Development dialogue BSc Business Engineering (BE)
Maastricht University, Faculty of Science and Engineering (FSE) & School of Business and Economics (SBE)
Friday 31 January 2025, 16:00 - 16:45
Faculty of Science and Engineering, Paul-Henri Spaaklaan 1, Board Room

Attendees:
Panel: Dr. I. Adan (panel chair); Dr. B. Karlson (panel member); Prof. Dr. M. Van Bael (panel member); S. Gökbekir, MSc (student panel member); S. Boer, MA (panel secretary)
Programme management: Prof. dr. P. Vergauwen (quartermaster); Dr. ir. C. Koopman (programme director FSE); Dr. A. Saraceni (programme director SBE)
Minute-taker: R. Dirix, MA (policy advisor education FSE)

Discussion topic: the integration of business and engineering.
Concretely: How can we 'leverage' or enrich business thinking with engineering thinking, and vice versa? Which consequences would this have for the pedagogical approach and programme structure?

Discussion:
Programme management:
The worlds of engineering and business are not that far apart, but how to proceed with translating engineering approaches to business processes? Could the panel recommend any approaches to further integrate business thinking and engineering? How to embed both worlds more profoundly in the BE programme? How to shape the future? Bringing together engineering and business entails more than entrepreneurship. The broadness of the field contradicts the idea that we should only be looking into business opportunities. Intrapreneurship deserves our attention as well: forging the corporate context in which engineers can show their added value based on technology and innovation, both in smaller and larger businesses. What else can we explore? Can you suggest any further leads to introduce entrepreneurial engineering projects in the BE curriculum?

Panel:
In Eindhoven, an innovation lab brings together students who develop something new. They work in a multidisciplinary team, develop technology, and create a business model to bring the technology to the market. This is a wonderful incubator. Designs and materials have been developed.
Delft University of Technology offers something similar: a joint interdisciplinary project (JIP) in the third year. The JIP brings together 'soft-technical' and 'hard-technical' faculties, but this set-up could be extended to an economics faculty as well (how to bring a product to the market). The JIP is group-based; this does raise questions about its assessment.
At Aalto School of Economics, product design and economics are combined through a coalition

of six universities in Stockholm. Fifteen courses are offered as electives on MA level, and students can cherry-pick. The assessment of these electives is easier than the initiatives of Eindhoven and Delft as the courses are not project-based.

Programme management:
Assessment of projects is tricky indeed. The same goes for the assessment of competences, such as leadership and teamwork. And all of this should be linked to the assessment of technological innovations with a business modelling aspect. Do you have any advice for us in this regard?

Panel:
Do not worry about this too much, as you already managed to assess a large number of projects in the BE programme. During the past six years, you have already shown that you are innovative. An alternative to project assessment could be a portfolio that shows the development of competences and skills, leading up to a final report. This would tie in nicely with learning trajectories throughout the programme. Students can then see how courses build upon each other. It does take a while to implement something like this, it is not a small change. To limit workload, one could consider introducing a Pass/Fail grading scale instead of using numeric grades. A numeric grade is very rewarding for students though.

In Eindhoven, the project and students' personal development are decoupled in the assessment. Development is assessed in other courses.
In Delft, students can pursue minor programmes consisting of project work.

Programme management:
Thank you for the input on the design projects of Eindhoven and Delft. In Maastricht, we are already working on biosensors, medical technologies, bioplastics, etc. The further development of the programme does not only depend on the needs of the labour market. Research and research applications are important as well. It is a matter of further exploring where the industry would like to move. The BE programme already cooperates with a department called IDEE where students are introduced to mechanical engineering, e.g. by making living aids for patients. We also have a small honours programme for eight students per year who have a GPA over 8,0. After this honours programme, students really do approach problems differently. It is extracurricular, students are not graded.

Panel:
An honours programme would indeed be a suitable instrument for cross-pollination of business thinking and engineering. Representatives from the industry could be asked to contribute to the content of these honours programmes, for example through an Industrial Advisory Board.