

## ENTRY REQUIREMENTS

### Who can participate?

Undergraduate and graduate students (over 18 years of age), newly graduates and early-stage practitioners in engineering or computer science.

### What are the entry requirements?

- Courses are taught entirely in English. No language certificate is required, but we recommend an equivalent B2 level or higher.
- Participants must have basic computing skills and familiarity with any kind of programming language.

## COSTS

	Regular	Partners	UCBM
	€ 1.800	€ 1.600	€ 1.400

### What is included in the Bootcamp?

All courses, labs, tutoring sessions, hackathon and group project work guided by academic and industry tutors; Soft skills training; Attendance Certificate at the end of the course; Networking opportunities with industry partners.

## SCHOLARSHIPS

Intesa Sanpaolo is generously funding 5 scholarships to cover the costs of the course. If you meet the entry requirements and you are interested, please send us your CV and a cover letter before 30/06/2021 at [bootcamp@unicampus.it](mailto:bootcamp@unicampus.it).

## PARTNERS



## ADVISORY BOARD



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# Digital Sustainability Bootcamp

23 August - 10 September 2021

Phygital Edition

In collaboration with



Marzotto Venture Accelerator



## ABOUT THE BOOTCAMP

### What is the Bootcamp?

An intensive 3-week programme of **lectures, labs and project work** to acquire technical skills and soft skills. **Tutoring and teamwork** are essential parts. You will never be alone - it is a community learning journey!

### What is Phygital?

We combine **the best of the physical and the digital world**: the full programme is available online with live sessions or in person (at Marzotto Venture Accelerator, Via Salandra 13, Rome). Attendance is totally flexible. You can choose!

### Who is the Bootcamp for?

Designed for undergraduate, graduate and post-graduate students, researchers and young professionals with a background in engineering and computer programming. If you want to have an **international experience** and want to start a career in IoT and AI, this course is perfect.

### What are the aims of the Bootcamp?

- To introduce participants to **foundations of IoT** and to the **main tools and methods of AI** with lectures, group work and hands-on tutorials, with special focus on the **sustainability challenges framework**.
- To provide practical experience using **industry case-studies** from our partner businesses through a week-long **hackathon**.
- To provide **soft-skills** training, as requested by the current job market, in terms of team work ability and effective communication.



### Faculty and Tutors

Designed in collaboration with **academics and professionals**, this is a short and effective course based on **experiential learning and practical activities**.

Our **Academic Tutors** guide all the labs to complement each lecture and our **Industry Tutors** help the teams with their work to ensure the successful completion of the projects.



### IoT & AI Fundamentals, Enabling Technologies and Sustainability

#### WEEK 1

- Make objects sense the environment: intro to sensor principles, transducers, digital sensors
- Computing with physical objects: embedded device architecture and programming
- Make objects communicate: protocols for data exchange and data communication models
- Blockchain: distributed ledger, smart contracts, DApps

#### WEEK 2

- Read and evaluate the data: descriptive stats, data dependencies and visualisation
- Understand data and make predictions: (un)supervised classifications, classifiers and regressors
- Making decisions based on data: neural networks, reinforcement and transfer learning
- Cloud services for IoT and AI: cloud systems, IoT-AI closed loop

#### WEEK 3

- Sustainability challenges and Integrating Sustainability into the Organization
- Hackathon - the teams work to find solutions to the industry case-studies



### 18 hours of Transferable Skills Training

The teams are trained by experts with years of experience at the University of Cambridge. Integrated in the 3 weeks to complement the technical teachings: **communication and presentation skills, project management, leadership and teamworking skills**.

## PROGRAMME



Daily  
Teamwork Sessions



20 hours  
of Lectures



40 hours  
Labs and Tutorials



### Why Digital Sustainability

Digital sustainability is the means by which digitalisation, as a key part of the fourth industrial revolution, can deliver on the **global sustainability goals**. Participants will learn about circular economy, sustainable development and how to integrate sustainability in the organisation.



### Industry Case-studies and Hackathon

The programme is entirely built on case-studies in **Sustainability and Circular Economy** provided by our industry partners. Participants work to find innovative solutions to these problems:

**ACEA** - Artificial Intelligence for Domestic Automation

**CISCO** - Smart buildings for a sustainable society

**DXC** - Smart packaging and reuse from production to consumption

**IBM** - Smart incentives and user-friendly solutions in rubbish collection



### Team Presentations and Jury Panel

The Bootcamp culminates in a **final "Pitch Day"** with presentations by each group in front of a jury panel of experts in innovation technologies.



### Award Ceremony

The jury will assign to the best team project the "Bootcamp 2021 Award".

A full-immersion  
experience learning  
by doing together.

[bootcamp@unicampus.it](mailto:bootcamp@unicampus.it)

<http://www.unicampus.it/eng/bootcamp>