

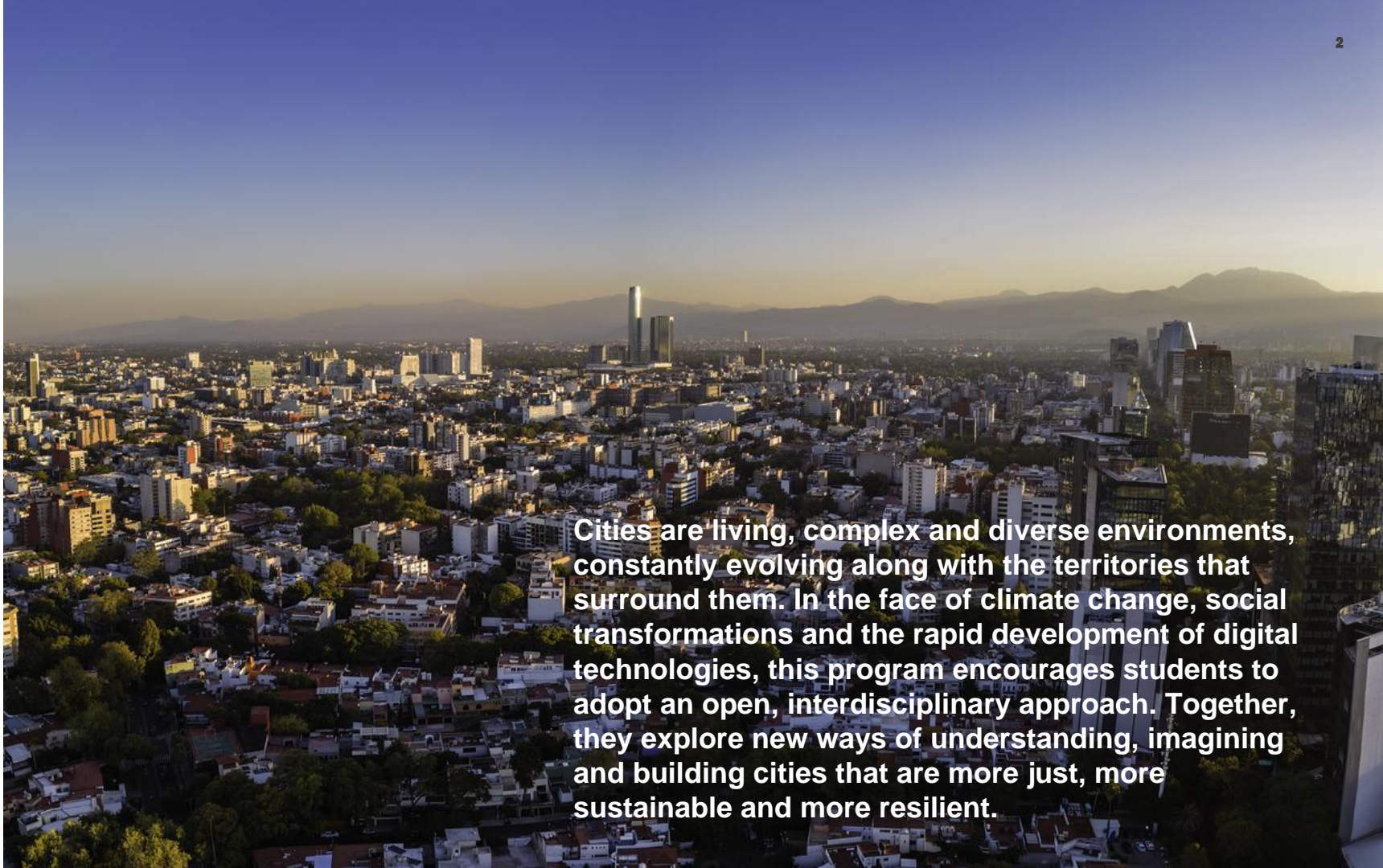
The background of the slide is an aerial photograph of a city, likely Santiago, Chile, showing a dense urban landscape with numerous buildings and green spaces. In the distance, a range of mountains is visible under a clear blue sky. The text is overlaid on the right side of the image.

# Master in Urban Systems

SIE masters information session

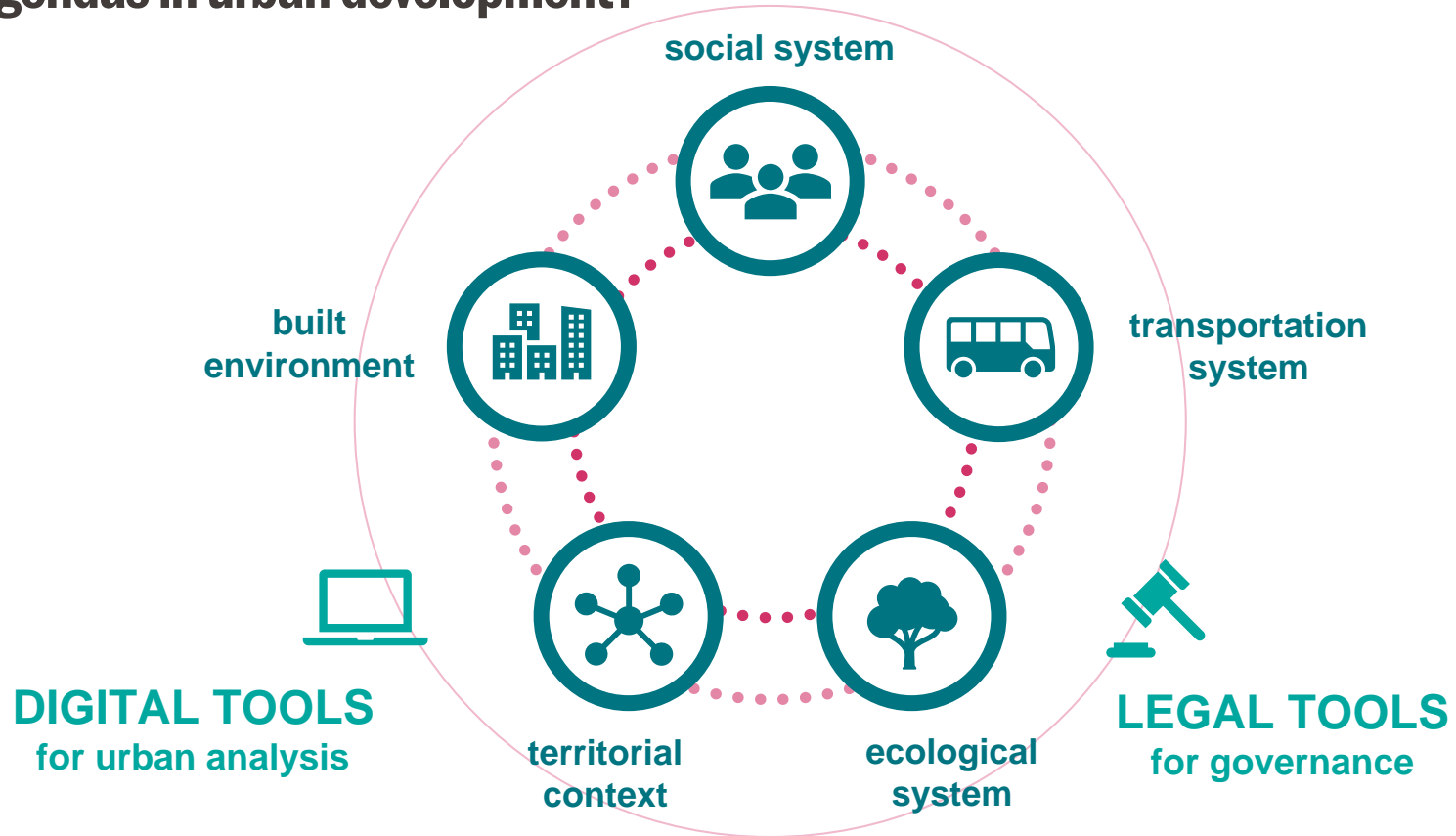
Prof. Vincent Kaufmann, Academic director  
Marina Nicollier, Program coordinator

11.11.2025

An aerial photograph of a city skyline at sunset. The city is densely packed with buildings of various heights and colors, interspersed with green trees. In the background, a range of mountains is visible under a clear sky with a gradient from blue to orange. The text is overlaid on the right side of the image.

Cities are living, complex and diverse environments, constantly evolving along with the territories that surround them. In the face of climate change, social transformations and the rapid development of digital technologies, this program encourages students to adopt an open, interdisciplinary approach. Together, they explore new ways of understanding, imagining and building cities that are more just, more sustainable and more resilient.

# What tools do we have to develop and implement sustainable agendas in urban development?







## Why choose Urban Systems ?

- innovative interdisciplinary approach
- lots of project-based experience
- comprehensive preparation for professional roles
- diploma and title obtained: *EPF qualified Engineer*
- make an impact !

*This program was developed with the primary objective to educate the primary actors in the implementation of sustainable urban agendas*

# Program overview

**Academic title:** MSc EPFL in Urban Systems, *EPF qualified engineer*

**2 years / 120 ECTS**

**Admissions:** consecutive for GC and SIE, specialized for SAR and others

**Host section:** Environmental sciences and engineering

**Language:** English

Territorial design and analysis

Systems engineering in urban  
and territorial contexts

Policy and governance for  
sustainable agendas

Computational thinking for  
transition



**Mobility and transportation in a changing climate**

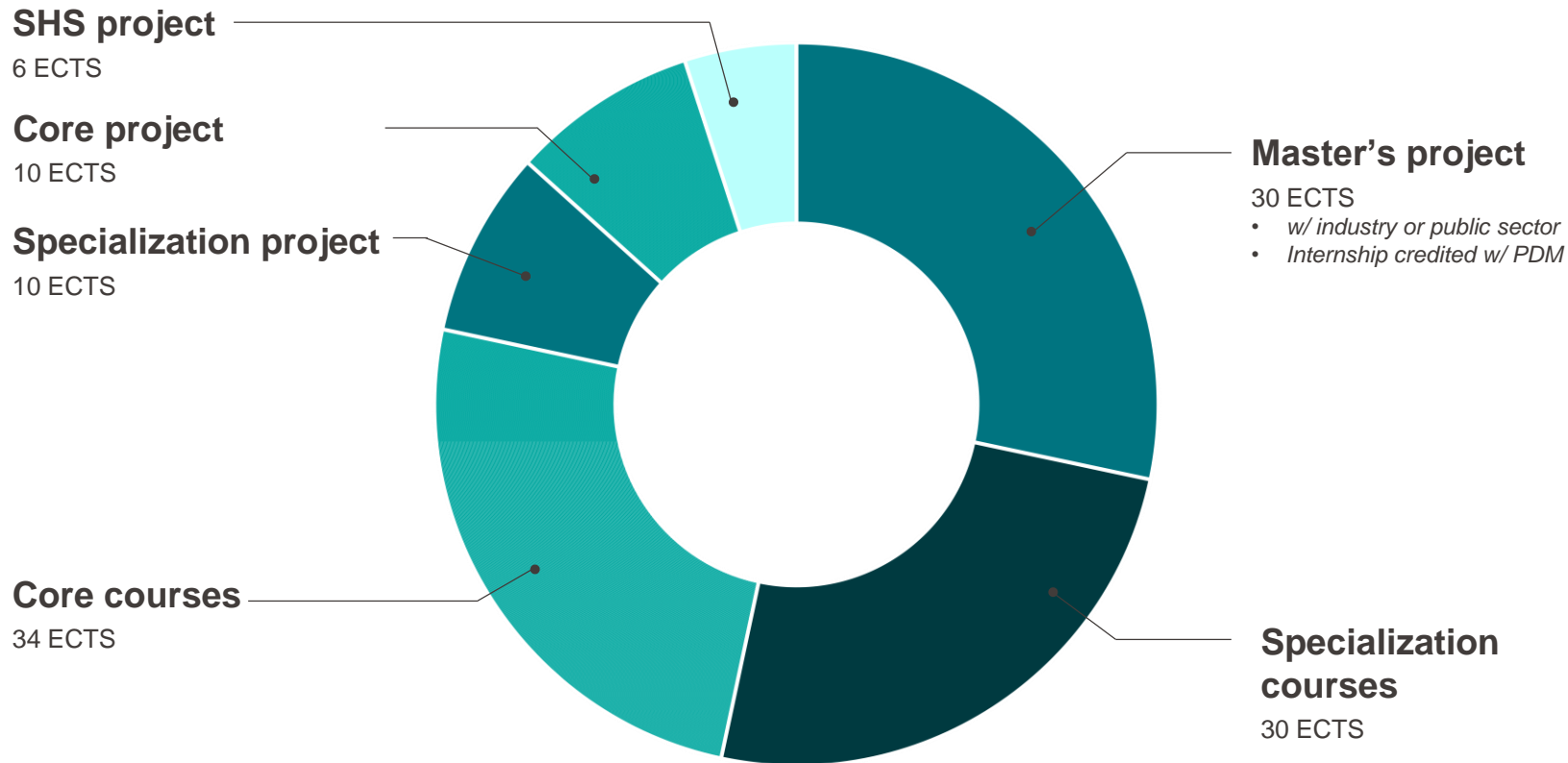
**Sustainable transitions in urban systems**

**Health and well-being in the urban environment**

**CORE TOPICS**

**SPECIALIZATIONS**

# MSc Urban Systems – credit distribution



**ADMISSIONS  
PREREQUISITES**

- Admissions block for SAR (< 30 ECTS) and other non-consecutive applicants
- to be completed before start of or during masters cycle

**MASTERS CYCLE**

**CORE BLOCK**  
FOUNDATIONS  
15 ECTS

**PRACTICAL BLOCK**  
26 ECTS

Core project / 10 ECTS  
Specialization project / 10 ECTS  
SHS project / 6 ECTS

**CORE GROUP**  
OPTIONS  
19 ECTS

**SPECIALIZATION GROUP**  
30 ECTS

total: 90 ECTS

+

**MASTERS  
PROJECT**  
30 ECTS

(internship credited with  
PDM)

total: 120 ECTS

# A unique approach to urban education



**URB-420 / Core Project / 10 ECTS**

**Raphaël Ménard**, architect-engineer and president of AREP Paris

This project will be structured similarly to an architectural urban design studio, integrating the knowledge from the other MUS courses into a site-specific intervention. The studio will consider multiple dimensions together: infrastructure, land, the built environment, everyday uses, cultural representations, and the political and economic power structures at play.



**URB-406 / Railway systems and their transition / 4 ECTS**

**URB-408 / Shaping future railway systems / 4 ECTS**

**Peter Kummer**, Professor of practice ENAC, CFF director of infrastructures

Appointed Professor of Practice to develop and teach two new courses in the Urban Systems Master program. Specializing in the management of railway systems in the context of climate change, Mr. Kummer brings unique expertise in optimization that balances sustainability and cost efficiency.



**URB-402 / Urban governance / 4 ECTS**

**Christoph Genoud**, secretary general of commune de Vandoeuvres

This course equips students with the tools for action and influence within institutional systems, drawing on the fields of sociology, political science, and social psychology. It explores how to better convince decision-makers, shift behaviors, and design more effective and impactful public policies





The masters cycle includes 2 distinct project formats, leading up to the masters project in the final semester of the program.

## **CORE PROJECT** 10 ECTS

- Atelier format project around territorial planning and design, reconfiguration of a particular system
- Introduces engineers to territorial scale

## **SPECIALIZATION PROJECT** 10 ECTS

- In collaboration with NGO or external enterprise or
- In an ENAC research lab
- Thematic based on selected specialization

## **MASTERS PROJECT** 30 ECTS

- In an ENAC research lab or
- With an external partner (industry or public sector)

# Professional prospects

- Managers of **sustainable urban and territorial planning** at all levels
- Developers of **public policies** and strategic development plans at local, cantonal, and federal levels
- Project managers in large-scale **urban transition projects**
- Consultants in transportation and mobility operators and **urban infrastructure** providers
- Consultants in **medical institutions** focused on health and urban environments
- Careers in **NGOs** focused on sustainable urban practices and transitions
- Careers in **research and development**, either at a research institution or university

The program was developed in collaboration with professional associations and governmental offices who emphasized the need for this type of systems-based formation, including:



**SBB CFF FFS**

unisanté

**SWISSRAIL**  
Industry Association

**s i a**

schweizerischer ingenieur- und architektenverein  
société suisse des ingénieurs et des architectes  
società svizzera degli ingegneri e degli architetti  
swiss society of engineers and architects

# Thank you !



## Contact:

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Marina Nicollier, Coordinator MUS

**Faculté de l'environnement naturel, architectural  
et construit (ENAC)**

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