



## Review of the Educational-Scientific Programme

"Geospatial Modelling, Land Monitoring and Territorial Management"

Third (Educational-Scientific) Level of Higher Education

Specialty 193 Geodesy and Land Management

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**To:** Lesya Ukrainka Volyn National University

The presented Educational-Scientific Programme (ESP) outlines the requirements for the preparation of Doctors of Philosophy in the specialty 193 Geodesy and Land Management. The programme is designed to deepen theoretical knowledge and practical skills in this field, fostering the development of advanced research and pedagogical competencies. A comprehensive analysis affirms that the programme is current, relevant, and possesses a clearly defined practical and regional orientation.

The programme's content is highly relevant. The block of compulsory professional disciplines includes "Geotronics" (OK 6), "Applied Photogrammetry" (OK 7), and "Methods of Space Image Processing" (OK 8). This structure establishes a robust foundation for doctoral students in GIS, remote sensing (RS), and the use of contemporary geodetic instrumentation.

The ESP describes an impressive inventory of specialized software. A significant advantage is the balanced integration of commercial, industry-standard software (e.g., Leica Geo Office, Trimble Geomatic Office, CREDO, AutoCAD, "Panorama", Digitals) and freely distributable, open-source platforms (e.g., QGIS, GRASS, SAGA, SNAP, PostgreSQL/PostGIS). This provides graduates with versatile skills applicable to both public



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and private sector environments. The use of modern hardware from leading manufacturers (Leica, Trimble) is also declared.

The programme's strongest attribute is its deep integration into the regional context of the Volyn Oblast and the current challenges facing Ukraine. This is evident in the proposed list of scientific research topics, which includes:

- Significant attention is given to issues concerning ATHs (themes 1, 18, 33), which are highly relevant in the context of Ukraine's decentralization reform.
- The programme directly addresses research on local geographical features, such as the "Transformation of land use in the basins of small rivers of Volyn" (theme 28).
- The inclusion of "Improvement of monitoring methods for forestry lands" (theme 31) directly corresponds to the economic and natural profile of the Volyn Oblast as a key forestry region.

The ESP demonstrates tangible, active agreements for international cooperation. Of particular value is the participation in the ERASMUS+ (KA1) programme with the Würzburg-Schweinfurt University of Applied Sciences (Germany), alongside agreements with the Lippe and Höxter University of Applied Sciences (Lemgo, Germany). This provides doctoral candidates with genuine opportunities for international research fellowships and knowledge exchange.

The programme has been reviewed not only by academic partners (e.g., Chernivtsi National University, Würzburg-Schweinfurt University) but also by key regional employers, including "Volnyvodoproekt" PJSC and the "Volyn Research and Design Institute of Land Management".

This engagement ensures the programme's alignment with the demands of the contemporary labour market. The programme profile indicates that accreditation is "Absent". This represents the most significant formal deficiency. While this may be due to the programme being new or recently revised (re-approved in 2024), obtaining accreditation is critical for its long-term legitimacy and recognition. The programme should be submitted for accreditation to the National Agency for Higher Education Quality Assurance (NAQA) at the earliest opportunity.





The educational component allocates 16 ECTS credits (four courses) to electives. However, these are generically listed as "Elective discipline 1-4", with reference to a general university-wide catalogue. The ESP would be strengthened by including a *recommended* block of specialized elective courses that directly support its core focus. Examples might include: "Spatial Planning and Management in ATHs," "Legal and Economic Principles of Territorial Management," or "Machine Learning in Remote Sensing."

The Educational-Scientific Programme "Geospatial Modelling, Land Monitoring and Territorial Management" is a high-quality, modern, and competitive academic document. Its unique characteristic and undeniable merit lie in the successful synthesis of high-technology training (GIS, RS, photogrammetry) with a clear orientation towards solving the current regional challenges of the Volyn Oblast (e.g., land management in ATHs, monitoring of forest and water resources).

The programme's strengths (technical infrastructure, international links, regional focus) significantly outweigh its weaknesses, which are primarily formal (accreditation) or structural (elective course definition).

The programme is recommended for full implementation, contingent upon the timely completion of the national accreditation process.

Respectfully,

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