Latvia University of Life Sciences and Technologies

BOVA UNIVERSITY NETWORK

Intensive Bachelor`s Courses

Application of Modern Technologies in Land Management and Geospatial Solutions

October 20 – 24, 2025
Latvia University of Life Sciences and Technologies
Jelgava, Latvia
3 ECTS

- **Legal solutions in land management in Baltic see region**
- **Technologies of geospatial data acquisition and assessment**
- **Different methods of geodetic measurements and technologies on field**

Course description:
The course is addressed to students from geomatics, geodesy, land management, landscape architecture and planning, forestry, environmental science, geography.
The aim of the course is to bring together students from different specialties and discuss the understanding of land management and geospatial solutions performances order and methodologies. Different geospatial data acquisition, processing and analysis methods, (remote sensing, GNSS, LiDAR, robotic tachymeter surveying), its precision, use and historical development, also costs of geospatial data collection and amount of invested work. In the course will be analyzed new challenges in future in Baltic countries, its technical need and political motivation, aim and system users, as well possible solutions and their justification of geospatial data use.
Students will have team work and tasks to accomplish comparison of different countries experience before they will be present at lectures. Meeting for one week will consist of team work, theoretical lessons, practical seminars, field trips and measurements. Practical seminars have a goal to finalize team work of different students groups, while theoretical lessons are intended to clarify all unclear issues related to different topics in particular Baltic country. A field trip to Riga, to State Land Service will be a good opportunity for students to see how the process of creating and managing real estate in Latvia works but by visiting Latvian Geospatial Information Agency students gain insight into the application of digital competences such as, what methods and technologies are used to acquire, process and analyses geospatial data and development of different geospatial data products, such as 3D surface models, cartographic materials.
Scientific content:
Parameter analysis of possibilities of applying various modern technology methods in Land Management in the Geospatial Sector. Obtaining, processing and analyzing high-quality and reliable geospatial data to solve a wide range of problems. The development of an "ideal" data mining and processing methodology will be carried out as the final work of the students. A SWOT (strengths, weaknesses, opportunities and threats) analysis will be carried out for the methodology developed by each student group. The methodology developed by the students for problem-solving will also be used in other study courses and can be applied for solving multiple problems and presenting results.
Learning outcomes:
- specialized knowledge and critical awareness of the application of different remote sensing surveying methods depending on the accuracy, the problem situation and the required solution, the impact of geospatial data quality and accuracy on the final product;
- skills to accommodate obtained knowledge to analyse and understand the applicability of the different geospatial data produced, depending on the problem situation and the solution required, the application of SWOT analysis to other studies.
- competences without assistance to use obtained knowledge and skills in practical work for finding better and most efficient solutions.

Team: International team of teachers from 3 Baltic countries

Course leader: *Professor, Dr.sc.ing. Armands Celms*, Faculty of Forest and Environmental Sciences, Latvia University of Life Sciences and Technologies

Distance learning part: October 13 – 17, 2025
Meeting in person: October 20 – 24, 2025

Information for registration and scholarship: Consult your local BOVA or NOVA coordinator.
Use http://www.bova-university.org/

If you have any questions, please contact BOVA coordinator at EMU: karoli.koiv@emu.ee

Don’t miss registration deadline – October 6