Master Spatial Engineering

Thomas Groen, Director of the Master

1. **What are the key objectives of the Master Spatial Engineering?**

The program's objective is to create empathetic engineers—individuals dedicated to addressing societal challenges through the use of spatial data. By combining spatial planning with technical solutions they can advise communities how to adapt to climate change. For example, by leveraging their knowledge on spatial data and stakeholder needs, spatial engineers can determine optimal locations for building houses or identify areas to avoid building, or design buffers for rivers to manage excess water discharge.

2. **What sets this programme apart from others in the field, particularly in terms of curriculum and approach?**

In this program, students integrate knowledge with skills and apply them to real cases through challenge-based education. They work in groups on existing problems, not only applying their own skills but also learning from their peers.

For example, last year, students worked on the climate transition of a city in the Netherlands located in a river delta. The city faced risks of both heat waves and flooding while aiming to transition to renewable energy production and meet the central government's goal of creating more housing. The students analyzed the trade-offs in the region and proposed interventions that offered partial solutions to these complex challenges.

3. **Could you elaborate on any notable faculty members or industry experts involved in the programme, and how they contribute to the learning experience?**

There are many examples to give. A clear example could be the fact that we maintain close ties with the Red Cross Climate Centre, which offers internships and thesis topics for our students. They ensure that students work on relevant topics that directly benefit the organization.

4. **In what ways does the Master prepare students for real-world applications and challenges in the fields of science and technology?**

Thesis topics typically involve real-world cases from all around the world for example in Mozambique, the Netherlands, Kyrgyzstan, Kenya, or India. These projects are often conducted in collaboration with external parties who have a vested interest in the research. Additionally, we have a compulsory internship program that enables students to apply the skills they have acquired during their master's studies.

5. **How does the Master's programme prepare graduates for diverse career paths, and what are the typical career trajectories of alumni in this field?**

A very important component of the program is the internship. Before that, there is an international module where students visit a series of organizations and NGOs in the field of spatial engineering. These visits are physical trips within Europe, traveling by bus, and include virtual visits to organizations outside Europe. This module exposes students to different career options in the domain and helps them decide where they would like to work.

From the start of the program, students must create a personal development portfolio. In this portfolio, they track their learning goals and measure their success in achieving them, ensuring they meet their own objectives.

Our alumni pursue a wide range of careers, including consultants at major firms (banking and consultancy), policy advisers, government positions (such as Rijkswaterstaat and other implementing organizations), PhD trajectories, and roles within NGOs.

6. **You celebrated the first 5 years of the program recently, what are you most proud of?**

Our alumni are extremely entrepreneurial, always ready to seize opportunities. For example, one alumna from Ethiopia shared her inspiring journey of securing a position at the World Bank in Washington, USA. Another alumna from Kenya aspired to work in the Netherlands and sent an open application to a Dutch bank. Although there were no suitable job openings at the time, she convinced the bank to let her demonstrate her knowledge and skills for three months. She now works as a consultant at that bank. Our students are versatile and resilient, equipped to tackle tough challenges. They have learned how to learn, making them lifelong learners by nature.