

Annex B

The Innovation & Entrepreneurship Minor of the EIT Urban Mobility Master School

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Innovation & Entrepreneurship Minor – 30 ECTS

The Innovation & Entrepreneurship Minor (I&E Minor) is a course package of (minimum) 30 ECTS course content modules. The module is continuously developed jointly by the EIT Urban Mobility Master School (as lead) and the partner Universities, and it is executed by the partner Universities. It is mandatory that all partner Universities implement and use this course package in their Master School programmes. Local variation regarding course name, number of ECTS, above the required minimum, and packaging into local courses is allowed but should be communicated to the Master School. To avoid gaps and overlap, modules must not be moved between the entry and exit years and the Summer School and the I&E Electives may not be packaged into courses with other modules. At least two elective modules should be available at each university. All implementations have to achieve the then current intended learning outcomes (ILOs) for the following courses:

Entry year (Minimum of 18 ECTS total)

- Introduction to Innovation & Entrepreneurship (minimum of 3*ECTS)
- Challenge Project – part 1 (minimum of 9*ECTS)
- I&E Electives (minimum of 3*ECTS)

Exit year (Minimum of 12 ECTS total, excluding MSc thesis)

- Summer School (3 ECTS)
- Challenge Project – part 2 (minimum of 4*ECTS)
- I&E Elective (minimum 3*ECTS)
- Master thesis (at least 3 months of outplacement), credits not accounted for in minor I&E

The I&E Minor should be implemented and executed as per the then current EIT Urban Mobility specifications. The I&E courses may contain jointly defined compulsory online, blended or flipped classroom elements.

A shared portfolio of online material and electives will be developed. This joint effort will be supported by coproducing online material and by sharing use, good practices and experience. These productions may be co-funded by EIT Urban Mobility. Associated intellectual property rights remain with the producing Partner Universities. EIT Urban Mobility is given a non-exclusive right to use and modularise the material, including a right to transfer the right to its partners.

The specifications for the I&E Minor and courses will be jointly annually reviewed by EIT Urban Mobility and the Partner Universities being part of the Master School. The ambition is to further develop the Minor, to strengthen the output, impact and to align with the overall EIT Urban Mobility vision and strategy.

EIT Overarching Learning Outcomes

Educational programmes, modules and courses with the EIT Label have a strong focus on innovation, entrepreneurship, creativity, leadership and on shaping a sustainable society based on ethics and human values. The mission of EIT-labelled educational activities is to ensure that students achieve a set of EIT Overarching Learning Outcomes (EIT OLOs) that address these issues. These learning outcomes may be refined by the EIT and its Innovation Communities when deemed necessary, in compliance with current and future European standards for cooperation in higher education and research. The EIT OLOs complement the learning outcomes of the Qualifications Framework of the European Higher Education Area. In the EIT Urban Mobility Master School, the I&E Minor is designed to meet but not limited to the set Overarching Learning Outcomes as defined by EIT (Table 1).

Table 1. EIT Overarching Learning Outcomes (OLOs)

EIT OLOs	
<i>EIT-labelled programmes ensure that students can demonstrate:</i>	
OLO 1 Entrepreneurship Skills and Competencies	The capacity to identify and act upon opportunities and ideas to create social, cultural and financial value for others, including translating innovations into feasible business solutions, with sustainability at their core.
OLO 2 Innovation Skills and Competencies	The ability to formulate knowledge, ideas and technology to create new or significantly improved products, services, processes, policies, new business models or jobs, and to mobilise system innovation to contribute to broader societal change, while evaluating the unintended consequences of innovation and technology.
OLO 3 Creativity Skills and Competencies	The ability to think beyond boundaries and systematically explore and generate new ideas.
OLO 4 Intercultural Skills and Competencies	The ability to engage and act internationally and to function effectively across cultures, sectors and/or organisations, to think and act appropriately and to communicate and work with people from different cultural and organisational backgrounds.
OLO 5 Making Value Judgments and Sustainability Competencies	The ability to identify short- and long-term future consequences of plans and decisions from an integrated scientific, ethical and intergenerational perspective and to merge this into a solution-focused approach, moving towards a sustainable and green society.
OLO 6 Leadership Skills and Competencies	The ability of decision-making and leadership, based on a holistic understanding of the contributions of higher education, research, and business to value creation, in limited sized teams and contexts.

Introduction to Innovation & Entrepreneurship (3*ECTS)

The course gives a basic introduction to innovation and entrepreneurship, included but not limited to innovation theory, opportunity recognition, business modelling, marketing, lean start-up methodology, basic finance.

The ability to:

- Explain and relate basic innovation theories to the contemporary development
- Understanding of the general process and roles involved in developing an idea and starting up a new technology-based company
- Systematically explore customers and markets
- Understand and systematically explore basic product and process development
- Systematically explore basic entrepreneurial finance
- Understand and systematically explore the important elements in managing companies and developing its human resources

Challenge Project Course – part 1 (min 9*ECTS)

The course is run based on a contemporary urban mobility challenge defined by a city or group of cities. Industry and cities are involved also throughout the course as clients as well as coaches. The course is project based and the results are followed up the second year (part 2). The students work with real issues and present concrete solution for the client/s.

The ability to:

- Critically assess and evaluate a third party request of specification
- Perform a structured problem solving analysis
- Perform an market/industry analysis including modelling future scenarios and sustainability perspective
- Apply Design Thinking methodology in a complex multi-stakeholder environment
- Apply a project management and planning process and methodology
- Lead a project team to meet set targets, milestones and deliverables
- Resolve team conflicts in a structured way
- Prioritize between alternative project paths
- Perform stakeholder and risk analysis
- Communicate with a variety external stakeholder groups throughout project
- Present and communicate acquired conclusions
- Identify the short- and long-term future consequences of plans and decisions from an integrated scientific, ethical and intergenerational perspective

Summer School (3 ECTS)

The summer school is a combination of a challenge based entrepreneurial course and a study trip. The course is open for participation by non-EIT students and preferable with different background to allow for cross-disciplinary teams. During the two weeks, the students visit two cities working on one challenge theme. The first week in one city focusing on problem analysis and the second week in another city focusing on potential own solutions that should be possible to develop into a start-up and be pitched for an investor. Each Summer School will, in most cases, be created and run in cooperation between two universities and the two cities to be in two adjacent countries. What partner/s to give what Summer School will be decided on an annual basis. Each Exit University need to register the course locally, even if presently without plans to give a Summer School, to be able to register student ECTSs.

To be able to:

- Transform new ideas and technology into a viable business solution with a customer/user-centric perspective
- Apply basic systemic innovation methodologies
- Understand product/services design processes, methods and tools and the ability to apply them for the development of a new product or service concept with a customer/user-centric perspective
- Perform a business concept design project (business modelling and value proposition) in the context of a specific urban mobility area
- Perform a business planning project in the context of urban mobility (dynamics of developing the business, go-to-market, financial and risk-related issues)
- Include ethical, societal and sustainability considerations when developing a new product/technology or business solution
- Identify and assess the impact of technologies and innovations in the thematic area, on its markets and stakeholders (competitors, alliances, networks) and the business opportunities they offer
- Understand global/market trends, innovation routes, industry value networks to recognize their relative importance for product/service and business development
- Recognize, address and suggest means to tackle diverse implementation challenges (regulation, IP...)
- Use (oral, written) communication, decision-making and leadership competencies while transforming new ideas into business solutions
- Reflect upon the applicability of used concepts, methods and tools in the context of their project
- Work in teams and to reflect upon team dynamics, decision making and conflicts resolution

Challenge Project Course – part 2 (min 4*ECTS)

In the Challenge Project Course – part 2 the students analyse, refine, plan for implementation, market and sell solutions and concepts that have been defined and been the output of part 1 with additional focus on leadership skills.

To be able to:

- Assess and evaluate existing plans and proposals based on set specifications
- Refine and develop existing plans, and prepare for implementation including assessment of barrier
- Evaluate proposed actions from a political and regulatory perspective, including other relevant key stakeholders
- Evaluate proposed actions from a citizen/end-user perspective, including privacy and security
- Evaluate proposed action from a sustainability perspective
- Make a detailed assessment of proposed plans from a financial perspective
- Make a professional level report and presentation based on existing research performed
- Market and sell multi-stakeholder projects in a complex setting
- Formulate a partnership strategy
- Recognize, adjust to and handle change management processes

I&E Elective (minimum 3*ECTS)

The I&E Elective is chosen from a portfolio of advanced courses of areas covered in the compulsory courses. These may be offered at the local Partner University or chosen from a shared portfolio of online courses. ILOs depend on the specific course but should in any case deepen the understanding and abilities regarding each specific topic.

- ILOs to be defined per course.