

Capita selecta: anything but scientific?

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Context

The Master's in Materiomics is a new interdisciplinary programme bridging the gap between materials physics and materials chemistry. The programme has its foundations in the research activities at the Institute for Materials Science (IUMAT) at Hasselt University, allowing students to specialise in fundamental materials science in the domains of energy, quantum technologies, sustainable materials or healthcare applications. The course *Capita selecta: developments in materials research* was introduced to the curriculum to allow students to reflect in a structured way about social, ethical, ecological and techno-economic aspects of the research they perform in the context of their Master's thesis research in one of the UHasselt research groups.

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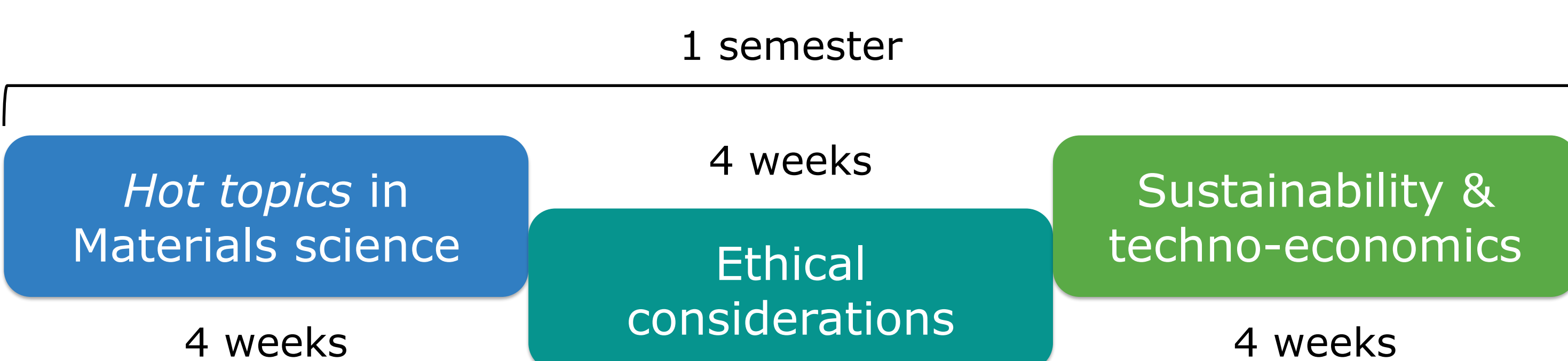
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Original course design: filling the blanks

The course *Capita selecta: developments in materials research* initially introduced to cover the teaching goals not addressed in other courses, and can thus be considered to be a *patch approach* to fill the gaps in the curriculum that could not be addressed in the context of other courses.



This patchwork also found its way into the course design:

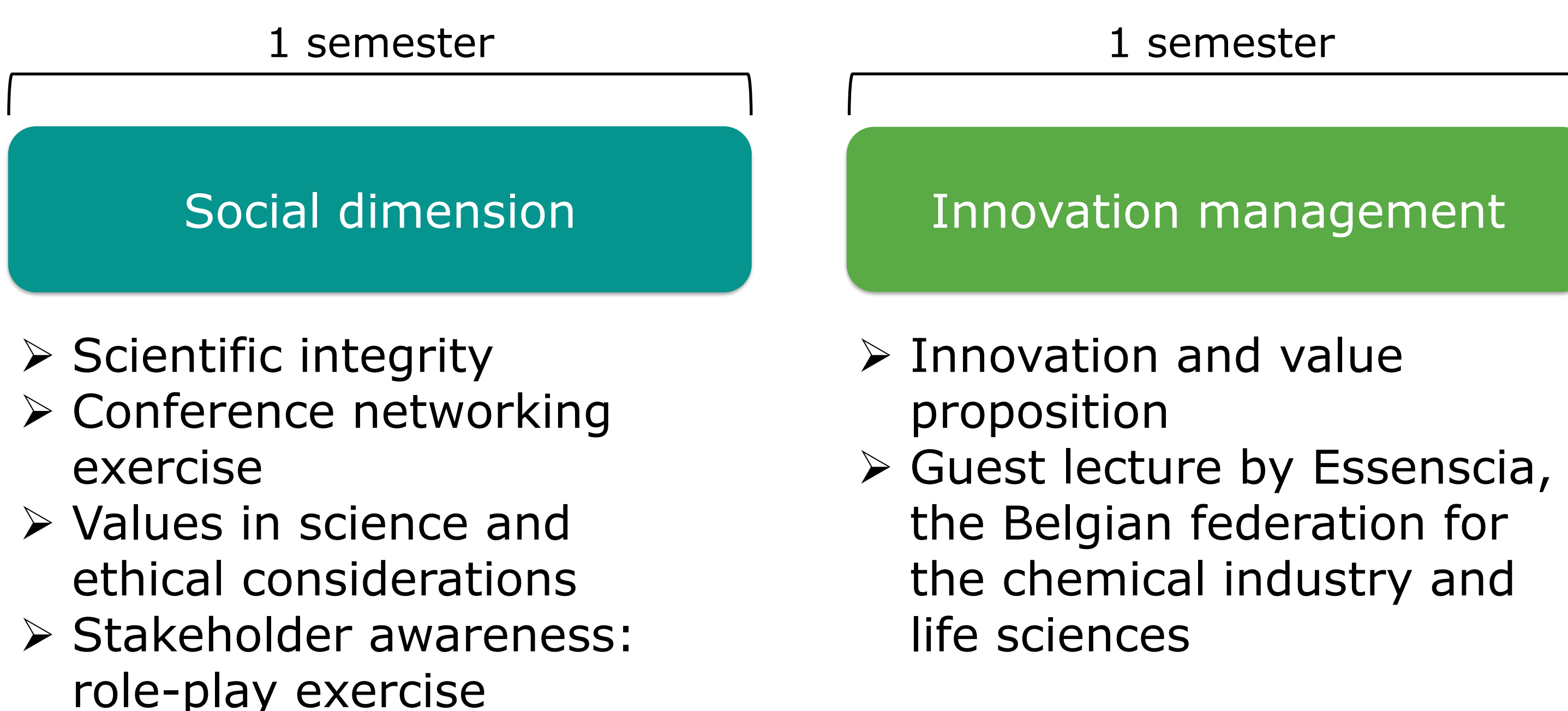


- * Lack of depth in each of the modules
- * Heavy study load due to permanent evaluation
- * Mostly *passive* contact moments (classical lectures)
- * Overlapping content (e.g., *SDGs: materials and their management*)



Expanding the social dimension

The course was expanded to two semesters and redesigned to shift the focus to complementary content while simultaneously increasing student engagement.

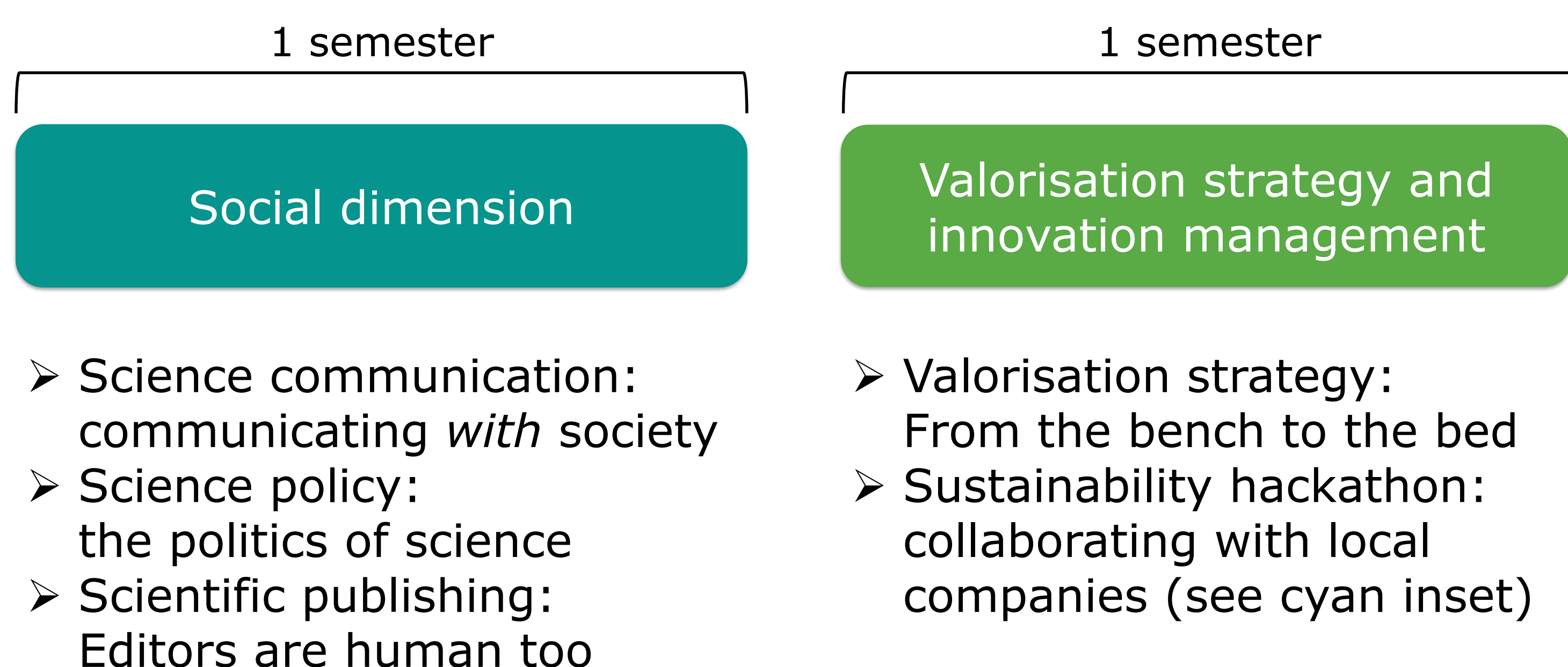


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Chemistry meets life sciences

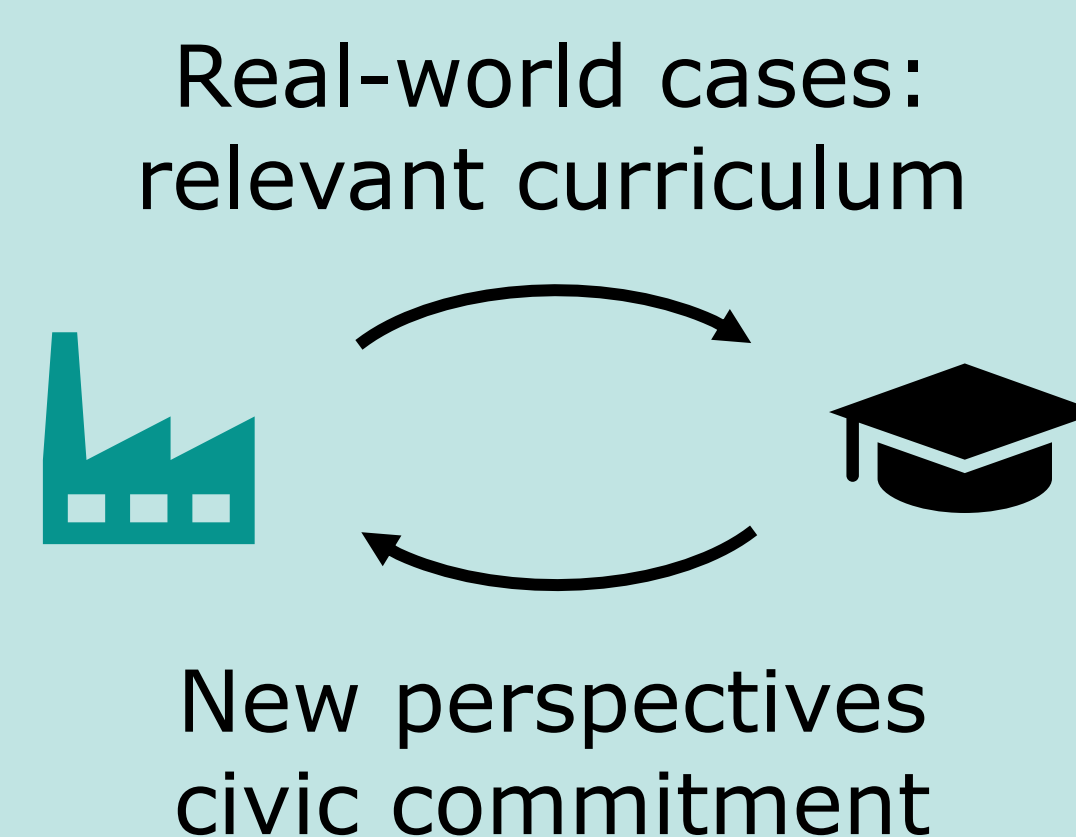
Future plans: beyond the industry/academia duality

The scope of *Capita Selecta* has outgrown its humble 3 ECTS origins. To properly reward students for their efforts, the course will be expanded to 6 ECTS, in line with UHasselt's civic mission. This also creates bandwidth to move beyond the academia/industry duality.



Service learning integration

This year, we organised our first sustainability hackathon in collaboration with local companies. Next year, the hackathon will be integrated into *Capita Selecta* to serve as an example of *service learning*, allowing students to apply their stakeholder awareness, communication skills, and innovation management to concrete cases. Students can also use this experience to critically reflect on their educational development.



Mood picture of the first sustainability hackathon

Outlook and critical reflection

Capita Selecta has transformed from a patch solution to a still-developing curriculum, into a recognised *civic course* module that prepares students for life after graduation. Although integrated into a master's programme in materials research, these concepts can easily be translated into curricula in (molecular) life sciences. So far, student numbers in the master's programme are manageable, but the teaching methods used could become very demanding for larger groups (e.g., finding sufficient cases for the hackathon).

Acknowledgements

This contribution is based on the efforts of all colleagues in the chemistry and physics departments of Hasselt University, who jointly organise the interdisciplinary master's programme in Materiomics. The FEBS-ETC organisers are graciously acknowledged for providing an Educational Ambassador bursary. Finally, the Belgian Society for Biochemistry and Molecular Biology (BSBMB) provided additional mobility funding.

