ldate2990
2024

Master thesis

25.00 credits		Q1 and Q2

⊘ **This learning unit is not open to incoming exchange students!**

Language :	English > French-friendly
Place of the course	Louvain-la-Neuve
Main themes	The Master thesis is - the opportunity to acquire transversal competencies not yet or only partially developed previously, - a project aiming at solving a complex engineering problem by applying competencies previously acquired. The Master thesis may have a major 'research' or 'technological development' component. These components are however not exclusive; some theses may involve both dimensions. The transversal competencies (referring to LO's) developed during the Master thesis are mainly: writing, communication, planning and argumentation, openness to the societal aspects of the project. Information about master theses can be found on the dedicated Moodle web site https://moodleucl.uclouvain.be/course/view.php?id=11582
Learning outcomes	**At the end of this learning unit, the student is able to :** **LO1** to demonstrate he/she masters a body of knowledge and basic skills in science and/or engineering sciences, bound about his/her thesis; **LO2** to lead to completion a major, in amplitude and spent time, engineering approach applied to the development of a product, service or facility referred to the thesis (*applies to theses with a major technological development component*) ; **LO3** to lead to completion a major, in amplitude and spent time, research work aiming at the understanding and the contribution to the resolution of an original scientific question of theoretical or physical type (*applies to theses with a major research component. They are however not exclusive; some theses may involve both dimensions, research and development)* ; **LO4** to organise and plan the master thesis work on the basis of allocated resources and time constraints, of security (if applicable) and of available competencies ; **LO5** to efficiently communicate both orally and in writing (in French and/or in English) to realise the master thesis ; **LO6** to take into account the societal impact of his/her master thesis (possible economical recovery and/or ethical impact and/or environmental and/or social impact). Specific learning outcomes are defined on the Moodle web site.
Evaluation methods	Three grids (referring to LO's) define criteria to evaluate the year's work, the manuscript and the oral defense. The program commission may eventually add additional criteria. The criteria are evaluated by a letter (A: excellent, B: very good, C: good, D: satisfactory, E: sufficient, F: failed, NA: not applicable). A final note is then attributed. If not otherwise stated in a document signed by both the master thesis supervisor and the student, the use of generative artificial intelligence to help writing the master thesis or some of its parts, or to write (parts of) a code, is not forbidden, provided the student indicates in the methodological part of his or her master thesis how and where these tools were used. Additionally, when part of the master thesis document is copied from a proposition made by an artificial intelligence, this specific AI tool needs to be referenced as the source of the text, as should be done for an excerpt of a published text.

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Teaching methods	The student is responsible for the organisation of regular meetings with his/her director(s). The student first prepare and hand in a thesis plan (roadmap) to his/her director(s) (and to program commission if requested) (deadline : 1 or 2 months after the beginning of the project). The plan contains the following items (not necessarily all of them): • clear statement of the objective(s), • list of targeted LO's (especially specific ones), • context (application domain, societal impacts, ...), • proposed methods (theory, experimental tools, developments,simulation, ...), • list of available technical (equipments, codes, ...) and human (supervisors, and resource persons for technical aspects) resources, • first bibliographical research, including technical manuals, • first schedule of tasks with deliverables.
Content	The Master thesis may have a major "research" or "technological development" component. These components are however not exclusive; some theses may involve both dimensions, "research" and "technological development". The Master thesis may also be done in collaboration with industry.
Inline resources	Rules and guidelines, important dates, templates and other information about master theses can be found on the dedicated Moodle web site https://moodleucl.uclouvain.be/course/view.php?id=11582
Faculty or entity in charge	EPL

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Master [120] in Data Science Engineering	DATE2M	25		🔍