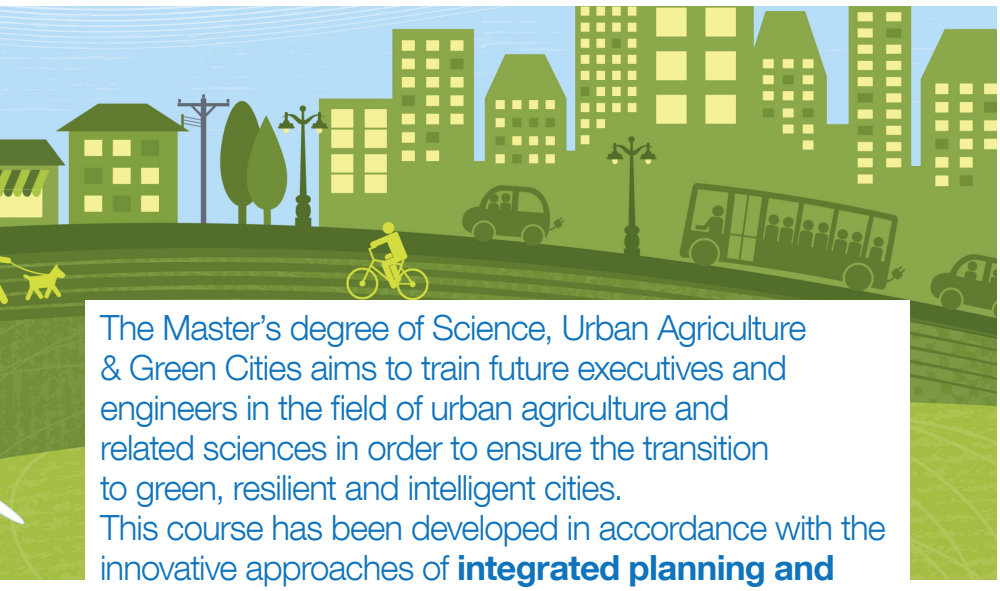
LaSalle Beauvais • Institut Polytechnique
Sciences de la Terre, du Vivant et de l'Environnement

SITPA
ÉCOLE D'INGÉNIEURS
EN AGRICULTURE
NORMANDIE

Urban Agriculture for Smarter Cities

Master of Science « Urban Agriculture & Green Cities »

Master of Science – Urban Agriculture & Green Cities



The Master's degree of Science, Urban Agriculture & Green Cities aims to train future executives and engineers in the field of urban agriculture and related sciences in order to ensure the transition to green, resilient and intelligent cities.
This course has been developed in accordance with the innovative approaches of **integrated planning and management strategies** for urban areas designed to enhance the well-being of citizens and society.
Urban agriculture creates value and opportunities by efficiently using the assets of sustainability such as **climate adaptation, energy transition, circular economy, the use of harvested rainwater or grey water**, and there is a specific need for executives and engineers with specific knowledge of these issues.

Contexte

By 2050 nearly 10 billion people will inhabit the earth, thus creating an urgent need for regenerative housing and community development. Concerns such as providing precious fresh water, healthy food sources and diminishing arable land are already at the forefront of pressing global challenges that should be urgently addressed.

In this context, urban agriculture is characterized as an essential component of ecological urban areas since it provides numerous solutions to society's problems: overpopulation, high competition for land use, climate change etc.

Even if we have heard about urban agriculture since the late 1970s, the wider dissemination of this concept was not until around 2005 and has grown by developing a range of increasingly diverse innovative initiatives such as new construction techniques allowing for a multitude of different types of green roofs and walls, from natural meadows, brownfield habitat and allotments, to formal gardens arranged with planters and seating space and even rooftop farms.

The potential of the city to implement integrated urban agricultural projects raises many questions related to the combination of integrated technologies and conservation methods such as **energy-positive homes, renewable energy, high yield organic food production, vertical farming using aquaponics and aeroponic techniques, water management and waste recycling**.

Urban agriculture considered as a part of **integrated planning strategies** can become the Green engine of **economic development and social innovation.**

Target Skills

01/ To develop knowledge and skills in specific areas, issues, and problems concerned with urban agriculture, urban food systems, or related areas.

02/ To develop technical skills needed to integrate multifunctional and innovative projects around plants, resiliency and sustainability in the urban development plans, construction standards and project design.

03/ To establish and / or develop the skills needed to manage multi-disciplinary teams, including planning, setting up, coordinating, team working, business development, problem solving skills, etc.

Careers

- Project manager specialized in urban farming and plant innovation
- Urban policy advisor
- Designer, architecture specialized in green cities
- Consultant/ entrepreneur/researcher specialized in the deployment of new agricultural methods and techniques

Specific knowledge acquisition

Modules are taught in French and English over a period of 18 months from September to June. They are organized into 13 modules.

Science/Biology students
- Urban development and planning
- Public spaces: mobility/infrastructure
- Urban design

Architect/Planning students
- Hydrological cycle
- Plant knowledge
- Soil and substrates

Urban Ecology
- Ecological restauration (objects & constraints)
- Environmental analysis of urban area
- Biodiversity in the city

Urban Agriculture
- Introduction into urban agriculture concept and types
- Urban agriculture production systems
- Stress and Plant Protection

Urban food System
- Food security
- Farm to Fork produce safety

Sustainable Cities & Eco-innovation
- Urban planning and management policy
- Innovative technology for smart cities
- Circular economy

Sociology and urban planning
- Participative democracy
- Social and Socially Responsible Economy
- Socio-economic study

Planning & Urban Design
- Urban forms and heritage
- Analytical tools for space representation
- Design and Plants in cities (Digital model)

Sociology and urban planning
- Participative democracy
- Social and Socially Responsible Economy

Regulation
- Environmental legislation
- Planning legislation

Field Testing
- Construction & Materials
- Energy approach
- Urban water shed management

Value chain analysis
- Product quality
- Sustainability and added-value
- Business plan

Trend in Innovation Management
- European Union functioning
- Research and reporting techniques

Geographic Information System (GIS)
- Mapping techniques and tools

Tools for participative management project
- Team-building
- Foreign language
- Participative management

Practical Information

Training & Mission

Each student has to carry out specific practical assignments, in a self-responsible manner.

The internship lasts at least 6 months and validates the master.

A corporate mission, for a period of five-weeks, supervised by professionals

Master's validation and Grade

90 ECTS are allocated as follows:

- 27 ECTS for the first semester (from September to January)
- 27 for the second semester (from February to June)
- 6 for a short professional mission in a company or a research organization
- 15 for an internship in a company or a research organization
- 15 for the major thesis

Admission

Selection will be based on academic background (Bachelor degree or equivalent) in a relevant field of science (plant Science, agronomy, landscape architecture, architecture, urban-planning, geography, etc.)

A motivation interview is mandatory

Start of the program: 1st week of September (please be aware of visa processing times)

Fees and accomodation

Annual fees: 8100 €
Please contact us for specific enquiries.
Accomodation is easily available in Rouen Campus

To reach Rouen Campus

By train

Direct line from train station Paris Saint-Lazare to Rouen Rive Droite (1hour 15 minutes)

By bus

TEOR T1: bus stop “Mont aux Malades”
Line F2 : bus stop in front of the Rouen train station to bus stop « ESPE-ESITPA »

They support us

ASTREDHOR – Technical Institute for Horticulture

CAH Vilentum of Applied Sciences

Architecture Urbanism and Environment Council of Eure (CAUE 27)

Groupe Caisse des Dépôts

Greenation SAS

Regional Sustainable Development Institute of Normandy

Le Champ des Possibles

My Food

NatureParif – Regional Agency for Nature & Biodiversity, Iles-de-France

Rouen Normandy Métropole – Natural and public space department

SOA Architecture – Urban Farming Laboratory

URB-Agri Conseil

Vertical Flore

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