Wood Processing

Latvia University
of Life Sciences
and Technologies

MAGNETIC
LATVIA

LATVIA UNIVERSITY OF LIFE SCIENCES & TECHNOLOGIES

is one of the leading higher education institutions in the Baltic States that has provided education and carried out research for 155 years in areas which are significant for each country's economy. It has been formed as an agricultural academy, which trained specialists to work in the rural areas of Latvia. But just like the structure of the economy has changed, the essence of the university has changed as well. Since 1863 the university has evolved and now it provides study programmes not only in agriculture and biosciences, but also in engineering and social sciences. The University's greatest strength and potential lies in the coexistence of all these directions. Since 2018 it has been renamed to Latvia University of Life Sciences and Technologies.

LLU is offering higher education since 1863 and by this time is has educated specialists for five generations. The high quality of the study and academic environment is proved by the appreciation of the employers of Latvia as well as the 2nd place in Latvia by the number of patents. Nowadays LLU has become the intersection between science, innovation, research, technology and business, and it is a place, where each student acquires education with added value – knowledge, skills and competence that makes him or her not only a good professional, but also a better person.

MAIN FIGURES

4176 students (2017)

1110 employees

58 professors

3392 bachelor students

452 academic staff

61 associated professors

616 master students

658 general staff

69 docents

168 doctoral students

45 lecturers

PROGRAMMES

62 study programmes

14 different directions

27 bachelor programmes

22 master programmes

13 doctroal programmes

FACULTIES

8

- Faculty of Agriculture
- Forest Faculty
- Faculty of Veterinary Medicine
- Faculty of Engineering
- Faculty of Environment & Civil Engineering
- Faculty of Food Technology
- Faculty of Economics & Social Development
- Faculty of Information Technologies

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MISSION

To develop competitive intellectual capital on the basis of excellence in research, application of research findings, high quality of education and effective management of the university.

VISION

Latvia University of Life Sciences and Technologies is one of the leading universities of science and technologies in the Baltic Sea region, specializing in the sustainable use of natural resources aimed at the enhancement of quality of life for society.

Latvia University of Life Sciences and Technologies

FACULTY OF ENGINEERING

PROGRAMME	BACHELOR STUDIES	MASTER STUDIES	DOCTORAL STUDIES
Agricultural Engineering	•	•	•
Machine design & construction	•		
Applied energetics	•		

FACULTY OF ENVIRONMENT & CIVIL ENGINEERING

PROGRAMME	BACHELOR STUDIES	MASTER STUDIES	DOCTORAL STUDIES
Water engineering	•	•	•
Environmental Engineering	•	•	•
Landscape Architecture and Planning	•	•	•
Civil Engineering	•	•	•

FACULTY OF INFORMATION TECHNOLOGIES

PROGRAMME	BACHELOR STUDIES	MASTER STUDIES	DOCTORAL STUDIES
Computer control & computer science	•		
Machine design & construction	•	•	•

FOREST FACULTY

PROGRAMME	BACHELOR STUDIES	MASTER STUDIES	DOCTORAL STUDIES
Wood Engineering	•	•	•
Wood processing	•		
Wood Materials & Technology	•		

Latvia University of Life Sciences and Technologies offers a wide range of all level study programmes for international students in English.

STUDY PROGRAMMES FOR FOREIGN STUDENTS

BACHELOR STUDY PROGRAMMES:

- Information Technologies for Sustainable Development (professional);
- Landscape Architecture and Planning;
- Computer Control and Computer Science.

MASTER STUDY PROGRAMMES:

- Information Technologies;
- Agricultural Engineering (two specialisation options: Automotive Engineering or Power Engineering);
- Landscape architecture and Planning (professional).

DOCTORAL STUDY PROGRAMMES:

- Agricultural Engineering;
- Environmental Engineering;
- Landscape Architecture;
- Water Engineering;
- Civil Engineering;
- Wood Materials and Technology;
- Information Technologies.

BUDGET REVENUE STRUCTURE

15,68
(EUR million)
REVENUE FOR HIGHER EDUCATION

6,51
(EUR million)
REVENUE FOR SCIENTIFIC ACTIVITIES

6,04
(EUR million)
OTHER REVENUE

Latvia University of Life Sciences and Technologies

WOOD PROCESSING

During studies in Forest Faculty (bachelor study programme Wood Processing) students acquire practical knowledge and skills for working with modern woodworking design and production technologies, knowledge in the management of wood processing companies and marketing of wood products. Sub-programs in Wood Processing study programme are: Wood Products and Technologies, Industrial Design, Timber Product Marketing and Logistics.

Graduates can work in leading positions in wood processing companies, wood product design, marketing and logistics, advisory services, environmental protection and product quality assessment organizations, public administration, and career development.

Continuing education in master programme (Wood materials and Technology) Hhghlevel academic educated specialists prepared for professional work in forestry, woodworking, building materials and related industries, state and local government institutions, pedagogical and scientific work in the educational and research institutions of the sector. Fields of specialization: wood science, woodworking machinery and technology, wooden product design, industrial design, complex use of wood, logistics logistics, marketing.

FOREST FACULTY IN FIELD OF WOOD PROCESSING HAS STRONG RELATIONSHIP WITH:

— Kaunas University of Technology (Kaunas, Lithuania);
— University of Applied Sciences (Kaunas, Lithuania);
— Tallin University of Technology (Tallinn, Estonia);
— Estonian University of Life Science (Tartu, Estonia);
— Poznan University of Technology (Poznan, Poland);
— Universidad Politecnica de Madrid (Madrid, Spain);
— Nantes Ecole Supérieure du Bois (Nante, France).

LLU in cooperation with MeKA, is engaged in the Forestry Technology Platform (FTP), aiming at pooling the ideas of stakeholders in order to identify a strategic research agenda on a number of strategically important issues of high social relevance, where Europe's future growth, competitiveness and long-term goals depend on important steps in research and technological development in the short and long term. The founders of FTP creation are the European Wood Workers 'Union, the European Forest Owners' Union and the European Paper Industry Union.

FOREST FACULTY

Latvia's forest covers 3.354 million hectares and covers 52% of the country's territory. In addition, the forest area continues to grow continuously both in the regeneration of the natural way and in the afforestation of barren and non-agricultural land. However, another indicator is more important - every year, three times faster than forest areas, the amount of wood accumulated in the forest or the stock of timber increases. This is proof that Latvian forest does not grow at the expense of shrubs, which are not included in forest areas, but on the contrary, there is a targeted forestry activity in the country. In the last decade, about 12 million m^3 of round timber are harvested on average annually in the Latvian forest. This is less than natural increase, therefore, Latvian forestry can be described as sustainable.

Forest Faculty has long history. It was one of the first establishments in university after Faculty of Agriculture. The faculty consists of 4 departments: Forestry, Forest use, Wood Processing and Working Environment.

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MeKA

Forest and Wood Products Research and Development Institute (abbreviated as MeKA) was established in December, 2004.

MeKa offer not only physically mechanical and fire reaction testing of construction products, tests of fuel wedding tents wood and other solid biomass, tests of furniture and surface quality, but also different non-standard tests to prior agreement with clients. The Testing Laboratory has been acknowledged by LATAK with registration No. T-316 and it is competent to carry out testing of wood materials and their products, mechanical and physical testing of furniture, and mechanical and physically chemical testing of wood materials and their products.

The Testing Laboratory is European Union notified body within the frame of construction product regulation (EU) No305/2011 and it is registered in the register of notified institutions with No NB2040. The Testing Laboratory is competent to accomplish conformity wedding tents for sale assesment of construction products, and it has the authority to issue internationally recognized testing reports in reglamemented scope about mechanical characteristics of wood products and constructions and their reaction to fire.

The testing laboratory is the member of international organization EGOLF (European Group of Organizations for Fire Testing, Inspection and Certification) whom has been awarded EGOLF certificate and also the member of association LATLAB (Latvia Testing Laboratory Association).

LLU FOREST AND WATER RESOURCES RESEARCH LABORATORY

"LLU Forest and Water Resources Research Laboratory" conducts research programmes and projects, fundamental and applied research in forest sciences, hydro-engineering sciences, environmental sciences and material sciences related to:
— forest resources – their sustainable management, planning and recreation;
— timber resources – timber application in construction (bridges, towers, support of water edges etc.);
— sustainable environment – research of land, water and air quality;
— hydro-technical structures – drainage, ports, power supply in the context of hydroelectric power stations;
— water resources – addressing issues from drinking water to sewage sludge utilization;
— hydrology – surface and ground water flow and cycles, flood risks.

FOREST RESEARCH STATION

"Forest Research Station" is a public agency founded by the Latvian State Forestry Institute "Silava" and the Latvia University of Life Sciences and Technologies, whose mission is to manage state research forests for research, long-term scientific research objects, environmental and forest monitoring facilities, as well as training and further training support in the field of forestry education.

POINTS OF EXCELLENCE

According to QS EECA ranking LLU is one of best Universities in Europe and Central Asia and the best Life-science University in Baltic states. LLU has ranked 139th among the top 300 universities in QS EECA University Rankings 2018. Besides LLU holds „Investment in Excellence" standard!

LLU is included in U-Multirank, a European Union higher education institution's assessment system, based on both academic achievement and the quality of training, international cooperation and other criteria.

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The scientific and research activities of the Department of Woodworking in Latvia University of Life Sciences and Technologies have been implemented in close cooperation with the Forest and Wood Products Research and Development Institute (MeKA), which was founded in December 2004 by the Latvian State Forests (LVM), the Latvian Wood Industry Federation (LKF) and LLU. Thanks to this joint cooperation, the Department of Wood Processing of the LLU in the area of scientific research in the field of wood exploration, is currently the best-equipped research center in the Baltic States.

RESEARCH

LLU's specialisation fields and subfields are set forth in the context of the existing administrative division of LLU. The specialisation fields and subfields of each unit have been chosen on the basis of the scientific competence of the university and the lines of research selected for further development, and they comply with the needs of the prospective areas of economy, in which the Latvian innovation capacity has to be formed, determined in the Smart Specialisation Strategy of Latvia.

Wood processing research areas within Latvia University of Life Sciences and Technologies are:
— The course of realization of forest policy;
— Evaluation of the quality of Latvian wood as a material of construction material;
— Predicting the quality of plywood depending on the quality of the raw material and production technology;
— Wood application possibilities for wood composite materials;
— Determination of the strength of composite and glued wood construction materials using non-destructive and destructive testing methods;
— Analysis of the possibilities of use of the wood biomass complex;
— Reduction of energy intensity in wood processing technologies and reduction of material capacity in wood products;
— Determination of wood fires and study of fire safety scenarios.

In turn, in order to successfully carry out the initiated scientific research as well as increase its visibility, LLU researchers have been actively involved in several scientific interest groups such as the cross-border COST Action. These working groups have been set up to unite the expertise of scientists, thus focusing on the development and validation of wood and wood material research methods and the development and development of innovative wood products. Working in these scholarly associations is an excellent opportunity for researchers to come in contact with the latest trends in the scientific research environment, as well as to establish contacts and develop opportunities for cooperation with leading research institutions in Europe.

CONTACTS

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