
Exchange Program: Urban and Territorial Planning and Environment

*Course catalog proposal – **Fall** semester (September – January):*

| Teaching Unit Code | Teaching Unit Title | Hours | | | ECTS |
|------------------------------------|--|----------|-----------|------------------|----------------|
| | | Lectures | Tutorials | Project | |
| E4A7IM24 | Aquatic Biodiversity (IMA 072) | 24 | 24 | | 4 |
| E4A7EEE4 | Territorial planning and development strategies (UIT 072) | 24 | 24 | | 3 |
| E4A7UE44 | Hydrology and hydraulics (COM 072) | | 48 | | 4 |
| E59IM74 | Rivers of Europe (IMA 092) | | 48 | | 4 |
| E9UUE118 | Group research project 2 – Sustainable urban development * (TU 11) | | 60 | | 10 |
| E9UUE218 | Eco-city development models * (TU 12) | | 30 | | 6 |
| E9UUE318 | Research methodology * (TU 13) | | 20 | | 3 |
| E5A9UU14 | Research project ** (PFE) | | | 84 | 6 |
| Supervised projects in engineering | <ul style="list-style-type: none"> • Supervised project 1 or • Supervised project 2 | | | 600 or 400 | 30 or 20 |
| Q1EORAL2 Q1ECLAE2 | Oral and Written French *** | | 48 | | 8 |

* Will run during the next academic university year 2022-2023 if the [master's Planning and Sustainability](#) is open

** ECTS are subject to change

*** This course is mandatory. The lessons are taught at the University Center for Teaching French to International Students (Centre Universitaire d'Enseignement du Français pour Etudiants Etrangers - C.U.E.F.E.E. - <http://international.univ-tours.fr/cuefee>)

Course details:

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| <p>E4A7IM24 - Aquatic Biodiversity (IMA 072)</p> <p>Lectures: 24 h Tutorials: 24 h</p> <p>4 ECTS</p> <p><u>Contacts:</u> sabine.greulich@univ-tours.fr catherine.boisneau@univ-tours.fr</p> | <p><u>Prerequisites:</u> Scientific baselines for the ecology of rivers and lakes and for taxonomy.</p> <p><u>Course description:</u> This course introduces the “biological hardware” of rivers, streams, lakes and wetlands. Students will learn to examine the ecosystem from the view of the diverse organisms. Past management options have largely ignored the environmental needs of many species, resulting in an extraordinarily high erosion of biodiversity in freshwater and wetland systems. The species, their ecological requirements, assembly rules for communities, and specifically the weak points in the life cycle strategies, which make species susceptible to environmental changes, will be presented. Botanical issues cover algae, macrophytes and riparian trees, zoological issues taxa of benthic invertebrates and fish, as well as vertebrates depending on aquatic environments in at least one stage of their life cycle. During tutorials, students will be trained to sample and identify the species.</p> <p><u>Course evaluation:</u> Midterm and final exam</p> <p><u>Keywords:</u> Ecology and identification of species, taxonomy, species traits, sampling methods.</p> <p><u>Bibliography:</u> Allan JD. 1995. Stream ecology, structure and function of running waters. Chapman & Hall Ed. 388 p. Giller P, Malquvist B. 2006. The biology of streams and rivers. Oxford University Press, Biology of habitats. 296 p. Naiman R.J., Décamps H., Mc Cain M.E. 2005. Riparia, ecology, conservation and management of streamside communities. Elsevier, 425 p. Haury, J., Peltre, M.-C., Trémolières, M., Barbe, J., et al. 2006. A new method to assess water trophy and organic pollution – the Macrophyte Biological Index for Rivers (IBMR): its application to different types of river and pollution. Hydrobiologia 570: 153-158. Lancaster J, BJ Downes. 2013. Aquatic Entomology, Oxford Press. 284 p.</p> |
| <p>E4A7EEE4 - Territorial planning and development strategies (UIT 072)</p> <p>Lectures: 24 h Tutorials: 24 h</p> | <p><u>Prerequisites:</u> None</p> <p><u>Course description:</u> This course is based on the idea that contemporary competition among territories is fundamentally based on their capabilities in knowledge of creation-dissemination, competence building, innovation and creativity, and less on cost advantages. The course focuses on innovation processes and the analysis of R&D, innovation and attractiveness policies within territories (at various spatial scales) that can contribute to a sustainable territorial development dynamics (in terms of economic, social and environmental sustainability) within the global competitive area. The practical courses underlie case studies preparation and presentations by students.</p> |

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| <p>3 ECTS</p> <p><u>Contact :</u> abdelillah.hamdouch@univ-tours.fr</p> | <p><u>Course evaluation:</u> Case study report + oral presentation</p> <p><u>Keywords:</u> Territorial creativeness and innovation dynamics, social innovation and territorial cohesion, territorial resilience and sustainable local development strategies.</p> <p><u>Selected bibliography:</u> Nyseth, T., Hamdouch, A. (Eds.), 2019, "The Transformative Power of Spatial Planning through Social Innovation". Numéro spécial de Urban Planning, Vol. 4, No. 1. Hamdouch, A., Nyseth, T., Demazière, C., Førde, A., Serrano, J., Aarsæther, N. (Eds.), 2017, <i>Creative approaches to planning and development. Insights from small and medium-sized towns in Europe</i>, Routledge: London and New York. Servillo L., Atkinson R., Hamdouch A. (Eds.), 2017, "Small and medium-sized towns in Europe : Conceptual and methodological approaches". Special issue of the Journal of Economic and Social Geography (Tijdschrift voor economische en sociale geografie - TESG), Vol. 108, No. 4. De Propriis, L., Hamdouch, A. (Eds.), 2013, "Regions as Knowledge and Innovation Hubs". Special issue of <i>Regional Studies</i>, Vol. 47, No. 7.</p> |
| <p>E4A7UE44 - Hydrology and Hydraulics (COM 072)</p> <p>Tutorials: 48 h</p> <p>4 ECTS</p> <p><u>Contacts:</u> seraphine.grellier@univ-tours.fr catherine.boisneau@univ-tours.fr</p> | <p><u>Prerequisites:</u> Basic concepts in statistics</p> <p><u>Course description:</u> This course consists of an introduction to basic knowledge in hydrology and hydraulics. We will cover the most important topics related to water science linked to the courses offered in the major "Spatial planning and environment engineering". This course is mainly dedicated to tutorial classes (48h), with homework for acquiring basic concepts in hydrology and hydraulics. Classes will be dedicated to discussion, more in-depth explanations and to applying concepts and tools in hydrology and hydraulics. Active learning will be proposed during this course.</p> <p><u>Course evaluation:</u> Individual and group assessments during the semester. One individual final exam at the end of the semester.</p> <p><u>Keywords:</u> Water cycle, hydrological balance, stream and hydrological processes, flow rates, hydrogeology, urban hydraulics.</p> <p><u>Bibliography:</u> Hydrology, a Science for Engineers, 2014. Hingray, Picouet and Musy, CRC Press. Comprehensive Assessment of Water Management in Agriculture. 2007. Water for food, water for life: a comprehensive assessment of water management in agriculture. London: Earthscan, and Colombo: International Water Management Institute IWMI.</p> |

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| <p>E59IM74 - Rivers of Europe: Management and risks (IMA 092)</p> <p>Tutorials: 48 h</p> <p>4 ECTS</p> <p><u>Contacts:</u> rotge@univ-tours.fr, karl.wantzen@univ-tours.fr</p> | <p><u>Prerequisites:</u> None</p> <p><u>Course description:</u> This unit analyses and validates different issues of river management in Europe. Part one deals with a gradient analysis of geographical-climatological and socio-economic drivers of environmental problems, and the regionally variable mitigation efforts, mostly in the context of the Water Framework Directive. As a practical exercise, group work will focus on a European project proposal. Part two continues with European project management, with a thematic focus on waterfronts and flood-adapted architecture. Part three includes exercises on flood risk management and evacuation planning.</p> <p><u>Course evaluation:</u> Final exam (in two parts, according to the course contents)</p> <p><u>Keywords:</u> Transboundary River Management, Regional environmental problems, EU project planning and management, Waterfront architecture, Flood Risk Management.</p> <p><u>Bibliography:</u> Hering D., 2010. WFD DOI: http://dx.doi.org/10.1016/j.scitotenv.2010.05.031 LIFE Programme https://ec.europa.eu/environment/life/ Umut Pekin Timur, Waterfront http://dx.doi.org/10.5772/55759 ECE, Project Cycle management https://ec.europa.eu/europeaid/sites/devco/files/methodology-aid-delivery-methods-project-cycle-management-200403_fr_2.pdf</p> |
| <p>E9UUE118 - Group research project 2 – Sustainable urban development (TU 11)</p> <p>Tutorials: 60 h</p> <p>10 ECTS</p> <p><u>Contact :</u> christophe.demaziere@univ-tours.fr</p> | <p><u>Prerequisites:</u> GIS (elementary level); Spatial diagnosis (elementary level)</p> <p><u>Course description:</u> In this module, which is organized as a workshop, students from different academic and cultural backgrounds integrate and cooperate in a work group. Students analyze a spatial situation through the lenses of sustainability. They develop solutions to issues such 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. Students completing the module will be able to demonstrate the following skills: (i) ability to conduct a territorial diagnosis; (ii) capacity to process data statistically and spatially; (iii) ability to design an urban project; and (iv) capacity to contribute to collective work in a multicultural and interdisciplinary context.</p> <p><u>Course evaluation:</u> Article review (10%), spatial diagnosis (30%), urban project (40%), class attendance, participation and communication (20%). The spatial diagnosis is defended in front of a jury early November. The urban project is presented by students in front of a jury mid december. The juries can comprise academics from universities outside France and/or local urban planners.</p> <p><u>Keywords:</u> Case study, intervention strategy, research methods.</p> |

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| | <p><u>Bibliography:</u> The list of readings varies according to the case which is selected by the staff. The list of readings is distributed to students during the first meeting of the module.</p> |
| <p>E9UUE218 - Eco-city development models (TU 12)</p> <p>Tutorials: 30 h</p> <p>6 ECTS</p> <p><u>Contacts:</u> divya.leducq@univ-tours.fr</p> | <p><u>Prerequisites:</u> No prerequisite is necessary.</p> <p><u>Course description:</u> The course reflects critically 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 cities; 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.</p> <p><u>Course evaluation:</u> Selection and explanation of case studies (10%) ; Midterm exam : Oral presentation with slides (40 %) ; Written paper : 30,000 – 50,000 signs (50 %)</p> <p><u>Keywords:</u> Circulation of ideas ; urban planning ; comparative analysis.</p> <p><u>Bibliography:</u> ANGELIDOU M. (2014). « Smart city policies: A spatial approach ». Cities, vol. 41, suppl. 1, p. S3-S11. CAPROTTI, F. (2014) ‘Critical research on eco-cities? A walk through the Sino-Singapore Tianjin Eco-City, China’, Cities, 36, 10-17. DE JONG, M. JOSS, S. SCHRAVEN, D. ZHAN, C. and WEIJNEN, M. (2015) ‘Sustainable - smart - resilient - low carbon - eco - knowledge cities: making sense of a multitude of concepts promoting sustainable urbanization’, Journal of cleaner production, 109, 25-38. JOSS, S. (2011) ‘Eco-cities: the mainstreaming of urban sustainability; key characteristics and driving factors’, International Journal of Sustainable development and Planning, 6, 268-285. RAPOPORT, E. (2014) ‘Utopian visions and real estate dreams: the eco-city past, present and future’, Geography Compass, 8, 137-149.</p> |
| <p>E9UUE318 - Research methodology (TU 13)</p> <p>Tutorials: 20 h</p> <p>3 ECTS</p> | <p><u>Course description:</u> 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.</p> <p><u>Course evaluation:</u> Report + oral presentation</p> <p><u>Keywords:</u></p> |

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| <p><u>Contacts:</u> jose.serrano@uni-tours.fr</p> | <p>Sources and deontology of planning research, method for writing a dissertation.</p> <p><u>Bibliography:</u> Bell, Judith, "Doing your research project a guide for first-time researchers in education, health and social science", Maidenhead : McGraw-Hill Open University Press, cop. 2014 6th ed. ISBN : 978-0-3352-6446-9 (br.) et 0-3352-6446-8 (br.) Farthing, Stuart, "Research design in urban planning a student's guide", Los Angeles, CA: SAGE Publications, 2016. ISBN 978-1-446-29445-1 et 978-1-446-29444-4.</p> |
| <p>E5A9UU14 - Research project (PFE)</p> <p>Project: 84 h</p> <p>6 ECTS</p> <p><u>Contact:</u> jose.serrano@univ-tours.fr</p> | <p><u>Course description:</u> This unit validates the research placement that will be conducted within the research laboratory Cities, Territories, Environment and Societies, and especially the research team "Urban and regional planning projects, landscape and environment". A tutor will advise each student and supervise his/her research and seminars will be organised.</p> <p><u>Course evaluation:</u> Report + oral presentation</p> <p><u>Keywords:</u> Research methods, research design, innovation, sustainable development, environment, agronatural space.</p> <p><u>Bibliography:</u> It depends on the topic considered</p> |
| <p>Q1EORAL2 Q1ECLAE2 - Oral and Written French</p> <p>Tutorials: 48 h</p> <p>8 ECTS</p> | <p><u>Course description:</u> French language and culture (in common with other courses at Polytech Tours).</p> |

Supervised projects in engineering: Computer Sciences, Electronics and Energy Systems, Mechanics and System design, Urban and Territorial Planning and Environment

The project will be of interest for foreign students who want to improve their skills in a specific field of engineering. Fields are detailed at:

<https://polytech.univ-tours.fr/english-version/presentation-2>

The project will be performed in a laboratory associated with the Graduate School of Engineering Polytech Tours under the supervision of a lecturer, assistant professor or professor of Polytech Tours. The language will be English or French. It is recommended that students interested attest a B1 level in English or in French (in some cases and exceptionally the A2 level can be OK).

Students can directly contact Professors of Polytech Tours or be recommended by a foreign colleague. They can choose a project proposed by a lecturer, assistant professor or professor of Polytech Tours or propose a topic to the professors of Polytech Tours (in co-supervision with a foreign colleague for instance). The students will be examined by a written report and an oral presentation (in English or in French). Because this course unit will be carried out within a laboratory, there will be less pressure regarding the students' level of French. Two types of supervised projects are proposed:

- * *Supervised project 1: 30 ECTS* on a single project (supervised at least by a professor of Polytech Tours, possibly in collaboration with a colleague from the home university of the student) that validates theoretical and/or technical skills in the field of engineering;
- * *Supervised project 2: 20 ECTS* (project) completed by **10 ECTS** (disciplinary courses taught within Polytech Tours or French courses for foreign students).

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| <p>Supervised project in engineering 1</p> <p>Project: 600 h</p> <p>30 ECTS</p> <p>Level First or second year of Master</p> | <p>Supervised project in engineering: Urban and Territorial Planning and Environment</p> <p>Duration: one semester (autumn [from September to the end of January] or spring [from the end of January to the end of June] semester)</p> <p>Application deadline: before July, the 1st, for students coming for the autumn semester; before December the 1st, for students coming for the spring semester</p> <p>Content: The project will be focused on one of the following fields: Computer Sciences, Electronics and Energy Systems, Mechanics and System design, Urban and Territorial Planning and Environment (aquatic and/or terrestrial). It must be carried out individually in a laboratory, under the supervision of a lecturer, assistant professor or professor of Polytech Tours (possibly in collaboration with another colleague). At the beginning of the project a work plan will be submitted by the student with the guidance of his/her supervisor at Polytech Tours.</p> <p><i>Caution: Before applying for this course all students must obtain the approval of their future supervisor. Students can also directly contact:</i></p> <p>international.polytech@univ-tours.fr</p> <p>Prerequisite</p> <p>For First year of Master students: 110 ECTS already validated in the specific scientific/ engineering field.</p> <p>For Second year of Master students: 145 ECTS already validated in the specific scientific/ engineering field.</p> <p>Assessment method</p> <p>- The project is examined by a written report (in English or French) completed by an oral presentation for 30 ECTS.</p> |
| <p>Supervised project in engineering 2</p> <p>Project: 400 h</p> | <p>Supervised project in engineering: Urban and Territorial Planning and Environment</p> <p>Duration: one semester (autumn [from September to the end of January] or spring [from the end of January to the end of June] semester)</p> <p>Application deadline: before July, the 1st, for students coming for the autumn semester; before December the 1st, for students coming for the spring semester</p> |

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| <p>20 ECTS (i.e. 400 hours of work) + 10 ECTS (disciplinary courses taught within Polytech Tours or French courses for foreign students)</p> <p>Level First or second year of Master</p> | <p>Content: The project will be focused on one of the following fields: Computer Sciences, Electronics and Energy Systems, Mechanics and System design, Urban and Territorial Planning and Environment (aquatic and/or terrestrial). It must be carried out individually in a laboratory, under the supervision of a lecturer, assistant professor or professor of Polytech Tours (possibly in collaboration with another colleague). At the beginning of the project a work plan will be submitted by the student with the guidance of his/her supervisor at Polytech Tours.</p> <p><i>Caution: Before applying for this course, all students must obtain the approval of their future supervisor. Students can also directly contact:</i> international.polytech@univ-tours.fr</p> <p>Prerequisite For First year of Master students: 110 ECTS already validated in the specific scientific/engineering field. For Second year of Master students: 145 ECTS already validated in the specific scientific/ engineering field.</p> <p>Assessment method</p> <ul style="list-style-type: none"> - The project is examined by a written report (in English or French) and an oral presentation for 20 ECTS; - Disciplinary courses taught within Polytech Tours and/ or French courses for foreign students (10 ECTS). |
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