

7 MAR - 23 APRIL 2022

+INFO: www.run-eu.eu
Organized by FHV, TUS and HAMK

PROGRAMME DESCRIPTION/OBJECTIVE

Global challenges form the starting point of this Short Advanced Program, which draws on methods of future assessment, design and innovation development to explore pathways to ecologically and socially sustainable futures. Each edition of "Future Explorations" focuses on one challenge area, the first being mobility and transport. How can mobility be imagined and conceptualized in a new way? How can we foster more sustainable modes of transport? Concrete challenges will be developed with the involvement of cooperate partners. Based on the examination of different future scenarios, we will develop technologically supported and communicative solutions fostering sustainability in this field. Starting with an online week, an interdisciplinary team of lecturers and coaches will give input and guide the students in developing their concepts. The online week will be followed by a four week period of remote team work and coaching focusing on elaborating the concepts, which will then be realized in the presential week in Dornbirn. Within the frame of "Future Explorations" the students are expected to develop a prototype (proof of concept) (e.g. of a service, application or community model).

PROGRAMME DESCRIPTION/OBJECTIVE

The students know how to to assess future developments. They are able to develop and implement innovative technologically supported solutions addressing future challenges. They are able to combine theoretical as well as methodological competences in the process of innovation development and implementation. They know how to work in an interdisciplinary team and face a final presentation including a panel discussion.

DATE From 07 March to 23 April (Overall)

Online sessions and remote teamwork: 07 to 11 March (07 March: lecturers only) Contact Week: 19 to 23 April at FHV

MODE OF DELIVERY Blended

LENGTH 6 Weeks

LOCATION Online + FHV (Dornbirn, Austria)

LANGUAGE OF INSTRUCTION English

ECTS CREDITS 03

EQF/LEVEL Bachelor/1st cycle (EQF 6). Students from Master/2nd cycle (EQF 7) and PhD/3rd cycle (EQF 8)are welcome

ACADEMIC RECOGNITION to be defined by each home institution. In general terms, most students will have this RUN-EU SAP certified in the Diploma Supplement as a minimal condition.

HOW TO APPLY

Fill in the application form

DEADLINE FOR APPLICATIONS 14 February

CONTACT DETAILS sap.future.explorations@fhv.at

















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SELECTION CRITERIA

Motivation, learning objectives, wide representation of subject areas/fields and balanced participation of RUN-EU member institutions. A maximum of 25 students will be selected for this programme. The selection team will also take steps towards ensuring diversity and representativity.

LEARNING AND TEACHING STRATEGY

Input sessions, teamwork, coaching, final presentation. Platforms: Teams, Miro

PRE-REQUISITES

No basic knowledge needed.

SPECIAL CONDITIONS

No special conditions

COURSES LEADERS | LECTURERS

Course leaders

Margarita Köhl (FHV)
Timo Karppinen (HAMK)

Lecturers

Karin Bleiweiss (FHV)

Natasha Doshi (FHV)

Michael Kneidl (FHV)

Ville Turunen (HAMK)

John Cosgrove (TUS)

PHYSICAL MOBILITY | SCHOLARSHIPS AVAILABLE

To be managed by home Institution.

Students' scholarships: Travel: 350€/person

Subsistence:400€/week

Maximum number of mobile students: 25

Flows/Institution: Applicant selection aims for wide representation of partner institutions implying an average maximum of five students peruniversity. Final decision on the scholarships to be awarded falls under the responsibility of the Home Institution RUN-EU Project Leader and compulsorily requires IRO involvement.

MEANS AND CRITERIA FOR ASSESSMENT

teamwork + participation, work process, functionality of prototype, final presentation, progress report Fail or Pass Assessment.

CERTIFICATION

The participants who successfully complete this RUN-EU SAP will receive a Certificate of Participation and a Transcript of Records jointly issued by the organising institutions.

REFERENCE READING

Available soon.

















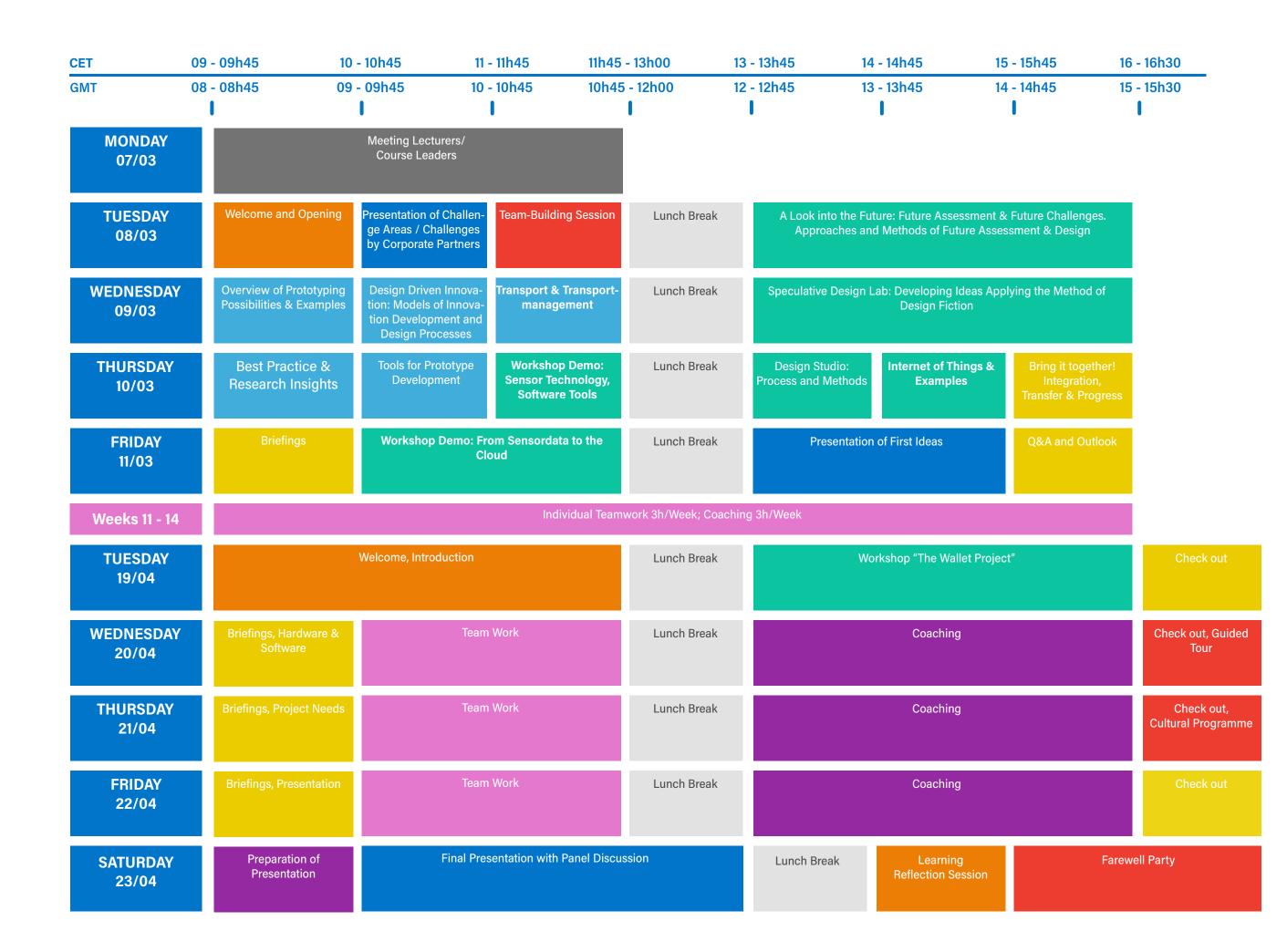
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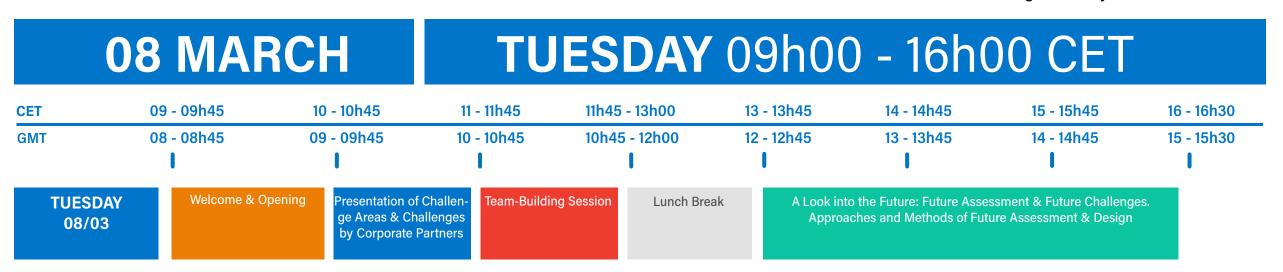
PROGRAMME AT A GLANCE



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Welcome and Opening

- (9 09h00 9h45)
- All lecturers
- Introduction, project outline, learning objectives

Presentation of Challenge Areas & Challenges by Corporate Partners

- (h) 10h00 10h45
- Corporate partners, all lecturers
- In this particularly interesting session, the corporate partners will provide insight into the future challenges they face and outline the problems for which they do not yet have a solution. Gebrüder Weiss is an international company situated in the field of logistics and transport. Heron Innovation Factory is active in the field of innovation development.

Team-Building Session

- 11h00 11h45
- **⊞** Group Work
- Natasha Doshi
- In this workshop we will explore the different cultural and educational backgrounds of the participants and you will have the chance to meet your team-members.

We will engage in different online games and team-building activities. No worries, no singing or dancing required, just an open mind and then the fun-factor will be high. Promise!

A Look into the Future: Future Assessment & Future Challenges. Approaches and Methods of Future Assessment & Design

- (h) 13h00 15h45
- A Margarita Köhl
- Have you ever wondered how experts de-

fine future challenges and formulate visions of the future, and how these can be addressed in design processes? And how can people's visions of the future be integrated into the design process? This talk will provide input on future assessment, future challenges, methods of future assessment & design (speculative design & design fiction) in terms of socially, ecologogically and economically sustainable development based on existing studies. The lecture promotes understanding of different conceptions of "future(s)" from philosophical, social science, artistic and economic perspectives. It provides basic knowledge about different approaches and methods of future assessment and design and outlines the potentials and differences of different methods such as forecasting and speculative design. In the workshop, students learn how to find and evaluate appropriate sources for developing future scenarios. They explore future challenges with regards to socially, ecologically and economically sustainable development based on existing studies - especially in the field of mobility and transport.

















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09 MARCH WEDNESDAY 09h00 - 11h45 CET **CET** 09 - 09h45 10 - 10h45 11 - 11h45 11h45 - 13h00 13 - 13h45 14 - 14h45 15 - 15h45 16 - 16h30 10h45 - 12h00 12 - 12h45 13 - 13h45 **GMT** 08 - 08h45 09 - 09h45 10 - 10h45 14 - 14h45 15 - 15h30 WEDNESDAY Overview of Prototyping Design Driven Innova-Transport & Transport-Lunch Break Speculative Design Lab: Developing Ideas Applying the Method of Possibilities & Examples DesignFiction tion: Models of Innova management 09/03 tion Development and Design Processes

Overview of Prototyping Possibilities & Examples

() 09h00 - 9h45

A Michael Kneidl, Timo Karppinen

Hardware, sensors, microcontrollers (Arduino, RaspberryPi, MbedO), the consept design tools for the applications (Figma), graphic editor for developing communication and interaction (NodeRED),... all the possibilities in the prototyping laboratory.

Design Driven Innovation: Models of Innovation Development and Design Processes

(h) 10h00 - 10h45

Individual Work

A Karin Bleiweiss, Margarita Köhl

It is clear that the development of promising solutions for global challenges requires the networking of different knowledge and ways of thinking.

But what makes an idea viable? When is it an "innovation"? And under what conditions does an innovative product, concept or business model prevail? This lecture will promote understanding of the advantages of different design approaches (Design Thinking/ Human Centered Design; Design-driven innovation). Based on this, we will focus more closely on the design process introducing the approach of design driven innovation.

The lecture furthermore gives an insight into how innovations can be evaluated in terms of sustainability, including the effects of these models on the interaction between society, the environment, and the economy.

Transport & Transportmanagement

(1) 11h00 - 11h45

Individual Work

Ville Turunen

Mobility and transport are the source of many challenges with respect to the Sustainable Development Goals (SDGs), especially with regards the need to reduce environmental impacts and to increase efficiency. This lecture introduces the basics of different kinds of networks and outlines how they answer to the different kinds of optimizing parameters in the field of mobility and transport. We start thinking about sustainable solutions linking up transport companys' systems and the systems of people's everyday routines. How could this add to making the networks of parcels work more efficient or better serving habits, which could open up new ways to build services.

















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WEDNESDAY 13h00 - 15h45 CET 09 MARCH 14 - 14h45 **CET** 09 - 09h45 10 - 10h45 11 - 11h45 11h45 - 13h00 13 - 13h45 15 - 15h45 16 - 16h30 13 - 13h45 **GMT** 08 - 08h45 09 - 09h45 10 - 10h45 10h45 - 12h00 12 - 12h45 14 - 14h45 15 - 15h30 WEDNESDAY Overview of Prototyping Design Driven Innova-Transport & Transport-Lunch Break Speculative Design Lab: Developing Ideas Applying the Method of tion: Models of Innova Possibilities & Examples **Design Fiction** management 09/03 tion Development and Design Processes

Speculative Design Lab: Developing Ideas Applying the **Method of Design Fiction**

(1) 13h00 - 15h45

Individual and Group Work

Margarita Köhl, Natasha Doshi

What is design fiction? Imagine scrolling through an IKEA catalogue full of science-fiction-products or attending an exhibition where companies present completely new solutions not existing yet. This is design fiction - a design practice that aims at exploring possible features by creating speculative scenarios narrated through designed artifacts.

This module will give a general overview of the concept of design fiction and outline scenarios and contexts, where this approach can be used.

The session will also include a team-task, in which students will go through the four stages of the design fiction process (delve into futures / develop ideas / build prototypes / contextualize solutions).

Materials needed: paper, carton, scissors, glue/tape, colours, pens, etc.



Co-funded by the











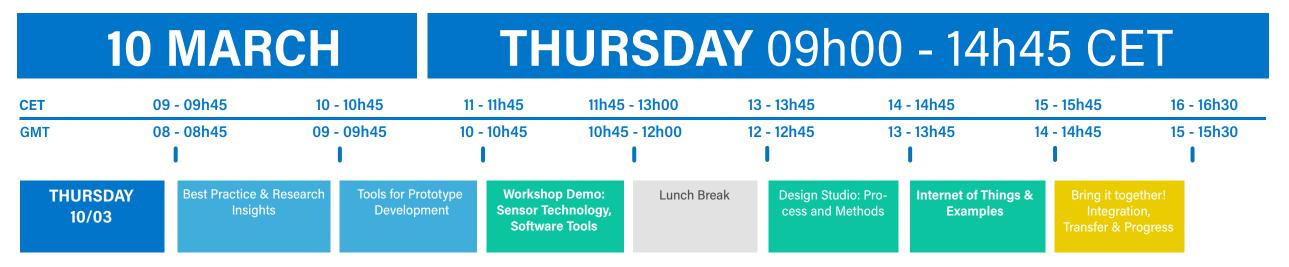




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Best Practice & Research Insights

() 09h00 - 9h45

Group Session

All lecturers

This session will provide examples for impactful and forward-looking projects in the field of mobility and transport. Furthermore, insights into studies on mobility behavior and behavioral change as well as promising emerging technologies will be presented. The goal is to identify key findings and criteria for success that can be used in the implementation of other projects.

Tools for Prototype Development

(h) 10h00 - 10h45

R Individual Work

A Michael Kneidl

Effective communications is vital in design and development teams.

The ideas can be presented, tested and modified in Proof of Concept prototypes.

The topics for this session: What is a POC?

Creating POCs for smart IoT devices. Creating POC for applications and services.

Workshop Demo: Sensor Technology, Software Tools

① 11h00 - 11h45

Individual Work

Timo Karppinen

Smart devices and various kinds of applications need data on weather, occupation of a space, detection of objects, etc..On the online lesson the sensor will be simulated in a Python code. The data from a sensor is processed and forwarded to the applications. The topics include: modern sensor, code for reading the sensor and processing the value, code for transmitting the sensor data. The students will learn how to use similar technology on their POC prototype.

Design Studio: Process and Methods

① 13h00 - 13h45

Group Session

A Karin Bleiweiss, Margarita Köhl

which methods and approaches are suitable for specific contexts as well as the respective phase of the design process. We will investigate the steps that have to be taken within a research-based designprocess, which encompasses in-depth analysis, creative thinking, building prototypes, exploring diverse ideas, iterative development through testing and redesign of the solution.













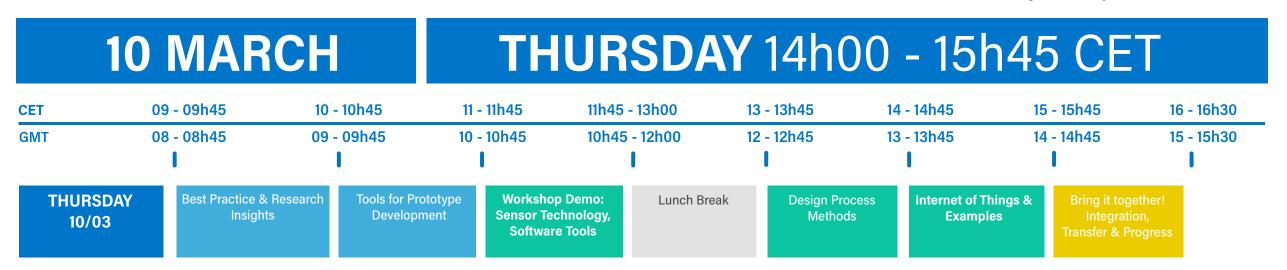




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Internet of Things & Examples

(h) 14h00 - 14h45

Individual Work

Z Timo Karppinen, Michael Kneidl

Overview of the Internet of Things IoT applications will be given. Operating principles will be learned by studying some example projects.

Bring it together! Integration, Transfer & Progress

(15h00 - 15h45)

☆ Group Session + Teamwork

A Margarita Köhl, Natasha Doshi

This transfer session will focus on two fundamental goals: First, to integrate the approaches, knowledge, skills and techniques from other sessions into to a concept.

Second, students will understand conceptual development, iteration and the research objectives that have to be tackled within their field of interest.



Co-funded by the

Erasmus+ Programme



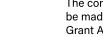








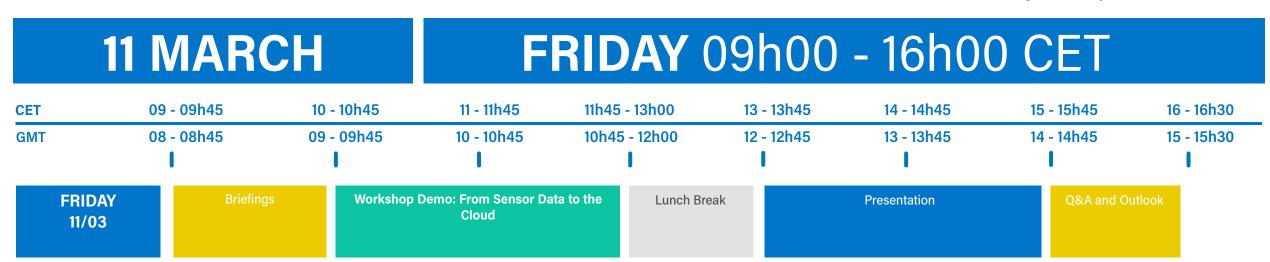




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Briefings

⁽¹⁾ 09h00 - 9h45

⊞ Group Work

All lecturers

Learning objectives

Workshop Demo: From Sensor Data to the Cloud

① 10h00 - 11h45

Individual Work

A Timo Karppinen

In IoT and generally in future information systems the sensor data plays an important role. By studying a demostration we will learn how the information from a sensor is finally available in a cloud based application. The demonstrartion is an interactive one and students will be able to write and read the data with a simple application. The students will learn how to use similar technology on their POC prototype.

Presentation

(h) 13h00 - 14h45

Corporate partners, all lecturers

The teams present their preliminary ideas and receive feedback.

Q&A and Outlook

(15h00 - 15h45

Group Session

all lecturers

Review of the week, discussion of further steps

















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14 MAR - 8 APR MONDAY - FRIDAY								
CET	09 - 09h45	10 - 10h45	11 - 11h45	11h45 - 13h00	13 - 13h45	14 - 14h45	15 - 15h45	16 - 17h00
GMT	08 - 08h45	09 - 09h45	10 - 10h45	10h45 - 12h00	12 - 12h45	13 - 13h45	14 - 14h45	15 - 16h30
Teamwork to be organized by Projectteams 3h / week						Coaching 3h / week		

















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	19 APR	L	TU	ESDAY	09h00) - 17h0	0 CET	
CET	09 - 09h45	10 - 10h45	11 - 11h45	11h45 - 13h00	13 - 13h45	14 - 14h45	15 - 15h45	16 - 16h30
GMT	08 - 08h45	09 - 09h45	10 - 10h45	10h45 - 12h00	12 - 12h45	13 - 13h45	14 - 14h45	15 - 15h30
TUESDAY 19/04 Welcome, Introd		duction Lunch Brea		ak Workshop "The Wall		llet Project"	check	

Welcome, Introduction

⁽¹⁾ 09h00 - 11h45

⊞ Group Work

All lecturers

Concept presentation, teams meet coaches, teambuilding activity, integration of feedback, input session transportguided tour through the labs, introduction software tools

Workshop "The Wallet Project"

(h) 13h00 - 16h00

Individual Work

A Michael Kneidl

Design thinking Workshop. From ideation to creation in 9 steps.

Check out

① 16h00-16h30

Group Session

All lecturers

Daily reflection, next steps

















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20 APRIL			WEDNEDAY 09h00 - 17h00 CET						
CET	09 - 09h45	10 - 10h45	11 - 11h45	11h45 - 13h00	13 - 13h45	14 - 14h45	15 - 15h45	16 - 16h30	
GMT	08 - 08h45	09 - 09h45	10 - 10h45	10h45 - 12h00	12 - 12h45	13 - 13h45	14 - 14h45	15 - 15h30	
WEDNE 20/0		5	Team Work	Lunch Bre	eak	Coaching	J	Check Guided	

Briefings

⁽¹⁾ 09h00 - 09h45

⊞ Group Work

A Michael Kneidl, Timo Karppinen

Briefings: Hardware & Software

Team Work

① 10h00 -11h45

Individual Work

SAP course leaders and lecturers, corporate partners, participants

Team work.

Panel discussion.

Coaching

① 13h00 - 16h00

⊞ Group Work

SAP course leaders and lecturers, corporate partners, participants

Team work.
Prototyping.
Coaching.

Check out

(h) 16h00 - 16h30

Group session

All lecturers

Daily reflection, next steps

19h00Guided tourthrough Dornbirn

















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21 APRIL **THURSDAY** 09h00 - 17h00 CET 16 - 16h30 10 - 10h45 13 - 13h45 **CET** 09 - 09h45 11 - 11h45 11h45 - 13h00 14 - 14h45 15 - 15h45 **GMT** 08 - 08h45 09 - 09h45 10 - 10h45 10h45 - 12h00 12 - 12h45 13 - 13h45 14 - 14h45 15 - 15h30 **THURSDAY** Lunch Break Coaching check out, cultural programme 21/04

Briefings

- ⁽¹⁾ 09h00 09h45
- **⊞** Group Work
- SAP course leaders and lecturers, participants
- Briefings: Project Needs

Team Work

- (b) 10h00 -11h45
- ☆ Group Work
- Participants

Coaching

- (1) 13h00 16h00
- **⊞** Group Work
- SAP course leaders and lecturers, participants
- Team work. Prototyping. Coaching.

Check out

- (h) 16h00 16h30
- Group session
- **All lecturers**
- Daily reflection, next steps
- 19h00Cultural programme

















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22 APRIL			FRIDAY 09h00 - 17h00 CET					
CET	09 - 09h45	10 - 10h45	11 - 11h45	11h45 - 13h00	13 - 13h45	14 - 14h45	15 - 15h45	16 - 16h30
GMT	08 - 08h45	09 - 09h45 	10 - 10h45	10h45 - 12h00	12 - 12h45 	13 - 13h45	14 - 14h45	15 - 15h30
FRIDAY 22/04	Briefing	S	Team Work	Lunch Bre	eak	Coaching)	check

Briefings

- (b) 09h00 09h45
- **⊞** Group Work
- SAP course leaders and lecturers, participants
- Briefings Presentation

Team Work

- 🕒 10h00 11h45
- **⊞** Group Work
- Participants

Coaching

- (1) 13h00 16h00
- **⊞** Group Work
- SAP course leaders and lecturers, participants
- Team work. Prototyping. Coaching.

Check out

- (h) 16h00 16h30
- All lecturers
- Daily reflection, next steps

















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SATURDAY 09h00 - 16h30 CET **23 APRIL** 10 - 10h45 **CET** 09 - 09h45 11 - 11h45 11h45 - 13h00 13 - 13h45 14 - 14h45 15 - 15h45 16 - 16h30 08 - 08h45 09 - 09h45 10 - 10h45 10h45 - 12h00 12 - 12h45 13 - 13h45 14 - 14h45 15 - 15h30 **GMT Final Presentation with Panel Discussion Farewell Party** Preparation of Lunch Break Learning **SATURDAY** Presentation **Reflection Session** 23/04

Preparation of Presentation

- (h) 09h00 09h45
- **⊞** Group Work
- Participants, lecturers

Farewell Party

- ① 15h00 16h30
- Participants, invited Guests

Final Presentation with Panel Discussion

- (h) 10h00 11h45
- Corporate partners, participants, SAP course leaders, lecturers
- Presentation. Panel discussion.

Learning Reflection Session

- (1) 14h00 15h00
- Group Work
- SAP course leaders and lecturers, participants















POLITÉCNICO DE LEIRIA