COBRA REPORT

Study programme: Advanced Master of Artificial Intelligence

Drawn up on: June 2023

At institutional level, the KU Leuven uses the [COBRA method](#) to work on the quality of its study programmes. In this report, the programme committee reports every four years on the quality of its programme(s) and describes the identified strength(s) and planned action(s) of its programme(s). **Advanced Master of Artificial Intelligence**

Strengths of the study programme(s)

[Indicate the strengths of the study programme(s) that were discussed during the past four-year COBRA cycle (2019-2023). Please note that this report needs to be comprehensible for external readers and that enough context has to be given. (Max. half a page).]

- **Interdisciplinary**: The multidisciplinary programme trains students with a variety of backgrounds, including engineering, sciences, economics and management, psychology and linguistics, in all areas of knowledge-based technology, cognitive science and their applications.
- **Strong research base**: This one-year programme is the result of a joint effort by a large number of internationally leading research units from seven different faculties of this university. As a result, the programme can rely on a strong research base of internationally known experts in the AI domains.
- **International students**: the programme welcomes a diverse group of international and local students, creating an international atmosphere. The programme is well recognized around the world, attracting excellent students from across the globe.
- **Learning environment**: throughout several reviews and questionnaires students repeatedly indicated their satisfaction with the created learning environment: structure, study material, course and assessments formats.
- **Strong emphasis on ethics**: Ethics is important in this field because AI can be a powerful tool, both for good and for evil. The programme places considerable emphasis on ethics in both the curriculum and extracurricular events.
- **Emphasis on other social responsibilities**: There is also some focus on social responsibility in the program. The thesis topics are very diverse and are offered in the fields of sustainability, medical sciences, psychology, climate change, …

Planned actions

[Indicate the challenge(s) and the planned actions the programme committee has formulated after the past COBRA cycle (2019-2023). Please note that this report must be comprehensible for external readers and that enough context has to be given. (Max. half a page).]

In the framework of quality assurance, a core element in the wider perspective of institutional reviews, several quality-monitoring actions have been structurally embedded since 2015. Concerning this Educational Committee (EC), following stakeholders are taken into account: students, teaching staff, alumni and industry.

- The diverse student population causes large differences in prior knowledge and skills. Every course therefore has to taken into account diverse backgrounds, which makes it harder for in-depth and advanced topics. We therefore aim at finding an optimal balance at this point.
- Maintain a good level of competences in programming and/or mathematics. The focus should be on well preparing before entering the MAI programme, including introducing preparatory components into previous initial master programs and on admission criteria, as well as ongoing skill development throughout the program.
- Further efforts will be made to further strengthen the involvement of companies and industry in the programme. One way to do this is the organisation again of a yearly "Industry Day".
- Strengthen the emphasis on ethics: As the field of AI rapidly evolves, it is essential for the program to promptly adapt to emerging technologies. One notable example is the emergence of GenAI in the form of ChatGPT (in November 2022), which brings forth a range of ethical and privacy concerns. Our programme and our teaching staff are at the forefront of addressing these critical issues, ensuring that students are well-equiped to navigate and mitigate the ethical challenges associated with new advancements in AI.
- Intensify the focus on social responsibilities: AI holds immense potential to address global challenges, including climate and healthcare issues. To further enhance the programme's impact, it can place greater emphasis on these domains, encouraging students to explore and engage with the application of AI in areas such as environmental conservation, sustainability, healthcare innovation, and other pressing societal concerns. By broadening the programme's scope, we can empower students to contribute meaningfully to solving real-world problems through AI-driven solutions.
- AI advances very rapidly. It should be monitored that we keep up to date with the most recent, significant and impactful advancements, while also still taking into account other classical techniques which have proven themselves and for which solid foundations exist.

Planned actions are described in detail in the programme development plan.

More information on CTI:

- https://www.cti-commission.fr/en/
- Remaud, B, Berbers Y, Jolly, AM, Nolland, J (2017), Accreditation of Flemish Civil Engineers programmes (2016): an experience of cross-border Quality Assurance, Proceedings of the SEFI Annual Conference 2017.
- Sànchez, T. (2015), ESG 2015, part 1: https://www.cti-commission.fr/wp-content/uploads/2017/04/colloque_cti_esg201508.pdf