unique and different from the research fields doctoral students of other universities focus on. The wide range of international scientific conferences held by LLU for future scientists and publication opportunities in the conference proceedings indexed by SCOPUS and Web of Science give the doctoral students broad opportunities to publish their research results. Each year, doctoral students produce, on average, 15 research papers indexed in the SCOPUS or Web of Science databases. In addition, doctoral students participate in research projects with their scientific supervisors, e.g. in the reporting period, the projects were implemented under the national research programme Transformation of National Economy, Smart Growth, Governance and Legal Framework for Sustainable Development of State and Society – New Approaches to Creating a Sustainable Knowledge Society and the programme Value and Dynamic of Latvia’s Ecosystems under Changing Climate (EVIDEnT). Graduates of the doctoral programme make successful careers in national and foreign higher education institutions, national institutions, national and international companies, as well as work individually as scientists in various level projects both in Latvia and abroad. Of all the graduates who completed their doctoral studies between 2013 and 2018, 39% work at LLU, making successful academic careers.

4.2. The relation between scientific research and/or artistic creation and the study process, including the description and assessment of the use of the outcomes in the study process.

Most of the teaching personnel engaged in the field of study perform the functions of both academic and research personnel; therefore, the latest and most important research findings are incorporated in the learning process, which is in line with one of the key principles of the Education Development Guidelines 2014-2020 – knowledge-based education for the society. In the reporting period, more than 10 various teaching aids and scientific monographs, containing the results of scientific projects, have been prepared by the teaching personnel engaged in the field of study and used in delivering courses. For example, the monograph entitled “Beyond a Century. The Smart Latvia” written by a team of authors under the national research programme Transformation of National Economy, Smart Growth, Governance and Legal Framework for Sustainable Development of State and Society – New Approaches to Creating a Sustainable Knowledge Society (EKOSOC-LV)

(2014–2018), the monograph Knowledge Economy for the Viability of Rural Areas and Regions of Latvia produced within project 5.2.3 under the same programme, the monograph Possibilities to Reduce Greenhouse Gas Emissions by Climate-Friendly Agriculture and Forestry in Latvia produced within project 3.2 under the programme Value and Dynamic of Latvia's Ecosystems under Changing Climate (EVIDeNT) and the book Promoting Rural Entrepreneurship through the Production and Use of Medicinal Herbs produced within the Erasmus+ project Education in Rural Entrepreneurship through Producing and Valorising of Medicinal and Aromatic Plants (REMAP) <https://remap-project.eu/intellectual-outputs/>

The cross-border cooperation project Interreg LAT-LIT Ready for Business (ReforB) has developed methodological materials for business seminars and business games as well as developed an innovative and interactive tool Business Simulator (<https://www.reforbsimulator.eu/>).

The materials produced and experience built up within the Central Baltic project Meta Cluster for Attracting the Japanese Tourism Market are passed on to students as a practical example of tourism management, digital marketing, international communication (<https://balticsea.countryholidays.info/>).

To motivate teaching personnel to prepare teaching materials and incorporate the experience gained in projects and applied research into the learning process, LLU has established a motivation system – the preparation of teaching materials and the research dimension are the elements to be taken into consideration, and the teaching personnel are remunerated for them.

4.3. Description and assessment of the international cooperation in the field of scientific research and/or artistic creation by specifying any joint projects, researches, etc. Specify those study programmes, which benefit from this cooperation. Specify the future plans for the development of international cooperation in the field of scientific research and/or artistic creation.

The geographical location of LLU and the interaction of LLU with universities and research institutions in the world, including the Baltic Sea region, have led to the recognition of leading researchers engaged in the field of study and their research at European level, especially in the Baltic Sea region, as well as, to some extent, at world level. It is largely determined by niche research done within the field of study, which relates to smart development, bioeconomics, climate change, social innovation, economic and societal transformation and business development.

The main scientific research activities through which our leading researchers and researchers interact with the international scientific community are as follows:

- participation in COST actions (COST Action IS1207 Local Public Sector Reforms: An International Comparison; CA16123 – Safety Culture and Risk Management in Agriculture; CA16206 – Empowering the Next Generation of Social Enterprise Scholars; CA16106 – Ammonia and Greenhouse Gases Emissions from Animal Production Buildings);
- participation in Horizon2020 projects (BioMonitor, DISARM);
- participation in European Commission Erasmus + (KA2) programme projects (REMAP, ProFesus, CLICHA), which has contributed to the international transfer of experience and knowledge of the researchers, engaged in the field of study, in various parts of the world (Europe, Asia, Africa), resulting in a number of educational materials produced, public education activities held, interactive e-learning tools developed;

- participation in the project Meta Cluster for Attracting the Japanese Tourism Market (CAITO) under the Interreg Central Baltic Programme for 2014-2020 has encouraged researchers to cooperate with the tourism industry in identifying pathways to a competitive economy;
- participation in the project Ready for Business (ReforB) under the Interreg V-A Latvia-Lithuania Programme for 2014-2020, which resulted in contributing to sustainable business development in cross-border regions through innovative business support tools and solutions;
- participation in the ERA-NET network (RETHINK, SUMFOREST);
- research papers with a high citation impact factor, published in open access

In addition, the academic personnel engaged in field of study actively participate in and are members of various international organisations: 1) Association for European Life Science Universities (ICA); 2) Baltic Sea Region University Network (BSRUN); 3) Baltic Forestry, Veterinary and Agricultural University Network (BOVA); 4) European Rural Networks' Assembly; 5) European University Association (EUA); 6) International University Association (IUA); 7) Nordic Association of Agricultural Scientists (NJF); 8) Polish Council of Science; 9) Union of European Academies for Sciences applied to Agriculture, Food and Nature (UEAA); 10) European Academies' Science Advisory Council (EASAC); 11) Academy of Georgofili (Italy); 12) Russian Academy of Agricultural Sciences; 13) Lithuanian Academy of Sciences; 14) Royal Swedish Academy of Agriculture and Forestry; 15) Moroccan Association for the Improvement of the Quality of Education; 16) International Macromarketing Association; 17) European Association of Agricultural Economists (EAAE); 18) Athens Institute for Education and Research; 19) European Observatory on Homelessness; 20) European Association of Rural Sociologists; 21) Union of Scientists in Bulgaria; 22) German Association for Home Economics (Deutsche Gesellschaft für Hauswirtschaft); 23) International Federation for Home Economics.

The international recognition of the academic personnel engaged in the field of study is evidenced by: 1) their representation in scientific institutions of other countries as foreign experts (academic members of Russian State Agrarian University; Moscow Timiryazev Agricultural Academy, Vision Science Research in Malaysia); 2) invitations to be leading reporters and lecturers at conferences, discussions and symposia (Morocco, Turkmenistan, Belgium, France, Georgia); 3) being members of editorial boards of international journals (Journal of Science Education, International Journal of Globalisation and Small Business, European Integration Studies).

Future international cooperation focusing on the development of science is based on: 1) deeper incorporation of science and research into the learning process; 2) polarization of science and research, both internationally and nationally (through the website www.sciencelatvia.lv); 3) use of LLU internal grants to support new scientists and attract new scientists from abroad; 4) publication of research papers by master and doctoral students in international publications; 5) encouragement to prepare international project proposals by establishing a more targeted motivation system and using research performance funding.

Benefits from above mentioned cooperation for **all the programmes**: 1) materials created as a result of research projects – educational materials, educational activities, interactive e-learning tools – are created for the delivery of courses; 2) topics and problems are researched in-depth and are part of research project activities; 3) graduate papers and student research papers are purposefully and consistently linked with the learning process as well as science and research 4) involvement of students of all the levels in research and science (as target audiences, research team members and scientific research assistants).

The most important activities and cooperation **examples in the study programmes**: 1) students of the bachelor programme Economics participated in a number of international projects as target audiences (ReforB; REMAP); 2) master students of the master programme Economics produced

their master theses within particular research projects (EKOSOC-LV; INTERFRAME), and some best master theses have been transferred as intellectual property to municipalities and industry associations, being a result of applied research; 3) doctoral students have been involved in several research projects (EKOSOC-LV; EVIDEnT; Assessment of the Bioeconomic Efficiency of Use of Legumes for Feed etc.) as researchers and their doctoral dissertations were one of the results to be achieved in the projects. In addition, doctoral students have been actively involved in popularising science and represented an important part of researcher teams.

4.4. Specify the way how the higher education institution/ college promotes the involvement of the teaching staff in scientific research and/or artistic creation. Provide the description and assessment of the activities carried out by the academic staff in the field of scientific research and/or artistic creation relevant to the study direction by providing examples and the summary of the quantitative data on the activities in the field of scientific research and/or artistic creation relevant to the study direction over the reporting period, for instance, the publications, participation in conferences, activities in the field of artistic creation, participation in projects by the academic staff members, etc., by listing the aforementioned according to the relevance.

In the period 2013-2018, the academic personnel engaged in delivering the programmes contained in the field of study implemented approximately 50 research projects. The most important **international projects** were those implemented within the European Union's 7th Framework Programme projects:

- *Enhancing of legumes growing in Europe through sustainable cropping for protein supply for food and feed (EUROLEGUME) (2014-2017)*, which contributed to interdisciplinary and interinstitutional research on innovative solutions regarding food and feed; it resulted in 7 research papers, indexed by Scopus and/or Web of Science, and initial activities for a postdoctoral project Assessment of the Bioeconomic Efficiency of Use of Legumes for Feed (2017-2020);
- in promoting international visibility and networking for LLU through leading the following two ERA-NET projects being important for the Latvian side: Rethinking the Links between Farm Modernization, Rural Development and Resilience in a World of Increasing Demands and Finite Resources (RETHINK) and Tackling the Challenges in Sustainable and Multifunctional Forestry through Enhanced Research Coordination for Policy Decisions (SUMFOREST); the most important result of both projects was the commencement of a new Horizon2020 project Disseminating Innovative Solutions for Antibiotic Resistance Management (DISARM) in 2019;
- in 2018, a large Horizon2020 project Monitoring the Bioeconomy (BioMonitor) was commenced; in the result, researchers cooperate with leading European scientific institutions (e.g. Wageningen University and Research, Thünen-Institute of Market Analysis, Technical University of Munich, European Forest Institute) and participate in developing a BioMonitor Model Toolbox.

In the reporting period, the teaching personnel engaged in the field of study were involved in several Erasmus + (KA2) projects of the European Commission, e.g. Education in Rural Entrepreneurship through Producing and Valorising of Medicinal and Aromatic Plants (REMAP)", "Climate Change in Agriculture (CLICHA), which has contributed to the international transfer of experience and knowledge of the researchers, engaged in the field of study, in various parts of the world (Europe, Asia, Africa), resulting in a number of educational materials produced, public

educational activities held and interactive e-learning tools designed.

Cross - border cooperation programmes: the project Meta Cluster for Attracting the Japanese Tourism Market (CAITO) (2016-2020) under the Interreg Central Baltic Programme for 2014-2020 has encouraged researchers to cooperate with the tourism industry; the project Ready for Business (ReforB) (2017-2019) under the Interreg V-A Latvia-Lithuania Programme for 2014-2020, which resulted in contributing to sustainable business development in cross-border regions.

As regards the most important **national-level projects** and their results, it should be noted that the period from 2014 to 2018 marked very high research activity both in Latvia and among the teaching personnel engaged in the field of study. It was due to the research priorities approved by the government of the Republic of Latvia at the end of 2013, and national research programmes, in two of which the teaching personnel engaged in the field of study were involved, were subordinated to the priorities. The two programmes were as follows:

- Transformation of National Economy, Smart Growth, Governance and Legal Framework for Sustainable Development of State and Society – New Approaches to Creating a Sustainable Knowledge Society (EKOSOC-LV). Participation in the projects of this programme provided a great opportunity to increase the publication of research papers by academic personnel in internationally indexed journals or conference proceedings (ScienceDirect (Elsevier), Scopus, Thomson Reuter Web of Science (WoS), Springer Open, ERIH etc.). It also contributed to the acquisition of scientific degrees and the production of doctoral dissertations. National and international cooperation was activated, while also allowing the world-wide scientific community to be informed about the processes in Latvia. Overall, the programme has promoted progress in social sciences in Latvia in terms of interdisciplinarity. Implementing the projects of the national research programme determined that the teaching personnel engaged in the field of study would continue participating in two projects in the next period of the national research programme (2018-2021): INTERFRAME-LV and DemoMig;
- Value and Dynamic of Latvia's Ecosystems under Changing Climate (EVIDEnT). Participation in the programme built up the competence of the teaching personnel engaged in the field of study in relation to climate change problems, assessment of possibilities to reduce greenhouse gas (GHG) emissions. Taken together, the research results made a significant contribution to the current scientific research on GHG emissions from the agricultural sector (there were produced: one scientific monograph, two research papers for journals, 11 research papers for conference proceedings indexed by Scopus, Thomson Reuter Web of Science (WoS), one popular science article; the personnel participated in 18 international scientific conferences; one master thesis and one doctoral dissertation on the relevant research problem were defended). The research programme made forecasts of GHG emissions, analysed in more detail the main sources of GHG emissions and the main emission factors, made new findings on GHG emission reduction measures suitable for Latvia and their economic and environmental benefits, as well as established international contacts and developed a project proposal (Climate Care Cattle Farming Systems (CCCFarming)) for the Horizon2020 programme to continue the research at international level; the proposal was approved at the end of 2019 and the project was commenced.

Research investigations commissioned by the Ministry of Agriculture, which focus on particular government policies and achieving particular economic targets, considerably contribute to the research competence of the teaching personnel engaged in the field of study. For example, the project Incorporating Carbon Sequestration and Accumulation in Arable Land, Permanent Grasslands and Wetlands in Marginal Abatement Cost Curves (MACC) for Agricultural Greenhouse Gas Emissions in Latvia is important for shaping agricultural, environmental and climate policies, and its results were used in designing the National Energy and Climate Plan 2021-2030. The project

Forecasting Agricultural Development and Developing Policy Scenarios for 2050 created two models; the models are mostly intended for use by LLU, the Ministry of Agriculture and the Ministry of Environmental Protection and Regional Development.

LLU has a system in place that accurately prescribes the use of basic funding, redistributing a certain amount of it to the organisational units (depending on their performance); each researcher receives remuneration for individual research performance, the amount of which depends directly on his/her research performance.

To increase the research capacity of LLU and to encourage the involvement of new scientists, an internal grant programme Implementation of the LLU Research Programme has been established, thereby funding projects on a competitive basis.

To contribute to the development of new projects, a project Promotion of International Cooperation Projects in Research and Innovation at LLU and the Supervised Research Institutions is being implemented from 2018 to 2022. The project provides funding for preparing and submitting project proposals. For example, a project proposal Coaching for Innovation – Competence Development of Advisors in the Agri-food and Forestry Sector (COACHINN) being above the quality threshold for Horizon2020 was not approved; it could be improved and submitted repeatedly if funding were available. The performance of the teaching personnel engaged in the field of study demonstrates a constant increase in the number of FTE researchers employed, the amount of research project funding and the number of international research papers produced (indexed by SCOPUS and Web of Science) in the reporting period.

The research activities of academic personnel are summarized both in the Strategy of the Faculty and in annual reports on research performance. Any information on research papers, projects and other scientific research activities is collected in the electronic database of the LLU information system.

Kind/level of publications	Number				Number in reporting period
	A(4)	B(3)	C(2)	D(1)	
Peer-reviewed scientific and other monographs	0	0	5	13	18
Compiled scientific publications	0	0	0	0	0
Research reports produced by third persons	0	7	14	8	29
Research papers in journals	4	54	61	6	125
Research papers in scientific proceedings, chapters in collective monographs, editorial introductions to monographs and collections	2	6	28	44	80
Conference reports or abstracts	311	130	30	252	723
Papers in encyclopaedias and section publications	0	3	0	0	3
Teaching and methodological aids and popular science articles	12	1	37	2	52
Published peer-reviews and speeches, journalism	0	0	2	15	17
Scientific peer-reviewed proceedings	0	1	4	0	5
Doctoral dissertations (defended)	0	0	0	8	8
Research projects					47

Detailed data on academic personnel's involvement in research projects and research as well as their research performance are available in the academic personnel's CVs.

4.5. Specify how the involvement of the students in scientific research and/or artistic creation activities is promoted. Provide the assessment and description of the involvement of the students of all-level study programmes in the relevant study direction in scientific research and/or artistic creation activities by giving examples of the opportunities offered to and used by the students.

Involving students in research is important for increasing the research capacity of the field of study, yet due to limited financial resources, the students' involvement in research has so far taken the form of voluntary work (in the period 2013-2018, voluntary work contracts have been concluded with 13 students) or they worked as assistants to leading researchers (four contracts). Over the last 6 years, 9 master theses were produced within a research project (EKOSOC-LV).

The teaching personnel engaged in the field of study have an opportunity to use the LLU internal grant programmes Implementation of the LLU Research Programme and Strengthening Scientific Research Capacity at LLU; the programmes aim to promote the involvement of master students, doctoral students and new scientists in scientific research, and since 2017, eight doctoral students and their scientific supervisors have been involved in these programmes.

To stimulate students' interest in science, various student scientific conferences are held every year, e.g. the international student scientific conference Students on their Way to Science, the master student scientific conference Development in Diversity, for which the students, together with their supervisors, prepare their scientific research papers. The research papers of the best master students, in cooperation with their supervisors, are enhanced and submitted to international scientific conferences or to scientific publications for publication.

4.6. Provide a brief description and assessment of the forms of innovation (for instance, product, process, marketing, and organisational innovation) generally used in the study direction subject to the assessment, by giving the respective examples and assessing their impact on the study process.

The teaching personnel and some organisational units of LLU engaged in the field of study implement a number of activities that promote the introduction of various forms of innovation in the learning process. For example, **technological and cooperation innovations** are implemented at the LLU Technology and Knowledge Transfer Division (TEPEK); its purpose is to foster cooperation among scientists, students and entrepreneurs through the development of innovative technological solutions and high value-added products based on scientific research and interdisciplinary cooperation between scientists and students. TEPEK holds networking and creativity activities, brainstorming and approbation masterclasses, as well as seminars and workshops on intellectual property protection. One of the priorities is to form and strengthen links between students of various disciplines by developing innovative solutions in the fields of studies and science represented by LLU.

Social, strategic, cooperative and value-focused innovations are implemented in summer schools organised by the teaching personnel engaged in the field of study. Each summer school has its own theme, purpose and objectives. For example, the 2017 summer school called Building a Community. Its Social, Economic and Cultural Aspects in Practice was held in Kaldabrunas, Rubene

parish, Jekabpils municipality. The school was held in cooperation with the local association Udenszimes (Watermarks) and gathered students from various programmes delivered by ESAF. The activities involved theoretical workshops on community building and local resources, as well as practical use of various social research methods. As a result, students presented their vision for the future development of that place. The 2019 summer school, however, called What to do with the Place? was held in Aizkalne parish, Preiļi municipality, and was organised in cooperation with the local association Public Centre Aizkalne and was part of the national research programme project DemoMig; it gathered bachelor and master students from various LLU Faculties (ESAF, the Faculty of Veterinary Medicine and the Faculty of Environment and Civil Engineering), as well as various universities of Latvia (LLU and the University of Latvia), thereby allowing for an interdisciplinary view of on-site development scenarios. In view of the wide repercussions of a summer school and the range of participants involved, the summer school is seen as a successful social innovation.

Management, planning, marketing and organizational innovations are implemented at an annual event Entrepreneur DNA initiated and supervised by the teaching personnel engaged in the field of study, yet the event is organised by students themselves. The event is aimed at developing entrepreneurial ability in students. Students are fully responsible for planning and conducting the event, the students themselves choose guests for the event, invite them, find sponsors, moderate the event, shape the event format and arrange rooms for the event. In the academic year 2018/2019, for instance, representatives of 11 various companies and national institutions and 120 students took part in the event; 9 masterclasses were delivered and contact establishment was possible. The event provided students with an opportunity to see the products developed by entrepreneurs and hold discussions and group work. In the event, students gained a new knowledge of the business environment, how to start and manage a business, business ethics and etiquette, as well as professional skills in leadership, marketing, planning, event planning, fundraising, teamwork, time management, negotiation, as well as delegation and assumption of responsibilities.

Product, service and business model innovations are promoted through student involvement in business idea competitions held by municipalities, business organisations, associations and national institutions. In 2017, for instance, the students of the field of study participated in a business idea competition We Create for our Municipality, held by the association We Create for our Municipality in cooperation with DELFI; the purpose was to create as much socio-economic benefit as possible for some municipality of Latvia. The student team Thinking for Tomorrow generated ideas for seven business pathways, beginning with gift service trough to games for tourists, which they would like to implement in Jelgava municipality. The competition gave students an opportunity to prove themselves as talented and enterprising Latvian youth who develop and implement various business projects in the municipalities of Latvia.

Within an ESAF project (ReforB), an IT tool Business Simulation Game was designed; it could be used in courses (e.g. Entrepreneurship, Innovation in Business) as an innovative and attractive business idea development tool (www.reforbsimulator.eu).

II - Description of the Study Direction (5. Cooperation and Internationalisation)

5.1. Provide the assessment as to how the cooperation with different institutions from

Latvia and abroad (higher education institutions/ colleges, employers, employers' organisations, municipalities, non-governmental organisations, scientific institutes, etc.) within the study direction contributes to the achievement of the aims and learning outcomes of the study direction. Specify the criteria by which the cooperation partners suitable for the study direction and the relevant study programmes are selected and how the cooperation is organised by describing the cooperation with employers. In addition, specify the mechanism for the attraction of the employers.

Cooperation with national institutions in relation to the field of study occurs in several ways:

- cooperation with non-governmental organisations for dissemination of project results and communication with the public (e.g. the Farmers Parliament, the Latvian Agricultural Organisation Cooperation Council, the Latvian Agricultural Cooperatives Association);
- participation in executive and supervisory boards of non-governmental organisations and companies (e.g. the Latvian Chamber of Commerce and Industry, the Jelgava Business Incubator);
- joint research papers and popular science articles with industry experts (e.g. precision agricultural technology company Precision Farming Ltd);
- research contracts commissioned by municipalities (e.g. the municipalities of Jelgava, Ogre and Auce);
- research contracts commissioned by employers and the involvement of employers in the learning process and research (e.g. ZAAO Ltd, Accenture OY, the Latvian Peat Producer Association, the SJSC Latvian State Forests);
- involvement in the Doctoral Councils of other universities (e.g. the professors engaged in the field of study are members of the Doctoral Council of Daugavpils University, the University of Latvia Doctoral Council for Economics, the Joint Doctoral Council for Management Science of RISEBA, Ventspils University College and the BA School of Business and Finance, the Doctoral Council of Turība University and the Doctoral Council for Sociology of Rīga Stradiņš University);
- cooperation with other universities and colleges (the Transport and Telecommunication Institute; Aeres University of Applied Sciences; the West University of Timisoara; Slovak University of Agriculture);
- cooperation in provision of information services and mutual promotion of use of information resources and development of interdisciplinary research (the University of Latvia Academic Library, TILDE Ltd, Forest and Wood Products Research and Development Institute Ltd);
- cooperation in provision of work placements and organisation of practical training as prescribed in the curricula of relevant programmes (the Latvian Peat Producer Association, the JSC Jelgavas Dzirnavas (Jelgava Mill), the State Revenue Service etc.).

For cooperation **with foreign institutions**, LLU has developed and implemented an Internationalization Plan, which defines the goals, priorities and performance targets of LLU's international cooperation in the areas of student exchange, full-time studies for foreigners and living conditions for foreigners. The Internationalization Plan defines the following key priorities and cooperation activities:

- priority cooperation with higher education institutions of similar study and research profile in the EU Member States and partner countries, whose fields of study correspond to those implemented by LLU;
- priority cooperation with the international associations of universities in which LLU is an

active member – the European Association of Life Sciences Universities (ICA), the Baltic University Programme (BUP), the Baltic-Nordic Agricultural University Network (BOVA - NOVA), the Nordic Agricultural Scientists Association (NJF), etc. and that pursue their academic activities in similar fields of studies and research;

- international cooperation with foreign universities/colleges at the level of fields of study, focusing on foreign partner universities/universities with regular exchange of students and lecturers (Erasmus + programme, etc.), as well as participation in joint projects (e.g. SSO 8.2.3), research, mutual cooperation in scientific and methodological conferences, etc.

Details on the universities/higher education institutions which LLU has concluded Erasmus + interinstitutional agreements with are available at: https://www.llu.lv/sites/default/files/2018-10/LLU%20ligumi%20_Erasmus%2B%20partneraugstskolas_HEIs%2027.03.18.xls.

Information on cooperation agreements is available in Annex 7.

The areas of cooperation with employers and the mechanism for involving employers are described in more detail in sections 2.1 and 2.2., while cooperation in science is described in section 4.6.

5.2. Specify the system or mechanisms, which are used to attract the students and the teaching staff from abroad and provide a description of the dynamics of the number of the attracted students and the teaching staff.

To **attract foreign students**, LLU provides information on the programmes it delivers, which is available on the website (see section Information on the Field of Study). LLU implements various marketing strategies to attract foreign students: LLU concludes contracts with recruitment agents whose work efficiency is assessed afterwards; e-marketing, participation in international educational fairs and agent forums, etc. LLU is a member of the Latvian Higher Education Export Association (AIEA) and participates in its activities. **Foreign work placements** are funded through Erasmus + mobility projects on a case-by-case basis. The attraction of foreign teaching personnel to the field of study is mainly based on the activities of the International Week at ESAF, during which 13 visiting teaching personnel delivered their lectures in 2018 (9 in 2017, 17 in 2016, 9 in 2015, 9 in 2014 and 7 in 2013).

Table 2.12.

Visiting teaching personnel who delivered their lectures at the International Week in 2018

Visiting lecturer	Country	Institution
Melinda Dinca	Romania	West University of Timisoara
Jona Mulliri	Albania	Agricultural University of Tirana
Edmira Shahu	Albania	Agricultural University of Tirana

Istvan Boros	UK	University of Cambridge
Maria Parlinska	Poland	Warsaw University of Life Sciences
Barbara Freytag-Leyer	Germany	Fulda University
Ludwik Wicki	Poland	Warsaw University of Life Sciences
Karina Tetek Benetti	Czechia	Technical University of Liberec
Janusz Myszcyszyn	Poland	West Pomeranian University of Technology
Agnieszka Parlinska	Poland	Warsaw University of Life Sciences
Ewa Stawicka	Poland	Warsaw University of Life Sciences
Tiberiu Foris	Romania	Transylvania University
Diana Foris	Romania	Transylvania University

To solve the problem of limited funding for foreign teaching personnel, a project Development of Academic Personnel at LLU was launched with the support of the European Social Fund (8.2.2.0/18/A/014). One of its objectives is to attract foreign academic personnel by 2021 by providing them with extra funding. The project announces international competitions for academic positions and creates opportunities for sharing experience and mutually enhancing courses and methodology and the way of teaching. Teaching personnel are attracted as visiting lecturers not for delivering a few lectures but for delivering a whole course. For example, after announcing an international competition for an academic position in March 2019 (for a period of 6 months), a visiting professor from Poland was employed by ESAF.

5.3. In the event that the study programme entails a traineeship, provide a description of the traineeship options offered to the students, as well as the provision, and work organisation. Specify whether the higher education institution/ college provides assistance in finding traineeships.

Students are free to choose their work placements. Programme directors or the teaching personnel responsible for organising work placement (hereinafter – practice supervisors) provide assistance in finding a work placement.

Every year, ESAF receives several work placement offers from its long-term partners, e.g. DINEX Latvia Ltd, Accenture Latvia Ltd, JSC Swedbank, JSC SEB banka, Jelgavas Tipogrāfija Ltd. etc. Information about work placement opportunities are available to students on the notice board, on the informative TV set at ESAF, on the ESAF website, and students are also informed by their programme directors or practice supervisors. Every year, some of the cooperation partners organise guest lectures for students, during which they inform students about work placement and job opportunities, e.g. Nikos Travel Ltd – about work placement opportunities in Cyprus, Accenture

Latvia Ltd – about work placement opportunities in the company, Civitta Latvia – about cross-border exchange programmes for entrepreneurs and job opportunities within the company. ESAF has concluded agreements on providing work placement opportunities and on cooperation with several organisations (see Annex 10). Of the enterprises and institutions listed in Annex 10, the State Revenue Service, the Latvian Peat Producer Association, the Latvian Rural Advisory and Training Centre (as well as its offices in the regions), the agricultural services cooperative society LATRAPs, the Jelgava City Council and the Administration of Zemgale Planning Region offer the most work placements for students. Students regularly take advantage of traineeship opportunities in the mentioned organizations.

Students also have an opportunity to take practical training abroad within the Erasmus+ programme in some of the Erasmus+ programme countries, both during their studies and during the year following their graduation. Students mostly themselves look for work placements abroad. If a work placement offer has been received from an LLU foreign cooperation partner, the LLU International Cooperation Centre electronically transfers the information to programme directors whose duty is to inform the programme's students about the opportunities for work placement abroad.

Work placement offers for students are also available on the LLU website in the section Job and Work Placement Offers. Students can also take advantage of the opportunities offered on the website for work placements (<https://www.prakse.lv/>) (Only in Latvian) and take part in competitions for work placements. LLU in cooperation with the foundation Riga Technical University Development Fund (<https://www.rtu.lv/en/development>) offers students an opportunity to participate in open competitions and get paid work placements in various domestic and foreign companies operating in Latvia, e.g. Severstal Distribution Ltd, Skonto Plan LTD, MSC Shared Service Centre Riga Ltd, Kurbadis un Ko, Tele2 Ltd, AB SALDO Ltd, PricewaterhouseCoopers Ltd, Deloitte Audits Latvia Ltd etc.

Students are also offered an opportunity to take practical training at relevant LLU organisational units, e.g. the Communication and Marketing Centre, the Technology and Knowledge Transfer Division, the Resource Accounting Centre, the Financial Planning Centre, etc.

Programme directors and the teaching personnel responsible for organising work placement inform students about the opportunities for work placement offered by LLU and ESAF. Updated information on work placement offers is also posted on the e-studies platform or on the ESAF website, as well as sent electronically to students.

In the field of study, practical training is implemented in accordance with Cabinet regulation No. 240 of 13 May 2014 Regulations regarding the Academic Education National Standard, the LLU Statute on Studies, Senate decision No. 8-30 of 12 November 2014 Latvian University of Life Sciences and Technologies Traineeship Regulation (available at: <https://www.llu.lv/lv/studiju-prakses>) (Only in Latvian), the ESAF Guidelines for Organising Work Placement (ESAF Board decision of 18 April 2018) (available at: http://www.esaf.llu.lv/sites/esaf/files/2018-04/Prakses_vadl%C4%ABnijas.pdf) (Only in Latvian) as well as the curriculum of practice.

Practical training is taken during a semester, in which no classes or individual studies and examinations are planned. It is supervised and coordinated by a teaching personnel member – the practice supervisor – who is approved by the institute director. One week before the beginning of work placement, the practice supervisor submits an application for placing the student on work placement to the Dean Office.

A student selects his/her work placement him/herself in order to meet the requirements of the

curriculum of practice, which has to be approved by the practice supervisor, and a traineeship agreement has to be concluded. The compliance of the hosting organisation with the requirements of the curriculum of practice is assessed by the practice supervisor.

Before placing a student on work placement, the dean's decision is issued and a traineeship agreement is made among LLU, the student and the hosting organisation.

If a student takes practical training outside Latvia, the dean's decision and a traineeship agreement are prepared in English (available at: <https://www.llu.lv/lv/studiju-prakses>). (Only in Latvian, but Agreement of Students in ENG) Documentation and the rector's decision on placing students on work placement are prepared by the LLU International Cooperation Centre in accordance with the terms and conditions of international exchange programmes and inter-university and other agreements.

A trainee has two supervisors: the practice supervisor who is appointed by the relevant institute, which organises work placement as well as coordinates and controls the process of work placement, and the other is the work placement supervisor who guides and advises the trainee in accordance with the requirements of the curriculum of practice. During the work placement, the trainee regularly communicates with the practice supervisor in order to ensure the objectives of work placement are achieved.

If a student changes the hosting organisation, the responsible person of ESAF prepares a new dean decision regarding changes in the previous decision based on the student's application for change of the hosting organisation. The practice supervisor draws up a new traineeship agreement.

During the work placement, the trainee prepares a practice report as required by the curriculum of practice and submits it together with the work placement supervisor's reference to the institute responsible for organising work placement. The practice report is defended by the student and assessed by a committee, which also includes the practice supervisor, approved by the director of the institute.

5.4. In the event that joint study programmes are implemented in the study direction, provide the justification of the creation of the joint study programmes and a description and assessment of the selection of the partnering higher education institutions by including information on the principles and the procedures for the creation and implementation of these joint study programmes. In the event that no joint study programmes are implemented in the study direction, provide a description and assessment of the plans of the higher education institution/ college for the creation of such study programmes within the study direction.

It is not intended to implement joint programmes.

Latvian University of Life Sciences and Technologies has signed a agreement with AERES University of Applied Sciences (Netherlands) for **Consecutive** Bachelor's degree.

II - Description of the Study Direction (6. Implementation of the

Recommendations Received During the Previous Assessment Procedures)

6.1. Assessment of the fulfilment of the plan regarding the implementation of the recommendations provided by the experts during the previous accreditation of the study direction, as well as the assessment of the impact of the given recommendations on the study quality or the improvement of the study process within the study direction and the relevant study programmes.

The international assessment of the field of study and the programmes contained in it was carried out on 7 March 2012 within the ESF project Assessment of Higher Education Programmes and Proposals for Raising the Quality (agreement No. 2011/0012/1DP/1.1.2.2./11/IPIA/VIAA/001). The experts of the Assessment Committee were as follows: chairman Dr. Michael Emery, members: Prof. Asta Vasiliauskaite, Ms. Inta Lovkina, Mr. Mārtiņš Līdaks (Student Union of Latvia).

Four programmes were submitted to the Committee for assessment: the academic bachelor programme ECONOMICS, code 43310, the academic master programme ECONOMICS, code 45310, the professional master program FINANCIAL MANAGEMENT, code 47343 and the doctoral programme AGRICULTURAL AND REGIONAL ECONOMICS, code 51310.

The experts divided all the programmes into three categories:

1. Programmes considered to be *sustainable*:

doctoral programme AGRARIAN AND REGIONAL ECONOMICS, code 51310,

2. Programmes where several improvements to the continued existence are considered:

a) academic master programme ECONOMICS, code 45310;

b) academic bachelor programme ECONOMICS, code 43310,

3. Programmes where existence is severely under question mark:

professional master programme FINANCIAL MANAGEMENT, code 47343.

The recommendations given by the experts for the previous accreditation of the field of study have been implemented (see Annex 11), thereby ensuring the enhancement of both the field of study and the programmes contained therein and raising the quality of studies. Some of the recommendations given by the experts were included as performance indicators in the ESAF Operational Plan for implementing the LLU Development Strategy 2015-2020, thereby providing a basis for a continuous enhancement process.

6.2. Implementation of the recommendations given by the experts during the evaluation of the changes to the relevant study programmes in the respective study direction or licensed study programmes over the reporting period or recommendations received during the procedure for the inclusion of the study programme in the accreditation form of the study direction (if applicable).

Not applicable to the study direction.

Annexes

I. Information on the Higher Education Institution/ College		
List of the governing regulatory enactments and regulations of the higher education institution/ college	Annex_1.docx	1.pielikums.docx
Information on the implementation of the study direction in the branches of the higher education institution/ college (if applicable)		
Management structure of the higher education institution/ college	Annex_ 2.docx	2.pielikums.docx
II. Description of the Study Direction - 1. Management of the Study Direction		
Plan for the development of the study direction (if applicable)	Annex_3.docx	3. pielikums.docx
Management structure of the study direction	Annex_4.docx	4. pielikums.docx
II. Description of the Study Direction - 3. Resources and Provision of the Study Direction		
Basic information on the teaching staff involved in the implementation of the study direction	Annex_5.1.xls	5.1. pielikums.xls
Biographies of the teaching staff members (in Europass Curriculum Vitae format)	Europass_EN.rar	Europass_LV.rar
Summary of the statistical data on the incoming and outgoing mobility of the teaching staff over the reporting period	Annex_5.2.docx	5.2. pielikums.docx
II. Description of the Study Direction - 4. Scientific Research and Artistic Creation		
List of the publications, patents, and artistic creations of the teaching staff over the reporting period	Annex_6.rar	6.pielikums.rar
II. Description of the Study Direction - 5. Cooperation and Internationalisation		
List of cooperation agreements	Annex_7.xlsx	7. pielikums.xlsx
Statistical data on the teaching staff and the students from abroad	Annex_8.docx	8. pielikums.docx
Statistical data on the mobility of students (by specifying the study programmes)	Annex_9.docx	9. pielikums.docx
Description of the organisation of the traineeship of the students	Annex_10A.rar	10A.pielikums.rar
Information on the agreements and other documents confirming the traineeship of the students in companies	Annex_10.xlsx	10. pielikums.xlsx
II. Description of the Study Direction - 6. Implementation of the Recommendations Received During the Previous Assessment Procedures		
Overview of the implementation of the provided recommendations	Annex_11.docx	11.pielikums.docx
Description of the Study Programme - Other mandatory attachments		
Confirmation signed by the rector, director or the head of the study programme or the study direction of the higher education institution/ college which states that the official language proficiency of the teaching staff involved in the implementation of the relevant study programmes of the study direction complies with the regulations on the level of the official language knowledge and the procedures for testing official language proficiency for performing professional duties and office duties.	LLU_apliecinajumi_Ekonomikas_virziens_EN.docx	LLU_apliecinajumi_Ekonomikas_virziens.edoc
III. Description of the Study Programme - 1. Indicators Describing the Study Programme		
Compliance of the joint study programme with the provisions of the Law on Institutions of Higher Education (table)		
Statistics on the students over the reporting period		
III. Description of the Study Programme - 2. The Content of Studies and Implementation Thereof		
Compliance of the study programme with the State Education Standard		
Compliance of the qualification to be acquired upon completion of the study programme with the professional standard (if applicable)		
Compliance of the study programme with the specific regulatory framework applicable to the relevant field (if applicable)		
Mapping of the study courses/ modules for the achievement of the learning outcomes of the study programme		
Curriculum of the study programme (for each type and form of the implementation of the study programme)		
Descriptions of the study courses/ modules		
Description of the Study Direction - Other mandatory attachments		
Sample of the diploma to be issued for the acquisition of the study programme.		

Description of the Study Programme - Other mandatory attachments		
Document confirming that the higher education institution/ college will provide the students with the options to continue the acquisition of education in another study programme or at another higher education institution/ college (a contract with another accredited higher education institution/ college), in case the implementation of the study programme is discontinued		
Document confirming that the higher education institution/ college guarantees to the students a compensation for losses if the study programme is not accredited or the licence of the study programme is revoked due to the actions of the higher education institution/ college (actions or failure to act) and the student does not wish to continue the studies in another study programme		
Confirmation of the higher education institution/ college that the teaching staff members to be involved in the implementation of the study programme have at least B2-level knowledge of a related foreign language according to European language levels (see the levels under www.europass.lv), if the study programme or any part thereof is to be implemented in a foreign language.		
If the study programmes in the study direction subject to the assessment are doctoral study programmes, a confirmation that at least five teaching staff members with doctoral degree are among the academic staff of a doctoral study programme, at least three of which are experts approved by the Latvian Science Council in the respective field or sub-field of science, in which the study programme has intended to award a scientific degree.		
If academic study programmes are implemented within the study direction, a document confirming that the academic staff of the academic study programme complies with the provisions set out in Section 55, Paragraph one, Clause three of the Law on Institutions of Higher Education		
Sample (or samples) of the study agreement		
If academic study programmes for less than 250 full-time students are implemented within the study direction, the opinion of the Council for Higher Education shall be attached in compliance with Section 55, Paragraph two of the Law on Institutions of Higher Education.		
Description of the Study Direction - Other mandatory attachments		
Electronically signed application form for assessment of a study direction	Ekonomikas_virziena_iesniegums_EN.docx	Ekonomikas_virziena_iesniegums_precizets.edoc

Other annexes

Name of document	Document
SWOT analysis of Study Directions	SWOT_analysis.docx
Studiju virziena SVID analīze	SVID_analīze.docx
LLU galvenie iekšējie normatīvie akti un regulējumi.rar	LLU galvenie iekšējie normatīvie akti un regulējumi.rar
Main internal legal acts and regulations.rar	Main internal legal acts and regulations.rar
SVID analīze	SVID_analīze.docx
SWOT analysis	SWOT_analysis.docx

Economics

Title of the higher education institution	<i>Economics</i>
ProcedureStudyProgram.Name	<i>Economics</i>
Education classification code	<i>45311</i>
Type of the study programme	<i>Academic master study programme</i>
Name of the study programme director	<i>Modrīte</i>
Surname of the study programme director	<i>Pelše</i>
E-mail of the study programme director	<i>Modrite.Pelse@llu.lv</i>
Title of the study programme director	<i>Profesore, Dr.oec.</i>
Phone of the study programme director	<i>+371 63021041</i>
Goal of the study programme	<i>To provide students with academic knowledge, competitive at national and international level, appropriate skills and competences to analytically assess economic processes in the context of sustainable development while also developing research skills for scientific and academic work.</i>
Tasks of the study programme	<i>1) to provide students with a broad and in-depth theoretical knowledge in the fields of economics and business science and its sub-branches, promote the build-up of professional and soft skills in order to ensure the career development of students as specialists and the growth of students as personalities;</i> <i>2) to implement a student-focused education process that promotes student independence, ensures additional motivation and trains highly qualified economists;</i> <i>3) to ensure the integration of learning and research by achieving the dominance of elements of research work in the delivery of courses, the production of a graduate thesis and the preparation and presentation of scientific research papers;</i> <i>4) to update the latest theoretical knowledge and research findings in the programme as a whole and within any specific specialisation, especially in the context of sustainability;</i> <i>5) to create a theoretical and methodological basis for graduates from master studies to successfully continue their studies at doctoral level and develop their ability to engage in scientific research and academic work.</i>

Results of the study programme	<p>Students will be able to demonstrate:</p> <p>knowledge:</p> <ul style="list-style-type: none"> • an in-depth knowledge of micro-, macro-, environmental and regional economics in the context of constrained economic resources; • an in-depth knowledge of financial planning, risk management and accounting for commercial companies; • a specific and conceptual knowledge of regularities and methods of management, relationships between planning and control indicators; • an advanced knowledge of marketing and market forecasting issues; • an extended knowledge and understanding of the prerequisites and methods for doing high quality research. <p>Common professional skills to</p> <ul style="list-style-type: none"> • reasonably explain consumer and producer behaviour patterns in specific market competition conditions, assess current economic, regional development and environmental protection regularities in the context of available economic resources; • reasonably explain the topical issues of financial accounting, choose the most proper type of financing for a company, analyse the financial and economic performance of the company and apply risk management theory; • analyse the business environment in the context of the current situation and management solutions and independently apply the planning and control approach; • independently conduct market research and justify the chosen marketing strategy; • create a theoretical framework for a research study and a research design, choose research methods, critically analyse the ways of obtaining information and the most proper information processing methods. <p>Professional skills for the specialisation Financial Management and Accounting</p> <ul style="list-style-type: none"> • plan and organize financial activities of the company, independently analyse financial planning, management and control issues; • reasonably explain the theoretical, methodological and practical issues of individual accounting items, independently apply the acquired knowledge using the framework for international financial and settlement problems; • understand the audit process, identify factors affecting the value of a business, justify decisions in the field of tax and budget policies and independently calculate taxes and tax relief. <p>Professional skills for the specialisation Business and Logistics</p> <ul style="list-style-type: none"> • critically analyse complex business issues and change processes within a company, identify quality problems and areas for improvement, demonstrate skills in organizing e-business and e-government, applying modern technologies and managing projects; • argue the importance of various eco-business elements and sustainable cooperation in increasing the company's competitiveness; • independently formulate international management functions in a company, critically analyse problems related to transportation and logistics and demonstrate an understanding of how to solve them; <p>Professional skills for the specialisation Sustainable Territorial Development and Marketing</p> <ul style="list-style-type: none"> • independently define theoretical and practical approaches to sustainable development and management of a territory, demonstrate an understanding of investment opportunities by means of national and EU financial instruments; • practically use the technological possibilities of geographic information systems, critically assess the factors affecting the landscape of a territory and problems in the tourism economy; • assess the need to integrate various types of marketing and elements of a regional economy for the balanced development of the territory, define strategic priorities for territorial development and actions to increase the value of the territory. <p>Soft skills to</p> <ul style="list-style-type: none"> • acquire, structure and format as well as convincingly present the results of the research and conduct a reasoned discussion; • successfully work in a team, take leadership and responsibility for the results of the research; • apply skills of social interaction and communication technology, maintain and contribute to the principles of mutual respect and honesty in the learning process. <p>Competences</p> <ul style="list-style-type: none"> • Academic – to make a real contribution to the creation of a new knowledge in a particular sub-branch of economic and business science based on theoretical, cognitive and research skills, substantiate and critically assess the potential effect of scientific knowledge on sustainable development indicators. • Systemic – to independently and creatively integrate knowledge of various branches of economics and business science, determine and apply an optimal combination thereof for performing specific academic, professional and research tasks. • Analytical – to independently define and critically analyse complex and dynamic scientific and professional problems, assess the potential risks of solving them and identify measures to mitigate their adverse effects based on an analysis of the factors affecting producer and consumer behaviours and relevant indicators at the micro-, macro-, regional and global levels. • Instrumental – a set of cognitive and methodological abilities that provide and facilitate the skill to justify decisions and social inclusion as well as make a real contribution to the development of research or professional methods, communication and publicity in the local and international scientific community.
Final examination upon the completion of the study programme	Master thesis

Study programme forms

Full time studies - 2 years - latvian

Study type and form	<i>Full time studies</i>
Duration in full years	<i>2</i>
Duration in month	<i>0</i>
Language	<i>latvian</i>
Amount (CP)	<i>80</i>
Admission requirements (in English)	<i>Bachelor's degree or higher professional education providing access to Master's programmes</i>
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	<i>Master Degree of Social Sciences in Economics</i>
Qualification to be obtained (in english)	<i>-</i>

Places of implementation

Place name	City	Address
Latvia University of Life Sciences and Technologies	JELGAVA	LIELĀ IEĻA 2, JELGAVA, LV-3001

III - DESCRIPTION OF THE STUDY PROGRAMME (1. Indicators Describing the Study Programme)

1.1. Description and analysis of changes in study programme parameters that have taken place since the issue of the previous accreditation certificate of study direction or the license of study programme if study programme is not included in the accreditation page of the study direction

The following changes have been made in the parameters of the master programme Economics since the accreditation of the field of study for the previous period: no part-time studies are available in the programme. The changes were made because the demand for this type of studies decreased.

1.2. Analysis and assessment of the statistical data on the students of the respective study programme, the dynamics of the number of the students, and the factors affecting the changes to the number of the students. The analysis shall be broken down in the different study forms, types, and languages.

In the period from the academic year 2013/2014 to the academic year 2018/2019, the programme was delivered in Latvian. On average, 99 students were enrolled on the master programme Economics, and the number of graduates reached 198. The statistical data on students are summarized in Annex 13. Up to the academic year 2015/2016 (inclusive), the programme was delivered full-time and part-time; the number of part-time students decreased due to the possibility to organize full-time studies two days a week (on Thursdays and Saturdays). Students preferred this kind of schedule; since the academic year 2016/2017, the programme is delivered only full-time. The number of students tended to decrease if comparing the academic year 2018/2019 with the academic year 2013/2014; the decrease was 12%, which could be explained by a decrease in the number of young people and students in the country. In the last academic year (2019/2020), the number of students has slightly increased by 9 students compared with the previous year.

The number of graduates varied from year to year, with an average of 33 students per year. The number of graduates varied by specialisation, with the most graduates representing financial specialisations – 94 over the last six years, which was almost half of all the graduates from the master programme Economics (47%); 40 graduates represented entrepreneurship, business and logistics-related specialisations, while the specialisation pertaining to territorial development and marketing was represented by 45 graduates (23%).

The proportion of students occupying government-funded study places tended to increase in the programme. In the academic year 2013/2014, the proportion was 80.2%, while in the academic year 2018/2019 it was 96.6%. In the last academic year (2019/2020), the proportion decreased to 87.8%.

On average, 22 students dropped out per year during the analysis period. The main reason for the discontinuation of studies, in almost half of all the instances, was the wish of the student him/herself to discontinue the studies, giving no detailed explanation. The second most common

reason was non-fulfilment of the study contract, failure to meet the requirements of the programme, as well as for some students the learning process and the programme was too difficult. Since most of the students are full-time or part-time working students, in most cases they initially did not fully comprehend the amount of time it takes to study. It is a positive fact that during the last academic years, those who had discontinued their studies increasingly re-enrolled on and graduated from the programme. Overall, the number of students in the programme could be viewed as steady, which contributes to a quality learning process. The problem that should be addressed, eliminating its causes, is as follows: much stricter contract terms and conditions have to be negotiated with a future student regarding starting and continuing studies to reduce the number of dropouts because there are some students who do not even begin their studies or study only for the first two months. Of course, some students resume their studies in accordance with the standard procedure of LLU (<https://www.llu.lv/lv/atjaunosanas-studijam>), yet the number of students who drop out is significantly larger than the number of those who resume their studies.

1.3. Analysis and assessment of the interrelation between the name of the study programme, the degree or professional qualification to be acquired or the degree and professional qualification to be acquired, the aims, objectives, learning outcomes, and the admission requirements.

The academic master programme Economics and the Master of Social Sciences in Economics to be awarded upon completing the programme are fully linked with the learning outcomes of the programme. It is determined by the dominant proportion of courses in economics and business science in the programme as prescribed by the Cabinet Regulation regarding the Branches and Sub-branches of Science in Latvia (<https://likumi.lv/ta/id/296661-noteikumi-par-latvijas-zinatnes-nozare-un-apaksnozarem>) (Only in Latvian) ; some of them – *Macroeconomics, Microeconomics, Finances and Credit, Accounting and Bookkeeping Theory, Regional Economics, Marketing, Econometrics and Statistics* – are offered for in-depth and extended learning, which is confirmed by the learning outcomes of the relevant courses. The National Academic Education Standard (<https://likumi.lv/doc.php?id=266187>) (Only in Latvian) stipulates that if the workload of a master programme is 80 CP, the programme's compulsory theoretical courses pertaining to economics and business have to be learnt in-depth and theoretical findings concerning urgent problems in the mentioned fields have to be approbated, with both being worth at least 24 CP. The mentioned requirement for the programme equals 34 CP, which guarantees a successful build-up of conceptual knowledge and professional and soft skills and competences. The LLU Admission Regulation sets requirements for applicants to the academic master programme Economics who do not hold a bachelor's degree in the field of study Economics (see the Admission Regulation https://www.llu.lv/sites/default/files/2019-10/Uznemsanas_noteikumi_magistra_studijas_2020_2021.pdf) (Only in Latvian) This means that the Admission Regulation allows not only graduates from a programme of economics but also graduates from other science programmes and relevant industry professionals to enrol on the programme. It reinforces and facilitates the interdisciplinary format of the learning process, provides a link to practical real life, guarantees an opportunity to acquire knowledge and build up an in-depth understanding of economic processes in companies of a certain industry, and the motivation of the mentioned applicants is usually relatively stronger. During the learning process, it allows any student to critically assess his/her own performance and that of other students, to enter into real competition and cooperation conditions, to form new corporate relations and to acquire research skills.

III - DESCRIPTION OF THE STUDY PROGRAMME (2. The Content of Studies and Implementation Thereof)

2.1. Assessment of the relevance of the content of the study course/ module and the compliance with the needs of the relevant industry and labour market and with the trends in science. Provide information on how and whether the content of the study course/ module is updated in line with the development trends of the relevant industry, labour market, and science. In case of master's and doctoral study programmes, specify and provide the justification as to whether the degrees are awarded in view of the developments and findings in the field of science or artistic creation.

The master programme Economics and the courses contained therein are aligned with the EU and national strategic documents and the goals and objectives set therein. The Europe 2020 strategy, which aims to boost growth and jobs in the EU as a whole and in each EU Member State, identifies three key priorities: smart, sustainable and inclusive growth, while Latvia's medium-term planning document National Development Plan 2014-2020 prescribes the leitmotif – an “economic breakthrough” and the priorities for development – “growth of the national economy” and “growth for regions”. The strategic objective Sustainable Management of Natural and Cultural Capital states that the utilization of Latvia's natural capital involves the sustainable use of land, forests, water and natural resources, thereby increasing the volume of ecosystem services, diversifying production and increasing productivity, equally developing intensive production as well as green production and green consumption and contributing to the preservation and non-depletion of natural capital. The curricula of courses are designed and developed in accordance with the LLU Development Strategy (<https://www.llu.lv/sites/default/files/2019-06/Startegy.pdf>) and the vision set by it: Latvia University of Life Sciences and Technologies is one of the leading universities in the field of science and technology in the Baltic Sea region, specialising in the sustainable use of natural resources for the improvement of the quality of life of the society. One of its specialisations is social sciences. Along with economic growth, the strategic documents highlight the need for sustainable development, in which three interrelated dimensions are important: the economy, the environment and human wellbeing. In economics and business science too (<https://likumi.lv/ta/id/296661-noteikumi-par-latvijas-zinatnes-nozarem-un-apaksnozarem>) (Only in Latvian), current developments in the field of research are linked to ensuring sustainable development, with particular emphasis on the environmental dimension and focus on innovation, resource efficiency, digitalisation etc. In the period 2013-2019, changes in the curricula of courses of the master programme Economics and the changes of courses and specialisations were associated with the mentioned developments.

In the academic year 2015/2016, a new compulsory course Environmental Economics (2 CP) that focuses on natural resource exploitation and stresses the roles of the bioeconomy and sustainable development was designed. The most significant changes in the courses occurred in the academic year 2016/2017, which were made taking into account trends in the labour market and challenges for economics. The changes made were in line with the priorities and challenges of the LLU Development Strategy 2015-2020 for enhancement of the learning process. As a result, the fragmentation of the programme has been eliminated, and an opportunity has been found to successfully cooperate with the other Faculties and other higher education institutions in attracting

lecturers and exchanging students. Three new specialisations have been created instead of the five previous ones: **Business and Logistics** (Institute of Business and Management Science), **Financial Management and Accounting** (Institute of Finance and Accounting) and **Sustainable Territorial Development and Marketing** (Institute of Economics and Regional Development), representing each institute's branch of science. The total number of courses has been reduced from 74 to 43. The study plan for the academic year 2015/2016 included 25 new study courses, of which 5 were compulsory and 20 restricted elective courses, while 34 courses were excluded from the study plan. A real link was established between the educational process and research as well as the research priorities set for ESAF: 1) economics of sustainable development of bioresource industries; 2) exploration of opportunities for sustainable development of territories; 3) efficiency of production processes and competitiveness of enterprises. Along with the changes made in the study plan, new courses have been designed, e.g. the courses focusing on the issues of sustainable development of nature, bioresources and territories: Sustainable Cooperation Management, Ecopreneurship, Sustainable Development of Territories, Tourism Economics, Sustainability of Packaging and Investments in Territorial Development. Consequently, the courses of the programme are closely associated with sustainable development. The courses Geographic Information Systems and E-business Systems that focus on digitalisation issues have been designed as well. The following new courses focusing on process efficiency and the assessment thereof, incl. the international dimension, have been designed: International Finance and Settlement, Project Financial Management and Entrepreneurship Financing.

During the last two academic years, there have been no changes in the curriculum of the academic master program Economics; however, the syllabuses of courses and the list of bibliographical sources are constantly being updated and supplemented. The courses have been enhanced by specifying the levels of learning outcomes (knowledge, skills, competence) to be achieved, the methods of assessment, as well as the forms of knowledge assessment and the requirements for taking tests and examinations.

In relation to the labour market, the specialisation Business and Logistics focuses on preparing specialists and doing research in the branch of economics and business, sub-branch of business management; the specialisation Financial Management and Accounting – in the sub-branch of finance and credit, the specialisation Sustainable Territorial Development and Marketing – in the sub-branch of regional economics and marketing.

The curricula and syllabuses of courses are designed in accordance with the Regulations regarding the Academic Education National Standard (<https://likumi.lv/doc.php?id=266187>) (Only in Latvian). The research problems chosen for master theses are urgent for the branch of science, as evidenced by the students' involvement in various research projects. The research done in master theses as well as in various research projects is successfully presented at students' annual scientific conference Development in Diversity (everyone who wrote a master thesis may participate in it) and at the international student scientific conference Students on their Way to Science, in which there is a separate section on Economics; in cooperation with their supervisors, master students report at the international scientific conference Economic Science for Rural Development, which is held by LLU ESAF, or at other conferences. In the analysed period, master theses produced by 11 students have been transferred as intellectual property to the institutions and organizations that have been interested in their research results.

2.2. Assessment of the interrelation between the information included in the study courses/ modules, the intended learning outcomes, the set aims and other indicators, the relation between the aims of the study course/ module and the aims and intended

outcomes of the study programme. In case of a doctoral study programme, provide a description of the main research roadmaps and the impact of the study programme on research and other education levels.

All the courses delivered within the programme are aligned with the goal of the master programme, as the goal of each course, the learning outcomes and the content of the topics included in it provide students with academic knowledge, appropriate skills and competences for analytical assessment of economic processes; some courses emphasise sustainable development. The courses focus on the development of research skills for scientific and academic work. The programme is designed to provide theoretical knowledge, practical skills and competencies that are essential to the economic and business sectors, thereby preparing specialists being nationally and internationally competitive in this field.

The courses contained in the programme are divided into two categories: compulsory courses and restricted elective courses. The linkage between the courses of the programme and the progress of the programme towards the achievement of the results defined in the programme is summarized in Annex 17, which also shows a map of the courses. The compulsory courses focus on knowledge acquisition, among them: Statistical and Econometric Methods and Research Design and Methods, which provide an advanced knowledge of the requirements and methods for doing high-quality research that guide students towards building up their professional skills. The compulsory courses build up academic competence – an ability to make a real contribution to the creation of a new knowledge in a particular sub-branch of economics and business science, to substantiate and critically assess the potential effect of research results on the indicators of sustainable development based on the theoretical knowledge, cognitive and research skills acquired.

There are three categories of elective courses corresponding to the specialisations of the programme: Financial Management and Accounting; Business and Logistics; Sustainable Territorial Development and Marketing. Overall, the specialisations are in line with the goal of the programme. Each of the specialisations and the restricted elective courses contained therein provide the learning results to be achieved in the programme, which are specific to each of them in terms of professional skills. The curricula of the courses develop competence to independently and creatively integrate knowledge of various sub-branches of economics and business science, to identify and apply an optimal combination thereof in performing specific academic, professional and research tasks as well as analytical competences to independently define and critically analyse complex and dynamic scientific and professional problems, assess the potential risks of solving them and identify measures to mitigate their adverse effects based on an analysis of the factors affecting producer and consumer behaviours and relevant indicators at the micro-, macro-, regional and global levels.

The sustainable development component of the programme's goal is incorporated in courses such as Environmental Economics, Regional Economics and Policy, Ecopreneurship, Sustainable Territorial Development, etc. Several courses such as Economic Resources, Entrepreneurship Financing, Marketing Research and Market Forecasting, Planning and Controlling allow for the development of instrumental competences, which constitute a set of cognitive and methodological abilities that provide and facilitate the skill to justify decisions and social inclusion as well as make a real contribution to the development of research or professional methods, communication and publicity in the local and international scientific community. The aim of a master thesis being part of the curriculum is to prove the student's scientific erudition and research and creative abilities in economics or its sub-branches by a set of knowledge, skills and competences acquired during the

learning process. The master thesis represents the knowledge, skills and competences acquired within the whole programme for the topic researched. By taking courses and producing and successfully defending a master thesis, a student can obtain academic education in economics that provides nationally and internationally competitive knowledge, relevant skills and competences.

2.3. Assessment of the study implementation methods (including the evaluation methods) by providing the analysis of how the study implementation methods (including the evaluation methods) used in the study courses/ modules are selected, what they are, and how they contribute to the achievement of the learning outcomes of the study courses and the aims of the study programme. Provide an explanation of how the student-centred principles are taken into account in the implementation of the study process.

In the practical delivery of the master programme, depending on the specifics of a course and the type of contact hours (lectures, practicals and seminars), the monological, dialogical and research methods are applied in various proportions, which is a joint or individual cognitive activity of students and teaching personnel that is planned and intended to achieve the goal and objectives of the programme.

In lectures as the main form of **monologue method** implemented by means of information technologies, the teaching personnel creatively incorporate elements of the dialogical method to provide feedback from the audience and a greater variety of forms of teaching: ask questions to the audience and give group or individual assignments. The content of a lecture emphasizes theoretical and practical aspects of the topic.

The purposeful and active development of students' attitudes, skills and knowledge is ensured through various forms techniques of the **dialogical method** such as instructive talks, ideas-generating groups, brainstorming, dialogue, discussion, debate, situation simulation etc. The mentioned teaching methods help to expose students' individual creative thinking abilities and define unconventional ideas and solutions, facilitate a more informed understanding of a problem or question, develop communicative skills (express and defend the opinion, persuade others) and ensure real competition, cooperation, critical assessment and creativity, and the active involvement of each participant allows the teaching personnel to be both a leader and a supporter.

Applying **research study methods** plays a special role in the practical delivery of the programme. The methods allow for a critical assessment of research findings and resolution of problems and facilitate individual and group work by providing feedback between students and teaching personnel in the context of the theoretical knowledge and skills they have acquired, either in written or oral form. The programme prescribes and applies various **forms** of research study methods such as problem solving, situation analysis and case studies, projects, theoretical literature studies, strategic analysis and planning, research assignments, field trips, practical empirical research, thesis preparation, analysis and interpretation of secondary data, exploration (studies), etc.

The choice of teaching methods and forms is determined by the specifics of a course delivered (whether it is more knowledge- or skills-oriented). The teaching method is usually chosen by teaching personnel, yet there are also some courses in which the teaching methods are chosen in cooperation with the students. The programme focuses on interactive forms of learning such as small group work, independent work, projects and their presentation, including by use of information technologies and the opportunities thereof. An easy-to-use tool in the programme is the

e-learning platform Moodle. It provides not only information exchange between teaching personnel and students but also an interactive learning process, including a possibility to assess students' knowledge in the e-environment.

The basic principles and methods for assessing the learning outcomes of a course are described in detail in section 2 (see section 2.1.6). In implementing the learning process, the student-focused education process requires that:

- assessment is consistent, fair to all students and implemented in accordance with the procedures approved;
- assessment criteria and methods, as well as the criteria for marking, have been made public in advance;
- assessment gives students an opportunity to demonstrate the extent to which they have achieved the expected learning outcomes;
- students receive feedback, if needed, that provides guidance on the learning process.

Course assessment criteria for students are included in the syllabuses of courses, defining the levels of learning outcomes (knowledge, skills, competence) to be achieved, the methods used to assess each component of learning outcomes, as well as certain forms of knowledge assessment and requirements for taking a test or examination (See Annex 19 Description of the courses of the master programme Economics).

An examination is usually written, accounting for 40% of the total mark. In the case of a formal test with a mark, such knowledge assessment methods as independent work, tests, practical homework, individual or group work and its presentation, case studies, etc. are applied. Each course syllabus specifies a specific proportion of the assignments to be completed to receive the final mark.

In view of the importance of student assessment, student-focused learning also requires relevant procedures for processing student complaints. In accordance with the LLU Regulation of Studies, the student has the right to make a claim regarding the assessment of an examination/graduate thesis and the organization and conduct of the learning process. The student may submit an appeal against the assessment of the final examination of master studies to the chairperson of the relevant committee. The Regulation of Studies also specifies the procedure for processing the appeal.

2.4. If the study programme entails a traineeship, provide the analysis and assessment of the relation between the tasks of the traineeship included in the study programme and the learning outcomes of the study programme. Specify how the higher education institution/ college supports the students within the study programme regarding the fulfilment of the tasks set for students during the traineeship.

Not applicable.

2.5. Analysis and assessment of the topics of the final theses of the students, their relevance in the respective field, including the labour market, and the evaluations of the final theses.

The topics of students' graduate theses closely relate to the specialisation chosen, currently they are: **business, financial and territorial development** issues. The choice of topics is based on the principle of focusing on one of the economic sectors, which is 50 to 55% of the graduate thesis, mostly on the bioeconomy sectors such as agriculture, forestry and renewable energy production. The choice of such topics is in line with the LLU Development Strategy

(<https://www.llu.lv/sites/default/files/2019-06/Startegy.pdf>), the Latvian Bioeconomy Strategy 2030

(https://www.zm.gov.lv/public/files/CMS_Static_Page_Doc/00/00/01/46/58/E2758-LatvianBioeconomyStrategy2030.pdf) and the Smart Specialisation Strategy of

Latvia (<https://izm.gov.lv/en/Science/smart-specialisation-strategy>), which define the knowledge-intensive bioeconomy as a priority for Latvia, as well as other current strategic documents.

Methodological issues are also a focus in graduate theses, the choice of such topics tends to increase: in the academic year 2013/2014, such topics were approximately 10%, while in the academic year 2017/2018 – 20%.

Among the topics of students' graduate theses, the European Union and Latvia as an EU Member State have become slightly less topical, especially in the context of use of EU funding. There has been a slight increase in the proportion of topics related to research on specific groups of society, such as young people, the unemployed, etc. Master students' interest in **environmental issues** has increased (e.g. master theses entitled The Role of the Green Economy in the Forest Sector in Latvia, Specially Protected Nature Territories..., Creation of a Green Brand...). Graduate theses focus on **sustainable development** in line with the Sustainable Development Strategy of Latvia until 2030, which states that the key driver of development is the individual, while nature and its resources represent the capital of the future, thereby highlighting the role of innovation and the importance of good governance and public participation. Innovation and environmental issues are a focus in master theses, e.g. the theses entitled Potential for Innovation in Organic Farming in Latvia, Competition between Organic Cosmetic Companies ... in Latvia and so on.

Graduate theses also focus on topics such as a comparison of two countries, e.g. Latvia and Germany (labour taxes), Latvia and Lithuania (use of EU funding) and so on. It should also be noted that the graduate theses focusing on the Baltic States deal with assessment of taxation and tax policies, labour problems in the context of various sectors and companies, e.g. Comparison of Value Added Tax among the Baltic States, Comparative Analysis of the Labour Tax Burden... and so on.

Master students choose topics for their graduate theses independently or in cooperation with their supervisors. The urgency of the topics chosen and their alignment with labour market needs is ensured by the fact that many master students are employed by companies, organizations and institutions and choose a topic that is important and urgent for their workplace and the relevant industry. To contribute to the alignment of graduate theses with the requirements of the labour market, several cooperation agreements have been concluded by LLU, e.g. in the academic year 2015/2016 ESAF concluded cooperation agreements with the Latvian Peat Producer Association, the Latvian Agricultural Cooperatives Association and others. The agreements give master students an opportunity to get advice and provide mutual cooperation with regard to researching the problem. Every year, several municipalities, the Zemgale Planning Region Development Council, the Bank of Latvia and other organizations send a list of urgent topics, inviting master students to produce graduate theses on the topics. A number of master students' graduate theses after having been defended have been handed over to companies and organizations as intellectual property, e.g. the master thesis entitled Cooperation as a Factor Affecting Innovation in Kurzeme Region was handed over to the Latvian Association of Local and Regional Governments, the master thesis entitled Assessment of Digitalisation at Universities in Latvia – to LLU. Several master theses have been produced within projects supported by the National Research Programme (NRP), e.g. in 2017 the

master thesis entitled Assessment of Reed Potential for Bioenergy Production in Latvia (project EVIDenT), the master thesis entitled Cooperation as a Factor Influencing Innovation in Kurzeme Region (NRP project EKOSOC); in 2019, two master theses were produced within the project INTERFRAME: Sales Promotion Services in the Enterprises Bite Latvija and Tele2; Assessment of Digitalisation at Universities in Latvia.

The assessment of graduate theses is carried out in accordance with LLU Regulation No.8-65 Regulation regarding Final Examinations (https://www.llu.lv/sites/default/files/2016-08/Nolikums%20par%20studiju%20nosl%C4%93guma%20p%C4%81rbaud%C4%ABjumiem_2014-1.pdf) (Only in Latvian) that prescribes assessment criteria. The Master Examination Committee takes into account the student's academic knowledge, professional preparedness, creative abilities and skills, which are assessed in a 10-point marking system, and decides on whether to award a Master of Social Sciences in Economics. It is a positive fact that each master thesis is reviewed by two independent reviewers, which helps the committee to make an unbiased assessment (a thesis review form is available at <http://www.esaf.llu.lv/lv/studiju-un-reglamentejosie-dokument>) (Only in Latvian). The average mark of master theses has slightly changed over the years, yet it was above 8. Each year, a number of master theses that were assessed as excellent and outstanding are submitted to various graduate thesis contests, in which a significant number of the submitted theses are awarded prizes.

For example, the master thesis Factors Affecting Salaries of Pedagogues at General Educational Institutions in Latvia won the top prize in the scientific work competition held by the Latvian Economic Development Forum in 2013. The author received a certificate of distinction from both the Forum and the Higher Education Council, and her research has also been commercialized. In the period from the academic year 2013/2014 to the academic year 2018/2019, a total of 17 master theses were awarded a prize or a certificate of distinction by the state-owned development finance institution Altum, the Latvian Academy of Agricultural and Forestry Sciences (LLMZA) and LLU for their contribution to rural development, modernisation in rural areas and entrepreneurship development. The first winner of the Jelgava City Council's competition, which aims to promote the development of Jelgava City and Zemgale region, was the author of the master thesis entitled Zemgale Tourist Profile and Opportunities to Attract Potential Tourists. The master thesis Assessment of the Competitiveness and Financial Performance of JSC Air Baltic Corporation in the Baltic States was awarded 2nd place in the 2018 student research work competition held by the Investment and Development Agency of Latvia.

The quality and relevance of master theses is assessed by the Master Examination Committee. In the final report of the commission of 2019, it was stated that the content of theses was innovative and the master theses were practically usable by public institutions and entrepreneurs.

2.6. Analysis and assessment of the outcomes of the surveys conducted among the students, graduates, and employers, and the use of these outcomes for the improvement of the content and quality of studies by providing the respective examples.

To assess the master program Economics, a **survey of students and alumni** is conducted annually. Questionnaires are used to find out students' opinion on the courses delivered and their quality, the theoretical knowledge and practical skills acquired during the period of studies, an opportunity to learn new, innovative findings in the learning process and whether the knowledge and skills acquired are in line with labour market needs. The questionnaires also include questions

on access to information, current developments in the learning process, the availability of teaching and methodical aids and technical support for classrooms. However, the questions included in the questionnaire for alumni allow assessing the programme in the contexts of the labour market and use of knowledge and skills acquired during the period of studies.

A survey of students (on average 92% of students are involved).

Of the students surveyed, 80% worked in parallel with their studies in 2019, compared with 61% in 2015, which indicates a trend towards more master students being employed, which, to some extent, complicates their time management to combine the work and learning, yet, at the same time, the master students pay much more attention to the quality of the learning process. Overall in the analysis period, the ratings of master students have increased for all the positions, in terms of both the opportunities and the quality of the programme. According to the survey, the proportion of the respondents who believed they were fully satisfied with the courses offered has increased significantly; in 2015 it was 9% of the respondents, while in 2019 already 50%. The proportion of highest ratings of course quality given by the respondents has also increased from 11 to 30%. This makes it possible to assert that the changes made in the programme by shifting to three specialisations and changing the courses and their content have been successful. The proportion of the respondents who fully agreed or rather agreed that new and innovative findings were learnt during the learning process has increased from 52 to 90%. The proportion of the respondents who believed their knowledge acquired could be practically applied has increased, while in 2015, 14% of the respondents answered that they fully agreed that the knowledge and skills acquired would be useful for their jobs; in 2019 already 50% of the respondents thought this way. The master students' high ratings of the skills acquired to work with information, of its accessibility as well as of the possibility to obtain information at the LLU library and ESAF have remained the same. The master students' maximum ratings of available study materials and classrooms has slightly decreased; 38% rated them as good in 2015, 55% in 2018 and 30% in 2019. The respondents' ratings of whether to recommend their friends to study in this programme varied, yet overall the ratings could be considered rather high, as 64% of the respondents in 2015, 70% in 2017 and 40% in 2019 tended to agree with this statement. It is a very positive fact that the master students' ratings of teaching personnel's qualifications, erudition and attitude to students increased; in 2015, 79% fully agreed or rather agreed that the teaching personnel were highly qualified and erudite, 100% in 2018, 90% in 2019. As regards the attitude of teaching personnel to students, 20% fully agreed it was favourable in 2015, compared with 80% in 2019.

Student recommendations. In earlier surveys, several students objected to the deadlines and schedules set for completing courses and course assignments, which overburdened them at the end of the semester. No objection to this was found in the surveys of 2019, which means that over time, this dissatisfaction has been eliminated, as courses and classes are now more compactly scheduled. Changes in study plans have been made, some courses have been excluded, some new courses have been designed, and any duplication of the courses has been avoided. The master students were positive about the use of e-environment tools by teaching personnel and students, yet they noted that the tools could be used in a wider and more diverse way. The master students also suggested introducing courses in technology and relevant computer software, e.g. in accounting and logistics.

A survey of alumni (on average 90% of the alumni of the relevant academic year participate in it).

Of the alumni surveyed in 2019, 44% had jobs that matched their education and 39% had jobs that more likely matched their education, i.e. totally 83%; in 2015, the percentages were 20 and 25, respectively. It is a positive fact the proportion of the alumni whose jobs matched their education

has almost doubled, which also allows better assessing the learning process and the knowledge and skills acquired. The alumni's ratings of some matters tended to slightly decrease from year to year, yet in recent years the ratings increased again and exceeded the ratings given at the beginning of the analysis period. The trend is especially noticeable in matters regarding the alumni's cooperation with teaching personnel, available methodological and technical resources and the performance of the LLU information system. Overall, the alumni's satisfaction with their choice of the programme has increased, with 45% of the alumni fully agreeing with this statement in the 2015 survey, compared with 61% in 2019. The ratings of the theoretical and practical knowledge acquired during the period of studies has increased as well, about 70% of the alumni rated it as high, in 2015 only half of the respondents gave such a rating. This fact is linked to the fact that an increasing number of the alumni are employed in their speciality or in a related one, and this also allows the acquired knowledge and skills to be rated higher. There are two negative trends observed in the survey of alumni, which require solutions in relation to the future of the programme. The number of the alumni who believed they had improved their communication skills and ability to communicate during their university studies has decreased; answering this question in 2015, 45% fully agreed with it, while in 2019 – only 33%. The number of the alumni intending to continue their studies at doctoral level has also decreased; within three years of the analysed ones, no one has expressed the wish to study at higher level either at LLU or at another university. This fact calls for more involvement of master students in research and scientific research projects, which is the basis for their future doctoral studies. For example, a graduate of the academic year 2015/2016 was involved in the NRP project EKOSOC-LV, which focused on innovation in organic farming, and currently she is a 3rd year doctoral student at LLU ESAF.

Alumni recommendations. In the programme, according to the surveys of alumni, it would be necessary to include courses pertaining to public relations and psychology, as well as to broaden the use of various technologies in some current courses. The study plan for the academic year 2016/2017 was changed, and the course Geographic Information Systems and the course E-business Systems, which focus on wider use of technology, were included in the programme, as well as the course Research Design and Methods focusing on possibilities for using various methods in technology research was designed.

A survey of employers. Employers are randomly surveyed to find out whether alumni meet labour market needs and to assess their skills and competences acquired. LLU conducted a survey of employers in 2017, and 40% of the survey results were attributed to the alumni of the master programme Economics. One third of the employers surveyed confirmed that the alumni had jobs fully matching their education, while for two thirds it was a partially match. Assessing the alumni as a whole, 50% of the employers believed that the alumni possessed good theoretical knowledge and had practical preparedness, 20% required little training to be successful in doing the tasks assigned to them. According to the survey, all the alumni had acquired the theoretical knowledge necessary for their work in the relevant field and were able to apply it in performing their tasks, yet the ratings of practical skills were lower, and 60% of the respondents believed the relevant objective had been achieved rather than fully. The ability to make decisions and creative solutions was also rated slightly lower, with 10% failing to reach this objective; the alumni's ability to inspire other colleagues was rated slightly higher. The motivation of alumni for self-development and further education as well as their ability to work in a team and to be responsible was highly rated by the employers.

The latest employer survey and programme curriculum assessment conducted by LLU in 2019 in cooperation with Dynamic University Ltd and PricewaterhouseCoopers Ltd concluded that the courses contained in the master programme Economics cover all the knowledge needed in the modern labour market and business. The demand for highly qualified professionals will not

decrease but rather increase, especially in the medium- to long-term.

The results of surveys of students, alumni and employers are used by the programme director for enhancing study plans and course curricula in cooperation with the teaching personnel and employers engaged in the delivery of the programme. Some courses are excluded from the study plan, and new courses are developed and introduced. Employers are invited as guest lecturers to deliver some topics, for example, specialists from the Jelgava City Council's Development and Urban Planning Department or the Zemgale Planning Region Administration's Development Department – some of whom had also graduated from the programme – to deliver the topic Regional Development and Strategy in the course Regional Economy and Policy. Each year, in cooperation with entrepreneurs of the region, a study tour is held to familiarise the students with the business environment and current developments in relation to the enterprises in rural areas. In this way, theoretical studies are complemented by practice.

2.7. Provide the assessment of the options of the incoming and outgoing mobility of the students, the dynamics of the number of the used opportunities, and the recognition of the study courses acquired during the mobility.

The LLU International Cooperation Centre administers learning mobility at LLU in connection with Erasmus + programme activity No. 1 Learning mobility in higher education (KA1) (<https://www.llu.lv/en/erasmus>). Learning mobility allows LLU students to travel to one of the Erasmus + programme countries (in total, there are 29 for LLU) or Erasmus + partner countries to study, enhance their knowledge and skills and gain life experience. Erasmus + student mobility complies with the Erasmus University Charter and the Erasmus + Student Charter. The student can go on mobility for 12 months. There is no incoming student mobility, yet outgoing mobility involves Erasmus + and BOVA activities.

To promote international student cooperation and exchange of experience under the Erasmus + programme, several students of the master programme Economics studied in foreign universities from the academic year 2013/2014 to the academic year 2018/2019, e.g. at the University of Huelva (Spain) – five master students, the Braganca Polytechnic Institute (Portugal) – two master students, the Polytechnic Institute of Porto (Portugal) – two master students. Seven master students went on mobility and completed the BOVA intensive master-level training course Sustainable Agriculture in Rural Development at Aleksandras Stulginskis University in Kaunas, Lithuania, while three students gained an in-depth knowledge in the course Sustainability and Innovation in Rural Development there. At the Estonian University of Life Sciences, four master students completed intensive training courses on Agri-Food Supply Chains in the Baltic Sea Region and there master students advanced their knowledge in the course Innovation and Entrepreneurship for Rural Development.

When a student goes on mobility, a protocol of intent for academic recognition is drawn up, which guarantees that upon returning from the mobility, the credits of the courses taken will be transferred.

III - DESCRIPTION OF THE STUDY PROGRAMME (3. Resources and Provision of the Study Programme)

3.1. Assessment of the compliance of the resources and provision (study provision, scientific support (if applicable), informative provision (including libraries), material and technical provision, and financial provision) with the conditions for the implementation of the study programme and the learning outcomes to be achieved by providing the respective examples. Whilst carrying out the assessment, it is possible to refer to the information provided for in the criteria set forth in Part II, Chapter 3, sub-paragraphs 3.1 to 3.3.

The learning process is organized mostly in the building of the Faculty of Economics and Social Development, at 18 Svetes Street, while some courses are delivered at the other LLU Faculties: the Faculty of Information Technologies (E-business Systems), the Faculty of Environment and Civil Engineering (Geographic Information Systems; Planning of Urban Space) and the Faculty of Food Technology (Sustainability of Packaging), using the infrastructures of these Faculties. For a detailed description of the infrastructure and material and technical resources, see section 2.3.2.; for a detailed description of information resources, see section 2.3.3, while for a description of the financial base, see section 2.3.1.

3.2. Assessment of the study provision and scientific support, including the resources provided within the cooperation with other science institutes and institutions of higher education (applicable to the doctoral study programmes).

Not applicable.

III - DESCRIPTION OF THE STUDY PROGRAMME (4. Teaching Staff)

4.1. Analysis and assessment of the changes to the composition of the teaching staff over the reporting period and their impact on the study quality.

In the academic year 2019/2020, 38 academic personnel are involved in the academic master programme Economics: 17 professors, including 2 professors emeritus, 9 associate professors, 6 assistant professors and 6 lecturers. Compared with the previous accreditation period, the number of teaching personnel involved in the programme has decreased by 4. In the academic year 2013/2014, there were 10 professors, and their number has increased by a third, yet the number of lecturers involved in the programme has decreased – before there were 10, and now 6. If analysed by academic workload, the distribution of the teaching personnel involved in the programme by position is shown in the table below. The workload significantly depends on the number of the teaching personnel involved in the programme; in the academic year 2019/2020, the teaching workload in the programme comprised 7.34 full-time equivalent positions or workloads.

Academic workloads of the teaching personnel involved in the master programme

Economics in the academic year 2019/2020

Position	Teaching workload, h	Number of FTE positions or workload *	% of total workload
Professor	2225.75	2.47	34
Professor (emeritus)	307.15	0.34	4
Associate professor	1891.14	2.06	28
Assistant professor	1627.56	1.73	24
Lecturer	711.45	0.74	10
total	6763.05	7.34	100

**Number of FTE workloads as at 1 January 2019*

There are three courses that are delivered by a group of teaching personnel, e.g. Statistical and Econometric Methods – two professors, one assistant professor and one lecturer from the Faculty of Information Technologies. Three ESAF teaching personnel – a professor emeritus, an associate professor, and an assistant professor are involved in the delivery of the course Research Design and Methods.

Compared with the academic year 2013/2014, now more teaching personnel from the other LLU Faculties are involved in the programme: before there were 5, now – 10, of which 5 represent the Faculty of Information Technologies, two teaching personnel are from the Faculty of Engineering and the Faculty of Environment and Civil Engineering each and one from the Faculty of Food Technology. One teaching personnel member is from Vidzeme University of Applied Sciences. ESAF provides 27 teaching personnel, and their distribution by organisational unit is as follows: EKRA 41%, FIGR 22%, UZVA 26% and SOHU 11%.

Of the teaching personnel of the programme, 30 or 79% also work as researchers or leading researchers; there were only two researchers in the academic year 2013/2014. It confirms the qualifications of the teaching personnel and their ability to work in the relevant field of science as well, thereby raising the quality of the learning process in the programme, involving master students in scientific research projects and writing joint research papers.

Overall, changes in the composition of teaching personnel involved in the programme from 2013 to 2019 are associated with qualitative changes. The proportion of the teaching personnel involved in the programme and holding a doctoral degree has increased by 16 percentage points, and now 82% have a doctoral degree. There has been a significant increase in the number of researchers and leading researchers, yet a decrease was in the number of lecturers involved; the lecturers are mostly involved in the delivery of modules of courses, conducting lectures and practicals. The proportion of teaching personnel from the other LLU Faculties and other universities has increased, representing totally 32% of all the teaching personnel involved in the programme. Changes in the composition of teaching personnel have focused on raising quality and providing interdisciplinary knowledge.

4.2. Assessment of the compliance of the qualification of the teaching staff members (academic staff members, visiting professors, visiting associate professors, visiting docents, visiting lecturers, and visiting assistants) involved in the implementation of the study programme with the conditions for the implementation of the study programme and the provisions set out in the respective regulatory enactments. Provide information on how the qualification of the teaching staff members contributes to the achievement of the learning outcomes.

The qualifications of teaching personnel are determined by a unified system established in Latvia, as well as the relevant legal documents of LLU, which are complied with by the master programme. To find out more about the qualification requirements for teaching personnel, an assessment of the qualifications and opportunities for further personnel development, see section 2.3.5.

In the academic year 2019/2020, 38 academic personnel are involved in the academic master programme Economics, 31 of them have a doctoral degree, mostly in economics. Numerical qualification data for professors, associate professors and assistant professors are summarized in the table below.

Qualifications of the teaching personnel involved in the master programme Economics in the academic year 2019/2020

Indicator	Professors	Assoc. professors	Assist. professors
Number of personnel	17	9	6
incl. with a doctor degree	17	9	5
Dr.oec.	12	4	3
Dr.sc.ing.	4	2	1
Leading researchers	14	6	2
Researchers	1	3	2
LCS experts*	6	2	0

**in economics and business*

All the professors, associate professors and assistant professors (except one) have a doctoral degree, most of them are also involved in scientific research; 14 professors are leading researchers elected at LLU and one researcher, while 6 associate professors are leading researchers elected at LLU and three researchers.

The qualifications of the teaching personnel involved in the academic master programme Economics increased, as evidenced, for example, by their scientific performance over the last six years, which has increased significantly. The total number of research papers is about 100 per year, the number of research papers indexed in the databases Web of Science and Scopus has increased significantly. The teaching personnel's scientific performance has increased, which is evidenced by the fact that eight of the teaching personnel involved in the programme are also LCS experts in the branch of economics and business. High quality, growth and self-development oriented teaching personnel contribute to their work to achieve the expected learning outcomes of the programme.

4.3. Information on the number of the scientific publications of the academic staff members, involved in the implementation of the doctoral study programme, as published during the reporting period by listing the most significant publications published in Scopus or WoS CC indexed journals. As for the social sciences, humanitarian sciences, and the science of art, the scientific publications published in ERIH+ indexed journals may be additionally specified (if applicable).

Not applicable.

4.4. Information on the participation of the academic staff, involved in the implementation of the doctoral study programme, in scientific projects as project managers or prime contractors/ subproject managers/ leading researchers by specifying the name of the relevant project, as well as the source and the amount of the funding. Provide information on the reporting period (if applicable).

Not applicable.

4.5. Provide examples of the involvement of the academic staff in the scientific research and/or artistic creation activities both at national and at international level (in the fields related to the content of the study programme), as well as the use of the obtained information in the study process.

Most of the teaching personnel delivering the master programme Economics participate in scientific research (22 leading researchers and 7 researchers elected at LLU are involved in the programme), and the results of the latest and latest research are integrated into the learning process. For detailed information, see section 2.4. For scientific research topics, see chapter 2.4.1, and for the application of the findings made, see section 2.4.2. Examples of scientific research at national and international level as well as performance indicators are described in sections 2.4.3 and 2.4.4.

The main channels through which the academic personnel of the programme are engaged in research at national and international level are Horizon2020 projects (e.g. BioMonitor, DISARM); the ERA-NET network (RETHINK, SUMFOREST); national research programme projects (EKOSOC-LV, EVIDEnT, INTERFARME, DemoMig); research commissioned by the ministries of the Republic of Latvia (e.g. the Ministry of Agriculture project Forecasting Agricultural Development and Developing Policy Scenarios for 2050); cooperation projects with local governments and businesses (e.g. cooperation with the JSC Latvian State Forests) etc.

There is active participation and involvement of the teaching personnel in various international organizations (e.g. the Baltic Forestry, Veterinary and Agricultural University Network (BOVA), the Lithuanian Academy of Sciences, the Polish Council of Science etc.); participation in foreign scientific institutions as experts and members of the editorial boards of scientific journals (e.g. the Journal of Science Education etc.) and as speakers at various level scientific conferences, including plenary sessions.

The scientific monographs produced as a result of research are included in the list of textbooks, methodological and scientific literature for the courses of the master programme Economics, e.g. the monograph Impacts of Protectionist Instruments on the Primary and Secondary Spheres of Sustainable Development for the course Investment in Territorial Development, the monograph Possibilities to Reduce Greenhouse Gas Emissions by Climate-Friendly Agriculture and Forestry in Latvia and the monograph entitled "Beyond a Century. The Smart Latvia" for the course Territorial Sustainable Development etc.

4.6. Assessment of the cooperation between the teaching staff members by specifying the mechanisms used to promote the cooperation and ensure the interrelation between the study courses/ modules. Specify also the proportion of the number of the students and the teaching staff within the study programme (at the moment of the submission of the Self-Assessment Report).

Teaching personnel cooperation with national and foreign institutions is described in section 2.5.1, while cooperation within LLU is ensured through the delivery of courses and the organizational and management structure of LLU. There are five courses of the programme that are delivered by several teaching personnel from various organisational units of LLU; some examples of cooperation of the teaching personnel involved in the delivery of the courses are given in section 4.4.1. The teaching personnel are involved in various LLU governing bodies, such as the LLU Senate, the LLU Council, the ESAF Board and the ESAF Methodology Commissions. Each of the teaching personnel involved in the programme is a member of one of the LLU organisational units, whose mutual cooperation, exchange of information and organization of work are carried out in accordance with the statute of the relevant institute or department.

In the academic year 2019/2020, the ratio of students to teaching personnel for the master programme Economics, taking into account the workload of the teaching personnel, is 12.1 teaching personnel per 89 students or 1: 7.4.

Annexes

III. Description of the Study Programme - 1. Indicators Describing the Study Programme		
Compliance of the joint study programme with the provisions of the Law on Institutions of Higher Education (table)		
Statistics on the students over the reporting period	Annex_13.docx	13.pielikums.docx
III. Description of the Study Programme - 2. The Content of Studies and Implementation Thereof		
Compliance of the study programme with the State Education Standard	Annex_14.docx	14.pielikums.docx
Compliance of the qualification to be acquired upon completion of the study programme with the professional standard (if applicable)		
Compliance of the study programme with the specific regulatory framework applicable to the relevant field (if applicable)		
Mapping of the study courses/ modules for the achievement of the learning outcomes of the study programme	Annex_17.xlsx	17.pielikums.xlsx
Curriculum of the study programme (for each type and form of the implementation of the study programme)	Annex_18.docx	18.pielikums.docx
Descriptions of the study courses/ modules	Annex_19.rar	19.pielikums.rar
Description of the Study Direction - Other mandatory attachments		
Sample of the diploma to be issued for the acquisition of the study programme.	Master_diploma_Supplement_Econ_EN.rar	Magistra_diploms_pielikums_Ekon_LV.rar
Description of the Study Programme - Other mandatory attachments		
Document confirming that the higher education institution/ college will provide the students with the options to continue the acquisition of education in another study programme or at another higher education institution/ college (a contract with another accredited higher education institution/ college), in case the implementation of the study programme is discontinued	Agreement between LLU and RTU.docx	LLU_RTU_07012020_01000-4.1-e_2.edoc
Document confirming that the higher education institution/ college guarantees to the students a compensation for losses if the study programme is not accredited or the licence of the study programme is revoked due to the actions of the higher education institution/ college (actions or failure to act) and the student does not wish to continue the studies in another study programme	LLU confirmation_Master program.docx	LLU_apliecinajumi_ESAF_Mag_programmai_Ekonomika.edoc
Confirmation of the higher education institution/ college that the teaching staff members to be involved in the implementation of the study programme have at least B2-level knowledge of a related foreign language according to European language levels (see the levels under www.europass.lv), if the study programme or any part thereof is to be implemented in a foreign language.	LLU confirmation_Master program.docx	LLU_apliecinajumi_ESAF_Mag_programmai_Ekonomika.edoc
If the study programmes in the study direction subject to the assessment are doctoral study programmes, a confirmation that at least five teaching staff members with doctoral degree are among the academic staff of a doctoral study programme, at least three of which are experts approved by the Latvian Science Council in the respective field or sub-field of science, in which the study programme has intended to award a scientific degree.		
If academic study programmes are implemented within the study direction, a document confirming that the academic staff of the academic study programme complies with the provisions set out in Section 55, Paragraph one, Clause three of the Law on Institutions of Higher Education	LLU confirmation_Master program.docx	LLU_apliecinajumi_ESAF_Mag_programmai_Ekonomika.edoc
Sample (or samples) of the study agreement	Studiju_ligums_paraugs_EN.pdf	Studiju_ligums_paraugs_LV.pdf
If academic study programmes for less than 250 full-time students are implemented within the study direction, the opinion of the Council for Higher Education shall be attached in compliance with Section 55, Paragraph two of the Law on Institutions of Higher Education.	Council of Higher Education_conclusion_Master program.docx	AIP_atzinums_magistra_studiju_programmai_Ekonomika.pdf

Agrarian and Regional Economics

Title of the higher education institution	<i>Economics</i>
ProcedureStudyProgram.Name	<i>Agrarian and Regional Economics</i>
Education classification code	<i>51311</i>
Type of the study programme	<i>Doctoral study programme</i>
Name of the study programme director	<i>Dina</i>
Surname of the study programme director	<i>Popluga</i>
E-mail of the study programme director	<i>Dina.Popluga@llu.lv</i>
Title of the study programme director	<i>Asociētā profesore, Dr.oec.</i>
Phone of the study programme director	<i>+371 63020248</i>
Goal of the study programme	<i>To create intellectual, methodological, scientific, institutional and technical preconditions that ensure acquiring advanced-level theoretical knowledge and learning research methods and principles of research work organization, which are necessary for producing a quality doctoral dissertation and earning a doctoral degree in economics in line with international standards that generally contributes to the emergence of a new generation of scientists for the economy who specialise in Agrarian and Regional Economics.</i>
Tasks of the study programme	<ul style="list-style-type: none"> <i>• To provide doctoral students with advanced-level knowledge, specific skills and professional attitudes that enable them to successfully do scientific research in the agricultural or regional economy, as well as in interdisciplinary topics.</i> <i>• To develop skills in identifying a research problem, formulating a hypothesis or research question, designing a research plan, planning data collection and analysis.</i> <i>• To train new scientists in economics who would be able to systematize, methodologically analyse primary and secondary data by using classical and the newest qualitative and quantitative methods, associate the results obtained with theoretical knowledge and introduce new research approaches.</i> <i>• To facilitate the publication of research findings by doctoral students in high-level international scientific publications available in internationally recognized databases.</i> <i>• To provide opportunities for doctoral students to disseminate their research findings among the international scientific community.</i>

Results of the study programme	<p><i>Students will be able to demonstrate:</i></p> <p><i>advanced-level knowledge of the current theories and findings in agrarian and regional economics and related fields and an in-depth understanding of research methodology and modern research methods in economic science.</i></p> <p><i>Professional skills - to independently assess and select proper methods for scientific research, thereby contributing to widening the frontiers of knowledge and giving new insights into current knowledge and its application in practice; specific skills to do substantial original research, part of which is research papers published in internationally indexed publications; communicate orally and in writing with a broad researcher community and the general public on scientific research; independently raise their scientific qualifications and implement research projects, making achievements meeting international criteria for the field of agrarian and regional economics; deal with critical research challenges and build up a new understanding of the challenges for enterprises, institutions and organizations, which requires specific research knowledge and skills.</i></p> <p><i>Soft skills - to reasonably discuss matters, draw conclusions and proposals for solving a problem; structure and present research results in a logical way; reasonably discuss and defend their own opinions and answer the questions asked; assume responsibility for the decisions made; work in a team; independently and responsibly complete the assignments given, plan their own time and meet deadlines.</i></p> <p><i>Competences - to demonstrate considerable autonomy and scientific and professional independence to do significant research or innovation assignments in agrarian and regional economics; to independently identify a research problem, formulate a hypothesis or a key research question, draw up a research plan, plan data collection and analysis and demonstrate considerable authority in implementing research projects and generating new ideas or processes.</i></p>
Final examination upon the completion of the study programme	<i>Doctoral thesis (PhD thesis)</i>

Study programme forms

Full time studies - 3 years - latvian

Study type and form	<i>Full time studies</i>
Duration in full years	<i>3</i>
Duration in month	<i>0</i>
Language	<i>latvian</i>
Amount (CP)	<i>120</i>
Admission requirements (in English)	<i>Master's degree or equivalent higher education</i>
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	<i>Doctoral degree (Ph.D.) in Economics and Business</i>
Qualification to be obtained (in english)	<i>-</i>

Places of implementation

Place name	City	Address
Latvia University of Life Sciences and Technologies	JELGAVA	LIELĀ IELA 2, JELGAVA, LV-3001

Part time studies - 4 years - latvian

Study type and form	<i>Part time studies</i>
Duration in full years	4
Duration in month	0
Language	<i>latvian</i>
Amount (CP)	120
Admission requirements (in English)	<i>Master's degree or equivalent higher education</i>
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	<i>Doctoral degree (Ph.D.) in Economics and Business</i>
Qualification to be obtained (in english)	-

Places of implementation

Place name	City	Address
Latvia University of Life Sciences and Technologies	JELGAVA	LIELĀ IELA 2, JELGAVA, LV-3001

Full time studies - 3 years - english

Study type and form	<i>Full time studies</i>
Duration in full years	3
Duration in month	0
Language	<i>english</i>
Amount (CP)	120
Admission requirements (in English)	<i>Master's degree or equivalent higher education. English language skills of at least B2 level</i>
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	<i>Doctoral degree (Ph.D.) in Economics and Business</i>
Qualification to be obtained (in english)	-

Places of implementation

Place name	City	Address
Latvia University of Life Sciences and Technologies	JELGAVA	LIELĀ IELA 2, JELGAVA, LV-3001

III - DESCRIPTION OF THE STUDY PROGRAMME (1. Indicators Describing the Study Programme)

1.1. Description and analysis of changes in study programme parameters that have taken place since the issue of the previous accreditation certificate of study direction or the license of study programme if study programme is not included in the accreditation page of the study direction

In the period since the last accreditation certificate for the field of study has been issued, the following changes have been made in two parameters of the programme:

1. Since the academic year 2014/2015, the programme has been delivered in English.
2. The degree to be awarded – in accordance with Cabinet regulation No. 522 of 14 August 2018 Amendments to Cabinet regulation No. 1001 of 27 December 2005 Procedure and Criteria for Awarding a Doctor of Science Degree, Cabinet regulation No. 49 of 23 January 2018 Regulations regarding the Branches and Sub-branches of Science in Latvia and Cabinet regulation No. 523 of 14 August 2018 Amendments to Cabinet regulation No. 202 of 16 April 2013 Procedure for Issuing State-recognized Documents Certifying Higher Education – Doctoral degree (Ph.D.) in Economics and Business is awarded from 2020 onwards.

1.2. Analysis and assessment of the statistical data on the students of the respective study programme, the dynamics of the number of the students, and the factors affecting the changes to the number of the students. The analysis shall be broken down in the different study forms, types, and languages.

An analysis of changes in the number of doctoral students in the period from the academic year 2013/2014 to the academic year 2018/2019 allows concluding that the number of doctoral students was relatively steady since it has not changed significantly, ranging from 33 to 28 students per academic year. Doctoral students mostly enrolled on government-funded studies, and exceptions were the academic years 2014/2015 and 2015/2016 when 3 and 2 doctoral students, respectively, studied part-time, which were self-financed studies. A breakdown of the total number of doctoral students in the programme Agrarian and Regional Economics by kind and source of finance for the period 2013/2014-2018/2019 is presented in Annex 13 Statistical data on doctoral students in the programme Agrarian and Regional Economics.

An analysis of the way the programme Agrarian and Regional Economics has evolved over a long period reveals that external stimuli mostly representing various support opportunities for new scientists have significantly affected the total number of doctoral students. The period 2013-2018 could be characterized as a post-support period, as in 2014 the very last doctoral students who received European Structural Fund support in the period 2009-2012 earned their degrees (ESF measure 1.1.2.1.2. “Support for the implementation of doctoral programmes”, project “Support for the implementation of doctoral studies at LLU”, agreement No. 2009/0180/1DP/1.1.2.1.2/09/IPIA/VIAA/017). The total number of doctoral students is close to the number of available government-funded places. Until the academic year 2017/2018 (inclusive),

there were 35 government-funded places available in the programme. However, the number of government-funded places was reduced to 30 based on strategic decisions made by the ESAF administration.

A lack of external financial stimuli has considerably affected the number of graduates from the programme, which has been in the range of 1-3 a year since 2015. Most of the doctoral students (66%) succeed in completing the theoretical part of the programme, yet they fail to produce and defend their dissertations during the period of studies or do it much later than it is prescribed (i.e. within 5 years after admission). This could be explained by the fact that the size of government-paid scholarship is only EUR 113, which does not allow the doctoral students to fully focus on their doctoral studies. For this reason, to cover their expenses, most of the doctoral students work in the public or private sectors where their daily work does not directly relate to their research; consequently, writing a doctoral dissertation is not a priority for them and is postponed indefinitely.

The programme Agrarian and Regional Economics also provides an opportunity for foreign students to study it in English, with a tuition fee set at EUR 1,700 per semester. Three foreign doctoral students have been studying in the programme during the analysis period, yet their studies were unsuccessful and they were ex-matriculated for failure to fulfil their study contract obligations.

1.3. Analysis and assessment of the interrelation between the name of the study programme, the degree or professional qualification to be acquired or the degree and professional qualification to be acquired, the aims, objectives, learning outcomes, and the admission requirements.

The programme Agrarian and Regional Economics is designed to emphasise its nature and uniqueness. The keywords of the programme “Agrarian and Regional Economics” are reflected in expected learning outcomes (i.e. knowledge, professional skills, soft skills and competences) and incorporated throughout the learning process and the curriculum. After defending their doctoral dissertations, the new scientists earn a Doctoral Degree (Ph.D.) in Economics and Business. In order to purposefully familiarise applicants with the specifics of the programme – Agrarian and Regional Economics – there is a prerequisite imposed on the applicants already during the admission process that the topics of their PhD thesis have to pertain to agrarian or regional economics. The conformity of their PhD thesis topics with the specifics of the programme is decided by the LLU Promotion Council for the sub-branches of Agrarian Economics and Regional Economics; the Promotion Council was approved by the LLU rector’s ordinance No. 4.3.-10/23 of 4 June 2019. Overall, this shows that the main parameters of the programme are closely interlinked.

Foreign students have to meet additional admission requirements – English skills at least at B2 level. To date, admission practices have allowed universities themselves to set criteria for the admission of foreign students. Accordingly, universities themselves conducted remote language skills interviews via Skype video calls to identify the potential student’s knowledge of English. The LLU International Cooperation Centre in cooperation with the LLU Language Centre conducted such interviews, interviewing the students on everyday issues, their educational backgrounds and motivations to study at LLU. If necessary, applicants were also asked to provide short written answers to identify their knowledge of English grammar. Applicants were awarded LLU Certificates of Compliance (or incompliance) with the standard of English language proficiency required for studies at LLU. The applicants who had submitted an internationally recognized English language certificate (IELTS, TOEFL or equivalent) with a minimum of IELTS 5.5 for bachelor programmes and

6.0 for master programmes were exempted from interviews. This level is comparable to B2 level.

As from the autumn semester of 2020, Cabinet regulation No. 846 *Amendments to the Regulation regarding Requirements, Criteria and Procedure for Admission to Study Programmes* comes into force, stating that the foreigner shall attach to the application a document issued by an international testing institution within the last five years that certifies that the foreigner has at least B2 level of English language skills. The mentioned document is not required if the foreigner has acquired secondary education or higher education in the language of delivery of the relevant programme.

III - DESCRIPTION OF THE STUDY PROGRAMME (2. The Content of Studies and Implementation Thereof)

2.1. Assessment of the relevance of the content of the study course/ module and the compliance with the needs of the relevant industry and labour market and with the trends in science. Provide information on how and whether the content of the study course/ module is updated in line with the development trends of the relevant industry, labour market, and science. In case of master's and doctoral study programmes, specify and provide the justification as to whether the degrees are awarded in view of the developments and findings in the field of science or artistic creation.

The topicality of courses of the programme Agrarian and Regional Economics is aligned with the overall topicality of the field of study, which was described in subchapter 2.1.1 that gives a justification for developing the field of study and the programmes contained in it.

The workload of the programme Agrarian and Regional Economics is 120 CP (180 ECTS), which consists of 30 CP (45 ECTS) theoretical studies and 90 CP (135 ECTS) research. Theoretical studies consist of 5 compulsory courses: Agrarian and Regional Economics (8 CP or 12 ECTS), Course of Research Directions (10 CP or 15 ECTS), English (or German) for Research Professionals (4 CP or 6 ECTS), Research Methodology in Economics I and II (8 CP or 12 ECTS). The compulsory courses focus on: providing doctoral students with advanced-level knowledge of agrarian and regional economics, as well as related fields: microeconomics, macroeconomics and business, which form the theoretical basis for further research by the doctoral student and develop his/her synthesis and evaluation skills through dealing with a variety of economic disciplines; developing an in-depth understanding of research methodology and modern research methods economics and business science; building up skills in applying classical and modern qualitative and quantitative methods of economic research; developing skills to do substantial original research, part of which represents research papers published in internationally indexed publications. In accordance with LLU Senate decision No.8-201 of 11 November 2015 Statute of Doctoral Studies at Latvia University of Life Sciences and Technologies, doctoral students take a promotional examination in the following courses: Agrarian and Regional Economics (8 CP or 12 ECTS), Course of Research Directions (10 CP or 15 ECTS) and English (or German) for Research Professionals (4 CP or 6 ECTS). A promotional examination programme is developed by the department (centre, institute) responsible for delivering the relevant courses and approved by the Board of the relevant Faculty. Two weeks before taking a promotional examination, the doctoral student submits an application for taking the examination to the Centre for Studies. The Promotional Examination Committee is approved by the

ordinance of the vice-rector for studies based on the application of the doctoral student. The results of the promotional examination have to be recorded in a protocol, which is signed by all the members of the Committee.

In addition to the compulsory courses, doctoral students have an opportunity to take one or more of the following elective courses: Preparation of Scientific Papers (3 CP or 4.5 ECTS), Computer Modelling of Economic Processes (4 CP or 6 ECTS), Multivariate Data Analysis I (2 CP or 3 ECTS), Multivariate Data Analysis II (2 CP or 3 ECTS). The curriculum of all the courses are regularly reviewed and updated, keeping track of and responding to current industry, labour market and science trends.

In order to achieve the goals set for the programme, the doctoral student must complete his/her theoretical studies within the first two years so that the rest of the period of studies could be devoted to research, the doctoral dissertation and presentation of research results at international scientific conferences and publication of their research papers in scientific, internationally indexed, anonymously peer-reviewed journals or conference proceedings.

In accordance with Cabinet regulation No.1001 of 27 December 2005 Procedure and Criteria for Granting a Doctor of Science Degree (Ph.D.), a Degree in Economics and Business is granted to PhD thesis that has been independently developed under supervision of an experienced scientist, has publicly defended and contains original research results and provides new insights into the relevant sub-branch of science, i.e. agrarian and regional economics. A decision on whether a doctoral degree has to be awarded or not, as well as whether the PhD thesis defended is sufficiently original, sufficiently based on scientific achievements and recent findings, or whether its results are substantial to the relevant sub-branch of science, is decided by the LLU Promotion Council for the sub-branches of Agrarian Economics and Regional Economics. During the reporting period, all decisions of the Promotion Council have been positive, indicating that the degrees awarded in this programme are based on original research relevant to the sub-branch of science and based on scientific achievements and findings.

2.2. Assessment of the interrelation between the information included in the study courses/ modules, the intended learning outcomes, the set aims and other indicators, the relation between the aims of the study course/ module and the aims and intended outcomes of the study programme. In case of a doctoral study programme, provide a description of the main research roadmaps and the impact of the study programme on research and other education levels.

The theoretical courses of the programme are interconnected, and their successful completion and transfer of the acquired knowledge, skills and competences to research work, incl. development of the PhD thesis, approbation of the research findings in the international environment (submission of scientific research papers for publication, reporting at international scientific conferences) and defence of the PhD thesis, contribute to the programme's goal – to create intellectual, methodological, scientific, institutional and technical preconditions ensuring acquiring advanced-level theoretical knowledge, learning research and principles of research work organization, which are necessary for producing a quality PhD thesis and earning a Doctoral Degree in Economics and Business in line with international standards that generally contributes to the emergence of a new generation of scientists for the economy who specialise in agrarian and regional economics, as well as interdisciplinary topics. Any PhD thesis topic focuses on agrarian or regional economics and is

associated with clearly defined research priorities prescribed by the Research Programme 2015-2020 of Latvia University of Life Sciences and Technologies as well as meets the needs of the prospective economic sectors identified in the Smart Specialization Strategy of Latvia (<http://www.ris3.lv/>), in which Latvia's innovation capacity should be built up. These priorities are as follows: economics of sustainable development of bio-resource industries, research on sustainable territorial development, efficiency of production processes and competitiveness of enterprises.

Assessment of the global trends in social sciences and current research priorities at leading European universities allows concluding that over the reporting period, the topics of PhD thesis focused on sustainable use of natural resources, the bioeconomy, smart development, climate change, social innovation and social entrepreneurship were in line with the current research topics in the world and Europe. For example, one of the 2017 graduates focused on smart and territorial development and wrote a PhD thesis entitled "Use of Cultural Heritage for the Development of Rural Tourism", the findings of which were recognized at national level with a nomination in the award Sower 2017, and 13 scientific research papers published on this topic. In 2018, a graduate focused on climate change and wrote a doctoral dissertation "Agricultural Growth and Environmental Impacts – Opportunities for Convergence in Latvia", the findings of which have been published in 11 scientific research papers (indexed in the SCOPUS and Web of Science databases) and raised public awareness of the potential for sustainable agricultural development. The findings of this research are incorporated into the curricula of courses of other educational levels, for example, in Bioeconomics II and World Agriculture in the bachelor's programme Economics; in the course Territorial Sustainable Development for the academic master programme Economics. Interconnection among the courses and their alignment with the goal and learning outcomes of the programme are summarized in Annex 17 – Mapping of the study courses for the achievement of the learning outcomes of the study programme Agrarian and Regional Economics.

2.3. Assessment of the study implementation methods (including the evaluation methods) by providing the analysis of how the study implementation methods (including the evaluation methods) used in the study courses/ modules are selected, what they are, and how they contribute to the achievement of the learning outcomes of the study courses and the aims of the study programme. Provide an explanation of how the student-centred principles are taken into account in the implementation of the study process.

In accordance with LLU Senate decision No.8-201 of 11 November 2015 Statute of Doctoral Studies at Latvia University of Life Sciences and Technologies, during the period of studies, the doctoral student takes theoretical courses, passes promotional examinations, does research, presents the research results at scientific conferences, publishes them in internationally recognized and indexed scientific publications. At the end of the period of studies, the PhD thesis and its summary has to be developed and submitted for defence. The doctoral student him/herself draws up an individual plan for each year of studies, and it is largely up to the doctoral student to what extent and when all the study activities are carried out. The individual plan for the first year of studies has to be drawn up by the doctoral student within two months after matriculation. The individual plan is agreed with the director of the doctoral programme and submitted to the responsible institute. The individual plan approved by the institute is submitted to the Board of Faculty of Economics and Social Development (ESAF) for approval. The doctoral student submits the approved individual plan to the Centre for Studies. However, an assessment of the doctoral student's study results and approval for further studies are done at the end of each academic year at a Board of Faculty of Economics and

Social Development meeting, discussing the report submitted by the doctoral student and the individual plan for the next academic year.

An important part of doctoral studies is theoretical courses to be taken. In accordance with LLU Senate decision No.8-182 LLU Regulations of Studies, the learning outcomes of the doctoral student are assessed according to two indicators: **qualitative** and **quantitative**. A *10-point marking scale* or pass/fail are employed to qualitatively assess the learning outcomes. A quantitative assessment considers a course in terms of *credit points*.

The learning process consists of classroom work, independent studies, consultations and tests. Classroom work, in accordance with LLU legal documents, is measured in contact hours. A contact hour involves a direct contact between the teaching personnel member and students, which is carried out in order to achieve the goal of the programme and to perform the tasks according to the individual plan and lasts one academic hour (45 minutes). In the practical delivery of the programme, according to the specifics of the course and the type of contact hour (lectures, practicals and seminars), a monologic method, a dialogical or active method and a research method are employed in different proportions, which is a joint or individual cognitive activity of students and teaching personnel that is planned and designed to achieve student development goals. Teaching personnel also creatively incorporate elements of the dialogic method into their lectures as the primary form of the monologue method applied through modern information technology to provide feedback from the audience and a greater variety of teaching forms: they ask the audience questions, organize group work or give individual assignments. This method provides a targeted and attractive build-up of student attitudes, skills and knowledge.

In practicals and seminars that require a dialogical method, the active techniques of teaching are applied: case study, situation analysis, discussion, group discussion, group work, debate.

Independent studies represent doctoral students' independent work without the direct participation of teaching personnel. Extensive study materials in the Moodle system are available to doctoral students for independent studies.

The purpose of independent studies is to develop skills in obtaining and using scientific and practical information to perform the assignments given in courses.

The teaching personnel responsible for the course, who develop the course according to the map of the programme and in alignment with the goal of the programme and the learning outcomes – knowledge, skills and competence – are responsible for the teaching methods used. The teaching methods as well as the knowledge, skills and competence acquired during the studies, the way and level of their acquisition and the ways of learning are described in course syllabuses (Annex 19 – Descriptions of the study courses for the programme Agrarian and Regional Economics). In addition, the course syllabuses prescribe: test and examination methods; assessment criteria and methods, as well as the criteria for giving marks; the syllabuses are available in the Moodle system for e-learning and every teaching personnel member introduces doctoral students to their courses at the beginning of the course. Overall, the methods used for the assessment of learning outcomes in the courses are varied and aligned with the doctoral level and ensure the achievement of the goal of the programme.

A student-focused approach is applied throughout the period of doctoral studies. It is implemented through several activities:

- doctoral students participate in the Methodology Commission for Doctoral Studies, which gives an opportunity to participate in enhancement of the curriculum of the programme;
- various types of financial support for studies are available to doctoral students: a scholarship for studies, a scholarship for acquiring a scientific degree (in the form of a loan), a one-time

scholarship (for popularization of LLU, scientific activities during studies, unexpected life situations), the Jānis and Millija Kāvuši Scholarship (support for participation in conferences), the LLU grant programme Strengthening Scientific Research Capacity at LLU (support for participation in conferences, writing research papers, production of a doctoral dissertation);

- doctoral students are provided with regular and operational information on the latest developments in relation to their studies, and the main information dissemination channels are as follows: the LLU website, the LLU Information System, the platform for e-learning and e-mail;
- teaching personnel actively follows the latest developments in the industry and science and regularly updates the syllabuses of their courses;
- learning outcomes are assessed by level: medium, high and very high. Specific requirements are set for each level, which allows doctoral students to understand what is expected of them. The mentioned levels and expected learning outcomes are described in the syllabus of any course, which doctoral students are familiarised with during their first meeting with teaching personnel and which are publicly available on the platform for e-learning.

2.4. If the study programme entails a traineeship, provide the analysis and assessment of the relation between the tasks of the traineeship included in the study programme and the learning outcomes of the study programme. Specify how the higher education institution/ college supports the students within the study programme regarding the fulfilment of the tasks set for students during the traineeship.

Not applicable.

2.5. Analysis and assessment of the topics of the final theses of the students, their relevance in the respective field, including the labour market, and the evaluations of the final theses.

In the reporting period, 24 doctoral students have graduated from the doctoral programme, earning a Doctoral Degree in Economics for urgent and relevant research. Of the total PhD thesis defended during the reporting period, 15 thesis covered topics related to regional economics and 9 thesis – to agrarian economics. In relation to regional economics, the following topics were researched:

- European Social Fund Financing in the Welfare Sector in the Regions of Latvia;
- Links between Knowledge Creation and Commercialization Processes and Economic Growth in European Union Regions;
- Public Value and Use of Heritage Parks in North Vidzeme Biosphere Reserve;
- Social Entrepreneurship Development Possibilities in Latvia;
- Development Opportunities for the Regions of Latvia in the Car Aftersales Servicing Market;
- Evaluation of Rural-Urban Interaction in Regions of Latvia;
- Corporative Income Tax as a Tool to Promote the Development of Latvian Regions;
- Analysis of Innovation Capacity in Latvia in the context of European Regions;
- Housing Stock as an Element of Socio-economic Development of Regions;
- The Urban System in Latvia and its Development Prospects;

- Regional Cluster Establishment and Development Possibilities in Latvia;
- Economic Aspects of Lifelong Learning in Latvia;
- Development of Mineral Resource Market in Latvian`s Regions;
- Analysis of Factors Influencing Youth Unemployment in Latvia;
- The Use of Cultural Heritage for the Development of Rural Tourism.

In relation to agrarian economics, the following topics were researched:

- Analytical Evaluation of Economic Aspects in Intensification of the Activity of Dairies in Latvian Rural Regions;
- Deer Farming Development Possibilities in Latvia;
- Innovative Solutions to Produce Poultry Products in Latvia;
- Alternative Energy (Biogas) Production Possibilities in Latvia;
- Sustainable Food Consumption in Latvia;
- Risk Assessment for Renewable Energy Production on Farms in Latvia;
- Land Consolidation in Latvia;
- Latvian Households' Food Wasting in The Context of Eating Habits;
- Reduction of Greenhouse Gas Emissions for Sustainable Development of Agriculture in Latvia.

Of the doctoral students who defended their PhD thesis, 50% received scholarships and awards, which indicates the relevance and urgency of the PhD thesis. For example, during the reporting period, three doctoral students were awarded a Professor Kazimirs Špoģis scholarship for their contribution to science and research, five doctoral students – a Professor Benjamiņš Treijs Award for new scientists for their excellent PhD thesis, three doctoral students – an award in the new scientist competition held by the Latvian Academy of Agricultural and Forestry Sciences, LLU and the state-owned development finance institution Altum, while one doctoral student received a promotional award Sower 2017. Some PhD thesis were developed as a result of research projects, which indicates the urgency of the topic. For example, the dissertation entitled “Reduction of Greenhouse Gas Emissions for Sustainable Development of Agriculture in Latvia” was developed within the national research programme EVIDEnT.

2.6. Analysis and assessment of the outcomes of the surveys conducted among the students, graduates, and employers, and the use of these outcomes for the improvement of the content and quality of studies by providing the respective examples.

Analysis of the results of surveys of students

Any survey of doctoral students is conducted in a centralised way by use of the LLU Information System – the doctoral students rate each course they have taken. Overall, after analysing the results of surveys of doctoral students, it could be concluded that the doctoral students appreciate the content and quality of theoretical courses as well as the fact that lectures are supplemented with practical examples, which allows gaining a broader view of the subject studied. Similarly, the surveyed doctoral students indicate that the teaching staff are knowledgeable in their fields and willingly share their knowledge and experience with the students.

Analysis of the results of surveys of alumni

An analysis of the results of surveys of alumni allows concluding that the alumni have positively and positively rated the quality of the programme and the knowledge and skills acquired. However, the results of the surveys as well as the suggestions made by the alumni at the end of each survey on

optimization or improvement of the learning process indicate certain areas that could be improved. For example:

- to enhance doctoral students' skills in discussing and arguing their opinions, the doctoral students should hold regular scientific discussions on their own topics they are working on and the topics of their colleagues as well as teaching staff, delivered by foreign visiting lecturers, on topical processes in regional and agrarian economics;
- to encourage doctoral students to become involved in research, it would be highly desirable to involve every doctoral student in scientific projects;
- to make available some elective courses in the e-learning environment, as elective courses are delivered on weekdays and it is not possible for full-time doctoral students to attend the courses in person; therefore, more intensive use of the e-environment would be a very good alternative;
- to offer doctoral students more elective subjects, including those not directly related to scientific research methods and economics.

Alumni recommendations are considered and put into practice as far as possible by the programme director.

Based on the results of surveys of students and alumni: the curricula of courses are enhanced; the practical implementation of the programme is enhanced; feedback on the performance of teaching personnel is provided; the involvement of foreign lecturers in the learning process was increased (international competitions for vacant academic positions were announced at: <https://euraxess.ec.europa.eu>). Based on the opinions of doctoral students and alumni on the willingness and necessity to participate in research projects and because of the relatively low availability of funding for research, two research and science support (university grants) programmes were established at LLU: 1) *Implementation of the LLU Research Programme*, which aims to ensure the implementation of the research priorities set in the LLU Strategy, contribute to the achievement of the performance targets defined in the research priorities of the LLU Strategy as well as encourage master students, doctoral students and new scientists to get engaged in research; 2) *Strengthening Scientific Research Capacity at LLU*, which aims to facilitate the implementation of the research priorities defined in the LLU Research Strategy and the production of doctoral dissertations relevant to the priorities.

Surveys of employers are not conducted, as such surveys do not pertain to the level of doctoral studies. In 2019, however, within ESF project No.8.2.3.0/18/A/009 Enhancement of the Governance of Latvia University of Life Sciences and Technologies, industry experts from PricewaterhouseCoopers Ltd and the Institute of Agricultural Resources and Economics (AREI) assessed the programme and gave recommendations. The experts admitted that the programme was successfully positioned in an important niche being in demand. First of all, it is important on the local scale because in view of the very diverse standards of living across the regions of Latvia as well as the regional reform lasting for decades and the repeated changes in the reform, regional economic issues are going to remain important in Latvia in the future as well. The experts noted that the programme was able to be attractive and positioned itself as a modern and attractive programme. In addition, it should be noted that most of the topics researched within the doctoral programme represent urgent issues.

Within the mentioned project, Dynamic University Ltd conducted a study on trends in labour demand up to 2030. The experts found that the demand for labour in the field of social sciences (including in research) is expected to increase in the future, driven by economic growth and increasing population engagement in business and entrepreneurship.

2.7. Provide the assessment of the options of the incoming and outgoing mobility of the students, the dynamics of the number of the used opportunities, and the recognition of the study courses acquired during the mobility.

Outgoing mobility of doctoral students

It is notable that between 2013 and 2018, the doctoral students of the programme have become more mobile and eager to exchange experience with other universities to gain new information and learn new methods for doing their research. During the reporting period, four doctoral students, with financial support from the ERASMUS+ programme, have visited Germany, the Netherlands and Lithuania and gained valuable experience in the universities of these countries. For example, in 2016, a doctoral student visited the Neubrandenburg University of Applied Sciences (Germany) to gain experience in the operation of the NGO system in Germany. This international cooperation provided a productive basis for research, providing new information through access to the university library system and scientific databases, contacting university teaching personnel on site, conducting expert interviews with local farmers and representatives of non-governmental organizations and the Ministry of Agriculture, etc. In 2018, another doctoral student went on study mobility to the University of Wageningen (Netherlands), where she completed several courses. The new knowledge and experience gained significantly improved the research process of the doctoral student. In 2018, two doctoral students went on experience exchange mobility to Aleksandras Stulginskis University (Lithuania) for additional information on their research.

Doctoral students point out that the benefits of such international cooperation are not only research but also new contacts and friendships, enhanced foreign language skills, familiarisation with the local life rhythm and traditions and popularisation of the university and country.

Incoming mobility of doctoral students

In the reporting period, three doctoral students from other countries visited LLU in relation to the doctoral programme Agrarian and Regional Economics and, under the guidance of experienced teaching personnel of the programme, underwent traineeships and acquired the information they needed for their research:

- in the academic year 2013/2014, under the guidance of Professor Irina Pilvere a doctoral student from Aleksandras Stulginskis University (Kaunas, Lithuania) underwent a traineeship;
- in the academic year 2014/2015, under the guidance of Professor Ingrida Jakušonoka, a doctoral student from Aleksandras Stulginskis University (Kaunas, Lithuania) underwent a traineeship;
- in the academic year 2018/2019, under the guidance of Professor Andra Zvirbule, a doctoral student from Aleksandras Stulginskis University (Kaunas, Lithuania) underwent a traineeship.

III - DESCRIPTION OF THE STUDY PROGRAMME (3. Resources and Provision of the Study Programme)

3.1. Assessment of the compliance of the resources and provision (study provision, scientific support (if applicable), informative provision (including libraries), material and technical provision, and financial provision) with the conditions for the implementation of

the study programme and the learning outcomes to be achieved by providing the respective examples. Whilst carrying out the assessment, it is possible to refer to the information provided for in the criteria set forth in Part II, Chapter 3, sub-paragraphs 3.1 to 3.3.

Assessment of the learning process and available technological resources

The learning process in the field of study occurs mostly in the building of the Faculty of Economics and Social Development at 18 Svetes Street, yet some courses are delivered at the LLU main building at 2 Liela Street (in the rooms of the Faculty of Agriculture and the Faculty of Information Technologies) as well as at the Faculty of Engineering where the leading institute responsible for some courses is placed and necessary equipment is available. The technological resources are renewed every year.

Three modern computer classrooms with 64 desktop computers and 5 desktop computers at ESAF's Centre for Studies and Scientific Information are at the disposal of doctoral students. In addition, doctoral students may use desktop computers in the reading room of the LLU Fundamental Library, equipped with the following software: Autodesk EDU Master suite 2018 (AutoCAD, AutoCAD Structural Detailing, Autodesk Robot Structural Analysis Professional etc.), CorelDRAW X7, SPSS Statistics v21, VISIO 2013.

Access to the wireless (Wi-Fi) Internet is provided in ESAF to students and guests. A multicore optical cable network is constructed among LLU buildings in Jelgava city, which provides a high-performance data flow (up to 10G) among the Faculties of LLU for interdisciplinary research.

Doctoral students also use the rest of the infrastructure and learning environment of LLU, which includes hostels, the LLU Fundamental Library, facilities and laboratories.

For a more detailed description of the available material and technological resources, see section 2.3.2 on the infrastructure and material and technological resources available for the field of study.

Assessment of the available information resources

To provide the learning process student-focused and more convenient, ESAF has established the Centre for Studies and Scientific Information as an information, research and communication contact point. It is maintained and replenished by ESAF from its own budget. Specific social science literature is available to doctoral students at the Centre for Studies and Scientific Information; its total stock is about 4,000 books, as well as current periodicals.

The LLU Fundamental Library (LLU FB) provides doctoral students with a lot of information resources. The LLU FB has purchased the search engine PRIMO DISCOVERY, which enables users to simultaneously search for information in subscribed and open access online databases, in the Electronic Joint Catalogue of libraries of national significance and in the databases created by the LLU FB (research papers by LLU teaching personnel and researchers, LLU master theses, etc.). Registering with an LLU IS user account allows doctoral students to view their user accounts and extend expiration dates for borrowed items, order publications, access full texts in subscribed online databases and save their search results. Access to online databases is provided 24/7 on the LLU network, and there is an opportunity to connect to subscribed e-journal and e-book databases outside the LLU network by using the LLU IS user account or EZproxy and the LLU IS user account.

LLU FB users have an opportunity to obtain information on economics from the following subscribed foreign and national online databases: CAB Abstracts, CRC Press e-books, the EBSCO eBook

Academic Collection database covering a wide range of multidisciplinary topics and containing more than 228515 e-books, EBSCO host databases Academic Search Complete, MasterFILE Premier and others ScienceDirect Journals, Scopus, SciVal, Web of Science, Wiley Online Journals and Lursoft.

For a more detailed description of available information resources, see section 2.3.3 on methodological and information resources for the field of study.

Assessment of the scientific research base

No special scientific research base or laboratory has been established for the doctoral programme Agrarian and Regional Economics, and the common research infrastructure of LLU is exploited; for a more detailed description of it, see section 2.3.2 on the infrastructure and material and technological resources available for the field of study.

Assessment of the financial base

The doctoral programme's financial base is comprised of government-funded study places that represent a government funding transfer for ensuring the educational process that is distributed within LLU in a centralised way, covering reimbursement for teaching and support personnel and other costs. Each year, the distribution of government-funded study places and the basic costs of a study place are agreed in a trilateral agreement among LLU, the Ministry of Agriculture and the Ministry of Education and Science. The trilateral agreement of 2019 (concluded on 21 December 2018) stipulates that the basic costs of one study place is EUR 1518.98 and the social security costs of a study place is EUR 2034. The basic cost factor for social sciences, including the field of study Economics, for doctoral programmes is equal to 3. In accordance with the agreement, the total number of government-funded study places for the doctoral programme Agrarian and Regional Economics is set at 30.

In addition, the financial base is complemented by tuition fees, which are approved by the LLU rector's ordinance in June of each year. For the academic year 2019/2020, the LLU rector's ordinance (No. 4.3.-8/ 63 of 17 June 2019) have set the following tuition fees for the doctoral programme Agrarian and Regional Economics:

- full-time studies – EUR 2000 a year;
- part-time studies – EUR 1600 a year;
- full-time studies in English – EUR 3400 a year.

Since 2017, the LLU programme Strengthening Scientific Research Capacity at LLU has provided substantial financial support for doctoral students to do research and present the research results in the international environment (international scientific conferences, research paper proceedings and journals). Under this programme, doctoral students apply for research grants on a competitive basis. Since 2017, seven doctoral students from the programme have received such grants, which are granted for two years and may not exceed EUR 8000, thereby attracting EUR 28,053 for the implementation of their research.

For a more detailed description of the financial base, see section 2.3.1 on financial provision for the field of study.

3.2. Assessment of the study provision and scientific support, including the resources provided within the cooperation with other science institutes and institutions of higher education (applicable to the doctoral study programmes).

LLU has common laboratories for all the Faculties. Doctoral students working on interdisciplinary research problems cooperate with the following laboratories: the Forest and Water Resources Laboratory (GHG emission equipment; groundwater streams and analysis monitoring equipment) equipped with specific computer software for data processing; the GIS Data Processing And Modelling Laboratory having ArcGIS software and specific computer hardware for map processing, scanning, work with the digital map of Latvia; the Biotechnology Laboratory with a division equipped for doing agronomic tests and a division for molecular biology and microbiology. All the laboratories are fully equipped with the necessary hardware, and wireless Internet access (Wi-Fi) is available in all the buildings.

In the period 2013-2018, LLU has made significant improvements to fully exploit the research infrastructure. Since 2015, LLU is a partner of the Latvian Academic Network (LAT). The LAT provides a connection to the Latvian scientific research infrastructure network, services, scientific libraries, databases and also provides a connection to the scientific infrastructure for the institutions supervised by LLU (Institute of Agricultural Resources and Economics, Institute of Horticulture), thereby uniformly managing the information technology (IT) infrastructure in the fields of science LLU deals with. Owing to the LAT, LLU has acquired high-performance servers, disk arrays, network infrastructure equipment providing high-capacity mathematical calculations (cloud computing, laser-scanned data processing), data analysis, statistical processing and modelling.

The following databases have been created for doctoral students to know what equipment and relevant services are available at LLU: www.usescience.eu and <https://www.llu.lv/lv/zinatniska-inventara-datubaze>. Software for collecting and analysing laboratory data acquired at LLU and providing relevant services has been developed as well. A virtual database has been created for LLU researchers, which collects data on and systematises research papers, data obtained from research projects, as well as international conference abstracts, popular science and other published information. Overall, in the reporting period, the hardware and software used in scientific research has been significantly enhanced.

The Bioeconomy and Sustainable Resource Management Centre equipped with modern facilities for conferences, seminars and discussions has been established to contribute to the popularisation of science and cooperation with the industry and the public.

The Technology and Knowledge Transfer Division (TEPEK) is at the disposal of doctoral students and teaching personnel; its purpose is to contribute to the protection of intellectual property of scientists and businesses and the commercialisation of research results at LLU.

III - DESCRIPTION OF THE STUDY PROGRAMME (4. Teaching Staff)

4.1. Analysis and assessment of the changes to the composition of the teaching staff over the reporting period and their impact on the study quality.

In the reporting period, the composition of teaching personnel did not change significantly, as only three teaching personnel changed during the reporting period. In numerical terms from the academic year 2013/2014 to the academic year 2016/2017, 20 teaching personnel were involved in

the delivery of the programme. However, for enhancing and expanding the thematic scope of some courses, one more teaching personnel member was involved in the delivery of the programme; therefore, since the academic year 2017/2018, 21 teaching personnel have been involved in the delivery of the programme, with an average workload of 2.86 in the academic year 2018/2019. The ratio of students to workload is 10.8: 1, i.e. 10.8 students per workload. This ratio indicates that the involvement of teaching personnel in the delivery of the doctoral programme is short-term and accounts for a very little workload, and all the teaching personnel are involved in the delivery of other programmes. The breakdown of the teaching personnel by position, study work and workload is summarized in the table below.

The breakdown of the teaching personnel by position, study work and workload in doctoral study programme Agrarian and Regional Economics in study year 2018/2019

Position	Study work, h	Workload	% from total workload
Professor	1552.36	1.73	60.4
Professor (emeritus)	43.69	0.05	1.7
Associate professor	283.60	0.30	10.6
Assistant professor	564.81	0.60	21.0
Visiting assistant professor	104.50	0.11	3.9
Visiting lecturer	67.00	0.07	2.4
Total	2615.96	2.86	100

To assure the quality of studies and deliver the programme, the teaching personnel involved represent various fields and LLU organisational units: seven teaching personnel are from the Institute of Economics and Regional Development (ESAF), two from the Institute of Finance and Accounting (ESAF), three from the Institute of Business and Management Science (ESAF), one from the Institute of Social and Human Sciences (ESAF), one from the Department of Computer Systems (Faculty of Information Technologies), three from the Department of Control Systems (Faculty of Information Technologies), one from the Institute of Soil and Plant Sciences (Faculty of Agriculture) and three from the Language Centre.

The stability and permanence of teaching personnel has a positive effect on the quality of studies, as the build-up knowledge, teaching experience and skills of teaching personnel ensure continuous enhancement and updating of the content of courses in line with the current situation in industries and science.

4.2. Assessment of the compliance of the qualification of the teaching staff members (academic staff members, visiting professors, visiting associate professors, visiting docents, visiting lecturers, and visiting assistants) involved in the implementation of the study programme with the conditions for the implementation of the study programme and the provisions set out in the respective regulatory enactments. Provide information on how the qualification of the teaching staff members contributes to the achievement of the learning outcomes.

In the delivery of the programme, 21 teaching personnel are involved, 9 or 43% of them are professors, 2 or 9.5% are professors (Emeritus), 4 or 19% are associate professors, 3 or 14% are assistant professors, 2 or 9.5% are visiting assistant professors, 1 or 5% is a visiting lecturer. Of the total teaching personnel, 95% have a doctoral degree, 10 of them are experts approved by the Latvian Council of Science (LZP) in the field of *Economics and Business*:

<i>Name, surname, doctor degree</i>	<i>Term as an expert of the Latvian Council of Science ends</i>
Irina Pilvere, Dr.oec.	26/03/2022
Baiba Rivža, Dr.habil.oec.	18/04/2021
Andra Zvirbule, Dr.oec.	20/04/2020
Pēteris Rivža, Dr.habil.sc.ing.	26/03/2022
Zinta Gaile, Dr.agr.	16/10/2022
Irina Arhipova, Dr.sc.ing.	21/02/2021
Līga Paura, Dr.oec.	16/05/2021
Kaspars Naglis-Liepa, Dr.oec.	18/09/2022
Modrīte Pelše, Dr.oec.	18/11/2022
Dina Popluga, Dr.oec.	18/11/2022

Such a composition and qualification level of teaching personnel ensures that the programme is delivered by highly qualified academic and research personnel of LLU, complying with and the requirements of Section 55 of the Law on Higher Education Institutions and the requirements of the Statute of Doctoral Studies of Latvia University of Life Sciences and Technologies.

The high qualification level of teaching personnel as well as their experience in teaching and in research and organizational work ensure that the achievement of expected learning outcomes is maximized and the programme is delivered at the highest level of quality.

4.3. Information on the number of the scientific publications of the academic staff members, involved in the implementation of the doctoral study programme, as published during the reporting period by listing the most significant publications published in Scopus or WoS CC indexed journals. As for the social sciences, humanitarian sciences, and the science of art, the scientific publications published in ERIH+ indexed journals may be additionally specified (if applicable).

In the reporting period, the academic personnel involved in the delivery of the programme

published 464 scientific research papers, of which 255 or 55% were published in journals or conference proceedings indexed by the Scopus or Web of Sciences CC databases. The most research papers were published in 2017 and 2018 – 117 research papers each year. The high activity in publishing scientific research papers is due to the fact that great attention is paid to dissemination of research findings among the scientist community and the general public, both at international and national level, because it represents part of the LLU Research Programme that has set targets, and the performance of academic personnel is assessed every year. To encourage the publication of research findings in indexed journals and to facilitate other types of scientific activities, LLU has developed a system that motivates each researcher, as research performance funding is provided to each researcher and is directly dependent on the researcher's previous year's performance.

Below is a list of the 15 most important scientific research papers published in journals indexed in the databases Scopus, WoS CC or ERIH+:

1. Eorya, V., Pellerin, S., Garcia, G.C., Lehtonen, H., Licite, I., Mattila, H., Lund-Sørensen, T., Muldowney, J., **Popluga, D.**, Strandmark, L., Schulte R. (2018) Marginal abatement cost curves for agricultural climate policy: state-of-the art, lessons learnt and future potential. *Journal of Cleaner Production*, Vol. 182, p. 705-716
2. **Rivža B.**, Kruzmetra M. (2017) Through economic growth to the viability of rural space. *Entrepreneurship and Sustainability, Issues*, Vol. 5(2), p. 283-296
3. Grinevica L., **Rivža B.**, Rivža P. (2016) Scenarios for reducing youth unemployment and promoting sustainability in the regions of Latvia. *Journal of Security and Sustainability Issues. International Entrepreneurial Perspectives and Innovative Outcomes*, Vol. 5(3), p. 437-449. DOI: 10.9770/jssi.2016.5.3(11) – ISSN, p. 2029-7017
4. **Pelše M.**, Zēverte-Rivža S., Rone Z. (2015) Sustainable innovations in the promotion of home produced products in the market. *Journal of Security and Sustainability Issues: International Entrepreneurial Perspectives and Innovative Outcomes*, Vol.5 (2), p. 259-267
5. **Pelse M.**, Ziedina D., Aleksejeva L., Bitmane M. (2018) Cooperation as a sustainable factor influencing innovation in regional development: the case of the bioeconomy in Latvia. *Journal of Security and Sustainability Issues. International Entrepreneurial Perspectives and Innovative Outcomes*, Vol. 7(3), p. 581-590
6. Garanti Z., **Zvirbule-Berzina A.**, Yesilada T. (2014) Cluster concept in policy planning documents: the cases of Latvia and Northern Cyprus. *Business: Theory and Practice*, Vol.15(2) (2014), p. 129-139
7. **Rivža B.**, Kruzmetra M., Zaluksne V. (2016) Performance trends for smart growth in the rural territories of Latvia. *Agronomy Research*, Vol. 14(5), p. 1684-1693
8. **Rivža B.**, Āzena L., **Rivža P.** (2017) Evaluation of smart economy development in the Riga planning region (LATVIA). *Agronomy Research*, Vol. 15(5), p. 2068-2078
9. **Gaile Z.**, Ruza A., Kreita D., **Paura L.** (2017) Yield components and quality parameters of winter wheat depending on tillering coefficient. *Agronomy Research*, Vol. 15(1), p. 79-93
10. Grinevica L., **Rivža B.**, **Rivža P.** (2016) Scenarios for reducing youth unemployment and promoting sustainability in the regions of Latvia. *Journal of Security and Sustainability Issues. International Entrepreneurial Perspectives and Innovative Outcomes*, Vol. 5(3), p. 437-449
11. **Paura L.**, Jonkus D. (2016) Use of automatic system for pig feed consumption control. *Agronomy Research*, No.14(1), p. 160-166
12. Bankina B., **Gaile Z.**, Balodis O., Bimšteine G., Katamadze M., Kreita Dz., **Paura L.**, Priekule I. (2014) Harmful winter wheat diseases and possibilities for their integrated control in Latvia. *Acta Agriculturae Scandinavica. Section B - Plant & Soil Science*, Vol.64(7), p. 615-622
13. Bankina B., Bimšteine G., Ruža A., Priekule I., **Paura L.**, Vaivade I., Fridmanis D. (2013) Winter wheat crown and root rot are affected by soil tillage and crop rotation in Latvia. *Acta*

14. Bikse V., Lusena-Ezera I., **Rivža B.** (2018) Innovative start-ups: challenges and development opportunities in Latvia. *International Journal of Innovation Science*, Vol. 10(2), p. 261-273
15. **Zvirbule A.**, Grīnberga-Zālīte G. (2017) Integration of social innovation creation in higher education: case study of Latvia. *Turkish Online Journal of Educational Technology*, Special Issue for INTE 2017, p. 235.-240

4.4. Information on the participation of the academic staff, involved in the implementation of the doctoral study programme, in scientific projects as project managers or prime contractors/ subproject managers/ leading researchers by specifying the name of the relevant project, as well as the source and the amount of the funding. Provide information on the reporting period (if applicable).

In the reporting period, the academic personnel involved in the delivery of the doctoral programme as project managers or principal executives has been involved in 9 international-level projects and 22 national-level projects, attracting a total of EUR 3.9 million (international projects – EUR 1.1 million; national projects – EUR 2.9 million). The most important projects implemented and started during the reporting period are summarized in the following table:

Name, surname of the academic personnel member and the role in a project	Project title	Source of finance	Project period	Amount of funding (EUR)
International projects				
2 professors	Rethinking the Links between Farm Modernisation, Rural Development and Resilience in a World of Increasing Demands and Finite Resources (RETHINK)	European Union 7th Framework Programme Budget (FP7)	2013-2015	54000
1 professor	Tackling the Challenges in Sustainable and Multifunctional Forestry through Enhanced Research Coordination for Policy Decisions (SUMFOREST)	European Union 7th Framework Programme Budget (FP7)	2013-2017	71143
2 associate professors	Education in Rural Entrepreneurship through Producing and Valorising of Medicinal and Aromatic Plants (REMAP)	European Commission Erasmus + (KA2) programme budget	2016-2018	32058

1 associate professor	Internationalization of Work-based Learning in the Agribusiness Sector	European Commission Erasmus + (KA2) programme budget	2016-2018	31067
1 associate professor	Climate Change in Agriculture (CLICHA)	European Commission Erasmus + (KA2) programme budget	2017-2020	56261
1 professor, 2 associate professors	Intellectual Services Relative to Preparing a Background Report on the Agricultural Innovation System of Latvia	Organization for Economic Cooperation and Development (OECD) budget	2017-2018	52300
1 professor	Meta Cluster for Attracting the Japanese Tourism Market (CAITO)	European Regional Development Fund	2016-2020	123482
1 professor	Ready for Business (ReforB)	European Regional Development Fund	2017-2019	467481
1 professor	Monitoring the Bioeconomy (BioMonitor)	European Union framework programme Horizon 2020	2018-2022	172709
Nacionāli projekti				
1 professor, 1 associate professor	Comparative Analysis of Competitiveness Performance of the Latvian Food Industry	European Agricultural Fund for Rural Development (EAFRD)	2013	67819
1 professor	Comparative Analysis of Competitiveness Performance of the Latvian Fish Processing Industry	European Fisheries Fund (EFF)	2013	6880

1 professor	Analysis of Labour Taxes for Agriculture	European Agricultural Fund for Rural Development (EAFRD)	2013	24176
1 professor	Project Competitive and Efficient Production of Milk and Meat, sub-project 3 Development of Effective Management Models	European Agricultural Fund for Rural Development (EAFRD)	2013-2015	61678
1 professor	Economically Efficient, Sustainable and Productive Use of Land for Agricultural and Forestry Production	JSC Latvian State Forests	2013-2014	57058
1 professor	Socio-economic Assessment of Various Land Management Models	JSC Latvian State Forests	2014-2015	65780
1 professor, 1 associate professor	Value and Dynamic of Latvia's Ecosystems under Changing Climate (EVIDEnT), subproject 3.2 Analysis of GHG Emissions from the Agricultural Sector and an Economic Assessment of Emission Reduction Measures	National government budget	2014-2018	147989

4 professors	Transformation of National Economy, Smart Growth, Governance and Legal Framework for Sustainable Development of State and Society – New Approaches to Creating a Sustainable Knowledge Society (EKOSOC-LV): sub-programme 5.2.2 Innovation and Entrepreneurship Development in Latvia in line with the Smart Specialization Strategy	National government budget	2014-2018	19643
	sub-programme 5.2.3 Rural and Regional Development Processes and Opportunities in the Knowledge Economy Context			123897
	sub-programme 5.2.7 Public Involvement in Social Innovation Processes for Ensuring Sustainable Development in Latvia			17320
	sub-programme 5.2.8 Processes of Cultural Environment Development, Preservation of Environmental Diversity and Urbanization in the Context of Sustainable Development in Latvia			12563
1 professor	Development of a Calculation Methodology and a Data Analysis Modelling Tool for Agricultural GHG Emissions through Integration of Climate Change	European Economic Area (EEA) Financial Mechanism and the Norwegian Financial Mechanism	2014-2016	179000
1 professor	Sustainability of Shrimp Production in Latvian Aquaculture and Prospects in the Markets of the Baltic and Scandinavian Countries	FishBone Ltd	2015-2016	1936

1 professor	Development of a Socio-economic Justification for the Latvian Bioeconomy Strategy	Ministry of Agriculture of the Republic of Latvia	2016	14000
1 associate professor	Risk and Vulnerability Assessment and the Identification of Adaptation Measures in Agriculture and Forestry	European Economic Area (EEA) Financial Mechanism and the Norwegian Financial Mechanism	2016	19602
1 professor	Assessment of Land Use Optimization Opportunities in Latvia in the Context of Climate Policy	JSC Latvian State Forests	2016-2018	149831
1 professor	Updated Calculation for the Application of the Reduced VAT Rate for the Fruit and Vegetable Sector as well as the Effects of the Reduced VAT Rate on Sales Volume, the Price Level and the Government Budget	Latvian Agricultural Organisation Cooperation Council (LOSP)	2017	9075
1 professor, 1 professor (emeritus)	Assessment of the Contribution of Organic Soils to Agriculture in Latvia – an Assessment of Multifactor Effects for Effective Land Use Solutions	Ministry of Agriculture of the Republic of Latvia	2017	19965
1 professor	“Production of Structured Fish Mass (Minced Fish) from the Baltic Sea Fish and its Use in Fish Products	European Maritime and Fisheries Fund (EMFF)	2017-2018	675829
1 professor, 1 professor (emeritus), 1 associate professor	Forecasting Agricultural Development and Developing Policy Scenarios for 2050	Ministry of Agriculture of the Republic of Latvia	2016-2019	180000

1 associate professor	Adapting Marginal Abatement Cost Curves (MACC) for Agricultural Greenhouse Gas and Ammonia Emissions as well as CO ₂ Sequestration (in Arable Land and Grasslands) in Latvia for Use in Agricultural, Environmental and Climate Policy-Making	Ministry of Agriculture of the Republic of Latvia	2018-2020	97598
1 professor	Development of a Decision-making Support System to Control Winter Wheat Leaf and Ear Diseases	Ministry of Agriculture of the Republic of Latvia	2018	17705
1 professor	Development of Technologies and Recipes for New Cost-efficient High-nutrition Instant Fish Whole-muscle Meat Products	European Maritime and Fisheries Fund (EMFF)	2018-2019	400000
1 professor	Development of Technologies and Recipes for "Baltic Anchovy in Oil" Preserves (Savoury Produce) and "Baltic Anchovy" Paste Produced from Baltic Sprat (<i>Sprattus balticus</i>) as an Analogue to Traditional Italian Preserves "Anchovy in Oil" and the Mechanization of the Production Technological Processes	European Maritime and Fisheries Fund (EMFF)	2018-2019	400000
1 professor	Examination of the Application of an Innovative Dehydration Technology in Sapropel Production and Opportunities for Use of Sapropel-Based Products in Crop and Animal Production	European Agricultural Fund for Rural Development (EAFRD)	2018-2023	196650
1 professor	Challenges and Solutions to the State of Latvia and Society in the International Context (INTERFRAME-LV)	National government budget	2018-2021	14625

4.5. Provide examples of the involvement of the academic staff in the scientific research and/or artistic creation activities both at national and at international level (in the fields related to the content of the study programme), as well as the use of the obtained information in the study process.

Involvement of academic personnel in scientific research at international level

The main channels through which the academic personnel involved in the delivery of the programme are engaged in international research are as follows:

- participation in COST actions (COST Action IS1207 Local Public Sector Reforms: An International Comparison; CA16106 - Ammonia and Greenhouse Gases Emissions from Animal Production Buildings);
- participation in Horizon2020 projects (BioMonitor, DISARM);
- participation in the ERA-NET network (RETHINK, SUMFOREST);
- research papers with a high citation impact factor, published in open access journals and produced in cooperation with foreign researchers (see section 3.4.3);
- active participation and involvement in various international organizations (Baltic Forestry, Veterinary and Agricultural University Network (BOVA); Polish Council of Science; Union of European Academies for Sciences applied to Agriculture, Food and Nature (UEAA); European Academies' Science Advisory Council (EASAC); Academy of Georgofili (Italy); Russian Academy of Agricultural Sciences; Lithuanian Academy of Sciences; Royal Swedish Academy of Agriculture and Forestry; Moroccan Association for the Improvement of the Quality of Education; International Macromarketing Association; European Association of Agricultural Economists (EAAE); Athens Institute for Education and Research Human Development Research Division);
- as foreign experts in foreign research institutions (e.g. foreign academic members of the Russian State Agrarian University – Moscow Timiryazev Agricultural Academy, foreign experts in Vision Science Research Sdn Bhd in Malaysia);
- as main reporters (e.g. at international scientific conferences in Morocco, Turkmenistan, Belgium, France, Georgia etc.);
- as members of editorial boards for journals (e.g. Journal of Science Education, International Journal of Globalisation and Small Business, European Integration Studies).

Involvement of academic personnel in scientific research at national level

The academic personnel is involved in scientific research at national level through the following channels:

- participation in projects of the national research programme (in the reporting period: EKOSOC-LV, EVIDEnT, yet in 2019 new projects were commenced: INTERFARME, DemoMig);
- research commissioned by the Ministry of Agriculture and aimed at achieving specific policy and economic objectives. For example, the project Incorporating Carbon Sequestration and Accumulation in Arable Land, Permanent Grasslands and Wetlands in Marginal Abatement Cost Curves (MACC) for Agricultural Greenhouse Gas Emissions in Latvia was important for shaping agricultural, environmental and climate policies, as its results were used in designing the National Energy and Climate Plan 2021-2030, while the project Forecasting Agricultural Development and Developing Policy Scenarios for 2050 created two models to be mostly used by the Ministry of Agriculture and the Ministry of Environmental Protection and Regional Development and LLU. The second model is a GHG dynamic modelling tool for climate policy modelling, consisting of an algorithm system for automatically calculating GHG in agriculture based on the IPCC Guidelines;
- the JSC “Latvian State Forests” is an important cooperation partner that provided financial support for several projects in the period of 2013-2018. The projects allowed building up a significant knowledge of and data on land use opportunities in Latvia, as well as several

models (LANDUP_agri, LANDUP_forest) and the database DataMonster to be used in planning business and in policy-making were developed;

- for local governments and industries, the academic personnel are needed as experts in the following areas: bioeconomy (Irina Pilvere), smart development and smart specialization (Baiba Rīvža), business management (Andra Zvirbule), climate-friendly agricultural practices (Dina Popluga), land use optimization (Aleksejs Nipers);
- cooperation with non-governmental organizations in dissemination of project results and communication with the public (e.g. the Farmers Parliament, the Latvian Agricultural Organisation Cooperation Council, the Latvian Agricultural Cooperatives Association);
- joint scientific research papers and popular science articles with industry experts (e.g. Precision Farming Ltd);
- research contracts commissioned by municipalities (e.g. the municipalities of Jelgava, Ogre and Auce);
- informing the public about research activities in the Science Night and through popular science articles, television and radio (over 80 activities were carried out in the reporting period).

All of the above mentioned activities are applied in the learning process as follows: doctoral students are involved in research projects as researchers and the doctoral dissertations produced are one of the results to be achieved in the projects; doctoral students are actively involved in popularising science and public discussions with industry professionals; the relevant industry offers doctoral students to explore new and urgent research problems in cooperation with industry entrepreneurs and associations; academic personnel incorporate research-based findings into the learning process; academic personnel who are experts in science establish scientific cooperation.

4.6. Assessment of the cooperation between the teaching staff members by specifying the mechanisms used to promote the cooperation and ensure the interrelation between the study courses/ modules. Specify also the proportion of the number of the students and the teaching staff within the study programme (at the moment of the submission of the Self-Assessment Report).

Cooperation among teaching personnel is an important driver of development, which is promoted at different levels in the programme:

- At ESAF organisational unit level – the teaching personnel from various ESAF organisational units are involved in the delivery of theoretical courses. For example, 7 teaching personnel from three ESAF institutes are involved in the delivery of the course Agrarian and Regional Economics, which provides a diversity of views, experiences and content. In addition, the teaching personnel cooperates through their work in the Methodology Commission for Doctoral Studies, in which four teaching personnel members involved in the delivery of the programme from three ESAF institutes are the members thereof. The commission regularly and actively works on enhancing the programme's curriculum.
- At ESAF level – 10 of the teaching personnel involved in the delivery of the programme are members in the ESAF Board.
- At interfaculty level – the teaching personnel from various Faculties of LLU are involved in the delivery of several courses, for example, three teaching personnel from the Faculty of Economics and Social Development and one from the Faculty of Information Technologies are involved in the delivery of the course Research Methodology in Economics I. In case of

interdisciplinary doctoral dissertations, scientific supervisors or consultants are attracted from other Faculties, for example, to date there has been cooperation with the Forest Faculty and the Faculty of Agriculture.

- At interuniversity level – four of the teaching personnel involved in the delivery of the programme are members of the LLU Promotion Council for the sub-branches of Agrarian Economics and Regional Economics, which also includes members of other Latvian universities, for example, the University of Latvia, Riga Technical University and Vidzeme University College, which contributes to the exchange of experience and information with other universities.

The ratio of students to workload is 10.8: 1, i.e. 10.8 students per workload.

Annexes

III. Description of the Study Programme - 1. Indicators Describing the Study Programme		
Compliance of the joint study programme with the provisions of the Law on Institutions of Higher Education (table)		
Statistics on the students over the reporting period	Annex 13.docx	13. pielikums.docx
III. Description of the Study Programme - 2. The Content of Studies and Implementation Thereof		
Compliance of the study programme with the State Education Standard		
Compliance of the qualification to be acquired upon completion of the study programme with the professional standard (if applicable)		
Compliance of the study programme with the specific regulatory framework applicable to the relevant field (if applicable)		
Mapping of the study courses/ modules for the achievement of the learning outcomes of the study programme	Annex 17.xlsx	17. pielikums.xlsx
Curriculum of the study programme (for each type and form of the implementation of the study programme)	Annex_18.docx	18. pielikums-1.docx
Descriptions of the study courses/ modules	Descriptions_of_the_study_courses.rar	Studiju_kursu_apraksti.rar
Description of the Study Direction - Other mandatory attachments		
Sample of the diploma to be issued for the acquisition of the study programme.	Annex_Doctoral_diploma.pdf	Pielikums_Doktora_diploms.pdf
Description of the Study Programme - Other mandatory attachments		
Document confirming that the higher education institution/ college will provide the students with the options to continue the acquisition of education in another study programme or at another higher education institution/ college (a contract with another accredited higher education institution/ college), in case the implementation of the study programme is discontinued	Agreement between LLU and RTU.docx	LLU_RTU_07012020_01000-4.1-e_2.edoc
Document confirming that the higher education institution/ college guarantees to the students a compensation for losses if the study programme is not accredited or the licence of the study programme is revoked due to the actions of the higher education institution/ college (actions or failure to act) and the student does not wish to continue the studies in another study programme	LLU confirmation_PhD program.docx	LLU_apliecinajumi_ESAF_doktora_programmai_Agrara_un_rejonala_ekonomika.edoc
Confirmation of the higher education institution/ college that the teaching staff members to be involved in the implementation of the study programme have at least B2-level knowledge of a related foreign language according to European language levels (see the levels under www.europass.lv), if the study programme or any part thereof is to be implemented in a foreign language.	LLU confirmation_PhD program.docx	LLU_apliecinajumi_ESAF_doktora_programmai_Agrara_un_rejonala_ekonomika.edoc
If the study programmes in the study direction subject to the assessment are doctoral study programmes, a confirmation that at least five teaching staff members with doctoral degree are among the academic staff of a doctoral study programme, at least three of which are experts approved by the Latvian Science Council in the respective field or sub-field of science, in which the study programme has intended to award a scientific degree.	LLU confirmation_PhD program.docx	LLU_apliecinajumi_ESAF_doktora_programmai_Agrara_un_rejonala_ekonomika.edoc
If academic study programmes are implemented within the study direction, a document confirming that the academic staff of the academic study programme complies with the provisions set out in Section 55, Paragraph one, Clause three of the Law on Institutions of Higher Education	LLU confirmation_PhD program.docx	LLU_apliecinajumi_ESAF_doktora_programmai_Agrara_un_rejonala_ekonomika.edoc
Sample (or samples) of the study agreement	Annex_Study_agreement.pdf	Pielikums_Studiju_ligums_paraugs.pdf
If academic study programmes for less than 250 full-time students are implemented within the study direction, the opinion of the Council for Higher Education shall be attached in compliance with Section 55, Paragraph two of the Law on Institutions of Higher Education.	Council of Higher Education_conclusion_PhD program.docx	Agrara_un_rejonala_ekonomika_doktora_studiju_programma.pdf

Economics

Title of the higher education institution	<i>Economics</i>
ProcedureStudyProgram.Name	<i>Economics</i>
Education classification code	<i>43311</i>
Type of the study programme	<i>Academic bachelor study programme</i>
Name of the study programme director	<i>Aina</i>
Surname of the study programme director	<i>Dobele</i>
E-mail of the study programme director	<i>Aina.Dobele@llu.lv</i>
Title of the study programme director	<i>Profesore, Dr.oec.</i>
Phone of the study programme director	<i>+371 63020248</i>
Goal of the study programme	<i>To enable students to acquire academic education in economics through creative teaching and research, to create preconditions for acquiring knowledge and to develop high quality intellectual, analytical and professional skills in their chosen specialisation.</i>
Tasks of the study programme	<ul style="list-style-type: none"> <i>• To provide students with theoretical knowledge and to develop research skills in economics by preparing the students for a higher level of studies and for scientific research, emphasizing regional and bioeconomic developments;</i> <i>• To create preconditions for building up analytical skills, professional and communication skills in the field of economics, which would allow graduates to successfully integrate into the national and international labour markets in public and private organisations.</i>

Results of the study programme	<p><i>Students will be able to demonstrate:</i></p> <p><i>Knowledge of</i></p> <ul style="list-style-type: none"> • <i>fundamental and specific knowledge of economic theory and its historical evolution;</i> • <i>role of the bioeconomy in rational and sustainable use of resources;</i> • <i>theoretical principles of a modern economy in the following specialisations: Agricultural and Environmental Economics, Business Process Management, Accounting and Finance, Regional Development and Governance, Law etc.;</i> • <i>basic theoretical and practical matters of economics and individual interdisciplinary sciences: management science, mathematics, computer science, environmental science, agriculture, sociology, law, philosophy, business ethics etc.</i> <p><i>Professional skills to</i></p> <ul style="list-style-type: none"> • <i>do research by using the theoretical knowledge acquired and demonstrate an analytical approach in the analysis of the research problem;</i> • <i>independently identify quantitative and qualitative data in various databases, initially and analytically process the data and interpret the results;</i> • <i>employ the most proper research methods and techniques and interpret the results from an economic perspective;</i> • <i>apply legislative requirements and assess their effects on an enterprise and the economy as a whole.</i> <p><i>Skills in the specialisation to</i></p> <p><i>Agricultural and Environmental Economics</i></p> <ul style="list-style-type: none"> • <i>Understand the Common Agricultural Policy in the European Union and Latvia, identify the hierarchical systems of institutions, legal documents and policy documents pertaining to agricultural and environmental policies.</i> • <i>Assess the extent of economic, social and natural interactions, identify and analyse sustainability indicators.</i> <p><i>Business Process Management</i></p> <ul style="list-style-type: none"> • <i>Understand business process interrelationships within an enterprise and incorporate them in decisions on creating innovations.</i> • <i>Assess the enterprise's potential for development in the changing external environment and understand tools and systems for quality management.</i> <p><i>Accounting and Finance</i></p> <ul style="list-style-type: none"> • <i>Manage and control the accounting process in enterprises and institutions, prepare financial statements and perform a valuation of enterprises by applying various methods.</i> • <i>Comprehend banking and financial sector operations and taxation, calculate, declare and pay taxes for natural and legal persons as well as account for the taxes in enterprises.</i> <p><i>Regional Development and Governance</i></p> <ul style="list-style-type: none"> • <i>Determine the development potential of a territory, analytically analyse national, regional and local government strategic documents.</i> • <i>Apply regional analysis methods to draw conclusions being statistically supported and analyse the functions of a municipality and the quality of the functions provided by the municipality.</i> <p><i>Law</i></p> <ul style="list-style-type: none"> • <i>Understand the nature of establishment, fulfilment, existence and termination of an obligation.</i> • <i>Understand the substance, meaning and role of labour law in a modern economy and establish and implement legal employment relationships.</i> <p><i>Soft skills to</i></p> <ul style="list-style-type: none"> • <i>Be ready to take responsibility and initiative, doing work individually or in a team.</i> • <i>Professionally communicate, argue and demonstrate the research and calculations done for both professionals and non-specialists.</i> • <i>Understand the environmental impacts of economic processes and assess and manage the working environment.</i> • <i>Apply modern information technologies in accounting and processing of economic data.</i> • <i>Understand the ethical aspects of setting goals and achieving them, as well as processes in society and their impacts on the socio-economic environment.</i> <p><i>Competences to</i></p> <ul style="list-style-type: none"> • <i>Apply theoretical knowledge in solving practical tasks and making decisions to improve the performance of an enterprise or an institution.</i> • <i>Build up a sufficient level of theoretical knowledge, research skills and competences for a higher level studies and doing research.</i>
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Final examination upon the completion of the study programme	<i>Bachelor thesis</i>
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Study programme forms

Full time studies - 4 years - latvian

Study type and form	<i>Full time studies</i>
Duration in full years	<i>4</i>
Duration in month	<i>0</i>
Language	<i>latvian</i>
Amount (CP)	<i>160</i>
Admission requirements (in English)	<i>General secondary education or vocational secondary education</i>
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	<i>Bachelor of Social Science in Economics</i>
Qualification to be obtained (in english)	<i>-</i>

Places of implementation

Place name	City	Address
Latvia University of Life Sciences and Technologies	JELGAVA	LIELĀ IELA 2, JELGAVA, LV-3001

Part time studies - 4 years, 6 months - latvian

Study type and form	<i>Part time studies</i>
Duration in full years	<i>4</i>
Duration in month	<i>6</i>
Language	<i>latvian</i>
Amount (CP)	<i>160</i>
Admission requirements (in English)	<i>General secondary education or vocational secondary education</i>
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	<i>Bachelor of Social Science in Economics</i>
Qualification to be obtained (in english)	<i>-</i>

Places of implementation

Place name	City	Address
Latvia University of Life Sciences and Technologies	JELGAVA	LIELĀ IELA 2, JELGAVA, LV-3001

Full time studies - 4 years - english

Study type and form	<i>Full time studies</i>
Duration in full years	<i>4</i>
Duration in month	<i>0</i>
Language	<i>english</i>
Amount (CP)	<i>160</i>
Admission requirements (in English)	<i>General secondary education or vocational secondary education English language skills of at least B2 level</i>
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	<i>Bachelor Degree of Social Science in Economics</i>
Qualification to be obtained (in english)	<i>-</i>

Places of implementation

Place name	City	Address
Latvia University of Life Sciences and Technologies	JELGAVA	LIELĀ IELA 2, JELGAVA, LV-3001

III - DESCRIPTION OF THE STUDY PROGRAMME (1. Indicators Describing the Study Programme)

1.1. Description and analysis of changes in study programme parameters that have taken place since the issue of the previous accreditation certificate of study direction or the license of study programme if study programme is not included in the accreditation page of the study direction

In the period since the previous accreditation, the following changes have been made in the parameters of the programme:

1. **Extramural studies is not introduced** for full- and part-time studies because students did not wish it;
2. As the number of international students increased, the programme for **full-time students** is now delivered also in **English** from study year 2017./2018. The internationalization of the programme was recommended during the previous accreditation as well.

1.2. Analysis and assessment of the statistical data on the students of the respective study programme, the dynamics of the number of the students, and the factors affecting the changes to the number of the students. The analysis shall be broken down in the different study forms, types, and languages.

In the academic year 2019/2020, there are **257** students in the programme, incl. 190 full-time and 67 part-time students. The breakdown of students by kind of studies has changed: in the academic year 2013/2014, 66% were full-time students, while in the academic year 2019/2020 the proportion of full-time students increased to 77%. This is due to the fact that in recent years a large number of individuals of all ages have acquired part-time economic education and the number of potential students in this sector has decreased.

Owing to various external factors (demographic situation in the country, external migration processes, educational alternatives abroad), the number of students in the programme from the academic year 2013/2014 to the academic year 2019/2020 decreased by 38.8%, incl. 31.4% in full-time studies and more than half in part-time studies. Since 2017, the number of full-time students has stabilized. The number of matriculated students in the first year of studies is volatile, with no definite trend. However, the number of students in the next years of studies is changing – in full-time studies it slightly decreases, in part-time studies it does not change or in some years of studies it even increases. This is determined by the fact that part of full-time students enter the labour market and cannot combine full-time studies with their work, yet they continue their studies part-time, as well as some students resume their studies after discontinuation. Their return to studies is facilitated by ESAF's constructive attitude towards students who wish to continue their studies because they were forced to drop out (mainly due to financial problems). Taking into account students' suggestions and the high demand for labour in the market, the decision of a Higher Education Council Accreditation Commission meeting of 21 June 2012 reduced the period of part-time studies to 4 years and 6 months (9 semesters), with tuition fees being the same.

The number of graduates decreases owing to a decrease in the number of students. The sharp decrease in the number of graduates in the reporting period (54.4%) was largely due to the fact that some students failed to meet their academic commitments and write their bachelor thesis because they started a professional career and could not combine studies with their jobs. This is due to the interest of employers in the students of the programme during the final period of studies, which at the same time proves the conformity of the students' knowledge acquired with labour market needs.

The decrease in both the number of students and the number of graduates is directly affected by the exmatriculation of students during the period of studies. The largest number of exmatriculated students is reported in the 1st year of studies – 50.0% of the total number (see Annex 13). The main reason for exmatriculation is *of their own volition*, as well as some young individuals are not yet aware of their choice of a profession.

The number of exmatriculated students for non-fulfilment of the obligations of the study contract because of failing to meet the requirements of the programme (outstanding course requirements: due to both subjective and objective circumstances) accounts for 33.3% of all the reasons. The number of exmatriculated students is statistically larger than the decrease in the number of students, as some students resume their studies in accordance with the Cabinet regulation No.932 Procedure for Commencing University Studies at Later Stages and the procedure set by LLU. After their discontinuation of studies, most students resume part-time studies.

Table 3.1

Number of students resuming their studies at later stages				
Academic year	Students resumed studies after discontinuation		Students from other universities or programmes	Total
	Full-time	Part-time		
2013/2014	5	14	7	26
2014/2015	2	12	3	17
2015/2016	4	12	7	23
2016/2017	1	20	1	22
2017/2018	2	11	2	15
2018/2019	4	14	2	20
Total	18	83	22	123

In the reporting period, 101 students have resumed their studies after discontinuation, with most of

the students (83) resuming part-time studies (Table 3.1).

Starting with the academic year 2017/2018, studies in the programme are provided in Latvian and English. Full-time studies in English are provided for the specialisations Agricultural and Environmental Economics and Business Process Management. Students studying in Latvian can also join the students studying in English. In the academic year 2019/2020, 12 foreign students studied in the programme. In the academic year 2017/2018, only one student from India started studies, yet, currently, there are students from five countries – Romania, Bangladesh, Pakistan, Uzbekistan and India.

Students of the bachelor programme have three ways of financing their studies: *funding of the government* of the Republic of Latvia for implementation of the programme, *private funds* and *loans*. State-guaranteed study loans granted on behalf of the state are available in accordance with the Cabinet regulation No. 220 Procedures for the Allocation, Repayment and Cancellation of a Study Loan and Student Loan from the Resources of Credit Institutions with the Government Guarantee (<https://likumi.lv/doc.php?id=25577>, *Only in Latvian*). Government funding contributes to the accessibility of the programme to individuals. Only full-time students are eligible for studies funded by the government. The number of government-funded study places is agreed in a trilateral agreement among the Ministry of Agriculture, the Ministry of Education and Science and LLU. The number of government-funded study places for the programme totals 151 (annual average). Part-time students finance their studies themselves. Of the total students of the programme, government-funded students accounted for 37.4% in the academic year 2013/2014 and 62.3% in the academic year 2019/2020. The number of government-funded study places has not changed during this period. Tuition fees for full-time and part-time students have not changed significantly over the years (see Annex 13).

1.3. Analysis and assessment of the interrelation between the name of the study programme, the degree or professional qualification to be acquired or the degree and professional qualification to be acquired, the aims, objectives, learning outcomes, and the admission requirements.

The academic bachelor programme **Economics** delivered by LLU ESAF is relevant to the branch of economics and business. In accordance with Cabinet regulation No. 322 Regulation regarding the Classification of Education in Latvia (<https://likumi.lv/doc.php?id=291524>, *only in Latvian*), students of the programme acquire *higher academic* education in the thematic category of *social sciences*, business and law, sub-category of social and human behaviour, education programme category of economics – **IKK43311**. This legal document stipulates that academic education (bachelor's degree) may be acquired after completion of secondary general or professional education. The academic bachelor programme Economics provides knowledge, skills and competence corresponding to European Qualifications Framework (EQF) level 6.

The programme and its curriculum were developed in compliance with the Education Law, the Law on Higher Education Institutions, Cabinet regulation No.240 Regulations regarding the Academic Education National Standard (13 May 2014), the LLU Regulation of Studies (15 June 2015) (<https://www.llu.lv/en/study-guide-documents>). Upon completing the programme, the student is awarded a **Bachelor of Social Science in Economics** (see Annex 14).

Preparing specialists of the programme could not be associated with or attributed to a particular industry, and it has to be assessed in the context of the national economy and global trends because in accordance with Cabinet regulation No. 264 Regulations regarding the Classification of Occupations, Basic Tasks Corresponding to the Occupation and Basic Qualification Requirements, **economists** “carry out scientific research and design and develop economic theories, concepts and methodologies to be used to determine and describe the choices of national and international goods, services and jobs, as well as use the acquired knowledge for making economic policies, dealing with current and future economic challenges and giving consultations” (<https://likumi.lv/ta/id/291004-noteikumi-par-profesiju-klasifikatoru-profesijai-atbilstosiem-pamatuzdevumiem-un-kvalifikacijas-pamatprasibam>, *Only in Latvian*).

Citizens of the Republic of Latvia and non-citizens, citizens of the Member States of the European Union and the European Economic Area, persons who have been issued a permanent residence permit in the Republic of Latvia are eligible to study in the programme.

The educational background requirements for enrolling on the bachelor programme are as follows: secondary education. The admission and matriculation requirements are available at <https://www.llu.lv/en/degree-programmes>. Applicants are admitted to the programme on a competitive basis. When applying for university studies, applicants use the single electronic system for admission to bachelor programmes, which involves 10 universities of Latvia.

Foreign students have to meet additional admission requirements – English skills at least at B2 level. To date, admission practices have allowed universities themselves to set criteria for the admission of foreign students. Accordingly, universities themselves conducted remote language skills interviews via Skype video calls to identify the potential student’s knowledge of English. The LLU International Cooperation Centre in cooperation with the LLU Language Centre conducted such interviews, interviewing the students on everyday issues, their educational backgrounds and motivations to study at LLU. If necessary, applicants were also asked to provide short written answers to identify their knowledge of English grammar. Applicants were awarded LLU Certificates of Compliance (or incompliance) with the standard of English language proficiency required for studies at LLU. The applicants who had submitted an internationally recognized English language certificate (IELTS, TOEFL or equivalent) with a minimum of IELTS 5.5 for bachelor programmes and 6.0 for master programmes were exempted from interviews. This level is comparable to B2 level.

As from the autumn semester of 2020, Cabinet regulation No. 846 *Amendments to the Regulation regarding Requirements, Criteria and Procedure for Admission to Study Programmes* comes into force, stating that the foreigner shall attach to the application a document issued by an international testing institution within the last five years that certifies that the foreigner has at least B2 level of English language skills. The mentioned document is not required if the foreigner has acquired secondary education or higher education in the language of delivery of the relevant programme.

Admission requirements and systems are described in detail in Section 2.1.5.

The goal, objectives and learning outcomes of the programme are coherent and logically interlinked (see section 3.1.1).

III - DESCRIPTION OF THE STUDY PROGRAMME (2. The Content of Studies and Implementation Thereof)

2.1. Assessment of the relevance of the content of the study course/ module and the compliance with the needs of the relevant industry and labour market and with the trends in science. Provide information on how and whether the content of the study course/ module is updated in line with the development trends of the relevant industry, labour market, and science. In case of master's and doctoral study programmes, specify and provide the justification as to whether the degrees are awarded in view of the developments and findings in the field of science or artistic creation.

An in-depth knowledge of the economy is required in all industries of the economy. The curriculum and plan of the academic bachelor programme Economics have been designed in line with economic trends to prepare academically educated specialists for carrying out research and practical work who understand and are able to critically assess basic laws and regularities of economic growth and development, understand current developments in the bioeconomy, are aware of business organisation and management, implement innovative management ideas, are able to carry out a comprehensive analysis of rural areas with regard to regional development and planning, as well as perform qualified work in the field of accounting and finance in companies, institutions and organisations of all levels both in Latvia and in the international labour market.

The development and enhancement of the programme is governed by the Law on Higher Education Institutions (<https://likumi.lv/ta/en/en/id/37967>) and the LLU Regulations regarding the Development, Approval and Change of Programmes at LLU (https://www.llu.lv/sites/default/files/2019-03/Studiju_programmu_izstradasanas_noteikumi_2019.pdf, only in Latvian) The curriculum of the programme is in alignment with the branch of economics and business, representing important sub-branches of economics (<https://likumi.lv/ta/id/296661-noteikumi-par-latvijas-zinatnes-nozare-un-apaksnozarem>, only in Latvian): Economics, Macroeconomics, Microeconomics, Agricultural Economics, Regional Economics, Finances and Credit and Accounting and Bookkeeping Theory. The structure and curriculum of the programme were developed in accordance with Cabinet regulation No. 240 Regulations regarding the Academic Education National Standard (<https://likumi.lv/doc.php?id=266187>, only in Latvian).

The outlook for the programme Economics has been assessed in close context with the overall development strategy of Latvia and the prospects for development in rural areas (see section 2.1.1).

The programme Economics was designed and developed in accordance with the vision set by the LLU Development Strategy: Latvia University of Life Sciences and Technologies is one of the leading universities in the field of science and technology in the Baltic Sea region, specialising in the sustainable use of natural resources for the improvement of the quality of life of the society. Based on the mission, long- and medium-term goals defined in the *LLU Development Strategy 2015-2020*, the long- and medium-term goals, challenges and principles of the LLU Education Programme contained therein as well as the research priorities defined in the LLU Research Programme with regard to the organisational units of LLU, the following strategy of the programme Economics could be defined: *based on the integration of learning and research for the purposes of examining development opportunities for the bioresource economy and territorial sustainable development, further expanding the internationalization of learning and lifelong education and aligning the goals of the stakeholders engaged in the learning process with their interests, to prepare high-quality, competitive specialists in economics in line with the framework of the specialisation.*

Students (through annual surveys of students and informal conversations), teaching personnel (who

update the syllabuses of their courses based on student-focused teaching), the programme director, the dean of ESAF, institute directors (according to labour market and science trends), employers (Club of LLU Economists, Alumni Weeks, guest lectures, surveys of employers) are involved in updating the curricula of courses. Five specialisations are implemented within the programme: Agricultural and Environmental Economics; Business Process Management; Accounting and Finance; Law; and Regional Development and Governance. Three specialisations are provided for part-time students (taking into account the number and wishes of students): Business Process Management; Accounting and Finance; and Regional Development and Governance. Two specialisations are provided in English: Agricultural and Environmental Economics and Business Process Management. According to their research and professional interests, students choose one of the specialisations after the 2nd year of studies.

First- and second-year full-time students, in accordance with LLU Senate decision No. 166, take sport classes (3 CP). Every year, 1st-year full-time students take the course Practical Agriculture Management (1 CP) on the LLU research and training farm Vecauce with the aim of learning practical farming in rural areas. As a result of taking the course, students acquire: knowledge of functioning of and interconnection among various agricultural industries and of technological production processes and agricultural management; skills in business planning and farm operation management in a multi-sectoral farm; competence in working in a team or independently, as well as in systemising the knowledge acquired and drawing up reports. The credits of these courses are not included in the programme workload of 160 CP.

Due to local and global problems of natural resource use and bioeconomy research, the course Bioeconomics (5 CP) was included in the programme in 2014 and a new specialisation – **Agricultural and Environmental Economics** – was established. It required introducing a range of new courses, e.g. *Agricultural and Environmental Policy* (2 CP), *Economy of Renewable Energy* (2 CP), *Environmental Law* (2 CP), the study project *Agricultural Economics* (4 CP) and the practice *Bioeconomics* (8 CP) (see Annex 18).

To make the curriculum of the specialisation Business Process Management meet labour market needs, the following new courses were introduced in 2015: Quality Management (3 CP), Customer Relationship Management (2 CP), Innovation in Business (2 CP), Sales (Commerce) Management (2 CP) and the study project Business Process Management (4 CP). In order for the curriculum of the programme to be in line with the latest trends in the economy, the following new courses were introduced: Organizing of Agricultural Processes (4 CP) and Institutional Environment for Entrepreneurship (2 CP).

The compliance of the curriculum of the programme with international requirements is also confirmed by the cooperation agreement concluded with AERES University of Applied Sciences (Netherlands) on obtaining a diploma at this university.

Within the ESF project No. 8.2.3.0/18/A/009 Enhancement of the Governance of Latvia University of Life Sciences and Technologies, the curriculum of the programme was assessed and recommendations were given by industry experts from the international audit company PricewaterhouseCoopers Ltd in 2019. The experts recognized that the courses provided all the knowledge needed for today's labour market or business and the specific knowledge needed for the specialisation. The experts appreciated the participation of teaching personnel in international conferences and the measures taken to facilitate employment and entrepreneurship. Within the mentioned project, Dynamic University Ltd conducted a study on trends in the demand for labour up to 2030. The experts found that the future demand for labour (especially the highly qualified workforce) in the field of social sciences is expected to increase and be driven by economic growth and the population's growing engagement in business. The study has also found that a shift from a

hierarchical and authoritative management style to a self-regulatory team approach is expected. There is the need for skills such as the ability to **cooperate, empathy, team motivation, teamwork-friendly environments, decision-making** in stressful and agile situations. When developing the curriculum of the programme, the mentioned findings of the study have already been incorporated in the curricula of courses.

2.2. Assessment of the interrelation between the information included in the study courses/ modules, the intended learning outcomes, the set aims and other indicators, the relation between the aims of the study course/ module and the aims and intended outcomes of the study programme. In case of a doctoral study programme, provide a description of the main research roadmaps and the impact of the study programme on research and other education levels.

The study plan for the academic bachelor programme Economics was drawn up by taking into account the prestigious academic experience of the teaching personnel involved in the programme, the knowledge and experience of the teaching personnel being LCS experts in their relevant fields of science, as well as the linkage between LLU and the professional environment. The study plan (Annex 18) and the succession of courses ensure: 1) *acquiring fundamental knowledge and professional skills*; 2) *building up research skills*. Learning outcomes are defined for the entire programme and each individual course, taking into consideration the credit points of the courses, and the learning outcomes of the courses constitute the learning outcomes of the programme.

The programme builds up an understanding of *the basic principles, priorities and evolution of economics and the most urgent problems in the economy* (through the following courses: Introduction to Economics, Microeconomics, Macroeconomics, Economic Research, Basics of Accounting, Finance and Taxes, Marketing, International Economic Relations, etc.). Based on fundamental knowledge, a deeper understanding of the current problems of the bioeconomy and the agricultural industry and possibilities to solve them is built up (through the following courses: Bioeconomics, Ecology and Environmental Protection, Organizing of Agricultural Processes, Economic Management Studies, etc.).

It is important that graduates from the programme not only have an in-deep knowledge of their chosen field of study – economics – but also are able to think, work and introduce innovations in an interdisciplinary way. The courses contained in the programme provide students with knowledge of the basic theoretical and practical aspects of economics and certain interdisciplinary sciences, e.g. management science, mathematics, computer science, environmental science, agriculture, sociology, law, philosophy, business ethics, ecology, etc.

Research, international mobility during studies and successful international careers require developing foreign language skills. Accordingly, the programme provides the course *English for Economics Students*. Students are also given an opportunity to take courses in English together with foreign students.

Paragraph 3 of Section 56 of the *Law on Higher Education Institutions* prescribes that “for foreign students the **acquisition of the official language** shall be included in the study course compulsory amount if studies in Latvia are expected to be longer than six months or exceed 20 credit points”. To comply with this requirement, 1st-year foreign students are required to take the course Latvian Language worth 4 CP.

After the 2nd year of studies, students acquire an in-depth knowledge in one of the specialisations: *Agricultural and Environmental Economics; Business Process Management; Accounting and Finance; Law; and Regional Development and Governance*.

At the final stage of studies, the programme prescribes that the students have to undergo practical training for practical application of the theoretical knowledge acquired (8 CP).

Applying for taking *elective courses* at bachelor level is governed by the ordinance of the vice rector for studies. The institutes (departments, centres) of LLU deliver elective courses. The Methodology Commission selects proper courses for the programme out of the available ones, taking into account the goal and learning outcomes of the programme. The range of the courses offered varies from year to year. Students register for elective courses electronically by using the LLU IS application module and their user accounts. The registration for the next academic year has to be done during the spring semester.

Research skills are built up through taking: 1) *courses* on research methods (Mathematics for Economists, Statistics, Mathematical Statistics, Quantitative Methods in Economics and Sociology that serve as tools for building up an understanding of economic models); 2) *study projects* (research studies using the learning outcomes of several courses); 3) *bachelor thesis* (graduate thesis – a research study conducted by the student, which confirms his/her acquisition of theoretical knowledge and methodological skills in the relevant field); 4) participation in scientific conferences.

The programme prescribes three study projects: *Economics* (analysis of main problems at national economy, regional or industry level); *Business Analysis* (application of the acquired theoretical knowledge to complexly assess the economic performance of a particular enterprise); and a *study project* in the specialisation chosen (application of the acquired theoretical knowledge, skills and competence in a research study on urgent problems pertaining to the specialisation). The requirements for study projects are prescribed by the Guidelines for Writing and Defending a Study Project (<http://www.esaf.llu.lv/lv/studiju-un-reglamentejosie-dokumenti>).

A *bachelor thesis* is a research study for acquiring a Bachelor of Social Sciences in Economics. When working on a bachelor thesis, the student systemises, consolidates and extends his/her theoretical and practical knowledge, which allows assessing the depth and breadth of the student's knowledge, the skill to find and use information sources and materials, the ability to analyse and critically assess the research works produced by other authors, the ability to formulate conclusions on the research results and to make proposals derived from the findings by exploiting the knowledge acquired during the period of studies. The requirements for bachelor theses are prescribed by the Guidelines for Writing and Defending a Bachelor Thesis (<http://www.esaf.llu.lv/sites/esaf/files/2020-03/GUIDELINES%20FOR%20WRITING%20AND%20DEFENDING%20A%20BACHELOR%E2%80%99S%20THESIS.pdf>).

Students participate in conferences of various levels to enhance their research and presentation skills. For example, every year ESAF holds a student scientific and practical conference on finance and accounting. In 2019, 11 students reported in the conference Students on their Way to Financial Literacy. Their research studies were examined by professional accountants and sworn auditors. Every year, students participate in the annual international student scientific conference Students on their Way to Science to report on their research findings. In the reporting period in the conference, 38 students of the programme participated and presented their research findings, while 29 student research studies were published in the proceedings of the conference. Abstracts of the student research studies are available at <http://sws.llu.lv/proceedings>.

Four students of the programme participated in the project Ready for Business (ReforB) that was implemented under the Interreg V-A Latvia-Lithuania Programme for 2014-2020. The project

supported more than 1400 young individuals wishing to become businesspersons and entrepreneurs.

2.3. Assessment of the study implementation methods (including the evaluation methods) by providing the analysis of how the study implementation methods (including the evaluation methods) used in the study courses/ modules are selected, what they are, and how they contribute to the achievement of the learning outcomes of the study courses and the aims of the study programme. Provide an explanation of how the student-centred principles are taken into account in the implementation of the study process.

In accordance with LLU Senate decision No. 8-182 LLU Regulation of Studies, students' knowledge is assessed both **qualitatively** and **quantitatively**. A *10-point marking scale* or pass/fail is used for qualitative assessment. The number of *credit points* represents quantitative assessment. During each course, the student has to pass tests and/or do independent work as specified in the syllabus of the course. Any course ends with an examination – a formal pass/fail test/test with a mark or an examination. The student assessment results are recorded on an examination result sheet. The assessment procedure and marking system is prescribed by the LLU Regulation of Studies.

The learning process involves **classroom classes, independent studies, consultations with teaching personnel and tests or examinations** as well as **practical training**. Classroom classes, in accordance with the LLU legal documents, are measured in contact hours. A contact hour represents a direct contact between teaching personnel and students, which is carried out in order to achieve the goal and objectives of the programme according to the study plan and lasts one academic hour. In the practical delivery of the programme, depending on the specifics of a course and the type of contact hours (*lectures, practicals and seminars*), the *monological, dialogical and research methods* are applied in various proportions, which is a joint or individual cognitive activity of students and teaching personnel that is planned and intended to achieve the student development goal. *In lectures* as the main form of monologue method implemented by means of information technologies, the teaching personnel creatively incorporate elements of the dialogical method to provide feedback from the audience and a greater variety of forms of teaching: ask questions to the audience and give group or individual assignments. This approach provides a targeted and attractive build-up of student attitudes, skills and knowledge.

Lectures and seminars are used **Audience Interaction Tools**:

- Sli.do
- Kahoot.it
- Catchbox.

In practicals and seminars, the following active teaching forms are used: business games, decision making in small and large teams (group work), independent decision-making (individual work), individual homework, problem-solving and schematic representation, reports, discussions on current problems in the economy and business, tests, student conferences and debates.

Independent studies represent students' independent work without the direct participation of a teaching personnel member. For independent studies, a broad range of materials are provided for students in the Moodle environment. The goal of independent studies is to develop skills in obtaining and using scientific and practical information to do the assignments given in courses.

The individual approach is ensured through the different forms and types of delivery of courses. The

study plan prescribes the development of three study projects and practical training, with individual assignments for each student. Writing a study project is supervised by a teaching personnel member, individually advising the student. The individual approach to students is also ensured through producing a bachelor thesis. In the learning process, the individual approach to students is applied during compulsory teaching personnel consultations – two hours a week. It is possible to communicate in the e-environment by using the LLU unified e-mail system and communication in the Moodle environment. By prior agreement, teaching personnel are also available to students beyond classroom and compulsory office hours. Direct communication is appreciated by students for acquiring knowledge and skills, yet e-environment communication is appreciated for organisational issues as well as for studying abroad under the ERASMUS + programme.

Applying the *research study method* plays some role in the practical delivery of the programme, as the diverse forms of it allows for a critical assessment of theoretical and practical findings and resolution of problems; the method facilitates individual and group work by providing feedback between students and teaching personnel in the context of the theoretical knowledge and skills they have acquired, either in written or oral form. Study projects are very important in this respect. The director of the institute responsible for defending study projects and traineeships has to establish a committee. The defence takes the *form of a presentation*, with the participation of teaching personnel and students. During the presentation, knowledge (by means of teaching personnel) is also provided to other students. This approach leads to good results; besides, it is a worldwide practice.

In relation to enhancing the methods and approaches of teaching, focus is placed on the further development of lectures and forms of interactive learning: work in small groups, independent work, project development and presentation and broader use of the latest IT tools in the learning process.

To bring the learning process closer to practice, motivated *study trips* are held within several courses to examine a specific problem, which helps students to understand the real situation in an enterprise or institution and to get familiarised with prospective jobs and situations. Before each study trip, the responsible teaching personnel member draws up a plan for building up certain knowledge, skills and competences. The plan consists of two parts: the organisational part and the assessment/review part of the study trip. It provides feedback from students. The plan is agreed with and approved by the programme director.

Assessment of learning outcomes is an integral part of the learning process, the aim of which is to assess the students' learning outcomes achieved as a result of doing individual assignments and taking part of the course or the whole course and to measure the learning outcomes qualitatively. It is some kind of feedback that allows assessing not only students' knowledge and skills development but also the quality of the learning process as a whole. Students are informed about the form of their assessment at the beginning of the course, and these requirements are also included in the syllabus of the course. The description of learning outcomes of a course includes the levels of attainment so that students can understand the extent to which they have *achieved the expected learning outcomes*. The cumulative assessment approach is used to promote students' active involvement in the learning process and to ensure a continuous reflective process. In this way, students can control their own learning process. The mark shows how well the student has achieved the learning outcomes. The full syllabus of any course is available for every student on the e-learning platform (Moodle environment).

In accordance with the LLU Regulation of Studies and the **cumulative principle**, each teaching personnel member in his/her course, regardless of the kind of final assessment (examination or test), regularly tests students' knowledge and skills by employing the ways of assessment stated in the syllabus of the course. If systematically and non-failingly learning, a *pass mark* as a kind of final

mark in a course is granted to the student at the end of the semester without any additional assessment of the student's knowledge when summing up the learning outcomes of the student.

If *cumulative assessment* is used in the course, the final mark has to consist of intermediate assessments during the semester and the final assessment (examination) during the individual study and examination period. The requirements stated in the syllabuses of courses indicate that the proportion of the final assessment accounts for at least 40%.

Assessment criteria for a bachelor thesis are defined in the bachelor thesis review form (<http://www.esaf.llu.lv/sites/esaf/files/2020-03/GUIDELINES%20FOR%20WRITING%20AND%20DEFENDING%20A%20BACHELOR%E2%80%99S%20THESIS.pdf>). The criteria defined allow assessing both the structural components of the bachelor thesis (annotation, introduction, theoretical part, analytical part, conclusions and proposals) and the bachelor thesis as a whole – layout and formatting, research quality, visual and literary quality. The compliance of the bachelor thesis with the criteria defined on a four-level scale is carried out by the bachelor thesis reviewer.

2.4. If the study programme entails a traineeship, provide the analysis and assessment of the relation between the tasks of the traineeship included in the study programme and the learning outcomes of the study programme. Specify how the higher education institution/ college supports the students within the study programme regarding the fulfilment of the tasks set for students during the traineeship.

Work placement is governed by the *LLU Traineeship Regulation* (In Annex file "Traineeship Regulation"). Information about work placement opportunities and the way it is organised is provided in section 2.5.3. Taking into consideration students' interests and ensuring their successful integration into the labour market, the programme prescribes practice (8 CP) to be undergone in the final semester. Work placement is implemented with the aim of enabling the student to consolidate his/her theoretical knowledge and acquire the competence and practical skills prescribed by the programme. *The kind and objectives of work placement are aligned with the specifics of the specialisation.* The purpose of practice for students is to consolidate their theoretical knowledge acquired within the programme as a whole and the specialization chosen as well as to apply the knowledge in practice. During the traineeship, students examine the economic performance of their work placement organizations, the legal documents regulating the organizations and how to apply the documents; the students build up skills to perform the tasks entrusted at the enterprises and take responsibility and an ability to independently analyse, assess, judge and solve problems in various practical work areas, working individually and in a team.

To ensure the successful implementation of traineeships and support for students, the institute director appoints **a person responsible for student practical training** who coordinates the implementation of traineeships for the specialization the institute is responsible for and ensures the preparation of traineeship documents. The responsible person of the institute gives advice to students on choosing a suitable work placement, prepares information for drawing up the dean's decision, prepares traineeship agreements and submits them for signature, holds and conducts an informative seminar for the students on the preparation for and implementation of traineeships and introduces the students to their responsibilities during their traineeships.

A student's practical training is supervised and coordinated by an academic personnel member – the **practice supervisor** – who is approved by the director of the responsible institute. The practice supervisor advises the student on practice matters, assesses the implementation of the

practice programme and the student's work placement report, participates in the defence of the report. An individual practice programme is prepared for each trainee by the responsible institute, taking into account the specifics of the work placement organization chosen.

For foreign students, just like for all students, traineeships are implemented in accordance with the requirements of the practice curriculum. Several foreign students have already found jobs in Latvia, and their jobs could also be used as work placement organizations. If necessary, the practice supervisor provides assistance in finding and selecting a work placement. For example, a fourth-year foreign student (India) will take a traineeship at the Latvian Rural Advisory and Training Centre.

LLU students participating in the Erasmus + programme may take their traineeships at foreign companies or institutions located in one of the Erasmus + countries. Erasmus + programme internships may last from 2 to 12 months, depending on the duration prescribed by the curriculum. Since the curricula of the bachelor programme Economics prescribes a traineeship worth 8 CP (2 months), students of the programme may take advantage of this opportunity. Under the Erasmus + programme, students have taken traineeships in the Netherlands, Denmark and Poland.

The usefulness of incorporating work placement into the study plan is evidenced by the proportion of full-time students (37.5%) who also got a job during their work placements in the academic year 2018/2019. During work placement, students comprehend the need for and role of their knowledge. In the academic year 2018/2019, the most work placements for students were provided by companies (44.4%), local governments and their enterprises (33.3%), agricultural and related enterprises (9.5%), ministries and other national institutions (6.4%), educational institutions (3.2%) and banks (3.2%). The breakdown of work placements shows that the placements ensure building up practical skills for all the specialisations of the programme. Students look for their work placements themselves, and it is not a problem because companies offer work placements themselves. If necessary, teaching personnel are also involved in solving these matters. The Faculty of Economics and Social Development has signed cooperation agreements with several organisations (Jelgava City Council, LLKC, agricultural services cooperative society LATRAPs, etc.) (see also section 2.5.3).

All LLU full-time 1st-year students are required to undergo practical training by taking the course Practical Agriculture Management (1 CP). The practical training occurs on the LLU research and training farm Vecauce, with the aim of learning practical farming in rural areas and becoming familiarised with the functioning of and interconnection among various agricultural industries and technological production processes, which provides the competencies being different from those provided by other similar programmes.

2.5. Analysis and assessment of the topics of the final theses of the students, their relevance in the respective field, including the labour market, and the evaluations of the final theses.

The LLU Faculty of Economics and Social Development ensures succession for all the levels of studies of economics. The bachelor programme has been designed to fit into the single cycle organisationally and methodologically aligned with the academic master program Economics.

The production of a graduate thesis (bachelor thesis) is governed by LLU Regulation No.8-65 of 9 April 2014 Regulation regarding Final Examinations

(https://www.llu.lv/sites/default/files/2018-10/Studiju_nosleguma_parbaudijumi_2014_2018.pdf, only in Latvian), while the production and defence of a bachelor thesis is governed by the Guidelines for Writing and Defending a Bachelor Thesis (<http://www.esaf.llu.lv/sites/esaf/files/2020-03/GUIDELINES%20FOR%20WRITING%20AND%20DEFENDING%20A%20BACHELOR%E2%80%99S%20THESIS.pdf>). Bachelor theses are produced and defended according to the specialisation chosen, yet the depth and scope of the topics is different, which is determined by the students' interests and skills, as well as employers' interests.

In the reporting period, the topics of bachelor theses could be divided into the following groups: 1) assessment of economic processes in Latvia and the EU (37 theses or 8.2% of total); 2) sustainable development, agricultural and environmental economics (50 theses or 11.1%); 3) business process analysis and start-ups (93 theses or 20.7%); 4) accounting and analysis for companies and institutions (99 theses or 22.0%); 5) financial and tax analysis for companies and institutions (40 theses or 8.9%); 6) problems of regional development and analysis of EU-funded projects (71 theses or 15.8%); 7) legal aspects of economic activity (59 theses or 13.1%).

Table 3.2

Breakdown of bachelor theses defended by academic year and by thematic area

Thematic area of bachelor theses	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	Total	
							number	%
Assessment of economic processes in Latvia and the EU	8	5	8	3	8	5	37	8.2
Sustainable development, agricultural and environmental economics	7	9	12	10	9	3	50	11.1
Business process analysis and start-ups	29	29	7	3	13	12	93	20.7
Accounting and analysis for companies and institutions	22	15	18	19	14	11	99	22.0

Financial and tax analysis for companies and institutions	14	9	5	5	4	3	40	8.9
Problems of regional development and analysis of EU-funded projects	21	15	7	12	4	12	71	15.8
Legal aspects of economic activity	13	9	10	12	9	6	59	13.1

The most bachelor theses pertained to accounting (22%) and business process management (20.7%). The number of bachelor theses defended in each thematic area has changed over the years, yet no pronounced trend could be observed.

Five State Examination Committees (each consisting of seven people) are established by the rector's ordinance to assess the bachelor theses according to the specialisation. The chairs of the State Examination Committees are Doctors of Economics (Dr.oec.) who are teaching personnel or scientists from other universities of Latvia. The members of the committees are also employers who assess whether the research done in bachelor theses meet labour market needs (e.g. Head of Business Control of the JSC Latvian State Forests, Secretary General of the Latvian Association of Local and Regional Governments, a judge of the Jelgava Court, etc.).

In the reporting period, the *committees in their reports concluded that the defence of bachelor theses* occurred in a positive, student-friendly atmosphere while also maintaining a sufficiently high level of standards. The research problems chosen were very urgent and broad in scope. In all the cases, the defence procedure was complied with, and the remarks and comments made to students provided a good basis for the future development of their research and professional activities.

Recommendations of the committees for enhancement of bachelor thesis:

1. Occasionally, there have been imperfections in formulation of the research aim of a thesis, mostly in relation to the fact that the aim has to be linked with obtaining concrete research results rather than with applying research tools (e.g. analysis). The committees recommended incorporating proposals for solving research problems in the aim.
2. If the research done in a bachelor thesis also uses sociological research methods and surveys, the presentation has to describe the survey methodology and respondents in more detail. The student has to reflect on the selection of respondents for surveys (questionnaire surveys, expert interviews) to achieve the aim of the research and the expected results.
3. It is necessary to enhance assessments of the implications of the proposals made for global issues of the national economy and to incorporate the international dimension in the research done in bachelor theses, taking into account the experience of other countries.
4. In the theoretical and empirical parts of bachelor theses, the authors have to emphasize their own views and opinions and focus on statistical data analysis rather than simple data characterization. Logical thinking, a broader view of the things around us and critical thinking

are important qualities for future graduates to achieve in the learning process.

The findings of the committees are discussed and analysed by the ESAF institutes, the Methodology Commission and the ESAF Board.

The committees draw a conclusion on the best bachelor theses (including whether a Diploma with Distinction meets the requirements) and also recommend the practical implementation of the relevant bachelor theses (3-4 bachelor theses a year or about 5% of total). For example, the following bachelor theses have been recommended by the committees for practical implementation: *Strategic Management of Amatas Ltd*, *Development of the Production of Alpacas at Rikarwo Ltd*, *Assessment of Logistic Transport Functions in Tenapors Ltd*, and *Socio-economic Assessment of Peat Production* (produced in cooperation with the Latvian Peat Producer Association, and the research findings were incorporated in the development strategy of the association).

The committees recommend bachelor theses of high research quality for scientific competitions and publication (e.g. *Development of Potato Production and Processing in Latvia*, *Effects of Social Infrastructure on Life Quality in Ozolnieki Municipality*, *Financing and Lending to a Farm*, *Analysis of the Performance of and Development Opportunities for the University of Latvia Rhododendron Breeding and Experimental Nursery "Babīte"* etc.).

Table 3.3

Breakdown of bachelor theses defended by qualitative performance

Academic year	Bachelor theses defended				Average mark
	total	diploma with distinction	best	practically usable	
2013/2014	114	4	10	3	7.6
2014/2015	91	1	26	5	7.9
2015/2016	67	2	16	3	7.6
2016/2017	66	1	18	3	7.2
2017/2018	61	-	17	2	7.4
2018/2019	52	-	11	3	7.8

The average mark of the bachelor theses defended was in the range from 7.2 to 7.9. The best bachelor theses accounted for 21% and 29% of the total, which was a high figure. The didactic concept of learning is aimed at contributing to comprehensive personality development and a *desire for excellence*. For outstanding learning outcomes, students are awarded a Diploma with Distinction (Senate decision No. 6-165 of 12 November 2008): at least 75% of the marks must be 9 (excellent) and 10 (outstanding); no mark may be lower than 7 (good); the graduate thesis must be assigned a mark of at least 9 (excellent). In the reporting period, eight graduates of the programme were awarded a *Diploma with Distinction*.

2.6. Analysis and assessment of the outcomes of the surveys conducted among the students, graduates, and employers, and the use of these outcomes for the improvement of the content and quality of studies by providing the respective examples.

The programme is delivered in accordance with the LLU Constitution (https://www.llu.lv/sites/default/files/2018-03/LLU_Satversme_2018.pdf, only in Latvian) and the key principles set in the LLU Regulation of Studies: *the freedom of cognition and learning, the indivisibility of learning and research, the alignment of learning with the needs of society and the humane traditions of the world*. Any student has an opportunity to express his/her views freely in both questionnaires and orally. There are no restrictions on communication with administrative and academic personnel. Relations between students and teaching personnel as well as other LLU employees are based on the principles of cooperation, respect and responsibility. Students' views are taken into account in making decisions relevant to the programme, including the design and delivery of courses. Information on the programme is obtained both formally (questionnaire surveys, surveys) and informally (individual conversations, discussions).

To find out **students'** opinions and get feedback from them concerning the process and quality of their learning, the programme director conducts student surveys that include four question blocks: 1) the curriculum of the programme and the way it is delivered; 2) work of teaching personnel and mutual communication; 3) availability of teaching and methodological aids, scientific literature and rooms; 4) everyday life and extra-curricular activities. The surveys conducted revealed that the students were satisfied with the curriculum of the programme and the way it was delivered. The students differently rated their participation in student scientific activities – later-year students were more involved in such activities. However, the students devoted more time to their independent studies in the 1st and 2nd year of studies, while in later years of studies the students also started having jobs and had less time for their independent studies. The students gave very positive ratings to the classes delivered by employers and other guest lecturers, which built up their understanding of application of the acquired knowledge in their future jobs. The students acknowledged that they were well informed about the opportunities of ERASMUS + for studies and work placement. The students appreciated some aspects of availability of information on the curriculum of the course and the requirements for earning a mark, as well as an opportunity to solve some problems at the Dean's Office and in cooperation with the programme director. The students used a lot of electronic means (e-learning, e-mail) to communicate with their teaching personnel. The students obtained most of the necessary materials for their studies by using Internet resources and the LLU library. Their belongingness to ESAF was indicated by 99% of the 4th-year students and 82% of the 1st-year students. Recommendations: 1) It is necessary to prevent a situation where classes are not delivered if the teaching personnel member is ill or because of some other circumstances s/he cannot conduct the classes. Solution: In the event of an unplanned absence of teaching personnel, the responsible institute can quickly organize the learning process to continue the classes. 2) To ensure equal treatment of students if several teaching personnel deliver the same course. Solution: a teaching personnel member responsible for assessing students' learning outcomes is assigned to the course.

The results of surveys were taken into account when developing a study plan. For example, when assessing particular proposals made by students, the ratio of lectures to practicals in the course Management has been changed (the proportion of practicals was increased). In the opinion of students, the course Research Methodology was delivered to them in a too-late semester. As a result, a new course Economic Research (4CP) was designed (combining and successively enhancing the courses History of Economic Thought and Research Methodology). The new course

was included in the study plan for the 2nd semester for first-year students.

Filling in an annual survey questionnaire **Student Ratings of Teaching Personnel by Course**, the teaching personnel are rated according to several criteria: *whether at the beginning of the course the teaching personnel member introduced the students to the goal of the course, expected learning outcomes and requirements for earning a mark; the content of the course was clearly explained by the teaching personnel; teaching methods/approaches were applied in the course, which facilitated the learning; the teaching personnel delivered the course with interest/enthusiasm, thereby promoting student participation; the teaching personnel provides feedback (explanation, analysis) on learning outcomes/results of tests; the teaching personnel were available for consultations.* Any survey is conducted by an independent LLU Sociological Research Group. The results of the survey are different and are taken into consideration when teaching personnel take part in elections to academic positions, as well as when determining the necessity to enhance a course. The results of a survey are presented to the programme director, institute directors and the dean. If there is any problem with the delivery of a course, the problem is solved by involving the responsible teaching personnel member.

In 2015, within project No. 1DP/1.5.1.2.0/08/IPIA/SIF/001 administered by the State Chancellery, the Baltic Institute of Social Sciences (BISS) conducted a survey with the aim of defining the job and career requirements of the new generation and describing the new generation as potential (future) employees. In the survey, 183 or 11% of LLU students participated, including 87 ESAF students. The results of the survey showed that most of the students (53%) chose to study in Latvia because they did not want to leave their home country. The LLU students in particular stressed the high quality of education and a greater opportunity of finding a job in Latvia more than the students from the other universities of Latvia did. After graduation, 47% of the LLU students preferred setting up their own companies (28% nationally), yet only 17% (33% nationally) intended continuing their university studies. As regards the labour market, the LLU students saw opportunities to offer their competence in public administration or in other public sector organisations (25%) (municipalities, ministries and subordinate institutions), while being a paid employee was a less preferred option for them.

Feedback on the curriculum of the programme and its alignment with labour market needs is obtained in cooperation with alumni. The opinions of alumni are identified every year from surveys of alumni and from alumni having significant work experience. Overall, the results of alumni surveys were positive. The alumni appreciated the skills they built up to independently acquire, select and analyse information, which was very important for the academic curriculum, yet they pointed to a lack of some practical skills. The alumni also appreciated the attitude of teaching personnel to them during the period of studies. They highly rated the availability of information for learning. Compared with the previous period, class attendance by the former students during the period of studies has increased – 75% had attended more than 80% of the classes. Of the respondents, 77% rated the extent to which they learnt the curriculum of the programme as adequate. It was a positive fact that 8% of the alumni were thinking about starting up their own business, while 20% were thinking about continuing their studies at master level. The proportion of former students who also got a job during their work placements confirms the usefulness of incorporating the practice into the study plan, which was 37.5% of full-time students. The **Alumni Lecture Week** is held every year. In the period 2013-2019, students had an opportunity to listen to the experiences of 62 graduate professionals. For example: a coordinator of the programme European Food Business from AERES University of Applied Sciences, Dronten (Netherlands), the Director of the Latvian National Theatre, a manager of Normand Enterprises Ltd, the Jelgava Municipality Executive Director, the Financial Director of “Jelgavas ūdens” Ltd (water supply enterprise), the chairman of the Executive Board of the JSC “Latvijas Gāze”, a consultant to the EU Structural Funds Information Centre in Zemgale Planning Region, the head of the Economic Crime

Combating Department of the State Police, the Director of the IT Infrastructure Department of the JSC Latvenergo, the chairman of the Management Board of the Kuldīga Hospital and a product manager at KONEKESKO Latvija Ltd. The alumni appreciated the importance of the knowledge acquired in the learning process for the labour market and shared their practical work experience. The alumni have always emphasized the supportive and motivating attitude of teaching personnel in the learning process.

Employers take part in State Examination Committee meetings, conclude work placement agreements and give a written assessment of students' knowledge, skills and competence at the conclusion of their traineeships.

A survey of 76 employers providing work placements was conducted to find out their opinions. The trainees underwent practical training at enterprises of various fields and sizes: small, medium and large, so the survey results were comprehensive (e.g. 45% of the survey respondents were from a group of enterprises with 50 to more than 250 employees). In assessing a trainee's skills, the employers gave the highest ratings to the trainee's ability to acquire new knowledge and skills (78%) and communication skills (76%). This indicates the students' ability to integrate into the labour market. The employers wanted to get specialists having advanced practical skills, yet the learning process does not allow developing all the necessary professional skills for so different kinds of enterprises; however, the students are able to quickly acquire new skills.

In 2017, the *LLU Sociological Research Group* conducted an independent survey of employers to find out their opinions on alumni's work at companies and institutions and get recommendations. The employers were from all the regions of Latvia (50% of Riga region), while 5% of the respondents also did their business abroad. The duration of the companies and institutions surveyed varied, yet 77% of them were over 10 years old. In 45% of the companies, the graduates from the programme *worked in their professions*, and only 10% of the graduates' work was not directly linked with the degree acquired. Of the employers, 23% admitted that the graduates were *well-prepared theoretically and practically*, and they were able to *fulfil their duties immediately*; 50% noted that they were able to *fulfil their duties after short introductory training at the workplace*; 17% believed that the graduates' professional skills needed to be developed by involving employers as guest lecturers in the learning process. However, none of the employers surveyed directly participated in the learning process or its enhancement. Of the respondents, 22% provided work placements for students.

For enhancing the curriculum of the programme, it was important to find out the opinions of employers regarding the extent to which the knowledge and skills of graduates met the following criteria: the graduates have acquired the theoretical knowledge necessary for work in the industry and are able to apply it to perform work tasks (*fully achieved* and *rather achieved* – 22% and 61%, respectively); the graduates have acquired the practical skills necessary for the industry and are able to use them to perform their tasks (11% and 78%); the graduates are able to explain and discuss aspects of the relevant branch of science (28% and 67%); the graduates are able to use and, if necessary, learn and apply modern technologies and innovations in their work (55% and 40%); the graduates are able to plan their time and resources for the tasks assigned (**78%** and 22%); the graduates are able to work in a team with responsible and high quality assigned duties (**72%** and 23%); the graduates are competent to give their opinion on professional issues, innovations, can substantiate their opinion (28% and 72%); the graduates are motivated for self-development and further education (61% and 39%); the graduates are able to make decisions and find creative solutions under changing or uncertain circumstances (44% and 56%); the graduates are able to motivate their colleagues/subordinates for self-development and professional development (55% and 40%); the graduates can demonstrate self-initiative to perform their work responsibilities assigned (66% and 34%); the graduates are communicative, responsive (**78%** and

22%); the graduates understand professional ethics, are able to assess the impact of their professional activity on the environment and society (**78%** and 22%). Overall, the results of the employer surveys were very good, yet they also highlighted the skills that could be more developed in the learning process – the skills to link theory and practice, justify one’s own opinion and make decisions.

Taking into account the results of surveys, the curricula of the courses were enhanced by placing more focus on group work and presentations of student research.

2.7. Provide the assessment of the options of the incoming and outgoing mobility of the students, the dynamics of the number of the used opportunities, and the recognition of the study courses acquired during the mobility.

Within the programme, outgoing student mobility is provided through the Erasmus+ programme. Erasmus+ gives LLU students an opportunity to gain experience by studying at one of the LLU partner higher education institutions, which a bilateral cooperation agreement has been signed with, subject to the terms and conditions of the agreement, and/or to practice in a foreign company or another appropriate workplace in compliance with the Erasmus+ Student Charter (https://www.llu.lv/sites/default/files/2016-10/Erasmus%2B%20Student%20charter_en_2016.pdf).

The mobility of students of the programme under Erasmus + was implemented in four ways: 1) studies (102 students); 2) work placement at foreign companies (5 students); 3) participation in international experience-sharing conferences held by the Erasmus Social Network (ESN) (5 students); 4) ERASMUS IP project Sustainability and Innovation in Rural Development held in Lithuania (2 students).

Totally, 115 students participated in various activities under the Erasmus+ programme. In this respect, the highest activity of students occurred in the academic year 2013/2014 (31 students), yet it decreased significantly in the academic years 2016/2017 and 2017/2018 (13 students a year), which was determined by two factors: the security situation abroad (terroristic acts) and a decrease in the number of students. In the academic year 2018/2019, the mobility increased (19 students). The students gained experience in **14 European universities**: the Lillebaelt Academy of Professional Higher Education, Denmark (10), the University of Huelva, Spain (20), CAH Vilentum University of Applied Sciences, the Netherlands (8), Slovak University of Agriculture in Nitra, Slovakia (5), Czech University of Life Sciences in Prague, the Czech Republic (13), the Technical University of Liberec, the Czech Republic (2), the Polytechnic Institute of Porto, Portugal (10), Alexander Technological Educational Institute of Thessaloniki, Greece (12), West Pomeranian University of Technology, Szczecin, Poland (7), the Polytechnic Institute of Bragança, Portugal (1), the University of Rijeka, Croatia (2), the University of National and World Economy, Bulgaria (10), Óbuda University Keleti, Hungary (2), PACollege, Cyprus (1).

International experience was gained through Erasmus Social Network (ESN) at the University of Porto (Portugal), in Ankara (Turkey) and in Costa Brava (Spain). Erasmus + is used by full-time students, which represents 8.3% of the total students. Part-time students are restricted by their employment relationships.

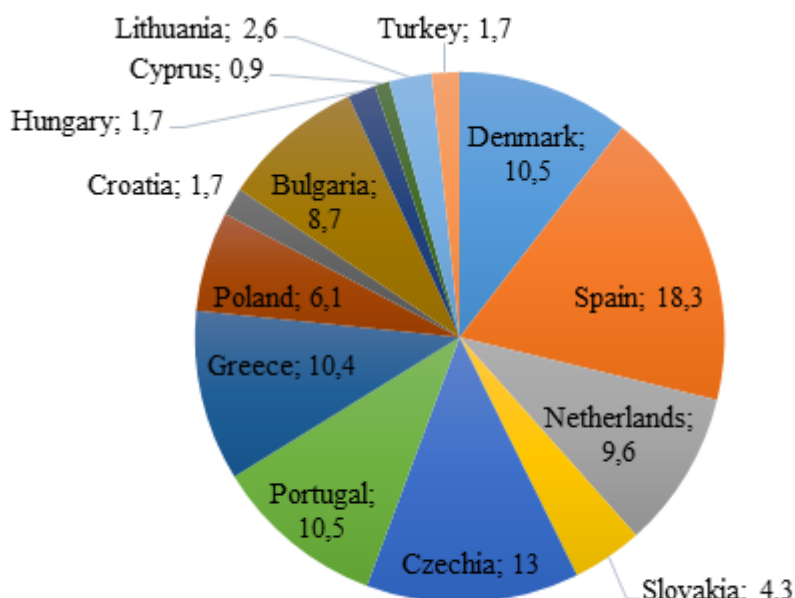


Fig.3.1. **Breakdown of participation of the programme's students in various activities under ERASMUS+ by country, %**

When a student goes on mobility, a protocol of intent for academic recognition is drawn up, which guarantees that upon returning from the mobility, the credits of the courses taken will be transferred. During the mobility and a semester after the return, the student retains his/her funding status. Foreign students enrolled on the programme may also use the opportunities given by the ERASMUS+ mobility programme.

Incoming student mobility could not be analysed from the perspective of the programme, as the students who apply for courses delivered at LLU are not those of the programme.

III - DESCRIPTION OF THE STUDY PROGRAMME (3. Resources and Provision of the Study Programme)

3.1. Assessment of the compliance of the resources and provision (study provision, scientific support (if applicable), informative provision (including libraries), material and technical provision, and financial provision) with the conditions for the implementation of the study programme and the learning outcomes to be achieved by providing the respective examples. Whilst carrying out the assessment, it is possible to refer to the information provided for in the criteria set forth in Part II, Chapter 3, sub-paragraphs 3.1 to 3.3.

The learning process is organised mostly in the building of ESAF, at 18 Svetes Street. However, some courses are delivered by using the equipment and materials of the other LLU Faculties: the course Labour and Civil Protection at the *Forest Faculty*; Ecology and Environmental Protection, Cadastre at the *Faculty of Environment and Civil Engineering*; Crop Production, Animal Husbandry, Organizing of Agricultural Processes at the *Faculty of Agriculture*; Methods of Regional Analysis,

Quantitative Methods in Economics, Mathematical Statistics and Mathematics for Economists at the *Faculty of Information Technologies*; Agricultural Technologies at the *Faculty of Engineering*.

The course Practical Agriculture Management is delivered on the LLU research and training farm Vecauce where students are familiarised with the latest technologies in agriculture and work organisation and management.

Study trips are held to build up practical skills: e.g. to LLKC and its offices; Stalgene in Jelgava municipality (familiarisation with the results of EU-funded projects at the Stalgene Secondary School, the Stalgene Art Studio, Zekants Ltd); the Jelgava Territorial Office of the State Environmental Service; the Zemgale Regional Court; “Svētes maize” Ltd (bakery); the separate waste collection site (Jelgava); the landfill “Brakšķi” (Jelgava municipality, Livberze rural territory); the Bank of Latvia, the administration of Zemgale planning region, the Jelgava City Council and other enterprises and farms.

For a detailed description of the infrastructure and material and technological resources for learning, see section 2.3.2. For a detailed description of the information base, see Section 2.3.3; for a detailed description of information resources, see section 2.3.3, while for a description of the financial base, see section 2.3.1.

3.2. Assessment of the study provision and scientific support, including the resources provided within the cooperation with other science institutes and institutions of higher education (applicable to the doctoral study programmes).

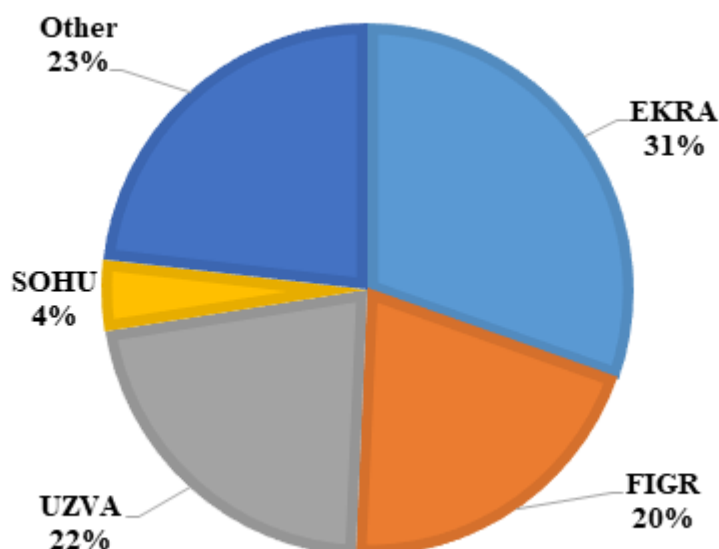
Not applicable.

III - DESCRIPTION OF THE STUDY PROGRAMME (4. Teaching Staff)

4.1. Analysis and assessment of the changes to the composition of the teaching staff over the reporting period and their impact on the study quality.

The number of teaching personnel involved in the delivery of the programme has not changed significantly and changed from year to year. In the academic year 2013/2014, 76 teaching personnel were involved in the programme; in the academic year 2018/2019 – 86 teaching personnel of various levels; in the academic year 2019/2020 – 69. Of the total teaching personnel involved in the programme in the academic year 2019/2020, 46 or 67% were elected at LLU. However, 23 teaching personnel worked in various institutions and enterprises, which ensured connection with the work environment. Changes in the number and composition of teaching personnel in the reporting period were determined by two factors: 1) the establishment of a new specialisation Agricultural and Environmental Economics in 2015; 2) admission of *foreign students*. Teaching personnel from 13 LLU organisational units are involved in the implementation of the programme. Of them, 9 are the organisational units of the other Faculties (Forest Faculty, Faculty of Environment and Civil Engineering, Faculty of Agriculture, Faculty of Information Technologies,

Faculty of Engineering), the Language Centre and the Sports Centre. This cooperation is determined by the implementation of an interdisciplinary framework in the learning process. It ensures the uniqueness of the programme and the achievement of its goal, as well as the alignment of the programme with the LLU Development Strategy. Of the total teaching personnel, 16 or 23.2% represent the other Faculties of LLU.



EKRA – Institute of Economics and Regional Development

FIGR – Institute of Finance and Accounting

SOHU – Institute of Social and Human Sciences

UZVA – Institute of Business and Management Science

Fig.3.2. Breakdown of teaching personnel involved in the programme by organisational unit of ESAF and other Faculties

The teaching personnel of LLU are involved in the implementation of other programmes too; therefore, another indicator of their performance is the number of workloads. In the academic year 2018/2019, the programme had **26.20** FTE workloads for the teaching staff of various levels. In the programme, there are 10.3 students per FTE workload, which is significantly affected by the number of foreign students in their group – three students, on average. Foreign students take only a few courses together with full-time students. In full-time studies, practicals are delivered for groups of 25-30 students, while lectures are delivered for all the students together.

Students from other programmes too join some courses (e.g. Ecology and Environmental Protection, Labour and Civil Protection, etc.).

Table 3.4

**Academic workloads of the teaching personnel involved in the bachelor programme
Economics in the academic year 2018/2019**

Position	Teaching workload, h	FTE workload		Number	
		by position	% of total	by position	% of total
Professor	1725.73	1.92	7.3	9	10.4
Professor (emeritus)	42.25	0.05	0.2	2	2.3
Associate professor	4004.65	4.35	16.6	10	11.6
Visiting associate professor	139.45	0.15	0.6	3	3.5
Assistant professor	4075.25	4.34	16.6	12	14.0
Visiting assistant professor	1155.00	1.23	4.7	7	8.1
Lecturer	6406.30	6.67	25.4	14	16.3
Visiting lecturer	7192.67	7.49	28.6	29	33.7
total	24741.30	26.20	100.0	86	100.0

In the bachelor programme, most of the academic workload is done by lecturers, usually in cooperation with more experienced teaching personnel. Cooperation occurs through both the enhancement of course syllabuses and the delivery of courses.

4.2. Assessment of the compliance of the qualification of the teaching staff members (academic staff members, visiting professors, visiting associate professors, visiting docents, visiting lecturers, and visiting assistants) involved in the implementation of the study programme with the conditions for the implementation of the study programme and the provisions set out in the respective regulatory enactments. Provide information on how the qualification of the teaching staff members contributes to the achievement of the learning outcomes.

In the academic year 2019/2020, the programme was delivered by: professors – 9 (13.0%), associate professors – 11 (15.9%), assistant professors – 14 (20.2%) and lecturers – 35 (50.7%). To ensure succession and stability for the learning process, several lecturers are involved in the

delivery of one course. Higher-qualification teaching personnel mostly deliver lectures and also supervise graduate theses, while lecturers with a master's degree are mostly involved in the delivery of practicals (for most courses, the proportion of lecturers is higher than that of the other teaching personnel).

The composition and qualifications of the teaching personnel involved in the programme ensure meeting the requirements set in Paragraph 3 of Section 55 of the Law on Higher Education Institutions – “not less than five professors and associate professors altogether, who are elected to academic positions in the relevant higher education institution, shall take part in the implementation of the compulsory part and the limited elective part of academic study programmes”. The qualifications of teaching personnel for study programmes are determined by a unified system in the country, as well as the relevant legal documents of LLU. For detailed information on qualification requirements for teaching personnel, qualification assessment and opportunities for professional development, see section 2.3.5.

Of the total workload, **66.0%** is carried out by the teaching personnel **elected at LLU**. Teaching personnel are elected in accordance with the LLU Statute on Academic Positions (https://www.llu.lv/sites/default/files/2016-05/8-36_Nolikums_par_akademiskajiem_amatiem.pdf).

The remaining teaching personnel have the status of unelected academic personnel because, alongside their academic jobs, they work outside LLU in various institutions (ministries, municipalities, etc.) and companies. This facilitates the transfer of practical experience to the learning process. According to the requirements set by LLU, professors, associate professors and assistant professors have doctoral degrees, while lecturers have a master's degree or are experienced professionals.

4.3. Information on the number of the scientific publications of the academic staff members, involved in the implementation of the doctoral study programme, as published during the reporting period by listing the most significant publications published in Scopus or WoS CC indexed journals. As for the social sciences, humanitarian sciences, and the science of art, the scientific publications published in ERIH+ indexed journals may be additionally specified (if applicable).

Not applicable.

4.4. Information on the participation of the academic staff, involved in the implementation of the doctoral study programme, in scientific projects as project managers or prime contractors/ subproject managers/ leading researchers by specifying the name of the relevant project, as well as the source and the amount of the funding. Provide information on the reporting period (if applicable).

Not applicable.

4.5. Provide examples of the involvement of the academic staff in the scientific research

and/or artistic creation activities both at national and at international level (in the fields related to the content of the study programme), as well as the use of the obtained information in the study process.

In the academic year 2019/2020, 30 or 43.5% of the 69 teaching personnel involved in the programme are elected as senior researchers or researchers.

The teaching personnel are involved in the delivery of all the fields of study; therefore it is not possible to distinguish their scientific research activity within the bachelor programme from the other. Detailed information on it is provided in section 2.4.

The academic personnel involved in the delivery of the programme are involved in scientific research at international and national level, and their research directly relates to the goal and objectives of the programme:

- participation in COST actions (COST Action IS1207 Local Public Sector Reforms: An International Comparison; CA16106 – Ammonia and Greenhouse Gases Emissions from Animal Production Buildings);
- research papers with a high citation impact factor, published in open access journals, produced in cooperation with foreign scientists;
- active participation and involvement in various international organisations (the Baltic Forestry, Veterinary and Agricultural University Network (BOVA), the Polish Council of Science, the Union of European Academies for Sciences Applied to Agriculture, Food and Nature (UEAA), the European Academies' Science Advisory Council (EASAC), the Academy of Georgofili (Italy), the Russian Academy of Agricultural Sciences, the Lithuanian Academy of Sciences, the Royal Swedish Academy of Agriculture and Forestry, the Moroccan Association for the Improvement of the Quality of Education, the International Macromarketing Association, the European Association of Agricultural Economists (EAAE) and the Athens Institute for Education and Research, Human Development Research Division);
- foreign experts in scientific institutions of other countries (e.g. in Russian State Agrarian University - Moscow Timiryazev Agricultural Academy and Vision Science Research Sdn Bhd in Malaysia);
- keynote speakers (e.g. in international scientific events in Morocco, Turkmenistan, Belgium, France, Georgia);
- members of editorial boards of international journals (e.g. the Journal of Science Education, the International Journal of Globalisation and Small Business, European Integration Studies).

The academic personnel's involvement in scientific research at national level occurs through:

- participation in national research programme projects (in the reporting period, the projects were as follows: ECO-SOC and EVIDenT, while in 2019 two new projects were started: INTERFARME and DemoMig);
- research investigations commissioned by the Ministry of Agriculture, which focus on particular government policies and achieving particular economic targets. For example, the project Incorporating Carbon Sequestration and Accumulation in Arable Land, Permanent Grasslands and Wetlands in Marginal Abatement Cost Curves (MACC) for Agricultural Greenhouse Gas Emissions in Latvia is important for shaping agricultural, environmental and climate policies, and its results were used in designing the National Energy and Climate Plan 2021-2030, while the project Forecasting Agricultural Development and Developing Policy Scenarios for 2050 created two models to be mostly used by LLU, the Ministry of Agriculture

and the Ministry of Environmental Protection and Regional Development;

- for local governments and industries, the academic personnel are needed as experts in the following areas: bioeconomics, smart development and smart specialization, climate-friendly agricultural practices, and land use optimization;
- cooperation with non-governmental organisations in dissemination of project results and communication with the public (e.g. the Farmers Parliament, the Latvian Agricultural Organisation Cooperation Council, the Latvian Agricultural Cooperatives Association);
- joint scientific research papers and popular science articles with industry experts (e.g. Precision Farming Ltd);
- research contracts commissioned by municipalities (e.g. the municipalities of Jelgava, Ogre and Auce);
- informing the public about research activities in the Science Night and through popular science articles, television and radio (over 80 activities were carried out in the reporting period).

The results of research done by academic personnel are used in the learning process. For example, the results of the national research programme ECOSOC-LV have been summarized in two scientific monographs: 1) "Beyond a Century. The Smart Latvia" is used in the delivery of a number of courses: Regional Economics, Regional Development Planning, Performance of Local Governments, Sustainable Development, Innovation Management, Social Entrepreneurship and others; 2) "Knowledge Economy for the Viability of Rural Areas and Regions of Latvia" is useful for the courses Sociology and Economic Research as well as for writing a study project Regional Development. The monograph Possibilities to Reduce Greenhouse Gas Emissions by Climate-Friendly Agriculture and Forestry in Latvia produced within the national research programme Value and Dynamic of Latvia's Ecosystems under Changing Climate (EVIDEnT) is used in the delivery of the courses Bioeconomics, Economy of Renewable Energy, Agricultural and Environmental Policy and others. The book "Entrepreneurship in Rural Areas through the Production and Exploitation of Medical and Aromatic Plants" produced owing to cooperation between LLU and Romanian scientists is used in the delivery of the courses Economic Management Studies, Entrepreneurship, Organization of Agricultural Processes and others.

4.6. Assessment of the cooperation between the teaching staff members by specifying the mechanisms used to promote the cooperation and ensure the interrelation between the study courses/ modules. Specify also the proportion of the number of the students and the teaching staff within the study programme (at the moment of the submission of the Self-Assessment Report).

Cooperation among teaching personnel occurs throughout the learning process and takes the following forms:

1. development of new courses and the enhancement of existing ones to ensure their succession and that expected competences are built up (https://www.llu.lv/sites/default/files/2018-08/RIKOJUMS_Studiju_kursu_izstradasanas_un_atjaunosanas_kartiba_2018.pdf, only in Latvian)
2. involvement in the Methodology Commission, which entails assessing the syllabuses of courses and study plans, in accordance with the *LLU Statute of the Methodology Commission*;
3. involvement in hospitation of classes in accordance with the *Procedure of Hospitation of Classes at LLU*;

4. delivery of courses by several teaching personnel: from one institute (e.g. Finances and Credit, Economic Research, Macroeconomics, Bioeconomics, etc.), from several institutes (e.g. Introduction into Economics Studies, Analysis of Economic Activities) and from several organisational units of LLU (Organizing of Agricultural Processes);
5. assessment of the learning outcomes of students (study projects, practice, bachelor theses).

The ratio of students to teaching personnel in the academic year 2018/2019 was 1:10.3. This was mainly due to the small number of foreign students and the diverse numbers of students by specialisation. However, it allows applying an in-depth and personalized approach to examining specialisation issues.

Annexes

III. Description of the Study Programme - 1. Indicators Describing the Study Programme		
Compliance of the joint study programme with the provisions of the Law on Institutions of Higher Education (table)		
Statistics on the students over the reporting period	Annex_13.docx	13.pielikums.docx
III. Description of the Study Programme - 2. The Content of Studies and Implementation Thereof		
Compliance of the study programme with the State Education Standard	Annex_14.docx	14.pielikums.docx
Compliance of the qualification to be acquired upon completion of the study programme with the professional standard (if applicable)		
Compliance of the study programme with the specific regulatory framework applicable to the relevant field (if applicable)		
Mapping of the study courses/ modules for the achievement of the learning outcomes of the study programme	Annex_17.xlsx	17.pielikums.xlsx
Curriculum of the study programme (for each type and form of the implementation of the study programme)	Annex_18.rar	18.pielikums.rar
Descriptions of the study courses/ modules	Descriptions of the study courses.rar	Studiju kursu apraksti.rar
Description of the Study Direction - Other mandatory attachments		
Sample of the diploma to be issued for the acquisition of the study programme.	Bachelor_Diploma_Supplement_Econ_EN.rar	Bakalaura_diploms_pielikums_Ekon_LV.rar
Description of the Study Programme - Other mandatory attachments		
Document confirming that the higher education institution/ college will provide the students with the options to continue the acquisition of education in another study programme or at another higher education institution/ college (a contract with another accredited higher education institution/ college), in case the implementation of the study programme is discontinued	Agreement between LLU and RTU.docx	LLU_RTU_07012020_01000-4.1-e_2.edoc
Document confirming that the higher education institution/ college guarantees to the students a compensation for losses if the study programme is not accredited or the licence of the study programme is revoked due to the actions of the higher education institution/ college (actions or failure to act) and the student does not wish to continue the studies in another study programme	LLU confirmation_Bachelor program.docx	LLU_apliecinajumi_ESAF_bakalaura_programmai_Ekonomika.edoc
Confirmation of the higher education institution/ college that the teaching staff members to be involved in the implementation of the study programme have at least B2-level knowledge of a related foreign language according to European language levels (see the levels under www.europass.lv), if the study programme or any part thereof is to be implemented in a foreign language.	LLU confirmation_Bachelor program.docx	LLU_apliecinajumi_ESAF_bakalaura_programmai_Ekonomika.edoc
If the study programmes in the study direction subject to the assessment are doctoral study programmes, a confirmation that at least five teaching staff members with doctoral degree are among the academic staff of a doctoral study programme, at least three of which are experts approved by the Latvian Science Council in the respective field or sub-field of science, in which the study programme has intended to award a scientific degree.		
If academic study programmes are implemented within the study direction, a document confirming that the academic staff of the academic study programme complies with the provisions set out in Section 55, Paragraph one, Clause three of the Law on Institutions of Higher Education	LLU confirmation_Bachelor program.docx	LLU_apliecinajumi_ESAF_bakalaura_programmai_Ekonomika.edoc
Sample (or samples) of the study agreement	Studiju_ligums_paraugs_EN.pdf	Studiju_ligums_paraugs_LV.pdf
If academic study programmes for less than 250 full-time students are implemented within the study direction, the opinion of the Council for Higher Education shall be attached in compliance with Section 55, Paragraph two of the Law on Institutions of Higher Education.	Council of Higher Education_conclusion_Bachelor program.docx	Ekonomika_bakalaura studiju programma.pdf