Thematic Cartography L

The aim of education:

a) knowledge

- He/she has a complex knowledge of the general cartographic, geographic, mathematical and informatics principles, rules and interrelationships necessary for the practice of cartography and geoinformatics, in particular in the following subjects: surveying (geodesy, topography, remote sensing, photogrammetry), map construction and design, projection, thematic cartography, geovisualisation, geoinformatics, building geographic information systems.
- Comprehensive knowledge and understanding of the most important general theories, contexts, facts and related concepts in the field of cartography, in particular in the following areas: thematic cartographic representations, map design principles, cartographic software applications, cartographic principles and visualisation solutions for web mapping services.
- Knowledge of methods and tools for professional and effective written, oral and networked knowledge management in cartography and geoinformatics. Ability to evaluate, use as source material and process as a database national and foreign, old and new maps and other cartographic publications (globes, sky globes, relief maps, etc.).
- Ability to create maps and geoinformatics systems that can be used by economic sectors or clients in the desired field.

b) abilities

- Ability to apply knowledge of cartography and geoinformatics in a creative and managerial manner.
- 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 apply what has been learned in a diverse, multidisciplinary professional environment

c) attitude

- He/She 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.
- He/She is committed to meeting and enforcing quality standards (accuracy, commitment).

d) autonomy and responsibility

- 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:

A frontal lecture introducing the various subfields of thematic cartography, in the framework of which students will learn about the types and characteristics of thematic maps, the subject-specific methods of visual communication, and the graphical aspects of data processing. By the end of the semester, students will understand the theoretical and practical background of making thematic maps, and will be able to identify the content and graphical possibilities (and limitations) that are essential for the production of thematic (subject-specific) maps.

Course outline:

- Theory of thematic cartography. The theory of generalisation. Editing principles.
- Background maps. Data sources, data types and their critical evaluation. Methods of data clustering.
- The development and history of thematic cartography.
- Thematic mapping methods.
- Characteristics of subject-specific maps. Maps of earth science. Maps of natural, economic and social processes.

- Thematic maps in education. Thematic maps for specific uses. Thematic maps in communication: media maps, propaganda maps.
- Information visualisation. The relationship between graphic symbols and thematic representation.
- Thematic atlases.
- Projections of thematic maps. The relationship between thematic maps and geoinformatics. On-line thematic cartography.
- Editorial and data processing errors in thematic maps.

Evaluation system: oral exam, assessment on a five-point scale.

Literature:
Obligatory

- Klinghammer, I., & Papp-Váry, Á. (1983). Földünk tükre a térkép (Map, mirror of the Earth). Budapest, Gondolat.
- Klinghammer, I. (2010). Térképészet és geoinformatika. ELTE Eötvös Kiadó.
- Field, K. (2018). Cartography. ISBN: 9781589484399.

Recommended

- Slocum, T. A., McMaster, R. B., Kessler, F. C., & Howard, H. H. (2022). Thematic cartography and geovisualization. CRC Press.
- Field, K. (2021). Thematic Mapping: 101 Inspiring Ways to Visualise Empirical Data. ISBN: 9781589485570