

# COURSE DETAIL

## INTRODUCTION TO GEO-INFORMATION SCIENCE

**Country**

Netherlands

**Host Institution**

Wageningen University and Research Center

**Program(s)**

Wageningen University

**UCEAP Course Level**

Upper Division

**UCEAP Subject Area(s)**

Geography

**UCEAP Course Number**

104

**UCEAP Course Suffix****UCEAP Official Title**

INTRODUCTION TO GEO-INFORMATION SCIENCE

**UCEAP Transcript Title**

GEO-INFO SCIENCE

**UCEAP Quarter Units**

5.00

**UCEAP Semester Units**

3.30

## Course Description

The course introduces Geo-Information Science and its scientific and societal interests. The starting point of the introduction is the geo-information cycle. This cycle frames geo-data-based actions like acquisition and storage, processing, and visualization. It is explained that these actions can be used to describe, analyze, design, and realize real-world phenomena. Thus geo data is always acquired, processed, and visualized with a specific purpose. This is illustrated via the conceptual, formal, and technical modeling steps. Important in these modeling steps are the roles of geographical data attributes (thematic, geometric, temporal). Because the acquisition and processing of geo data are purposive, metadata plays an important role in finding geo data and geo data processing steps. It is also important to evaluate the (re)usability of geo data and geo data processing steps. Metadata explains important geo data characteristics like (geo)reference, map projection, and available attributes. Geo-visualization, especially cartography concepts, is introduced to show how geo data ought to be communicated. After the introduction of the geo data-related concepts, the course offers geo data processing options. The latter is done by the introduction of three data handling classes (query, transform, and alter) and the data-action model. Basic concepts of Remote Sensing (spectral signature, sensor types, and visual and quantitative processing) are also introduced. The application of all concepts is practiced during a practical and a small project using professional software and data.

## Language(s) of Instruction

English

## Host Institution Course Number

GRS10306

## Host Institution Course Title

INTRODUCTION GEO-INFORMATION SCIENCE

## Host Institution Course Details

<https://wur.osiris-student.nl/#/onderwijscatalogus/extern/cursus>

**Host Institution Campus**

Wageningen University

**Host Institution Faculty****Host Institution Degree****Host Institution Department**

Geo-information Science and Remote Sensing

**Course Last Reviewed**

2023-2024

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