**Report development dialogue MSc Embedded Systems UT**
Tuesday 9 May 2023

*Panel*: Andy Pimentel (chair), Wim Van Petegem, Canan Kasaci Öztürk, Jari Nurmi, Nienke Wessel (student member)
*Secretary:* Peter Hildering

1. *Diversity*

Panel and programme management discuss the very low intake of female students into the programme. The gender imbalance starts in secondary education, where a limited number of female students chooses a technical profile, and an even smaller percentage chooses a BSc such as computer science or electrical engineering. So this should be addressed on a national scale and at a young age to tackle the stereotyping associated with these careers. The programme could contribute to this, for instance by promoting engineering in high schools and invite students to visit the university. Programme-specific efforts to increase the number of students on a short term could be scholarships for female students, if funding can be found for this.

2. *Content of the adapted currciuum*

The content of the adapted curriculum is discussed. The panel is very positive on this, and does not think that there are any essential elements missing. It appreciates the Systems Engineering course, and the attention to social and ethical aspects in this, which might be strengthened more. There should be periodical evaluations of the curriculum to ensure that it remains up to date with the current trends. The panel agrees that there is no need for fixed specializations in the curriculum: students appreciate the current flexibility, and the five themes offer sufficient guidance for students to compose a coherent individual curriculum.

Coming back to the first topic, the panel thinks that the further emphasis of AI in the curriculum could also be used to appeal to female students. MSc programmes on AI at other universities have shown that this domain is less prone to stereotyping than computer science or electrical engineering, and often attract a higher percentage of female students.

3. *Online teaching*

As many other programmes, the MSc Embedded Systems is reflecting on what to do with the lessons learnt on online education in the COVID-19 pandemic. The panel thinks that online teaching methods can serve a specific purpose, as long as they are used deliberately. Examples are online study materials, quizzes and assignments complemented by live sessions on campus where all materials are discussed, possibly even led by students. Offering the option to follow courses online should be used sparingly : only when it fits the teaching methods intended for that course. The traditional 2-hour lecture on campus might not be a suitable teaching method anymore in general: only a limited number of teachers are gifted enough to appeal to all students. This will probably increasingly be replaced by more interactive sessions complemented with online materials and instruction. A point to consider is that working in group projects in an online or hybrid setting might be a good preparation for the professional field, where such settings have become the norm.