Tárgy neve: Measurments and data collection

Tárgyfelelős neve: Dr. Kovács Béla Tárgyfelelős tudományos fokozata: PhD Tárgyfelelős MAB szerinti akkreditációs státusza: AT

Az oktatás célja:

a, knowledge

- Theoretical/practical knowledge of satellite positioning and navigation systems
- Knowledge of field data collection equipment
- Theoretical and practical knowledge of general tools for geoinformatics and geodesy

b, abilities

- Ability to orientate spatially with or without instruments
- Ability to interpret (special) maps
- Ability to program and operate field data collection equipment
- Ability to locate and navigate with and without instruments
- Ability to select and locate a sampling site
- Ability to carry out planned measurements using ground and airborne (e.g. GNSS instrument, drone) field data collection equipment

c. attitude

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

- Committed to environmentally conscious behaviour in his/her field and laboratory activities.

- 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:

- planning and execution of field measurements and data collection
- objective and subjective sources of danger, emergency management
- map reading, use of maps, orienteering on field
- theory and practice of GNSS
- sub-metre and sub-mm level satellite-based positioning
- errors in field measurements and how to eliminate/reduce them
- mapping of sampling locations and GI data collection
- how to navigate on field
- UAV/drones in fieldwork
- mobile mapping equipment and solutions

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

Kötelező irodalom:

- Hofmann-Wellenhof, Bernhard, Lichtenegger, Herbert, Wasle, Elmar, 2008. GNSS Global Navigation Satellite Systems, Springer-Verlag Wien, ISBN: 978-3-211-73012-6
- Esmat Bekir: Introduction to Modern Navigation Systems, World Scientific Publishing Company, 2007
- Mohinder S. Grewal, Lawrence R. Weill, Angus P. Andrews: Global Positioning Systems, Inertial Navigation, and Integration, Wiley, 2007, ISBN: 978-0-470-09971-1

Ajánlott irodalom:

- Laurie Tetley etal: Electronic Navigation Systems, Taylor & Francis, 2012, ISBN: 978-0-7506-5138-7
- GIS Collecting Field Data (https://guides.library.yale.edu/GIS/Collector)