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Education of future land consolidation professionals in North Macedonia

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Higher education in North Macedonia

- 24 accredited universities
- 6 state universities
- 18 private universities
- Education process is inline with Bologna Declaration
3+2+3

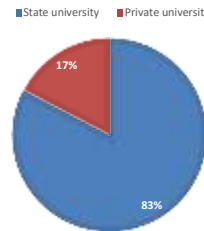




Statistics 2020/2021

- 50881 students enrolled in first year on all universities in the country
- 82.7% enrolled at state universities
- 17.3% enrolled at private universities
- 44.2% have chosen to study at Ss. Cyril and Methodius university

STATE VS PRIVATE UNIVERSITIES



Ss. Cyril and Methodius university

- Established in 1946
- Consists of
 - 23 faculties
 - 5 institutes
 - 5 associated members
- It is the oldest and largest university in the country



Experts participating in land consolidation projects

- Land consolidation process is conducted by experts with different professional backgrounds
 - Land surveyor
 - Legal expert
 - Agronomist
 - Civil engineer
 - Land valuer
 - ...



Relevant faculties within Ss. Cyril and Methodius university

- Faculty of Law
- Faculty of Civil Engineering
- Faculty of Agriculture Science and Food





Faculty of Civil Engineering

- Established in 1949 the oldest technical faculty
- Bachelor study programs
 - Civil Engineering
 - Geodesy
 - Geotechnical engineering
- Master study programs
 - Civil Engineering – structures
 - Civil Engineering – hydrotechnical engineering
 - Civil Engineering – transport infrastructure
 - Geodesy
 - Real Estate Management
 - Geotechnical Engineering
- PhD study programs
 - Civil Engineering
 - Geodesy



Land surveyor tasks in land consolidation projects

- Identify real estate properties within the land consolidation area
- Identify real estate property rights (together with legal expert)
- Collect all spatial data for land consolidation area (onsite spatial data acquisition and obtain official data produced by public institutions, agencies and private companies)
- Organize and manage spatial data
- Perform spatial analysis



Land surveyor role in land consolidation projects

- Create spatial models appropriate for rural infrastructure development designs
- Support land valuer in the process of land valuation or do land valuation
- Negotiate with landowners
- Develop a re-allotment plan
- Develop technical documentation for registration of new parcels in the cadastre system
- Stakeout new parcel boundaries
- Support civil engineering in the process of construction of rural infrastructure



Set of knowledge and skills land surveyors need to gain

- Legal knowledge
- Cadastre system/land register
- Surveying
- GIS
- Land valuation
- Spatial planning
- Design and construction of infrastructure
- Agriculture production
- Environmental protection
- Negotiation and communication





Study program of Geodesy in relation to land consolidation

- **Bachelor level courses**
 - Cadastre (IV)
 - Real Estate Management (VI)
 - Databases (IV)
 - GeoInformation systems (V)
 - Spatial planning (IV)
 - Road and railroad design (III or IV)
 - Basics of Hydrotechnics (III or IV)



Study program of Geodesy in relation to land consolidation

- **Master level courses**
 - Contemporary cadastre (II)
 - Real estate valuation (III)
 - Spatial models and analyses (II)
- **Ongoing master thesis related to**
Development a GIS tool for land consolidation
- **Available case studies**





Areas for improvement of study program in geodesy in relation to land consolidation activities

- Agriculture production
- Environmental protection and legislation – natural resource management
- Negotiation and communication skills
- Rural and regional development planning



Land consolidation professions and professionals

- Each professional identified as a team member in the land consolidation project is educated and prepared to perform tasks related to their profession
- Need for more knowledge among professionals on the overall land consolidation process
- Need for more knowledge on tasks performed by other participating professions and reflection on further project development
- Need for Life Long Learning (LLL) programmes





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Thank you for your attention!

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