

Tárgy neve: Dedicated geospatial information systems

Tárgyfelelős neve: dr. Jung András

Tárgyfelelős tudományos fokozata: PhD, habil.

Tárgyfelelős MAB szerinti akkreditációs státusza: AT

Purpose of education:

a) knowledge

- Comprehensive knowledge of the principles, methods and procedures for the design, development and operation of geoinformatics, in particular in the following areas: operating systems and database management, design and development of web-based geoinformatics tools and services, geoinformatics-related programming principles, geospatial application development.

- Knowledge of the specific tools of the field of cartography and geoinformatics, the mathematical and cartographic principles of editing maps for different purposes, the ability to apply survey procedures, representational solutions and various reproduction technologies.

- Ability to create maps and geoinformatics systems that can be used by economic sectors or clients in the desired field.

b) abilities

- Ability to interpret and formalise complex professional problems in the field of cartography and geoinformatics, to identify the necessary theoretical and practical background and to solve the problem. Ability to provide consultancy, problem-solving, design, development, operation and management of cartographic and geoinformatics systems, decision support systems and expert systems.

- Ability to interpret, plan, organise, manage and control processes in the field of cartography and geoinformatics.

- Ability to learn and apply new problem-solving methods and procedures in the field.

c) attitude

- It monitors professional and technological developments in the field of cartography and geoinformatics and the opportunities that will enable it to work in the public sector, in various companies or to set up and run its own business.

- Shares his/her own knowledge and values the dissemination of professional results in cartography and geoinformatics.

- It is committed to meeting and enforcing quality standards (accuracy, commitment).

d) autonomy and responsibility

- Able to work independently in IT, carrying out tasks, thinking through and developing technical issues in a self-directed manner and at a pace.

- Responsible for meeting and enforcing deadlines. Assumes responsibility for his/her own work and that of his/her colleagues working under his/her direction and with him/her (in a project).

- In the case of mission-critical mapping and geoinformatics systems, may be given development and operational responsibility appropriate with his/her professional competences.

Content of education:

This course introduces how geospatial information system applications serve the public or community's interest and needs. Special attention will be paid to environmental or urban geospatial information systems. Furthermore, geospatial information systems will be discussed for the health sector, land use and -design process, telecommunication, transport, resource management, supply networks and -chains. Business-related applications will be presented as well, such as geomarketing, LBS and mobile LBS with community interest. A general overview will be given about domestic and international tendencies, visions and forecasts, development practices and theories, while considering human resources and the labour market perspectives. After completing the course, the students will be able to classify, select or evaluate geospatial information systems to make better geospatial decisions.

Evaluation system: oral and/or written exam.

Literature:**Obligatory:**

- Pat Hohl, Keith Mann (Ed.) Delivering Water and Power: GIS for Utilities (Applying GIS, 1). ISBN: 1589486757, Esri Press (2021),
- Terry Bills, Keith Mann (Ed.) Moving Forward: GIS for Transportation (Applying GIS, 4). ISBN: 1589486927, Esri Press (2021)

Recommended:

- Estaville, Lawrence E. "Geospatial workforce trends in the United States." In Geospatial Technologies and Advancing Geographic Decision Making: Issues and Trends, pp. 82-89. IGI Global, 2012. ISBN: 9781466602588