GHENT UNIVERSITY

# Course Specifications

Valid as from the academic year 2022-2023

## Geographic Information Systems (C002651)

**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 6.0** **Study time 150 h** **Contact hrs** 50.0 h

**Course offerings and teaching methods in academic year 2022-2023**

| | | | | |
|---|---|---|---|---|
| A (semester 1) | English | Gent | self-reliant study activities | 2.5 h |
| | | | seminar: practical PC room classes | 23.75 h |
| | | | group work | 1.25 h |
| | | | lecture | 10.0 h |
| | | | project | 12.5 h |

**Lecturers in academic year 2022-2023**

| | | |
|---|---|---|
| Van de Weghe, Nico | WE12 | lecturer-in-charge |

| **Offered in the following programmes in 2022-2023** | **crdts** | **offering** |
|---|---|---|
| Master of Science in Teaching in Science and Technology (main subject Geology) | 6 | A |
| Master of Science in Geology | 6 | A |
| Master of Science in Geology | 6 | A |
| Exchange programme in Geology (master's level) | 6 | A |

**Teaching languages**

English

**Keywords**

Raster Analysis, Vector Analysis, Network Analysis, Multi-Criteria Decision Analysis, Sensitivity Analysis, Fuzzy GIS, Geographical Information (GI) Problems, Cartographic Modelling

**Position of the course**

Deepening the basic knowledge of Geographical Information Systems. Application in different domains of GI.

**Contents**

-Raster Analysis
-Vector & Network Analysis
-Multi-Criteria Decision Analysis
-Sensitivity analysis
-Fuzzy GIS
-Cellular Automata & Agent-Based Modelling
-Advances GIS Analyses, linked to geographical sub-disciplines (i.e., physical geography, landscape science, socio-economic geography...)

**Initial competences**

Course 'Introduction to topography and GIS' or a similar course

**Final competences**

1 Discuss GIS applications in different domains.
2 Solve geographical problems with raster-GIS.
3 Set up a GIS-project.

**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, project, self-reliant study activities, seminar: practical PC room classes

**Learning materials and price**

Slides (via Ufora) + syllabus (via Ufora) + own notes

**References**

/

**Course content-related study coaching**

Contacts with teacher or assistants is possible by making an appointment

**Evaluation methods**

end-of-term evaluation and continuous assessment

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

Written examination with open questions

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

Written examination with open questions

**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**

/

**Calculation of the examination mark**

Non-periodical evaluation (50%) + periodical evaluation (50%).