

## **Tárgy neve: Map design and production P**

**Tárgyfelelős neve:** dr. Reyes Nunez José Jesús

**Tárgyfelelős tudományos fokozata:** PhD

**Tárgyfelelős MAB szerinti akkreditációs státusza:** AT

### **Purpose of education:**

#### **a) knowledge**

##### **a) Knowledge**

- In-depth understanding of the principles, methods, and procedures involved in the design, development, and operation of maps and other geoinformatic interfaces.
- Recognition of the importance of creative design in the development and management of both traditional and web-based cartographic and geoinformatics products, GIS tools, methods, and services.
- Thorough knowledge of general design principles, graphic rules, and functional relationships between graphic interfaces and user experience in both printed and digital media cartography and geoinformatics.

#### **b) Abilities**

- Ability to create maps and geoinformatics systems tailored for use by economic or public sectors, or clients within a specific field.
- Ability to analyze and formalize complex design, interface, and usability issues in the field of cartography and geoinformatics, identifying the necessary theoretical and practical background to address these challenges.
- Ability to provide consultancy, problem-solving, development, operational support, and management in the design of cartographic and geoinformatics systems aimed at improving decision-support and expert systems.
- Ability to interpret, plan, organize, manage, and control design and production processes within the fields of cartography and geoinformatics.

#### **c) Attitude**

- Continuously tracks professional and technological advancements related to visualization design in cartography and geoinformatics, staying informed about opportunities to work in the public sector, various companies, or to establish and manage a personal business.
- Willingly shares knowledge and values the dissemination of professional results in cartography and geoinformatics.
- Committed to maintaining and upholding quality standards (accuracy, diligence) and adhering to scientific ethical norms.

#### **d) Autonomy and Responsibility**

- Capable of working independently in IT, carrying out UX design tasks, and addressing technical issues in a self-directed manner and at an appropriate pace.
- Takes responsibility for meeting deadlines and ensures the completion of tasks. Assumes accountability for both personal work and the work of colleagues working under their direction within a project.
- In the case of mission-critical mapping and geoinformatics systems, development and operational responsibilities may be entrusted to individuals whose professional competencies align with the specific requirements.

### **Content of education:**

In this course, students engage in a hands-on cartographic design project, focusing on the development of creative design skills and design thinking. Students individually edit a digital base map for a given settlement (approx. resolution 1:10.000) and its environment using geoinformatics tools (in QGIS) using open GI. They form the base map sheet, add technical signs, record the hydrography (rivers and lakes, road network (including tourist routes), railway, land cover, draw the built-up areas (permanent buildings),

edit administrative boundary lines, include geographical names and additional map nomenclature. Using their map, the groups are tasked with designing an outdoor settlement map (village or town district) that effectively showcases the local values, natural and cultural attractions and available services to both residents and tourists through a visually compelling graphic interface. For marketing purposes, students first create a map model based on the information gathered about the village/town, and then prepare a presentation to present their design. The groups visit the place and during a presentation they engage in on-site communication and discussion with the locals. This process simulates the operation of a cartographic business and the management of a cartographic-geoinformatics project, providing students with insight into real-world project environments. The on-site fieldwork and interactions with the town's residents make the design thinking process an engaging and experiential learning opportunity.

**Evaluation system:** practical mark based on individual and team course work.

**Literature:**

**Obligatory:**

- Kryger, John – Wood, Denis (2016): Making Maps. A Visual Guide to Map Design for GIS: Guilford Press, New York-London. (ISBN: 9781462509980)
- Dent, B. – Torguson, J.S. – Hodson, T.W. (2008): Cartography. Thematic Map Design. (6th edition), McGraw Hill, Boston. (ISBN 9780072943825)

**Recommended:**

- Robinson, Arthur H. (1952): The look of maps. An examination of cartographic design. University of Wisconsin Press, Madison (ISBN 9781589482623)
- Raisz, E. (1948) General Cartography. McGraw-Hill Book Company: New York.
- Edward Tufte (2001): Envisioning information. Plenum Press, Boston, ISBN: 9780961392116
- Menno-Jan Kraak, Robert E. Roth, Britta Ricker, Ayako Kagawa and Guillaume Le Sourd: Mapping for a sustainable world. UN; International Cartographic Association, 2020, <https://digitallibrary.un.org/record/3898826?v=pdf>
- Crampton, Jeremy (2010): Mapping: a critical introduction to cartography and GIS. Wiley-Blackwell. ISBN-13: 978-1405121729