Course Specifications

Valid as from the academic year 2020-2021

Geographical Information Architecture (C004178)

Due to Covid 19, the education and evaluation methods may vary from the information displayed in the schedules and course details. Any changes will be communicated on Ufora.

Course size (nominal values; actual values may depend on programme)

Credits	Study time	Contact hrs
5.0	150 h	50.0 h

Course offerings and teaching methods in academic year 2020-2021

A (semester 2)	Dutch, English	Gent	lecture	12.5 h
			seminar	30.0 h

Lecturers in academic year 2020-2021

Huang, Haosheng	WE12	lecturer-in-charge

Offered in the following programmes in 2020-2021	crdts	offering
Master of Science in Teaching in Science and Technology (main subject Geography and Geomatics)	5	A
Master of Science in Geography and Geomatics	5	A

Teaching languages

Dutch, English

Keywords

Web mapping, Spatial databases, Geospatial standards, Browser/server architecture, Sever-side technology, browser-side technology, Web Mapping APIs, Mobile maps, Cloud based mapping services, Spatial data infrastructure

Position of the course

The course Geographical Information Architecture gives an extensive overview of the browser/server architecture and technologies when developing web mapping applications. This course does not stress data collection and processing, but focuses more on data distribution (to a wider audience, e.g., over the Internet).

Contents

- Introduction web mapping, browser/server architecture
- Browser-side technology: HTML/CSS, JavaScript, Web Mapping APIs
- Server-side technology: Spatial databases (advanced), GeoServer, Geospatial standards, PHP
- Map-based mobile applications
- Cloud-based web mapping platforms
- Introduction to spatial data infrastructure, metadata, inspire

Initial competences

Having followed the courses Geo-Programming and GIS: Applications or having gained the related competences.

Final competences

1 Acquiring adequate theoretical and practical knowledge of the browser/server architecture and technologies behind web mapping applications
2 Producing a well-reasoned conceptual flow diagram of the processes
3 Realising a web mapping application

Conditions for credit contract

Access to this course unit via a credit contract is determined after successful competences assessment

Conditions for exam contract

This course unit cannot be taken via an exam contract

Teaching methods

Group work, lecture, seminar, online lecture

Learning materials and price

Learning materials will be published on Ufora. No print-out will be provided. Therefore, no cost.

References

- Peterson, M.P. (2014) Mapping in the Cloud. New York: The Guildford Press, 421.
- Fu, P. (2020) Getting to Know Web GIS (4th edition). Redlands: ESRI Press.
- Wilson, J.P. (eds.) (2020). Geographic information science & technology Body of Knowledge, University Consortium for geographic information science. https://gistbok.ucgis.org/.

Course content-related study coaching

- **Theory:** after the lesson or after an electronic appointment
- **Exercises:** during the practical sessions or after an electronic appointment

Evaluation methods

end-of-term evaluation and continuous assessment

Examination methods in case of periodic evaluation during the first examination period

Oral examination, assignment, report

Examination methods in case of periodic evaluation during the second examination period

Oral examination, assignment, report

Examination methods in case of permanent evaluation

Assignment

Possibilities of retake in case of permanent evaluation

examination during the second examination period is possible

Extra information on the examination methods

Assignments and course project. Oral explanations are expected for the final presentation of the course project.

Calculation of the examination mark

- Assignments during the teaching period (40%)
- Course project and presentation (60%)