The Master Planning and Sustainability is in line with the international priorities which aim at including sustainable development in higher education programmes. According to the United Nations, urban planning is a priority field for universities to address effectively the environmental and social challenges facing cities.

The programme involves learning about current challenges of sustainable development of cities through research. It focuses on issues around urban and regional development in European countries as well as in the Global South. As such, it develops a “one world” approach, providing skills that students can use as planners working in various geographical contexts. The students will be trained in research methods relating to planning and urban studies, with an emphasis on various planning cultures and on the need to incorporate environmental issues in urban development.

Regarding career prospects, this Master’s degree opens the way to a PhD in spatial planning and urban development. The curriculum is closely linked to international research operations of the laboratory Cities, Territories, Environment and Societies (CITERES, University of Tours and CNRS –National Agency for Scientific Research). The Master’s also equips students with expertise to manage and design urban studies, as researchers in a public or private organisation or as consultants. In addition, it opens the way to
careers in public or private organizations in the field of sustainable urban development and regional planning throughout the world. These job prospects are continually growing given the high rate of urban development in emerging countries. The lack of courses in planning in these countries and the conversion of urban development to combating climate change make the Master Planning and Sustainability an exciting opportunity for foreign students to develop a professional project including expatriation or integrating the labour market of the country of origin.
Evolution of the gene

Recruitment trends are marked extension, particularly towards Students come from 45 coun
Since it opened, in September 2010, this Master has incorporated over 130 students, coming from the EU countries or from countries neighboring the EU, but also from North America, from Asia, from the Middle East and from Africa.

As this course is conducted completely in English, the Master’s degree is aimed first of all at English-speaking students who have completed their studies abroad and who wish to participate in mobility to Europe. It is also intended for French or foreign students who have a French honour’s degree (architecture, civil or environmental engineering, etc.). In addition, dual enrolment is possible for engineering students specialized in planning and environment at Polytech Tours.

This Master is offered by the Planning and Environment Department of Polytech Tours. This department is one of the largest planning schools in France, through its staff, its number of postgraduate students, or its number of graduates. The Department is member of the Association of European Schools of Planning (AESOP) and of the French-speaking association of planning schools (APERAU Internationale) and also active within the Global Planning Education Association Network (GPEAN). It takes part into the UN-Habitat Partner Universities Initiative.

The laboratory ‘Cities, Territories, Environment and Societies’ (CITERES, University of Tours and CNRS) supports this programme, in particular through its team ‘Action and Dynamics in Spatial Planning and the Environment’ (Dynamique et action territoriales et environnementales - DATE). This multidisciplinary team focuses on two fields in particular: urban studies and environmental research. It is composed of 25 permanent members, including 11 research directors. It currently hosts more than 30 PhD students. The 14 spatial planning and urban development associate professors or professors are very much involved in the Master. The courses they teach follow-on from international research work. Students get
access to CITERES for their research internship, with the possibility of co-supervision by scholars from the universities of Hanover, Porto and Wroclaw, or other laboratories. The UNESCO “River Cultures” chair, attributed to one of the contributing professor, also provides support for the course.

From September 2018, the Masters' programme is organized in two years and provides 120 ECTS. During the first year, the curriculum is organized around 195 hours of seminars and workshops (30 ECTS) and a mobility in a partner university in Europe (30 ECTS). The second year is devoted to 165 hours of seminars and workshops (30 ECTS) and a research internship of 5 months (30 ECTS). Each student writes a Master thesis and is involved in seminars or international conferences.

During the first year, five Teaching Units dealing with urban and regional issues are offered:

**Autumn semester:**
- TU 1 - Group research project 1: the city, 55h – 10 ECTS
- TU 2 - Theories and models of urban development, 35h – 6 ECTS
- TU 3 - Urban challenges: scaling, social and environmental justice, 35h – 6 ECTS
- TU 4 - Geomatics, 40h – 4 ECTS
- TU 5 - French as a foreign language, 30h – 4 ECTS

**Master 1 – Winter semester:**
Courses and projects are followed in one of the partner European universities – 30 ECTS
Polytech Tours has mobility agreements with ten English-speaking courses in urban planning and regional development provided by different European universities and representing places for 25 students. Outgoing mobility is mandatory for all students, in this way strengthening the international dimension of the course. This mobility also enables the implementation of joint diploma agreements.

During the final year, eight Teaching Units are offered:

**Master 2 – Autumn semester:**
- TU 11 - Group research project 2: sustainable urban development, 55h – 10 ECTS
- TU 12 - Eco-city development models, 30h – 6 ECTS
- TU 13 - Research methodology, 20h – 3 ECTS
- TU 14 - Water and risks- an interdisciplinary approach, 30h – 6 ECTS
- TU 15 - French as a foreign language, 30h – 3 ECTS
- TU 16 - Job search techniques, 10h – 2 ECTS

**Winter semester:**
- TU 17 - Research seminar, 20h – 5 ECTS
- TU 18 - Research internship – 25 ECTS. This unit is assessed through the Master thesis.
For students following a joint diploma (with the universities of Hanover, Porto and Wroclaw), the research dissertation is co-supervised.

**Detailed content:**
Master 1 – Autumn semester:

- **Teaching Unit 1 - Group research project 1: the city (10 ECTS)**
  In this module, students integrate and cooperate in a work group. They undertake an interdisciplinary diagnosis, analysing the spatial situation from the perspective of morphologies, populations, the economy, urban history, etc. They acquire expertise in applied research tools. They produce an analysis grid and test it on the ground.

- **Teaching Unit 2 - Theories and models of urban development (6 ECTS)**
  This course provides an understanding of the notions of urbanization and its relationships to the environment. It deals with institutional frameworks, city-regions, metropolitan governance and the involvement of stakeholders in plans and spatial projects.

- **Teaching Unit 3 - Urban challenges: scaling, social and environmental justice (6 ECTS)**
  This course analyses the conditions producing contemporary urban forms. It focuses on challenges such as the preservation of environmental qualities of a place, as well as social polarization. It examines current planning approaches such as smart growth and the right to the city.

- **Teaching Unit 4 - Geomatics (4 ECTS)**
  This course provides the skills that are necessary to define a GIS and its components, including the ability to model data, to create thematic maps and to choose visual variables. These skills can be applied and further developed in the research projects that are carried out in group or individually.

- **Teaching Unit 5 - French as a foreign language (4 ECTS)**
  This module helps students of non-French language of instruction to develop language tools necessary for academic integration, but also social and cultural success. It focuses on French and Francophone cultures.

Master 1 – Winter semester:

Modules and projects are followed in one of the partner European universities (30 ECTS)

Master 2 – Autumn semester:

- **Teaching Unit 11 - Group research project 2-Sustainable urban development (10 ECTS)**
  Following this module, which is organized as a workshop, students become experts in analysing a spatial situation from the perspective of sustainability. They develop solutions to such issues as re-using brownfields or mitigating natural risks. They consider different scales (building, block, district…) and link the planner’s toolbox with the regional culture, the environment and the users.

- **Teaching Unit 12 - Eco-city development models (6 ECTS)**
  The course critically reflects on sustainable urban development ‘models’, such as new towns, green cities, smart cities, eco-cities. Students will analyse cutting edge urban models worldwide through a variety of interpretations (geography and radical urban development, neoliberal; texts, charters, urban development documents, etc.). They will understand the challenges of planning in urban and peri-urban spaces. They will also acquire skills in using research methodologies for urban comparatism.
Teaching Unit 13 - Research methodology (3 ECTS)
The course helps students to design a research strategy adapted to their topic. This comprises developing research questions, identifying useful sources to conduct planning research, presenting and structuring a research dissertation to meet required norms and rules. Following this unit, students will be able to carry out a critical choice of bibliographic sources and they will understand the idea of an original contribution to research.

Teaching Unit 14 - Water and risks- an interdisciplinary approach (6 ECTS)
This course is about the planning challenges of urban waterfront planning, including the challenge of the heritage dimension and the dimensions linked to sanitation and access to drinking water in emerging countries. It deals with biodiversity and urban development, but also with the different dimensions of risk and vulnerability in relation to planning and urban development projects.

Teaching Unit 15 - French as a foreign language (3 ECTS)
This module helps students of non-French language of instruction to develop language tools necessary for academic integration, but also social and cultural success. It focuses on French and Francophone cultures.

Teaching Unit 16 - Job search techniques (2 ECTS)
This module helps students to develop skills for job searches. It provides abilities to define a professional project and to develop a network approach in a national or international context.

Master 2 – Winter semester:

Teaching Unit 17 - Research seminar (5 ECTS)
Students are trained to producing an analysis grid and to propose research protocols. They develop skills in oral communication with specialists and non-specialists of the planning field.

Teaching Unit 18 - Research internship (25 ECTS)
With the help of a supervisor, students develop a research question in relation to existing work and they conduct a state of the art literature review. They manage their research as a project (scheduling tasks, managing priorities and respecting deadlines). They write a thesis which sets out arguments, and links conclusions to data.

Scientific partnership
This Master’s is offered by the Planning and Environment Department of the Polytechnic School, one of the largest planning schools in France, through its staff, its number of postgraduate students, or its number of graduates.
The Department is a truly internationally-oriented research and education centre. Besides taking part in numerous cooperation schemes with foreign partners, it is a founding and active member of key international associations in spatial planning, urbanism and environment:

- the Association of European Schools of Planning (AESOP)
- the French-speaking association of planning schools (APERAU Internationale - Association pour la Promotion de l'Enseignement et de la Recherche en Aménagement et Urbanisme)
- ESDP - European Spatial Development Planning network

These networks connect us to the most important research and education centers in planning over three continents (America, Europe, Africa and Middle East).

The Planning and Environment Department also takes part in the Global Planning Education Association Network (GPEAN), which has organizes every five years the World Congress of Planning Schools and events with UN Habitat.

Through the above mentioned networks and thanks to the the implication of all the staff in the organization of scientific events, the students attending the Master programme have the opportunity to participate to various workshops, conferences, seminars, or summer schools.

The Master programme has the support of 25 top-level European Universities, and specifically their Schools, Departments or Research Units in Spatial Planning, Urbanism, Architecture and Urban Design, Environment and Geography.

Equally important for the Master programme is the involvement of its professors in European and International research programmes such as the following ones:

- AESOP Thematic Research Networks
- UN-Habitat Partner Universities Initiative – Hubs on Urban Regeneration, Governance, and Climate Change
- Coworking Spaces and the City (France-Canada Programme Samuel de Champlain)
- CLIMB - Climate Induced Changes on the Hydrology of Mediterranean Basins (FP7),
- DROP - Benefit of governance in drought adaptation (Interreg),
- STARFLOOD - STrengthening And Redesigning European FLOOD risk practices Towards appropriate and resilient flood risk governance arrangements (FP7),
- A cross-national approach on community planning (ESA-AURORA),
- ‘Metropolitan Governance and Planning (ARL International Academic Working Group)
- TOWN. Small and medium sized towns in their functional territorial context (ESPON)

This offers wide opportunities for students attending the master program for their research internship and master thesis.
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