

EXCHANGE PROGRAM

# DIGITAL TOOLS FOR HERITAGE MANAGEMENT

## A partnership between HOGENT and HERITΛGE



HERITAGE
THE HERITAGE MANAGEMENT ORGANIZATION

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GENT



## EXCHANGE PROGRAM

# DIGITAL TOOLS FOR HERITAGE MANAGEMENT

**The exchange program on Digital Tools for Heritage Management is a one-semester European Credit (ECTS) bearing program that integrates the great disciplines of heritage management and geomatics. The program is organized by a team of internationally recognized experts and is mainly offered online which allows participants from all over the world to participate. Skills in the acquisition, processing, and publication of spatial data are combined with knowledge in heritage management through hands-on course material, which is applied during fieldwork in Greece.**

Digital tools for heritage management is a specialized course on spatial data (GIS), laser scanning, 3D modeling, heritage management, and community management. This 30 ECTS-credit (50% of a full year) exchange program is being offered for the first time during the **autumn semester** of the academic year 2022-2023 **(starting in September)**.

## DIGITAL TOOLS FOR HERITAGE MANAGEMENT: A FRUITFUL PARTNERSHIP

**HERITΛGE** (The Heritage Management Organization) empowers, through training, current and future caretakers of global heritage to transform their assets from decaying objects of study to sustainable resources of education, local identity and economic development. So far more than 1400 professionals from 90 countries have been trained in its programs. **HERITΛGE** has been running the longest standing summer program on **heritage digitization** (since 2010) with various partners and most prominently for the last five years with **HOGENT**. Since 2017, three integrated and consecutive specialist courses on various topics in geomatics are organized in collaboration also with **HOGENT** (Belgium).

Visit heritagemanagement.org for more.







**HOGENT** (Belgium) is the largest university of applied sciences in Flanders and counts more than 14,000 students and 1,800 members of staff, including over 200 researchers in national and international research projects. HOGENT aims for excellence in education, research, services to society, and artistic practice. Through the competence of its staff and graduates and the valorization of its research, HOGENT seeks to advance a critical, creative, and open society.

With its up-to-date, relevant, and diverse range of courses, HOGENT is a broad gateway to higher education. In addition to professionally focused bachelor's programs and bachelor's and master's programs in the arts, it offers graduate courses in higher vocational education. HOGENT trains future-proof students. Central to all its study programs are future-proof skills such as critical and ethical thinking, flexibility and creativity, an investigative and entrepreneurial attitude, social and communicative skills, and problem-solving ability.

Education at HOGENT is tailored to each student. Hybrid pathways, which make use of differentiated teaching and learning methods customized to address students' needs, enable them to reach learning outcomes and glean maximal learning benefits.

Visit www.hogent.be for more info.

The two institutions have now decided to offer this comprehensive program, to answer the needs of **students and young professionals** in various disciplines e.g., architecture, land surveying, archaeology, heritage management, conservation, and the like. The importance of **state-of-the-art technological skills**, but also **competence in international collaboration**, **communication**, and other future-proofing skills makes this program particularly relevant.



## OVERVIEW

This program introduces you to a broad range of **3D recording and mapping** techniques, as well as to methodologies on how to use and analyze **spatial data**. Furthermore, you will be introduced to the field of **managing** various aspects of the **cultural heritage** you will be studying. You will be provided with hands-on instruction in these methods with hands-on demos and exercises in various study areas. **GIS** will be used to publish the data in cartographic outputs, and to use spatial data for management and analysis of the features under study. **Heritage management** introduction allows you to get a better understanding of the objects and to facilitate the discussion and process of using these data for the preservation and exploitation of heritage assets for the benefit of communities.

This is an asynchronous program with a multitude of optional live classes. During the **online program**, you will work on provided data, but you will also record your own data and use online spatial data sources for your own projects. These data will be processed with the appropriate software.

Finally, laser scanning data (point clouds) will be provided by the instructors for further processing, whereas image-based 3D models will be generated soon after the start of the program. During fieldwork, we will focus on the entire workflow from data acquisition to data publication.



**Following this training, you should be able to work on the digitization of any heritage (or other terrestrial) site.**

## STRUCTURE

The program will take place during the Autumn semester, **starting from early September until the winter break**. A large amount of asynchronous course material about GIS, data acquisition and processing, as well as heritage management is offered through our online **eLearning** platform, while a series of optional live sessions and tutorials will be presented by our team. At the end of October and until the beginning of November a credit-bearing 10-day **fieldwork campaign** will be organized in Greece.

During our fieldwork, **digital cameras**, **laser scanners**, and **UAVs** will be used to obtain skills on advanced data acquisition.

## THE COURSES

The program comprises various specialist courses during the autumn semester:

- **Surveying methods:** theory on photogrammetry, laser scanning, and other advanced spatial data acquisition techniques (online);
- **Land surveying in practice:** practical course on the actual acquisition of photogrammetric and laser scanning data (online);
- **Data processing:** course on the processing of the previously acquired data using appropriate software, resulting in deliverables and critical data quality assessment (online);
- **International land surveying project:** integrated fieldwork (Greece, end of October, beginning of November)



- **Cartography and GIS:** technical course on the basics and advanced use of geographical information systems (online);
- **Introduction to heritage management 1+2:** provides all the necessary knowledge in identifying key issues that are necessary for the effective management of heritage in an efficient and responsible manner in relation to the community and its environment (human or natural) (online).

| Name | ECTS | URL |
|---|---|---|
| Surveying methods | 4 | Click here |
| Land surveying in practice | 4 | Click here |
| Data processing | 4 | Click here |
| International land surveying project | 6 | Click here |
| Cartography and GIS | 4 | Click here |
| Introduction to heritage management 1 | 4 | Click here |
| Introduction to heritage management 2 | 4 | Click here |

## TEACHING METHODS

Sessions are primarily organized **online** via asynchronous pre-recorded sessions and optional live ones, together with online materials and exercises. **Practical sessions**, **Q&A meetings**, and moments for **discussion and debate** are also scheduled.

As a participant, you will directly implement the newly obtained skills by using them during the course on your **own cultural heritage projects**.

A **laptop**, **internet connection**, and a **digital camera** (SLR camera, compact camera, or a smartphone) will be the starting point to record data of artifacts, properly orient them to one another in virtual space, and georeference the data collected to ultimately create a computer-generated representation of your study area, accompanied by contextual spatial data analysis results. These skills are essential in heritage management for any **restoration**, **documentation**, or **visualization** project but are transferable to a wide array of applications from real estate, geography, geology, and architecture.

The entire program is offered in **English**.

## CREDITS

This exchange program is part of the HOGENT bachelor program on Real Estate and Land Surveying and the entire program is awarded **30 ECTS credits** at **EQF level 6**.

Students are expected to earn credits which they can transfer to their studies degree at their home institution. European students might join this program through **Erasmus+**. Contact the representative at your university for more information.

**Key facts:**

- Digital Tools for Heritage Managements offers a unique and innovative interdisciplinary program for a diverse range of participants;
- The program is offered by a team of enthusiastic, lively specialists and research active lecturers;
- Opportunities for fieldwork and a wide range of collaborative market-led research studies;
- Flexibility to plan your study activities in combination with other activities;
- Aiming to bring together scholars from all over the world in a virtual environment and in an exciting fieldwork setting;
- A combination of taught and research elements and a pathway to improve you professional career;
- A friendly online environment with a community of scholars immersed in a research.

## DIGITAL TOOLS FOR HERITAGE MANAGEMENT SOMETHING FOR YOU?

Are you a student, just graduated, or a young professional in the field of archaeology, architecture, conservation, anthropology, geography, or heritage management? Do you want to enrich your expertise with essential spatial technology skills? Then our tailor-made program on **Digital Tools for Heritage Management** is for you.

## ADMISSION REQUIREMENTS

Participating students must have obtained a minimum of 60 ECTS credits or equivalent in another higher education institution in any degree (cannot be first-year undergraduates).

Non-native speakers of English must have a minimum standard of proficiency in written and spoken English.

## FURTHER INFORMATION

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**Some inspiring 3D modeling projects:**

Architectural heritage in Nafplio, Greece

Archaeological heritage in Sultana, Romania

Cultural heritage in Tur Abdin, Turkiye



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