REINVENT ENGINEERING

→ nantes ensa → architecture

CENTRALE NANTES

Graduate programme | Master of Science (MSc)

Master of Science (MSc)

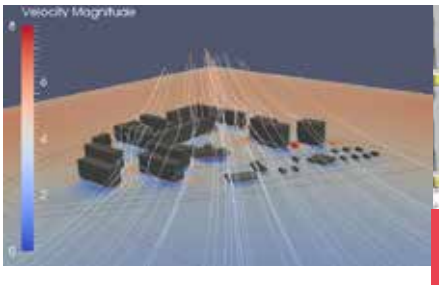
City and Urban Environments

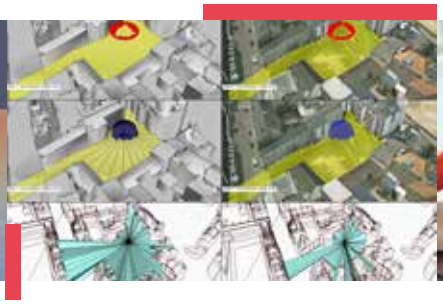
ARCHITECTURE, AMBIANCES, URBANITY

OBJECTIVES

This MSc develops skills for addressing environmental and health issues in the context of sustainable urban development, in research and in urban design.

The programme is designed to provide the scientific theoretical knowledge and tools necessary to understand and address the environmental physical problems resulting from the ever increasing urban population. Various key disciplines such as urban microclimatology, wind and ventilation in urban areas, human ecology of urban spaces, sunlight and illumination are taught through advanced lectures and research work in laboratories which are renowned in these fields.





SKILLS

Specialism-specific

- Understand and master the theoretical and methodological foundations of urban environments through the problematic of ambiances
- Master the physical phenomena that contribute to the comfort and to the sensitive perception of the developed or built environment
- Know how to characterise urban ambiances

General

- Express assumptions to solve and analyse a problem
- Communicate comprehensive results in a meaningful way
- Undertake bibliographic surveys from international research and professional literature
- Carry out an urban project through its environmental challenges

JOB PROSPECTS & FURTHER PHD STUDIES

SECTOR: Urban planning and design, Urban environment.

FIELDS: Urban planning, Microclimatology, Comfort in urban areas.

JOB POSITIONS: Urban planner in consulting office or groups specialized in environmental engineering; assistance to contracting authorities; Research and academic career (post PhD).

Location
Nantes, France -2 hours from Paris

International campus life

87 nationalities

43% international students

Master of Science (MSc)

EXAMPLES OF FINAL YEAR INTERNSHIP/MASTER'S THESIS

- Thermal comfort of pedestrians in urban outdoor spaces: simplified model for predicting mean radiant temperature
- Research and outlook for the implementation of desilting in Guangzhou as part of Sino-French cooperation
- Urban Biodiversity in South America: Exploring Public Space in the Brazilian City
- (Re)Generation of an obsolete urban structure: the redevelopment of the Source district in Orleans

FACULTY, PARTNERS AND RESEARCH LABS

This MSc relies on the Centrale Nantes' faculty and the School of Architecture of Nantes (Ensa Nantes) staff and research facilities of the LHEEA Laboratory. The programme has collaboration with:

Local authorities: Nantes Métropole

Urban planning and development agencies: Samoa, ADDRN Saint-Nazaire, AREP international subsidiaries, SCE

Public establishments: Scientific and Technical Centre for Building (CSTB), CEREMA

Research laboratories: ensa (CRENAU Nantes), Gustave Eiffel University (AME Department)

CONTENT AND COURSES

(A Master Degree requires the validation of 120 ECTS credits)

M1 - AUTUMN SEMESTER	ECTS
Fluid Mechanics	5
Algorithmics for Engineering Modelling	4
Energetics and Building heat transfers	5
Introduction to Geographic Information Sciences	5
Introduction to Research	5
Business Environment	4
Modern Languages	2
Conferences	0
M1 - SPRING SEMESTER	**ECTS**
Hydrology and Transfers in Soils	5
Introduction to Computational Fluid Dynamics	5
Urban Realities Review	5
Urban Management and Planning	4
History of the city	5
Social Sciences for the city	4
Modern Languages	2
M2 - AUTUMN SEMESTER	**ECTS**
Research Methods and Practice	4
Ambiance, Ambiances	5
Urban project 1: Theoretical Approach and Environmental Indicators	4
Urban project 2: Design and Evaluation	5
Urban environment 1: Sunlight & Sound Environment	5
Urban environment 2: Wind & Microclimate	5
Modern Languages	2
Conferences	0
M2 - SPRING SEMESTER	**ECTS**
Master Thesis or Industrial Internship (paid)*	30

*In France, for internships exceeding 2 months a minimum legal level of remuneration (approximately €600 per month) is fixed by the government. In some professional branches, this amount may be higher.

NB Course content may be subject to minor changes

OTHER PROGRAMME INFORMATION

- Length of Studies: 2 years
- Language of instruction: English
- 3 semesters of courses and 1 semester of Master's thesis

Tuition & Fees - Scholarships - Application process - Deadlines

MORE INFORMATION AND FULL PROGRAMME:
www.ec-nantes.fr/masters

CONTACT: master.admission@ec-nantes.fr

Founding member of Nantes Université
GROUPE DES ÉCOLES CENTRALE
BIENVENUE EN FRANCE
MINISTÈRE DE L'ENSEIGNEMENT SUPÉRIEUR ET DE LA RECHERCHE