



## About the programme

The mASTERS course on smART Agriculture TEChnologies (TERRATECH) project aims to develop an advanced interactive MSc course related to Agriculture IoT Engineering that will train individuals with the necessary skills and knowledge to work in the rising "Smart Agriculture" industry, as well as stimulate transversal competences such as the increased sense of initiative and entrepreneurship. The course is designed to follow the European Credit Transfer and Accumulation System (ECTS) credit standards for certification recognition across the EU. The educational institutions involved (University of Porto, International Hellenic University, University of Debrecen, University of Pompeu Fabra, Catholic University of the Sacred Heart and Vidzeme University of Applied Sciences) have a significant expertise in agricultural sciences, engineering, management, as well as in high tech applications and they possess facilities equipped with special instrumentation for testing and construction of IoT systems and data analysis. In addition, the SMEs and farming companies bring relevant experience and techniques to get the participant students up to par.

## Programme Structure

Duration: 8 months, plus a 1-month agricultural experience (on the job) a month after the end of the teaching period.

## Mobility periods:

Two mobility periods (14-day each), involving exchange of student and educators between the International Hellenic University (Greece) and the University of Debrecen (Hungary) to participate in large-scale laboratories to develop a demonstrator IoT system.

One mobility period (1 month) for agricultural on-the-job training in smart technology SME's and in demonstration farms.

- December 2022: Students and educators from the University of Debrecen will travel to Thessaloniki (Greece) for 14 days.
- April 2023: Students and educators from the International Hellenic University will travel to Debrecen (Hungary) for 14 days.
- July 2023: Student will be allocated to different institutions and facilities across Europe (Greece, Netherlands, Portugal, France) to undergo one month of industrial practice, using real-life scenarios for their developed systems and get hands-on experience.

## Academic Curriculum

24 courses (divided into two semesters), focusing on applied engineering concepts and providing industry insights in order to immerse the students in Agriculture ICT core components, functionality, maintenance, safety, and sustainability.

Teaching Language: English.

The programme also offers language courses in Hungarian & Greek.

## Admission

Requisites: Basic agricultural, electrical, mechanical or technical background, and a relevant bachelor's degree or professionals with equivalent working experience (5 years minimum).

Priority will be given to academic performance or professional experience and, in the case of equivalent academic/experience level, participants from less advantaged socio-economic backgrounds (including refugees, asylum seekers and migrants) will be preferred. A minimum score of 6.5 on an IELTS test or equivalent is required.

## Degrees

All students will be awarded a MSc degree. The degree follows the European Credit Transfer & Accumulation System (ECTS) for certification recognition across the EU and around the world.

## 1<sup>st</sup> Semester

Code	Name
TS1.1	Plant Pathology
TS1.2	Data Acquisition & Sensors
TS1.3	NI LabVIEW Training
TS1.4	Geographic Information Systems
TS1.5	Remote Sensing & Wireless Sensor Networks
TS1.6	Greenhouse & Soilless Culture (Hydroponics)
TS1.7	Soil Quality & Health
TS1.8	IoT Platforms & Systems
TS1.9	Precision Soil Cultivation & Sowing
TS1.10	Precision Nutrient & Irrigation Management
TS1.11	Local Culture & Language (Greek)
TS1.12	Intermediate Project

## 2<sup>nd</sup> Semester

Code	Name
TS2.1	Precision Crop Production & Protection Systems
TS2.2	In-silico models for integrated environment and human risk assessment
TS2.3	Precision Plant Farming Management
TS2.4	Agricultural Drone Systems
TS2.5	Data processing & Blockchain
TS2.6	Renewable Energy in Agriculture
TS2.7	Modern technologies to mitigate the impact of agricultural activities on ecosystem services and Training
TS2.8	Augmented/Virtual Reality
TS2.9	Innovation & Entrepreneurship Management
TS2.10	Business Administration
TS2.11	Local Culture & Language (Hungarian)
TS2.12	Developing Tool Demonstrator

