



**Intensive Bachelor`s Courses**  
**APPLICATION OF MODERN TECHNOLOGIES IN  
RECONSTRUCTION OF  
GEODETIC NETWORKS**

**May 20 – 24, 2024**

**Latvia University of Life Sciences and Technologies  
Jelgava, Latvia  
3 ECTS**

- **Development of different geodetic systems in Baltic countries and Europe**
- **Assessment of national geodetic network reconstruction in Baltic countries**
- **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 geodetic network performance order and methodology. The best precision of observations, also trigonometric, GNSS, precise leveling use for result and precision of geospatial solution. *Geodetic field works*; modelling of current 3D surface model and specification of the different geoid models.

One part of studies will consist of distance learning – students will be provided with literature and the newest scientific articles on certain topics. Results of the home tasks will be presented and discussed during the workshop. 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, Institute of Astronomy will be a good opportunity for students to see how precise geodetic observations is realized, how geodetic systems impact surveying and geodetic data. There will be realized vertical and horizontal measurements field measurement.

**Scientific content:**

Parameter analysis of geodetic system replacement procedure. The modelling of “perfect” geodetic system replacement procedure will be done as a final work for the student groups. SWOT (strengths, weaknesses, opportunities, and threats) analysis will be accomplished for each Baltic country for height system replacement.

**Learning outcomes:**

- specialized knowledge and critical awareness on government and private institutions making decisions in organization of basic geodetic network measurements, use of different measuring methods based on precision and economic conditions, impact of geodetic system development in Baltic countries overall;
- skills to accommodate obtained knowledge in order to analyze and understand basic criteria of different solutions of height system replacement procedure, apply SWOT analysis for other researches;
- 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:** **May 6, 2024**

**Meeting in person:** **May 20 – 24, 2024**

**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](mailto:karoli.koiv@emu.ee)

**Don't miss registration deadline – May 1, 2024**