

EnschedeLAB

GET TO KNOW THE CITY



ENSCHEDe LAB: GET TO KNOW THE CITY

The EnschedeLAB is there to bring city and student together. With real issues that live in Enschede and Hengelo, we challenge students from the University of Twente, Saxion Hogeschool, ROC van Twente and AKI/ArtEZ to collaborate across the boundaries of their institution on innovative solutions that help the city move forward.

Everyone has talent. Regardless of who you are or where you come from: there is talent in you, whether developed or not. For some talent is intellectual in nature, others can do things very well with their hands. When you discover and use that talent, others can also benefit from it. That's what we believe: each of us has something to contribute. Because you can do something that no one else can. When we bring those talents together, we can make the world a better place together. That's what we try to do as EnschedeLAB.

EnschedeLAB consist of the consortium:



STUDENTS WORK TOGETHER TO THE CITY OF TOMORROW

The EnschedeLAB is there to bring city and talent together. We do this through the promise ' *Get to know the city!*' with that promise, we invite talent to get to know the city, its inhabitants and its challenges better – and to contribute to it. Making acquired knowledge really *tangible*, together with those concerned, in co-creation.

There are various issues in the city that can be submitted to the EnschedeLAB. Issues that are monodisciplinary, or require very specific knowledge, are presented within one of the institutions/ degree programs. Issues that are multidisciplinary (in other words: that require different types of knowledge) can be dealt with within a minor.

Or we turn it into a nano challenge, which looks like this:

If an issue first merits multidisciplinary deepening, it is offered to students as a ' nano-challenge '.

These are challenges/modules of 4 (1 day per week) or 10 weeks (2 hours per week). Each nano-challenge deals with a specific issue. Students with an interest or affinity with the issue then work on the issue.

You will then work in mixed teams, both in terms of training and knowledge institution. As a group, you can decide for yourself how you will tackle the urban issue, you will receive help in applying the Design Thinking method, and you will be encouraged to talk to stakeholders. You will also receive guidance from both education and the client. It is also possible to do fieldwork with the client for all issues.

After a nano-challenge, this issue can be passed on as a relay within projects of various study programs of the knowledge institutions . In this way the issue is viewed from all sides by the talent in the city. In this way we try to make Enschede a little more beautiful with all the talent in the city.

THE CHALLENGE

Enschede and Hengelo are facing major urban problems. Rising energy prices, for example, make us want to quickly switch to other energy. The gap between poor and rich residents leads to increasing tensions in the city. Traffic jams, which often make you late for school or work. Such problems are complex and there are no ready-made solutions.

Digitization has risks, such as the increase in online scams. Artificial intelligence can cheat you with deep fakes. But the municipalities of Enschede and Hengelo believe that digitization can also help solve problems in their city. In the digital world, you can try out all kinds of ideas without putting anyone at risk. The digital testing of a new roundabout does not cost human lives and also costs less money. For example, students of Technical Medicine at the UT have been learning for years how to operate on people digitally, before they cut into a person of flesh and blood.

Both municipalities want to use the digital world to find solutions for real problems in Enschede and Hengelo. This is called 'Digital Twinning', but you can also call it a digital simulation of a smart city. Also consider the possibilities of new technologies such as virtual reality, the metaverse, the internet of things and artificial intelligence. Many municipalities in the Netherlands are taking the first, cautious steps in this direction, but Enschede and Hengelo want to tackle this in a big way!





H4CK THE C!TY

Invent and build the digital city of Enschede-Hengelo

A virtual city, with all the characteristics of both cities. So with a highway and train track right through the city. With 250,000 'Tukkers' who pride themselves on their noabership and on FC Twente. That virtual city must be lifelike in order to be able to test solutions.

So that virtual city is a bit like Enschede and Hengelo, but not quite. Because we want to solve problems in that city. What will the city look like when all the problems are solved? When people live together pleasantly and safely, without crime or major contradictions. When we have clean energy. No more problems with drought, heat, nitrogen or dying bees and butterflies. And everyone can participate, be inclusive and democratic.

You choose which problem you solve. You will explore the problem you choose. You are going to describe the problem. And you will design a solution.

You choose the virtual form (language) yourself. For example, get inspiration from games like Roblox or Minecraft, or animated films. What do you think a virtual city looks like?

Can we predict where, and how much, flood(levels) will arise because of a decisive(?) rain/shower.

Can we look at how air pollution changes over time?

Can we discover whether the measures/interventions we thought of to 'steer' traffic flows (in speed as well as intensity) have contributed to achieve the intended effects.

Crowdedness in the subsurface and surface level: where is still space? Water storage, heat networks, , energy, tree roots..

Can we follow groundwater pollution-movements over time?

In light of the Green ambition plan / Water and climate adaptation plan: We want to plant trees. Which locations are the best for which trees

Can we follow a change in subsidence (?) and predict where sinkholes will form?

Can we prove that our drainage, infiltration and water retention interventions have reached their intended effects?

Can we discover which areas are more attractive to certain groups of people and which groups are avoided?



LEARNING OBJECTIVES

What am I going to learn?

You learn in this module:

1. Taking into account different perspectives.
2. Find (ethical) solutions to issues together with others.
3. Work in and communicate within a diverse team of people with different backgrounds.
4. Work in and communicate within a team of people from different fields.
5. Planning and organizing in a diverse team.
6. Reflect on your learning process, the progress of your collaboration with others and your problem-solving skills.



WHY DO WANT TO PARTICIPATE IN THIS?

What's in it for me?

You should really participate in this challenge because:

- 'You're working on a **real social problem**. With your outcomes, the city can create a better liveable city.
- Develop personal competences in an **innovative educational environment**.
- Did we say "educational environment"? Be **surprised**, because you will participate in a special program with inspiring masterclasses, challenging environments and an open ending: what you develop can go in any direction.
- Receive a **certificate of participation**, which you can use in your future career or further education.
- **Build a network** within other organizations and get to know other participants.
- You will learn knowledge in the field of **digital transition**. What exactly? That is largely up to you to discover.
- And of course.. The challenge is just **really cool** to work on!



THE PROCESS

How am I going to learn this?

We will all go through four substantive phases: Orientation (lesson week 1, 2 and 3), Research (lesson week 4 and 5), Design (lesson week 6, 7 and 8) and Evaluation (lesson week 9).

We do this in groups in which you work with students from the various educational institutions and a coach (from the field). Your group will be supervised by a teacher from one of the educational institutions. Group formation is essential in this profession - space for each other's qualities and vulnerabilities - space has been built in for this before the orientation phase.

What do I have to hand in? What will I be assessed on?

At the end of each phase, you will be presenting the outcomes. The real big thing is of course your outcome after phase 3 'Design', the result of all the hard work, which can be anything. *'Anything'*? Yep, you hand in anything that you think is a good solution to your main subject. This can vary from a report, but also an app or painting is a possible outcome. During the end event you present the outcomes and will be judged on that on the one hand and on the other hand we evaluate the process how you arrived at this result.

Practical aspects

- The module is scaled at 1 EC, or 28 teaching hours. This does not include travel time to the location.
- Students are not required to complete assignments outside of scheduled class hours (homework). Unless the students initiate this themselves in order to optimize their deliverables.



PHASE 0: THE INCEPTION

'The establishment or starting point of an institution or activity.'

During this kick-off event we take you through an exciting program in which you embrace the challenge in game form, choose your teammates based on shared interests, are informed about the program and a first direction is given to the process.

Where & When

- **Date:** Thursday 2 February 2023
- **Time:** 16.30 – 20.30
- **Location:** TBA (Enschede or Hengelo)
- **Language:** English (in case of only Dutch attendees, in Dutch)

The programme

Although the specific content of the event remains a surprise, you can challenge yourself with the following tips:

Interactive playground | gamefication | (semi)active program | working together | exploration | virtual reality



PHASE 1: ORIENTATION

Specific information

In the first phase, the professional from the field (your stakeholder) proposes an issue. You will discover this issue together with your team and your stakeholder. You do this by asking essential questions. These are questions such as 'What do we know about this issue?', 'What can we do with this issue?', 'What do we want to know about this issue?', 'What do we find interesting about this issue?', 'How can we add something to this issue as a group?'. Based on the answers to these questions, you will jointly create a 'mind map'. This is a poster in which you show how you think the matter works in terms of content. In addition, it is important to know who plays a role in this matter. To this end, you make a stakeholder analysis in which you show in poster form who or which organization plays a role in your issue and how. Based on your mind map and stakeholder analysis, you come up with a proposal for a challenge that you will work on. It is important that the challenge is action-oriented, offers the opportunity to look at it from different perspectives and has multiple solutions. In this way you ensure that everyone in your group can use their knowledge and skills in the challenge. It is also important that your challenge does not yet contain a solution direction.

Planning

Lesson week 1 | 2 Feb. 16.30 - 20.30

- **Meet the participants**
- **Collaboration and team building**
- **Determine roles**
- **Suggest the issue**, by municipality of Enschede

Lesson week 2 | 9 Feb. 17.00 - 20.00

- **Suggest the issue**
- **Inspirational talk (Industry)**
- **Ask essential questions**

Deliverable:

Create and present a mind map

Lesson week 3 | 16 Feb. 17.00 - 20.00

- **Ask essential questions**

Deliverable:

Create and present a stakeholder analysis

- **Proposal for a challenge**

Deliverable:

Presentation to coach and discussion

PHASE 2: INVESTIGATE

Specific information

In the second phase, you will investigate the challenge together with your group and your stakeholder. You do this by asking questions. Examples of questions for help are 'what kind of knowledge and skills do we need to solve the challenge?', 'where can we get that knowledge and skill from?', 'how do we know that the knowledge we acquire is reliable?'. After that you will actively acquire the knowledge and skills you need. You can do this by, for example, following workshops, reading books, watching documentaries or speaking to scientists or people from the field. When you have gained all this knowledge, you and your group will make an analysis. In this analysis you combine all the information, knowledge and skills you have acquired into one clear story.

Planning

Lesson week 4 | 23 Feb. 17.00 - 20.00

- **Inspirational talk (Innovation)**
- **Researching the challenge**
 - Formulating sub-questions to better understand to challenge

Deliverable:

Interview and discussion with all teams

Lesson week 5 | 9 March 17.00 – 20.00

- **Researching the challenge**
 - Acquire the necessary knowledge and skills

- **Make an analysis**

Deliverable:

Combine all information into one clear story

PHASE 3: DESIGN

Specific information

Based on the analysis, you jointly draw a conclusion about the outcome of the challenge. It is important that you look closely at ethics. This means, among other things, that you think carefully about whether the outcome of your challenge is moral. If so, it's time to roll up your sleeves and create the solution to your challenge. This can be anything; a prototype, a painting, a policy document, a scientific study, the choice is yours! You also do this together with your group and your stakeholder. Whatever the outcome, it should bring the challenge closer to a solution. When the outcome is finished, it is time for the handover in which you give your outcome to your stakeholder so that they can continue with it. They can choose to do something with it themselves, or to start a new project in the form of a graduation assignment, for example.

Planning

Lesson week 6 | 16 March 17.00 – 20.00

- **Inspirational talk (Science)**
- **Drafting conclusions**

Deliverable:

Testing whether the outcome is morally justified

Lesson week 7 | 23 March 17.00 – 20.00

- **Creating the outcome**

Lesson week 8 | 30 March 17.00 – 20.00

- Transfer outcome (result) to client

Deliverable:

Presenting results to coach(es) and other teams

Attention: part of phase 4 also during lesson week 8

PHASE 4: EVALUATION

Specific information

Now it's time to reflect on how the process went. What was it like working with people from so many different backgrounds? What did you learn from it? Would you do things differently in the future than you did before? Did you pass the learning outcomes? If so, can you say something about the extent to which you think you have achieved them?

Planning

Lesson week 8 | 30 March 17.00 – 20.00

- **Reflecting the process**

Deliverable:

Formulate reflection questions individually, then answer them individually and discuss them in the team.

Lesson week 9 | 6 April 17.00 – 20.00

- **Reflecting the process**

Deliverable:

Provide recorded video / live or hybrid presence of collective review of the individual reflection and how feedback from others was on this.

For students

REGISTRATION FOR THE CHALLENGE

Specific information

Do you want to work together with students from other institutions and study programs on a social problem that really helps the city? Are you convinced to participate in this inspiring challenge?

Register now!

[Register here](#)

Practical information

- We expect a (pro-) active, positive and motivated attitude from participating students.
- All meetings take place physically at 1 inspiring location. All participants have to be physically present. At the start, the attendance list is kept. If a participant cannot participate physically, this must be communicated in time and participation will take place digitally.

EnschedeLAB 

For employees

BECOME A COACH

A team consists of students from different educational institutions. This means that they have different levels of education, there are age differences, and everyone has different core qualities. These talents will work together within this innovative educational concept. To create the best possible educational environment and to enable students to function optimally, a coach is essential.

This coach is:

- Somewhat familiar with challenge-based learning
- Can give constructive feedback and is a motivator
- Is decisive and can manage a team well
- Is eager to learn, to commit himself to the process and to join conversations with other coaches during specially scheduled 'Train the trainer' sessions (a 1-hour meeting every 3 weeks).
- Is weekly live at every lesson week (February 2 to April 6) a 3-hour week.

Do you think it would be interesting to take on this challenge?

Apply now!

[Register here](#)

Planning

Lesson week 1 | 31 Jan. 19.00–20.00

- Expectations and formulating learning aspects

Lesson week 4 | 21 Feb. 19.00-20.00

- Reflecting the process of phase 1 and general questions
- Optimizing coaching

Lesson week 7 | 21 March 19.00 – 20.00

- Reflecting the process of phase 2 and general questions)
- Optimizing coaching
- Preparing lesson week 8 (presentation outcomes)

Afterwards module | Date & Location: TBA

- Reflecting the complete process

Tips are offered/discussed during all meetings about:

Communication with students (with different backgrounds), group dynamics, creating a safe learning environment, activate/enable to group, formulate clearly/give clear instructions, use resources managing energy (getting, keeping, giving), giving feedback and reflection, and more.

CONTACT

Do you have a question, or would you like more information about EnschedeLAB or about this teaching module?

You can always contact us, via the first point of contact:

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Or check our website: www.enschedelab.nl

Be part of the EnschedeLAB

Do you want to stay informed of developments, news and upcoming challenges? Sign up for the newsletter:

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