

Tárgy neve: Vector-Based GIS (QGIS)

Tárgyfelelős neve: Dr. Ungvári Zsuzsanna

Tárgyfelelős tudományos fokozata: PhD

Tárgyfelelős MAB szerinti akkreditációs státusza: AT

Az oktatás célja:

a, knowledge

- Complex knowledge of the general geographical, cartographic, planning, mathematical and informatic principles, rules, relationships required for the practice of geoinformatics, especially in the following topics: geoinformatics system building

- Comprehensive knowledge of the problem-solving principles, methodology and processes of the planning, development and operation processes of the geoinformatics field

- Knowledge of the specific tools of geoinformatics, ability to apply field survey procedures, data management and analysis, and visualization solutions.

b, abilities

- Ability to interpret complex professional problems in the field of geoinformatics, to explore the necessary theoretical and practical background and to solve problems.

- Ability to creatively and methodically process, evaluate, interpret and analyse measurement results and draw conclusions from them.

- Ability to recognize and apply new problem-solving methods and procedures in his/her field and apply what he/she has learnt in a diverse, multidisciplinary environment.

c, attitude

- Monitors professional and technological developments in the field of geoinformatics and the labour market trends.

- Accepts and adheres to the ethical principles of work and organizational culture, especially with regard to the copyright related to geoinformatics.

- Committed to adhering to and making others adhere to quality requirements.

d, autonomy and responsibility

- Independence regarding the thorough examination and elaboration of professional issues and processes.

- Feels responsible for meeting and making others meet the deadlines. He/she is responsible for his/her work and for his/her co-workers' work in projects.

- With his/her knowledge and skills of geoinformatics, he/she cooperates responsibly with professionals in other fields.

Az oktatás tartalma: The goal of this course is to show the basic tools and applications of open-source GIS exploiting the possibilities of the software QGIS and GRASS. Alongside user-level applications of vector raster and 3D systems, contemporary trends (mesh, topologic data structures) are considered, as well. Finally, smaller components (e. g. plugins) are developed on the system using the API of the software at a beginner level.

A számonkérés és értékelés rendszere: practical course mark based on course work.

Kötelező irodalom:

- Sherman, G.: The PyQGIS Programmer's Guide: Extending QGIS 3 with Python 3. Locate Press. 252 p. 2018. ISBN: 9780998547725
- Menke, K.: Discover QGIS 3.x: A Workbook for Classroom or Independent Study. Locate Press. 406 p. 2019. ISBN: 9780998547763

Ajánlott irodalom

- Farkas G.: Practical GIS. Packt Publishing. 272 p. 2017. ISBN: 9781787123328
- Petrasova, A., Harmon, B., Petras, V., Tabrizian, V., Mitsova, H.: Tangible Modeling with Open Source GIS. Springer. 202 p. 2018, ISBN: 9783319893020