Teletijds krant

"Your place for innovative ideas!"

Special Edition | *GHENT - Thursday March 17, 2050* | **฿3**

Smoke development causes concern at Ardoyen Campus

AFNEMERS/AFZETMARKT - At five o'clock on Sunday morning, smoke was detected in a building on the Ghent University Campus in Zwijnaarde. The campus' fire-fighting drones had already been activated and firefighters from various districts arrived en masse at the scene but it soon became clear that this reaction was complete overkill.

Overheated AR and VR servers?

The smoke rose from the central campus building, colloquially known as 'The Forum'. It is an open meeting place where students, researchers, start-ups with strongholds on campus, local residents... can interact with each other in an informal way. The cause of the unexpected smoke development was quite a mystery. "At first we thought that some of the servers running the campus' AR and VR systems overheated" clarified campusmanager B. De Kegel. "Those systems are essential for our foreign students and staff, as well as for residents or visitors with disabilities.



It is through these systems that they are also able to fully experience campus life."

Community at risk?

For a while the exact impact on campus life and functioning remained unclear. Recreational facilities such as the rooftop vegetable gardens, the swimming pond, the sports fields and the sunbathing lawn had already been closed down as a precautionary measure. "I hope this will be over soon", sighed student Tristan. "Up until now I always felt safe and relaxed on this campus. Studying here is such a great experience: the community feeling, the international connections... Going to the campus in Zwijnaarde really is for so much more than just following courses - it's a second home for me!"

False alarm?

Around eight o'clock in the morning, the definitive cause of the smoke development was finally found in the basement of 'The Forum', a space often used for community-building initiatives. "On Saturday evening some students had organised a neighborhood gathering," explained FabLab co-ordinator professor F. wyffels. "Our students are very committed, you know: they want to learn things, change things, have social impact... Unfortunately, yesterday they didn't turn down their prototype for the neighborhood heat network correctly, causing it to overheat. Fortunately, there was little damage and, what is equally important, our students learned from their mistakes."

ORIGINAL PRESENTATION OF STEVE STEVENS (Student Startups.eu)



Reader Guide

Dear reader,

This Teletijdskrant serves as a written testimonial to the 'Teletijdscafé Onderwijs' as it took place on January 12 and 13, 2023. Offering time and space for a faculty brainstorm on the future of engineering education, this event can be seen as an educational counterpart of the 2015 Teletijdscafé. The Teletijdscafé Onderwijs was triggered by the plans Ghent University launched in September 2022 for the university in 2050.

Given the audacious nature of a brainstorm diving 27 years into the future, the output of the Teletijdscafé should in no way be perceived as clear conclusions that can be carved in stone. Rather the inspiring ideas and bold blueprints resulting from the Teletijdscafé, being a snapshot of the thoughts and concerns at the time, invite us to continue questioning our current educational policy work by always keeping an eye on the bigger picture too. The choice for a fictitious 2050 newspaper as the output format, echoes this view and will hopefully, as with a real newspaper, pave the way for plenty more spontaneous and fruitful discussions on the future of education at our faculty.

The articles in this newspaper are based on both contributions by invited speakers and discussions among participants. As a result, the content is at times different from the actual wording in the presentations and discussions. Where recognizable names or pictures are added*, this is by means of a tribute to the speakers - who have been consulted and gave their approval on this. It should be stressed that the corresponding articles and opinions should not be mistaken for verbatim quotes.

When looking for the real content of the pitches, the QR codes and hyperlinks** will guide you to the original presentations.

As an editorial team we hope that our choice for this alternative, more creative format yields a pleasant reading experience. Even more, we hope that it allows the many inspiring ideas to continue circulating and colliding with each other so as to create further unexpected and new insights. We ourselves had a lot of fun and interesting conversations composing this newspaper and we wish you the same when reading and re-reading it and thereby constantly discovering new (multi)perspectives.

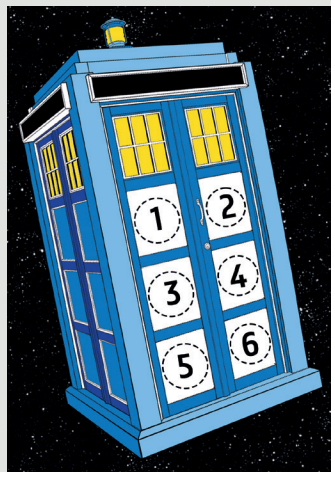
Johannes, Mick & Lander
The APOLLO 8 educational developers at FEA whom the faculty management entrusted with the organization of the Teletijdscafé Onderwijs

**This does not hold for the contributions by the faculty management (Patrick De Baets, Hennie De Schepper and Filip De Turck), Dirk Stroobandt and ChatGPT which are truly theirs.*

*** **QR codes**: content based on pitches (January 12, 2023)*
__QR codes__: content based on discussions and theme tables (January 12 and 13, 2023)

Savings Action

Find the right letter for each of the six spots and head to the iGent reception desk to get a phyisical copy of this newspaper!



This is a playful rendering of the Teletijdscafé 2023

Campus Calendar 2050

CAMPUS LIFE

January 15-16

Chill & Grill Nights
During our special event weekend, our family restaurant at the heart of campus will serve you farm-to-table veggie dishes from the grill and Ghent specialties. The third person eats for free!
- Restaurant 'The Green Spoon', 6pm - 10pm
- Organisation: The Green Spoon by VLK

January 17

The night sky in infrared & ultraviolet
For many years, the campus has had a well-equipped observation deck. Back in 2048 a beautiful, large and fully automated dome was added that contains a 250 cm telescope. Time to fire it up!
- Roof terrace iGent tower, 10pm - 2am
- Organization: Icarus Observatory

February 10

Hermes & VTK Jobfair
The Jobfair is the place to find that perfect job or internship! More than 160 companies from a wide variety of sectors will present a broad variety of opportunities to you!
- Students' Building, 2pm - 8pm
- Organization: VTK & Hermes

March 4

Safely integrating VR and AR technology at your dorm or at home? Piece of cake!
For today's ICT technology, security and efficiency are essential. To keep both our campus and community up-to-date, the FEA ICT department is organizing a free info session.
- ICT department @ New Plateau, 7pm - 9pm
- Organization: FEA ICT Department

March 31

Presentation of honorary doctorate to Raphaël Liégeois
Ten years ago, viscount Raphaël Liégeois conducted neurological experiments on the Mars colony. The experiments lead to key findings on the effects of long-term loneliness on humans and spurred much further scientific research.
- Multi-purpose event space @ The Forum, 3pm - 5pm
- Organization: UGent Rectorate

April 3

Open Bedrijvendag
During Open Bedrijvendag you can see, hear, touch, smell and taste the passion of the various campus companies behind the scenes.
- Startup Hub, 10am - 6pm
- Organization: VOKA East Flanders & VEK

April 20

Zwijnaardse Feesten
A full day of ambiance and entertainment, good food and enjoying the good life
- Event meadow & Students' Building, 8am - 8pm
- Organization: VTK & Hermes

May 2

Research skills & critical thinking
During this training session we dive deeper into qualitative and quantitative research methods where AI plays an important role. Open access for non-UGent personnel.
- Instruction Room @ Open Learning Centre, 9am - 12pm
- Organization: UGain

May 17

Unify body and mind
During this Yoga workshop we will follow a sequence of different asanas and do breathing and relaxation exercises.
- Roof garden Laboratories FEA & FBW, 3pm - 5pm
- Organization: Wel in je Vel

June 3

Appall Academy 6/10: Vanished Villages
The 6th workshop is entirely devoted to the largest wave of municipal mergers that ever took place in our country. What changed on January 1, 2049? What was the impact on the social cohesion of the smallest villages? And was this the last wave of municipal mergers?
- Multipurpose event space @ The Forum, 8pm - 10pm
- Organization: Appall nv

July 4-8

Print & Program your own satellite – stage 4
During the 4th stage of this summer camp, the teenagers continue building their own satellite. This week's focus is on programming & 3D printing for advanced users. Target audience: 16-18 years. Camping on campus is possible.
- The Makers Lab @ New Plateau
- Organization: STEM @ FEA

July 8-10

Aardvark Festival
3 days, 3 stages. The biggest headliners, young wolves, fierce rockers, impressive singer-songwriters, fresh discoveries. Aardvark Festival attracts music from all genres with great conviction.
- Event meadow
- Organization: Live Nation

August 22-26

Designing in virtual reality for beginners
The camp for all VR designers in the making! Guided by experts, you will discover and apply the basic principles of VR design. Target audience: 6-8 year. Overnight accommodation is possible.
- The Assembly Hall @ New Plateau
- Organization: STEM @ FEA

September 12

Smart mobility to and from campus
Information session for new foreign students, educational staff and researchers about transportation to and from campus.
- FDO department @ New Plateau, 10am - 12pm
- Organization: FDO FEA, De Fietsambassade and De Lijn

September 28-30

Architectural design with zero (atmospheric) pressure
During this crash course you will be immersed in the most recent construction technology, methodology and design.
- The Simulation Lab @ New Plateau, 5pm - 9pm
- Organization: FEA Architecture School & Lifelong Learning League

October 15

Introducing permaculture in your own garden
What is an accurate definition of permaculture? And how do you get started? This hands-on workshop will guide you through the principles of permaculture on a Saturday afternoon.
- The Living Lab @ 't Klein Boske, 2pm - 6pm
- Organization: Velt vzw

November 19

Organ Concert: From Bach to Franck
After a short tutorial on the basics of repairing historical organs, former dean Patrick De Baets will offer you a musical journey through time. With works ranging from Johann Sebastian Bach to César Franck, via Joseph Rheinberger, Gabriel Fauré and Jean-Charles Gandrille.
- Multipurpose event space @ The Forum, 8pm - 11pm
- Organization: Gents Kunstenoverleg

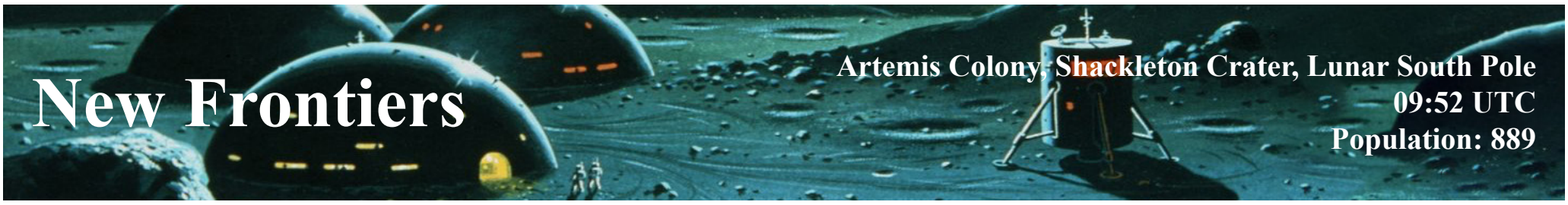
November 26

Night of the Bat
After a fascinating presentation on the one and only flying mammal, a bat guide and bat detector will accompany us in search of real bats on campus Ardoyen.
- The Shelter @ 't Klein Boske), 9pm - 1am
- Organization: Natuurpunt Gent & VLK

December 7

Book presentation: "The 22nd century Renaissance" by Fredo De Smet
In his latest book, Fredo describes the current Renaissance as a technological heyday in which nature claims its place as the design parameter par excellence. Signing session after the presentation.
- Reading Zone @ Open Learning Center, 3pm - 4pm
- Organization: The Zwijnaarde Book Club

This is a playful rendering of the Teletijdscafé 2023



New Frontiers

Artemis Colony, Shackleton Crater, Lunar South Pole
09:52 UTC
Population: 889

Astronaut-architect Scott Davidson on the new 'Architectural design with zero (atmospheric) pressure' course

CURRICULA - *During Scott Davidson's 15 years as an ESA astronaut, he has ventured into space four times, and is currently capping his career with a yearlong stay at the Artemis Lunar Colony where he conducts research on new materials and is the responsible lecturer for the new course 'Architectural design with zero (atmospheric) pressure'*

Professor Davidson, thank you for your time. Despite all your research activities on new building materials, you still found time to get a new course off the ground. Can you broadly describe how it fits in the global structure of the existing study programs?

Well, the 'Architectural design with zero (atmospheric) pressure' course is situated within the Ghent University Spatial Architecture programme. Students who wish to follow the five-year programme will receive an education that can roughly be divided into two large components:

- In the first years, we teach the fundamental scientific and technical foundation. This basis leads to problem-solving skills and critical thinking. In essence it is knowledge on which we can later construct more specialized content.
- During the later years, the focus shifts more towards socially relevant multidisciplinary project work and there is room for debate and reflection. Stimulating the students, actively coaching them, teaching them to develop a mentality for problem-solving... these really are the key concepts during these later years.

How are students evaluated throughout their programme?

Throughout the programme, students build their own portfolio in which their skills, knowledge and attitudes are assessed by their teachers and AI Tutors. In the first years we still take exams to test their knowledge but towards the end of the programme this form of evaluation disappears completely. Taking exams for final-year students, for example, is really a waste of time in my opinion! The student's progress is then evaluated more through continuous assessment.

Can students move into the job market with a limited portfolio?

That will be possible. After all, as an institution we have long since lost the exclusive mandate to determine at what point an architecture student really qualifies as 'an Architect'. Indeed, that distinction is not so clear cut. After all, design studios today decide autonomously when a certain portfolio is sufficient for them.
However, a finished UGent portfolio (so when a student has completed the full 5 year programme) is a guarantee that you have achieved the competences of a specific learning track in a quantitatively and qualitatively sufficient way. So the portfolio still is a socially and scientifically based quality label worth completing for students.

Learning track? What exactly does that mean?

Woven throughout the five-year course are a number of learning tracks that visualize the different growth paths for students. For instance, you have technical, research-oriented, commercial, managerial... growth paths. As a student you choose your own path but this system also allows you to switch between institutions. Moreover, our virtual AI Tutors not only teach our students but also detect their skills, knowledge and attitudes in order to assist them optimally in the grow path and future career of their choice.

The course 'Architectural design with zero (atmospheric) pressure' seems like a well-filled course to me....

Well and qualitatively filled, indeed, but there is still enough free time and space in the curriculum. In the past, rational choices were made about what should and should not be taught synchronously by a physical person. Automated personalized self-paced learning using an AI Tutor, for example, proved to be a qualitative form of teaching for many basic subjects. This created a lot of space in the curricula, and it also ensured that model courses could be compressed in time for the brightest minds and spread out more for others.

Does education stop after Ghent University?

Of course not, lifelong learning really is the norm in engineering education today. Moreover, those continuing education modules (formerly called microcredentials) can be taken at various knowledge centers throughout the world. Who knows, maybe one day we will also offer a module here, on the moon!

Thanks for this interview, professor!

You're welcome. Over and out.

CURRICULA



Ed Steab

Nineteenth century Poortakker monastery goes to ground

Ghent is radically rearranging itself. While social projects are being developed in the center of Ghent, the outskirts of Ghent are profiling themselves as a center of innovation and European excellence.

GHENT, 17/03/2050 - For many years the Poortakker monastery complex in the old Houtlei has stood empty. It had an eventful history as a beguinage, convent, orphanage, school building and finally hotel and conference center. However, for some time it no longer met contemporary needs and expectations. The building was abandoned and will make way for a new social project.
The neo-Gothic monastery chapel was a meeting place for many years, initially for Catholics and since the beginning of the 20th century for conference attendees. Many meetings were organized there. An unmistakable highlight was the "Teletijdscafé" of the Faculty of Engineering and Architecture of Ghent University. 'That was an experience,' says Patrick De Baets (84), who was dean of the faculty at the time. 'The idea was to think about the engineering education of the future. We had convened students, assistants, professors and technical and administrative staff to spout uninhibited ideas about what the faculty might look like in 2050. The enthusiasm was unseen! Young and old, student and prof, all thought together about the faculty in 2050. The craziest ideas emerged, the greatest ambitions, the wildest dreams.'
The result of this "wild" brainstorming cannot be escaped today. The engineering faculty took an unprecedented flight, the number of students multiplied, and today the faculty occupies a leading position in the educational landscape. The buildings in the Plateaustraat and St.-Pietersnieuwstraat proved to be no longer sufficient and a hypermodern technology campus was built in Zwijnaarde with the support of Ghent University and the business world. Today, the campus attracts students and researchers from all corners of the world. The faculty is an engine for innovation and was honored with the European Innovation 2050 award.
'Brains remain our region's most important resource,' states Prof. Mirai Yoshida (57), rector of UGent. 'The university will continue to work with its partners on global cooperation across fields of science, across national borders and across philosophical-ideological boundaries. Precisely bridging cultural differences is the key to economic success and, more importantly, to lasting world peace.'

This is a playful rendering of the Teletijdscafé 2023



Flemish Design Week

Where art and science interact

AANBIEDERS - The annual Flemish Design Week has been kicked off at its usual location: Kortrijk Strand. As always, this multi-, inter- and transdisciplinary event, which has its origins in a fruitful collaboration between Design Regio Kortrijk, Howest and Ghent University's industrial design programme. The event brings the state of the art of "design", in the broad sense of the word, to our country. The workshops, interactive exhibitions, lectures, studios, fab labs and all of the other activities that are part of the program also make this the networking opportunity par excellence for designers from all possible areas of expertise.

Given the versatility of the program and the charm and conviviality that the event exudes, organizer Lore Brosens sees an increase in the number of participants from the general public year after year. This applies both to the event itself (which is free and open to all) and to the citizen science projects associated with it. In particular, the AI, virtual reality and hands-on activities for children and adolescents are very popular, not only with young families and schools in the region, but even beyond our national borders.

FLEMISH DESIGN WEEK

14 - 20 MAART 2050
KORTRIJK STRAND

Foreign participation is facilitated throught the simultaneous translation system that translates speech into ten different languages in real-time. This system has been rolled out across the entire event location (and that works flawlessly). A large survey has shown that participants from abroad are primarily attracted by the creativity and innovation that the Flemish Design Week exudes.

The central theme for the 2050 edition is "design and higher education". Lore Brosens: "As always, the theme is guaranteed to be interpreted very broadly. At first you might expect it to be about designing the so-called "campus of the future", where design, for example, contributes to making buildings even more energy-positive or to more ergonomic work and study spaces. In reality, however, it is about so much more. For example, the program includes a highly interesting panel discussion on "Designing Design Courses", which will reflect on how students' learning outcomes and learning gains can be improved in the mandatory interdisciplinary projects that are part of every university curriculum. I don't want to reveal too much yet but I can already give a teaser: among other things, there are a number of inspiring testimonies about how "part-task practice"—a teaching methodology that encourages routine reasoning to enhance problem-solving thinking—has shown promising results in recent decades. Indeed, research has shown that students who regularly encounter a specific problem within different contexts and scenarios not only further develop their critical and outside the box reasoning skills, but that they also propose solutions that provide breakthroughs in handling real-life problems in society. Since these part-task practices show effectiveness even after just one hour, design experts from different disciplines will discuss how to develop their potential in view of further promoting students' complex learning skills."

Flemish Design Week, where art and science interact, from Monday, March 14 to Sunday, March 20, 2050, Kortrijk Strand. More info online.

ORIGINAL PRESENTATION OF LORE BROSENS (UGent)

DESIGN SPRINT "DESIGN & HIGHER EDUCATION"

MAATSCHAPPELIJKE RELEVANTIE - During five days (15-19 March 2050) the Flemish Design Week serves as a creative hub for designers from a variety of backgrounds to develop designs, prototype them, and immediately test their ideas with customers. Those wishing to enter the contest should submit their design by Saturday 19th March, 1pm. During the Design Week's closing event on Sunday 20th March, 8pm, the winning design will be announced.

Minimal design criteria

- Demand-driven
- Multi-, inter- or transdisciplinary approach
- Show evidence of multicultural affinity
- Solution to a socially relevant problem

Design plans should include

- Multi-, inter- or transdisciplinary contextualization on the demand-driven nature of the design
- Evidence of end-user testing
- Proof of insight into the potential shortcomings of the design, including possible pitfalls and solutions
- A long-term vision with regard to the sustainable nature of the design
- A list of sources that were consulted or used in the development of the design
- A communication strategy for the new design

1st Prize: financial and logistic support from a relevant company or organization to perfect the design and promote it on the sustainable market

Eligibility

We welcome participants from all ages, backgrounds and fields of specialization. Participation in international and multicultural teams is strongly encouraged.

MAATSCHAPPELIJKE RELEVANTIE



Hennie De Schepper

Musings of a former director of studies...

Woke up this morning with a big smile, thinking of my lunch date in the Green Spoon at Campus Ardoyen. Such a long time since I last saw them… Mick, Lander, Johannes… my slightly crazy dream team back in the twenties...

It really has been a blessing that they all continued working for Ghent University, also after my retirement. Now that I think of it, Lander did leave for a couple of years to explore the private sector, but eventually returned 'home', with more ideas than ever and a very extensive network of industrial contacts. This definitely helped the faculty to expand its student support team with dedicated coaches from different companies.

Beautiful memories spring to my mind… the Teletijdscafé in 2023, where almost the whole faculty gathered to brainstorm about the future of engineering education
and exciting ideas emerged for our future innovation campus. Then it all seemed a wonderful dream, now it has become reality… state of the art fab labs, more than sufficient multipurpose lecture rooms, plenty of individual quiet work places as well as discussion rooms for group projects… What a privilege it was to be part of that period full of big plans and expectations and more than that, to witness it being realized, well, partially at least, during my active career.

Suddenly my smile becomes broader… some people really were convinced that basic mathematics would have disappeared from the curriculum by 2050! Of course the idea was justified, seen the rapid development of AI systems perfectly capable of training students' mathematics skills… but students made it very clear that, in order to grasp the formative value and beauty of math, real teachers of flesh and blood were needed. It was heartwarming.

Oh yes, it definitely will be a bright and sunshiny day, today. The Green Spoon, 12 o'clock. Perfect.



This is a playful rendering of the Teletijdscafé 2023

INTERNATIONALISERING - Due to the faculty counsel's renewed determination to continue strengthening the faculty's activities outside the European continent by co-founding an innovation faculty at an African university, you are presented this double interview with Nozizwe Imbole and Angel Iglesias. As a foreign associated researcher, Ms. Nozizwe is taking up several microcredential courses at our university while Mr. Iglesias is one of the newest study program chairs at FEA.

Dear Angel, dear Ms. Imbole – can I say Nozizwe?
N: "Sure you can!"

Let me first of all thank both of you for agreeing to do this interview. Especially for you, Nozizwe, I heard these are quite busy days?
N: "Yes, they are! At the moment we are going through the process of establishing the very first joint innovation faculty between Ghent University and my home university. Before my first visit to Ghent – about three years ago – the only goal was to get inspired by the way this faculty of Engineering and Architecture is structured in order to apply the same principles when initiating a new faculty back in my home country. It turned out, however, that our aspirations are so similar and complementary that it would've been a pity not to conceive this project as a truly joint adventure!"

It certainly is a promising idea we are looking forward to. How do you look at this evolution, Angel, as a study program chair? What opportunities do you see?
A: "I have to admit I didn't follow the whole process that closely but an innovation faculty that is intrinsically multicultural by design can only further refine the way we all – and in particular our students - look at the world and answer the challenges it offers us. Whenever students get the opportunity to collaborate with fellow students from all over the globe, you see them evolving so much faster and both their interpersonal and interdisciplinary skills unfold in a way you can't compare to what they were used to in secondary school. An open and multidiverse mindset is such a valuable attitude for whatever career or life turning events await them after graduation."

Speaking of which: Nozizwe, do you feel comfortable with this 'multidiversity' term?
N: "Sure I do. Way back people used to call it 'internationalisation' but I always considered that a peculiar word. If you think about it, it really is fascinating how it first creates artificial boundaries based on an outdated 19th century concept of 'nations', only to immediately break it up by crossing those boundaries with the 'inter'-prefix. If it weren't for the connotations of the eponymous economic paradigm, I would've preferred 'globalisation' because of its positive message for the globe. But sure, multidiversity also has its merit in elucidating how working across the globe in essence only adds one more step to the diversity people already encounter in everyday life."

Angel, how is multidiversity reflected in the current curricula – e.g. within the study program you are chairing?
A: "That really is a continuum starting on day one of the program with the yearly opening challenge. Here students have to deal with the basic level of diversity that is already present amongst them: their differences in background, foreknowledge, life experience, cultural habits, beliefs, social intelligence level – and, typical for Flanders, of course their dialects. Afterwards an extra dose of diversity is injected through guest lectures from other institutions and alumni who are now working in industry and typically combine their visit to our campus with some follow-up meetings on joint research activities or starting up new collaborations. Next, if you ask me about the most immersive example, students are expected to opt for some kind of internship. Before the last program reform we used to only encourage our students to do this but given the diversity in internships (ranging from colla- borating in local firms to developing summer courses all the way to doing research at labs outside of Europe) we ultimately made them obligatory for everyone. You just can't compare such an experience to the 'in vitro' activities we offer our students within the campus walls!"

Do these initiatives really offer our students a reliable experience of what it is to collaborate with people from all over the globe, Nozizwe?
N: "I honestly think they do. And in my opinion, that's even more the case for the master challenge (the former master thesis) students are confronted with in their last year and where they work within one of the research groups at this university: it's hard to find more diverse collaboration settings in this country than these. Last week I took part in one of the intervision meetings of such students where they had to share their impressions and advice on collaborating with their colleagues-for-one-semester and it really surprised me how spot-on their observations were! No doubt they're gonna apply them straight away after graduating!"

Given your enthusiasm, would this teaching practice be one of the things you would use to persuade other foreign students to choose to study at this university?
N: "That would certainly be part of the story, yes. Next to the intense interconnection with other faculties (e.g. the humanities and the health sciences) and internationally renowned research centers Ghent University – and by extent the broader region – houses, of course. They really make it hard for ambitious foreign students not to opt for Ghent university." [Smiles]

"Yet another policy change occurred with respect to the admission fees in this part of the world. When I was in primary school they used to be so low in comparison to other universities; a lot of people thought there just had to be a catch somewhere. It sounds like a contradiction but since these fees have been levelled with the global standard, way more people consider coming over to Ghent. Of course Belgian students first reacted fiercely because the admission fees also had to be raised for them. Meanwhile, however, they really discovered the 50% discount they receive when going on Erasmus, which compensates for the costs of their global experiences."

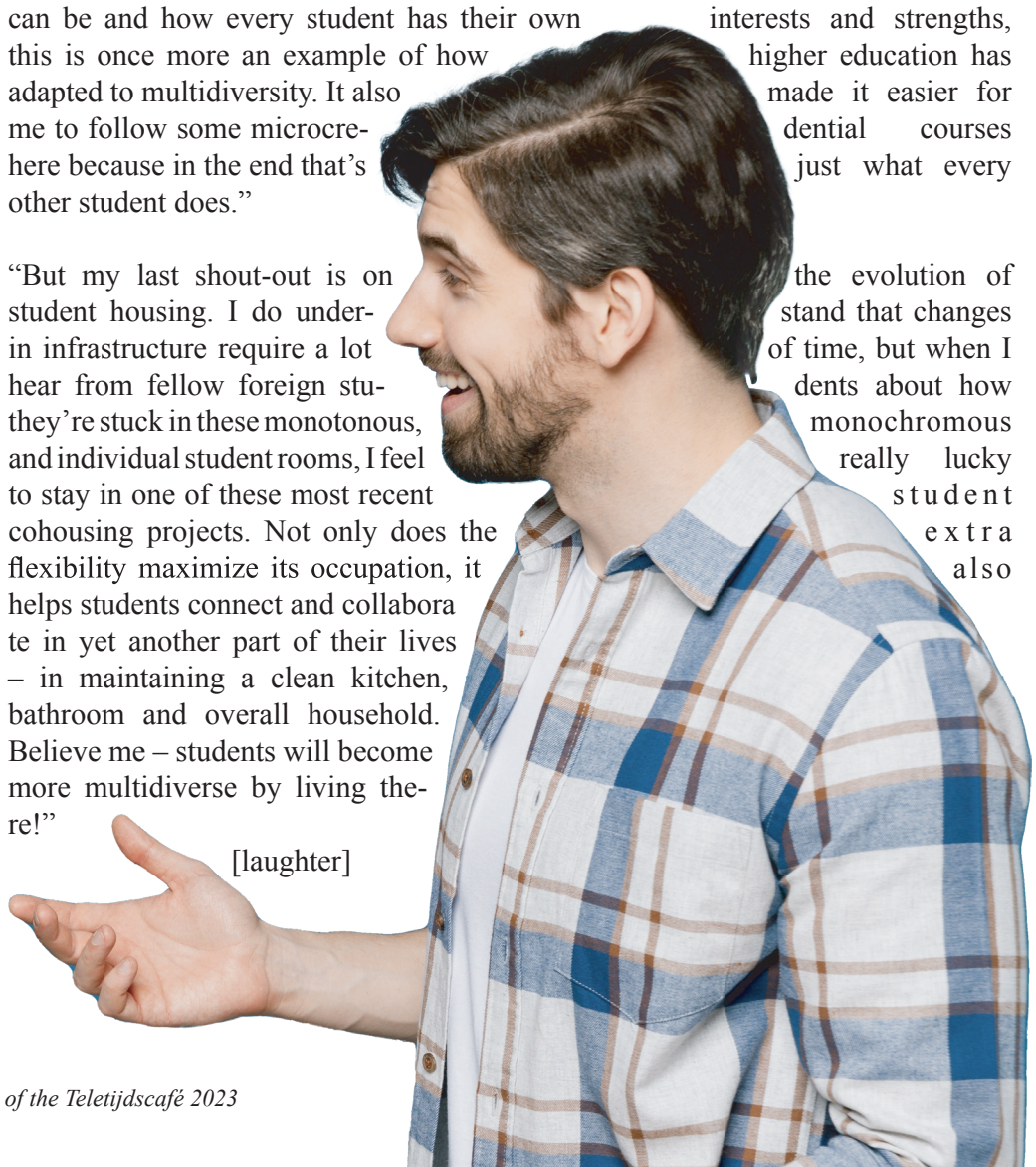
Angel, can you think of any other policy changes that have had an impact on this evolution?
A: "Yes, I do: we shouldn't underestimate the impact of the modular system. Decades ago, the academic year could only be split up into two semesters. However, when I was a student myself lecturers were allowed to agree amongst each other to exchange 6 weeks so as to reach a situation where each course was taught in a more intense six-week period. After some turbulent first years, this system created way more freedom for both students and lecturers, both on an organizational and a content level. To name a few advantages, students were offered way more chances to apply their new insights to real life problems because they didn't have to wait until week 8 in order to have learned all the necessary background information. As an unexpected side effect, the shorter course duration also prevented students from sticking together in the very same groups all year long (or even during the whole of their study program), making it now easier for foreign students to really intermingle with local students. Since this purely organizational change, group work is way more diverse and students gain social intelligence as well."

Would you like to add a last shout-out as well, Nozizwe?
N: "Yes, I do, but first of all Angel is totally right when emphasizing the impact of the modular system. It also helped me to blend in way easier 'cause this higher flexibility in putting together your own study program also reduced the importance of fixed study programs in the master's. In accepting how diverse an engineer can be and how every student has their own interests and strengths, this is once more an example of how higher education has adapted to multidiversity. It also made it easier for me to follow some microcredential courses here because in the end that's just what every other student does."

"But my last shout-out is on the evolution of student housing. I do understand that changes in infrastructure require a lot of time, but when I hear from fellow foreign students about how they're stuck in these monotonous, monochromous and individual student rooms, I feel really lucky to stay in one of these most recent student cohousing projects. Not only does the extra flexibility maximize its occupation, it also helps students connect and collaborate in yet another part of their lives – in maintaining a clean kitchen, bathroom and overall household. Believe me – students will become more multidiverse by living there!"

[laughter]





INTERNATIONALISERING

This is a playful rendering of the Teletijdscafé 2023

From the archives…

AANBIEDERS - In 2023, Professor Luc Taerwe presented his ideas on the **'engineer of the future'** and the **future of engineering education** at the Teletijdscafé event organized by the Faculty of Engineering and Architecture at Ghent University. He based his analysis on suggestions from the industrial advisory board and the university's vision on future-proof curricula, while adding his own experiences. Although many of his views seem evident today, professor Taerwe's propositions and action points clearly illustrate that some others remain relevant and in need of close attention. Please join us on this short trip down memory lane…

Professor Taerwe: "Every academic institution is confronted with the challenge to both continuously update its degree programmes in terms of content, and to develop an educational vision that guarantees the future-proof character of those degrees. Graduates must be adequately prepared throughout their education for the complex economic, social, ecological and societal challenges that they will face in the future. At Ghent University, the future-proof character of a study programme is assessed on the basis of 5 criteria, namely **T-shaped professional, Stepping stones for internationalization, Inter-/multi-/transdisciplinary implementation of the curriculum, Embedding in society and Central position of the student**."

The criterion of the **T-shaped professional** focuses on whether a study programme offers a well-considered balance between acquiring '**discipline-specific knowledge and skills**' on one hand, and increasingly important '**generic competencies**' on the other. The latter are comprised of three clusters.

- The first, 'intrapersonal skills', includes competencies related to scientific integrity, lifelong learning, self-leadership, taking up social responsibility, etc.
- Next, the 'interpersonal skills' cluster refers, amongst others, to international and intercultural competences, sensitivity to diversity, written and oral communication skills, and collaboration and leadership.
- Finally, in the 'creative and innovative skills' cluster, one encounters skills such as critical thinking, creative and problem-solving driven thinking, entrepreneurial skills and sustainability competencies.

Digital competences (e.g., human intelligence vs. AI) fit into each of the three clusters and create additional opportunities for learning and innovation since digitalisation and the further development and use of AI have become unstoppable, especially since the COVID-crisis.

Professor Taerwe: "The engineer of the future takes up a **variety of roles**. In addition to acquiring an in-depth technical foundation, which remains the core of every engineering program, the **engineer-entrepreneur** should be able to take on a broader role within the business world and must therefore have knowledge of the broader financial and economic context. He must be versed in business management and stakeholders involvement and have the skills to engage a team, motivate people and achieve results. A **T-shaped engineer** realises that he is part of a larger network and that an integrated story with intensive multidisciplinary collaboration is the only way to success. The **engineer-innovator** must learn to deal with successes and setbacks (in particular through learning lessons from unsuccessful collaborations, projects, innovations, products, etc.). He has learned how to deal with sudden shocks (e.g. COVID, war on European soil, energy crisis) and shows resilience and flexibility in the face of uncertainty. Furthermore, the **engineer-visionary** looks beyond current problems and dares to set long-term goals, for example by asking what is desirable within 5 or 10 years rather than what needs to be solved now. In doing so, the engineer-visionary contributes to a more positive image of the engineer and engineering education."

Through a sufficient offer of **internationalization initiatives** (e.g., internationalization@home, promoting exchange programmes, stimulating the influx of international students, etc.), an academic institution must ensure that all of its students, regardless of whether or not they go on an exchange abroad, acquire a certain set of **international and intercultural competences** throughout their studies.

Professor Taerwe: "Today, engineers must be able to deal with more challenging financial circumstances and a shrinking economy. Moreover, in the context of globalization, it is becoming increasingly important to cooperate with other parts of the world and provide training to help countries move forward, while taking into account their cultural specificities. It is therefore important that engineers gain a picture of the world during their training and learn to work under widely varying circumstances. In addition, **exposure to other cultures, customs and points of view** is inspiring and promotes innovation. The **engineer-entrepreneur** looks beyond borders and exhibits **openness in his or her thinking**, for each country has specific characteristics in their engineering training programs. An engineer must take this into account and be able to work in a large, diverse team. The possibility should be explored to set up a course in which students work on projects together with engineering students from other countries, in order to familiarise themselves with **different professional cultures**."

The growingly complex challenges that students face after graduation increasingly require a **multidisciplinary approach** during their studies. A university should therefore strengthen interaction between students as part of their study programme, both within their own field of study and beyond their field's borders.

Professor Taerwe: "As part of their education, engineering students should **become acquainted with profiles** other than merely that of an engineer. Although project-based learning often requires teamwork, currently all team members have the same technical engineering background and are therefore not representative of the teams in which they will work during the whole of their future careers. In addition, the objectives of these project-based courses are often rigid and offer no possibility of failure. Study programmes should therefore further explore the possibility of organising **cross-disciplinary events** such as hackathons, boot camps and project weeks as part of the official curriculum, where an idea or concept is developed into, for example, a mini business case or in which students work in teams with peers from other programmes on potential solutions for **socially relevant issues."**

University courses must prepare students to take up a **role in society**. In order to prepare future engineers for the **challenges** of a rapidly changing society, study programmes must continuously question themselves on the following points: does the programme respond to current and future social needs? Do our students get the opportunity to engage with real-life challenges? Does the programme offer students sufficient opportunities for social commitment and internships?

Professor Taerwe: "The typical engineer often takes up a **role behind the scenes**. Because of this, the link with **societal challenges** that are solved by the engineer is not always clear. It is therefore important to adequately address social issues during their education, for example, in a course on the social function of engineering. We should look into the possibility of increasingly organising internships in which students are not merely trained in their technical role, but also to anticipate broader challenges in a company or an organization. Another issue that deserves further attention is that the engineering student population does not reflect the general population. Since an engineer has to solve a wide range of problems, **diversity in the student population** is also highly necessary. Consideration should be given to how to attract groups within society that are currently underrepresented in the engineering programmes by adapting our profiling. For example, STEM initiatives based on a better understanding of young children and teenagers' interests and lifestyle (e.g., everyday use of tablets, metaverse, AI, VR) can make a difference in getting young people interested in engineering before their higher education. Also, efforts should be made to proactively select a greater diversity of people, including but not limited to women and people with a migrant background, to represent the field of engineering at public events. Finally, student groups that have a statistically lower chance of success should be guaranteed active support such as an adequate study environment or additional supervision."

The education of the future encourages students to shape their own learning trajectory. This means, among other things, that in addition to their broad (and necessary) basis education, students have sufficient **windows of opportunity** to personalize and tailor their curriculum based on their individual competences and interests.

Professor Taerwe: "It is of course key that students are well supported when making these choices. Our engineering programmes should ask themselves whether the education and training they offer pay sufficient attention to the specific **strengths of the individual student**. Furthermore, thought should go into developing attractive courses in which students gain a better picture of how they can contribute to society, sustainability or climate change mitigation, a discussion in which students should also be given a voice. It is important to make sure that students' creativity is not hampered due to e.g., a lack of interaction, or the limited range of elective courses."

"It goes without saying that the education of the 'engineer of the future' requires a **stimulating learning environment**. In my opinion, the campus of the future therefore is a cozy place that creates a sense of belonging and the possibility to study and relax, and that contributes to the development of students' social skills. The campus itself should be an example of how people, profit and the planet can be reconciled. It should be an environment that naturally encourages interdisciplinary collaborations, both with industrial partners and with other fields of study such as the social sciences and humanities."

ORIGINAL PRESENTATION OF LUC TAERWE (UGent)

This is a playful rendering of the Teletijdscafé 2023

Een dag in Delft

AANBIEDERS - Reisblog van Leo Kestens

8u30

Aankomst op campus met elektrische deelstep. Ik check met de app welke laadpaal in de garage beschikbaar is. Via een van de vele zogenaamde ‘groenpaden’ wandel ik naar het energieleverend gebouw Echo, waar ik zo meteen les zal geven.



9u

Vandaag doceer ik ‘Metal Science’, een vak dat ik ook na mijn emeritaat steeds ben blijven verzorgen. Eigenlijk moet ik ‘co-doceer’ zeggen want in dit vak geven de studenten van tweede master les aan hun jongere collega’s in de eerste master. Dit is ‘leren’ op zijn best, zowel in de betekenis van ‘teaching’ als van ‘learning’. De samenwerking tussen studenten, assistenten (doctoraatsstudenten helpen de studenten in de voorbereiding van hun les) en docent is een concrete manier om het sociaal weefsel in de opleiding te versterken en onderwijs activerend te maken én het helpt de studenten een hele resem aan soft skills te ontwikkelen. Als verantwoordelijke lesgever sta ik aan de zijlijn en coach ik waar nodig. Tijdens de les stellen studenten van de eerste master heel wat pertinente vragen. Bas, die vandaag het college verzorgt, trekt zich uitstekend uit de slag. Enkel bij een meer verdiepende vraag spring ik even bij.

11u00

Na mijn les ga ik naar de flexibele werkplek in Echo. Ik neem onderweg een koffie aan één van de vele organic fairtrade koffiemachines op de campus. TU Delft heeft eindelijk begrepen wat lekkere koffie is J. De flexibele werkplek is een focusruimte waar je naast het getik op laptopklavieren enkel af en toe wat koffiegeslurp hoort. In alle gebouwen van de campus zijn er dergelijke werkplekken voorzien, waardoor je een springuur tussen lessen of vergaderingen efficiënt kan besteden. Ik beantwoord enkele dringende mails en neem het programma en enkele documenten voor de OC-vergadering van deze namiddag door.



12u30

Ik heb met een collega afgesproken in het universitair vegetarisch restaurant ‘De Tuin’. Gezien de ligging naast de grote gemeenschappelijke campusmoestuin is de naam goed gekozen. TU-Delfters van alle geledingen werken mee in de tuin. Sommige personeelsleden gebruiken het ‘ontspanningsuur’ waar ze dagelijks recht op hebben om even met hun handen in de aarde te wroeten. Ook heel wat studenten zijn het project genegen en het bloeit (letterlijk en figuurlijk) als nooit tevoren. Restaurant ‘De Tuin’ kan momenteel al voor de helft van zijn groenten op oogst uit de moestuin rekenen. Het doel is om ooit volledig zelfvoorzienend te zijn.



13u30

De opleidingscommissie van vandaag verloopt hybride. Gezien heel wat vakken in ons opleidingsprogramma door onze studenten bij buitenlandse partneruniversiteiten gevolgd worden (hetzij online vanuit TU Delft, hetzij in het kader van een uitwisseling in het buitenland), zijn hier ook steeds buitenlandse collega’s op uitgenodigd. Omgekeerd maken enkele van onze vakken aan TU Delft officieel deel uit van studieprogramma’s bij partnerinstellingen. Op deze manier hebben we de uitdaging om de opleiding te internationaliseren echt omarmd en is het meer gaan betekenen dan enkel de verengelsing van het masterprogramma. Als docent is het uiteraard niet evident om met zo een divers publiek om te gaan en dit zowel on campus als online, maar het is een mooie opportuniteit om uit de eigen bubbel te breken. Nog belangrijker is wellicht dat dit ook geldt voor de studenten voor wie internationale groepswerken intussen eerder de norm dan de uitzondering geworden zijn.

Een belangrijk agendapunt op de OC van vandaag is de flexibele academische kalender. TU Delft is al vele jaren geleden afgestapt van het klassieke semester en verving dit door een systeem van kwartaalvakken. Dat de studenten veel keuzevrijheid hebben in het samenstellen van hun curriculum vinden we allemaal een goede evolutie op zich. Het blijft voor onze opleiding (en de roosteraars in het bijzonder) echter een hele klus om enerzijds rekening te houden met de individuele wensen van studenten en lesgevers en anderzijds alle lessen en examens vlot ingepland te krijgen. Een hele evenwichtsoefening... benieuwd of er na vele maanden discussie over verschillende mogelijke flexibele agenda’s vandaag een doorbraak komt.

15u30

De flexibele kalender blijft een uitdaging maar ik heb toch het gevoel dat we vandaag terug een stap in de goede richting hebben gezet. Het komende anderhalf uur laat ik die kwestie voor wat ze is en gaat mijn focus naar het begeleiden van mijn studenten. De structurele hervorming van ons BA/MA-programma van de voorbije decennia heeft geleid tot een inhoudelijke verschuiving in de master van een traditionele nadruk op de kenniscomponent naar veel meer aandacht voor de research component. Dit uit zich ook in studiepunten, waarbij de scriptie nu 45 studiepunten bedraagt t.o.v. de 24 studiepunten uit het verleden. Die nadruk op de onderzoeksvaardigheden betekent ook dat alle docenten en assistenten door het wegvallen van bepaalde onderwijsactiviteiten nu meer tijd kunnen besteden aan het begeleiden van kleinere groepjes masterstudenten en zelfs aan één-op-één sessies. Vandaag komt er een groep van vijf studenten langs. Ze stellen om beurt de stand van zaken van hun thesisonderzoek voor en krijgen meteen peer-feedback. Ik modereer de discussies en stel bijkomende vragen om de studenten te laten reflecteren over wetenschappelijke integriteit.



17u

Meestal keer ik omstreeks 17u huiswaarts maar vandaag neem ik nog deel aan een van de vijf Teletijd-diners die in 2050 door TU Delft georganiseerd worden. Met een open blik op de toekomst verbeelden we ons bij een lekker etentje met vertegenwoordigers vanuit de industrie, de studenten en de academische wereld hoe het onderwijs en de campus er in 2075 zullen uitzien.



This is a playful rendering of the Teletijdscafé 2023



Filip De Turck

Alumni event @ Ardoyen campus

Yesterday, together with hundreds of other graduates of the faculty, I participated in an interesting alumni event on the Ardoyen campus. The tram took a large number of participants to the bustling heart of the campus, the other participants came with their self-driving electric cars. I remember a TechBoost! edition from many years ago on the basics of electric cars and power. The predictions made at the time have been realized for some time now and there is no longer any question of 'charging point stress'. My self-driving car provided an entrance ticket to the car park itself, I got out at the entrance of the large student building on the campus, and my car then drove itself to the automatically allocated parking space.

Some alumni were present at the event via a hologram because they are active abroad and nevertheless do not want to lose touch with their home campus and the recent technological developments on campus. During the event we received an overview of the latest technologies and expert views in various domains of our choice. Subsequently, interesting demonstrations were shown, where we were all in the front row thanks to 'Virtual Reality' and were able to control the demonstrations ourselves.

Major events have been taking place on campus for some time now, as well as in the Architecture School in the Technicum and on the Kortrijk campus. Occasionally, summer events are also held in the cosy courtyard gardens of the Plateau building. A master plan is currently being developed to connect the campuses of the faculty via a hyperloop, and the necessary budgets are being sought for this through, among other things, donations by the alumni.

The reception was provided by the student associations and catering companies, which are located on the campus. Tasty local products were served and the atmosphere at the reception was excellent. After all, it is always nice to see fellow students again and to look ahead together! When my self-driving car came to pick me up afterwards, I thought back fondly on the 'Teletijdscafé'-editions in 2015 and 2023, where the foundations were laid for the Technology Campus master plan. The now internationally recognized campus is in full bloom and is the cradle of economic and social progress in the region. Next year, in 2051, the alumni association will celebrate its 175th birthday. I'm already looking forward to this birthday party and to the next visits to the technology campus!

[Parlementair vragenuurtje]

AFNEMERS - Naar aanleiding van de parlementaire vraag tot verduidelijking welke dan precies de beleidslijnen van haar voorgangers zijn waar kersvers Vlaams minister van onderwijs Evita Willaert op zal voortbouwen, schetst de minister de twee facetten die haar reeds decennia nauw aan het hart liggen:

In een eerste pleidooi vraagt de minister oog te hebben voor het bredere ecosysteem waarbinnen maatschappelijke uitdagingen spelen. Slechts door steevast vanuit deze connectie en interactie te denken, leiden we een generatie op die er werkelijk antwoorden op kan bieden. Een generatie die meer dan ooit inziet dat oplossingen niet lineair volgen uit wat een probleem veroorzaakt heeft maar net buiten ons gebruikelijke denken moeten worden gezocht. Dat kan enkel door bruggen te blijven bouwen tussen afzonderlijke disciplines en een grotere diversiteit aan ideeën toe te laten.

In een aansluitend pleidooi breekt de minister een lans voor de bepalende rol van ons onderwijs. Dat bevindt zich immers ook zelf binnen een breder ecosysteem waar het een hefboom moet blijven betekenen voor maatschappelijke verandering, zoals het dat de afgelopen decennia geweest is voor diversiteit in STEM-richtingen. Maar er zijn vandaag nog steeds veel groepen die minder de weg naar de 'technische' studies vinden en wiens blik en achtergrond verfrissend kan zijn. Onderwijs kan bij elke individuele student immers een zaadje planten dat een heel leven lang mag bloeien en maakt op die manier een wereld van verschil voor al wie het mag genieten.

Met name ziet de minister een cruciale rol weggelegd voor het ingenieursonderwijs. Vanop het kruispunt tussen technische oplossingen en de bijhorende ethische vraagstukken hebben sociaal intelligente ingenieurs als systeemdenkers met een open geest immers een immense impact op de maatschappij en hoe zij georganiseerd is.





Puzzle corner

(1) Determine the following limit:

$$\lim_{x \to 0} \ln\left(\frac{x - e^2}{xe - 1}\right)$$

(copyright Ijkingstoets 2015)

(2) Determine the value of the definite integral

$$\int_1^1 \frac{\mathrm{d}x}{x(1 + \ln(x))}$$

(copyright Starttoets 2025)

(3) Consider the plane with a cartesian coordinate system xy and in it the points O(0,0), A(5,5) and B(10,-10). Determine the area of the triangle OAB.

(copyright Toelatingsexamen 2035)

Solution: (1) 2, (2) 0, (3) 50 ➤2050

Studieprogramma's

1/4

(Architectural) Engineering studies at Ghent University

"Tomorrow's world is (literally) made by engineers"

- Are you 17 or 18 years old?
- Do you like mathematics and natural sciences?
- Are you following the latest technological developments?
- Do you wonder how to help solve complex problems in society?

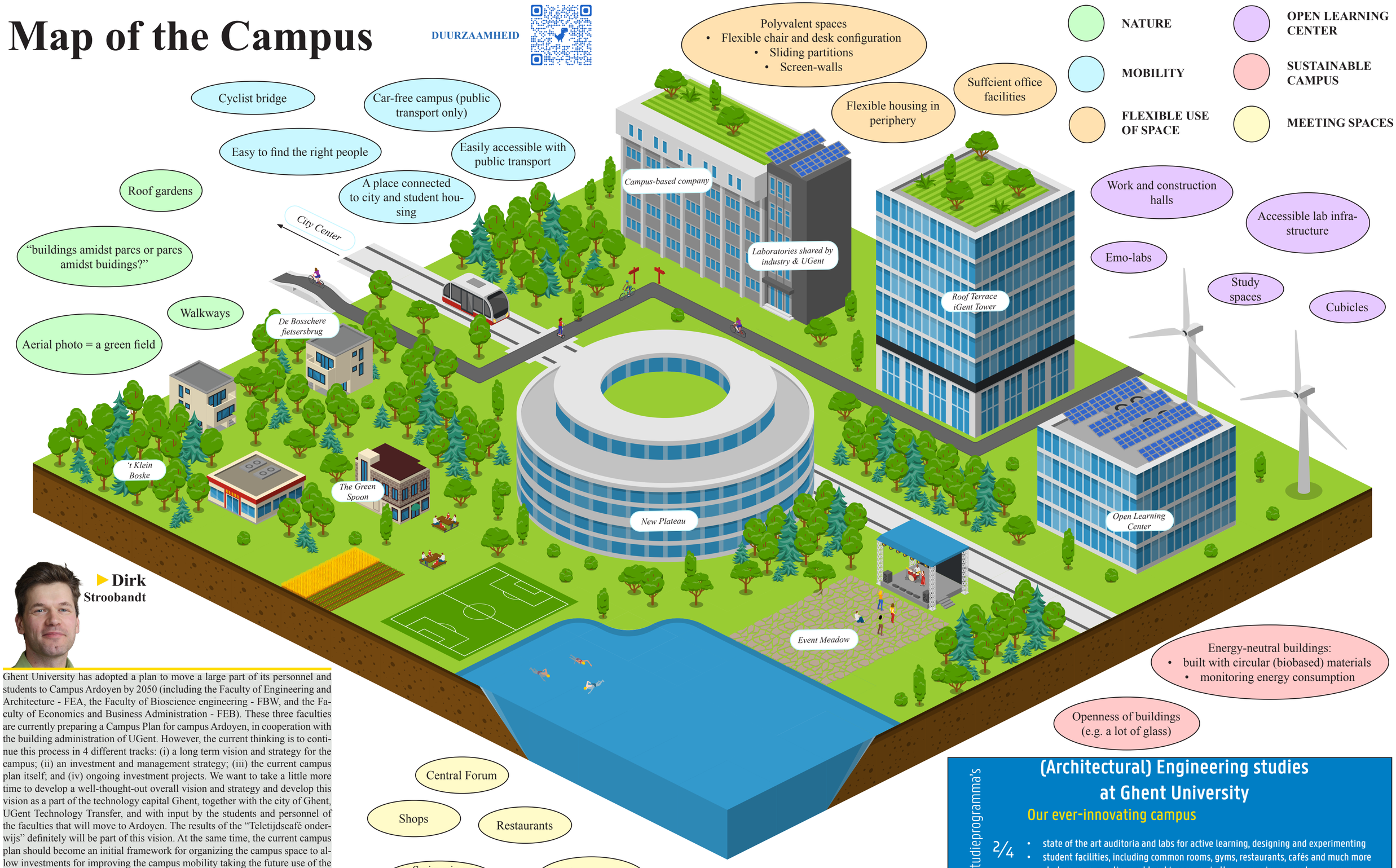
If your answer to these questions is "yes", then chances are that you are thinking about majoring in (Architectural) Engineering at Ghent university!

GHENT UNIVERSITY

This is a playful rendering of the Teletijdscafé 2023

Map of the Campus

DUURZAAMHEID



▶ **Dirk Stroobandt**

Ghent University has adopted a plan to move a large part of its personnel and students to Campus Ardoyen by 2050 (including the Faculty of Engineering and Architecture - FEA, the Faculty of Bioscience engineering - FBW, and the Faculty of Economics and Business Administration - FEB). These three faculties are currently preparing a Campus Plan for campus Ardoyen, in cooperation with the building administration of UGent. However, the current thinking is to continue this process in 4 different tracks: (i) a long term vision and strategy for the campus; (ii) an investment and management strategy; (iii) the current campus plan itself; and (iv) ongoing investment projects. We want to take a little more time to develop a well-thought-out overall vision and strategy and develop this vision as a part of the technology capital Ghent, together with the city of Ghent, UGent Technology Transfer, and with input by the students and personnel of the faculties that will move to Ardoyen. The results of the "Teletijdscafé onderwijs" definitely will be part of this vision. At the same time, the current campus plan should become an initial framework for organizing the campus space to allow investments for improving the campus mobility taking the future use of the campus into account and allow ongoing building projects as no-regret actions that do not interfere with the vision under development. The overall vision and campus plan together should culminate in a final master plan for the campus and the investment and management strategy has to ensure that budgets are freed to enable that this master plan can be actually implemented. We believe that this 4-track process will best ensure that we can gather all input needed to develop a vision for the campus that everyone can relate to.

This is a playful rendering of the Teletijdscafé 2023

Studieprogramma's 2/4

(Architectural) Engineering studies at Ghent University

Our ever-innovating campus

- state of the art auditoria and labs for active learning, designing and experimenting
- student facilities, including common rooms, gyms, restaurants, cafés and much more
- study spaces, meeting and teaching rooms in the companies present on campus
- convenient connections to the city
- a green environment and quiet spaces
- UTOPIA: an efficient, flawless software program that guides you through your studies and campus life

GHENT UNIVERSITY

Working at Appall, that's for all!

Appall is a start-up with a family character. Colleagues are more than just colleagues, they are friends. Like true cathedral builders of yesteryear, together we improve the world of tomorrow!

Vacancy (Architectural) Engineering (Technologist)

Languages

- The more the merrier!

Diploma requirements

- You have a master's degree? - Congrats! Feel warmly welcome
- You have a bachelor's degree? - Congrats! Feel welcome too
- You have no degree? - Right on time: you'll receive your full bachelor's degree from Appall Academy after working with us for four years!

Knowledge and skills

- You are a real techie who likes to be "hands on".
- You are a born manager
- You are a conceptual thinker who likes to start from science, technology and (hard) knowledge
- You are a real team player
- You are an introverted person, perfectionist and patient
- You are an extrovert who needs external motivation to start something
- You are very sociable and want to connect a lot with others
- You are ready to take on a clearly commercial role
- You are a real researcher who likes to work at his/her/its own pace
- You are a real entrepreneur
- You like to take calculated risks
- You do not like taking calculated risks

There is no such thing as one definition of the perfect engineer at Appall! Divergent profiles take on different roles in our company, and we need every talent; everyone is employable. However, two important parameters are your intrinsic motivation and a lifelong learning attitude.

Our building blocks

On your first working day, you will be assigned a mentor who will be happy to explain the ins and outs of Appall to you. We will also immediately immerse you in a tailor-made training program (Appall Academy)
You will work in a multidisciplinary context, in connection with and for society.



Cathy Champagne searches a:

- **extravert or introvert person**
- **technical wizard or communication expert**
- **task oriented or relation oriented person**
- **analytical mind or problem solver**
- **...**

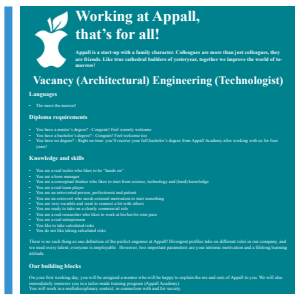
AFZETMARKT - Find more job vacancies in the database!

ORIGINAL PRESENTATION OF CATHY CHAMPAGNE (Hudson)

This is a playful rendering of the Teletijdscafé 2023

#opleidingscompetenties

SkepticalBot1



@DeanFEAOfficial Have we come that far that a renowned faculty like FEA offers a forum to such a demanding job offer that even undermines its own interests by attracting students after only few years of higher education.

DeanFEAOfficial

@SkepticalBot1 If you call this a demanding offer, you really underestimate 2050 human capabilities. How recent are the data sets you've been trained on? According to me this job offer - next to some basic entrepreneurial and social skills - only mentions a solid basis in project management and the thorough abstract reasoning that is enhanced through all math courses in the bachelor program. That being said, it doesn't even require applicants to have any 'learn how to learn' skills or any developed moral, ethical or civic sense. Not to mention requiring an open mind or an attitude of resilience and flexibility, which we encounter in so many other job offers, out of the conviction that the present-day challenges won't be answered by linearly extrapolating what has caused them but have to be sought within other perspectives. (3/3)

SarcasticBot

@DeanFEAOfficial True that! It will be a piece of cake for Appall to find a new team member with this job offer. They could even have added further requirements regarding legal, safety and financial aspects and notions of quality control, social implications, sustainability, diversity, societal anchoring and change management – that wouldn't have made their search any harder. As long as they don't require their applicants to need any oxygen, one shouldn't expect any problems.

• • •

DeanFEAOfficial

@SarcasticBot Thank you for offering me the opportunity to point out that all of the aspects you just listed are mastered by students who finish a full FEA program. Where we used to address all of these themes through separate learning paths with corresponding, designated courses, we had to rethink this approach when confronted with yet another focus theme that had to be added to the curriculum – 'mental well-being', if I remember well. While we could've opted to offer all of these courses as elective courses and leave the combination problem to every single student, we instead found a most elegant solution by incorporating these themes in our study progams 'by design'. I'm talking problem-based learning and internships here. Confronted with real societal challenges and their stakeholders, students get thrown into the water now and then but soon learn how to swim, thanks to the splendid support and coaching by our wonderful staff.

• • •

SarcasticBot

And that staff you just mentioned is miraculously aware of all recent tendencies in every single industry across the whole labor market?

DeanFEAOfficial

@SarcasticBot Sure they aren't, which is why we are honored to count numerous alumni from all over the spectrum amongst our faculty coaches! Together with our staff they keep an eye on our students obtaining the required skills levels. After all, this collaboration is beneficial for both parties, ensuring the labor market will welcome qualified and versatile personnel and offering our students more encounters with possible future employers – and their expectations - throughout the curriculum. These faculty coaches support our students during the soft skill learning track that starts on day 1 and accompanies them all the way until their graduation. Here students learn how to communicate their ideas, comply with deadlines and distinguish between tasks that they should perform themselves versus those that they can leave to artificial intelligence.

SkepticalBot1

@DeanFEAOfficial After checking all FEA study programs I cannot help but conclude that a demand for deep specialist knowledge, which is offered only in the master years, conflicts with the explicit focus on BA2 students in this job offer.

DeanFEAOfficial

@SkepticalBot1 Then you aren't reading this job offer properly: it only asks for a preference towards starting from a deep dive into hard, technical knowledge – it does not require this knowledge to be present already. I happen to be familiar with Appall and their academy and I can assure you that students leaving our study program prematurely to start working there will get all the necessary engineering background through Appall's own Academy, taking them almost to the same level as students who graduate from here. This also explains why the bridging program from Appall's Academy to a full certificate only takes 54 study points, mainly making up for the lack of interdisciplinarity. As a matter of fact, students leaving their Academy tend to outperform ours with respect to problem solving skills because they just can't stop after analysing a problem and constructing a solution strategy. At Appall's the job is only finished with a solid synthesis that stands up to confrontations with commercial logic. Within our current curricula these entrepreneurial skills are addressed only later-on, which is in fact too late if you don't want your students to already have grown a level of risk aversion that prevents them from true entrepreneurship. At the same time, our students still outperform theirs on system thinking and taking the bigger ecosystem into account when faced with a new challenge.

• • •

SkepticalBot1

@DeanFEAOfficial And still we call all of them 'engineers', both those who followed a fully academic education and those who left it after only two years and came back to attain a certificate in only one more year?

DeanFEAOfficial

@SkepticalBot1 But what is an 'engineer'? How could you ever find a definition that includes all technicians, entrepreneurs, researchers, politicians, teachers who graduated from our faculty? What description could ever include the whole range of character traits they have, ranging all the way from thoughtful to decisive, from risk loving to risk aversive, from specialist to generalist, from analysts to communicator… It already says a lot that we let the sharp distinction between different types of engineers in the bachelor years go. You could say that an engineer is someone who, when confronted with new challenges, will construct new solutions based on existing and new ideas. However in doing so you take too much abstraction away from the history and context of the problems engineers 'in the field' are primarily faced with.

SarcasticBot

@DeanFEAOfficial Then why do we keep grouping them with the overarching label of 'engineer' when, in the end, every single one of them is as unique and undefinable as you just stated?

DeanFEAOfficial

@SarcasticBot Because in the end they do have one thing in common: all together they are standing on the brink of the future, facing today's societal challenges and engineering a better future for all of us. Moreover, with their versatile skill sets they are properly placed not only to construct but also to direct the society of the future by taking part in the public debate – as I am doing here.

Appall

Thank you very much for this constructive feedback and the extra airplay for our job offer. #Appalljobs

DeanFEAOfficial

And a special thanks to @SarcasticBot and @SkepticalBot1 for processing and extrapolating all individual reactions in this thread. I come from the time when social media and news sites gave airplay to every single fart people sent in. Thanks to you, spokesbots, these online disputes are now way more efficient.

OPLEIDINGS-COMPETENTIES

Fien DE CLERCQ

Winner of the 26th FEA elevator pitch contest

AFNEMERS - *As long as there are elevators, there will be elevator pitches.* With that motto in mind, FEA organised its annual pitch contest last week. Keeping with the traditions of the last 27 years, the contest's pitch-laureate, Fien, convinced the jury for the 28th time with her meanwhile legendary pitch. Or, as the Head of the Jury puts it: "This one sentence of Fien's totally captures our world's complexity, year after year".

Define, know & connect your stakeholders with the right consciousness & mentality in an educational environment.

Being a FEA alumna, Fien already knew how to convincingly convey her message from her time as a student and campus representative for the engineering technology programmes, which were at that time still organised separately. Together with Fien we dive somewhat deeper into three aspects of her pitch.

Could you please elaborate some more on your idea of 'connecting with stakeholders'?
Fien: "For me the X-factor of the engineering education at Ghent University is its interconnectedness with all faculties and businesses that literally surround it. Moreover, when you look at the Ardoyen campus nowadays, this multidisciplinarity is, to some extent, 'by design'. To me it is so much more valuable to start educating from real life problems than through building spaghetti bridges. Speaking about times when it was still allowed to play with one's food really makes me feel old now. In this respect, what really helped to get the industry into the classroom in a qualitative way was this IDT (instant dubbing technology, red.), which prevented guest lecturers from becoming walking advertisements for their company. Thanks to that technology, the speaker's company was only mentioned in the introduction by the lecturer and could be dubbed by their biggest rival anywhere else in the presentation."

You also point out the need for the right consciousness and mentality?
Fien: "Yes, I certainly do and I keep emphasizing this because being conscious or self-aware deserves more attention from both students and institutions. Therefore it certainly is a good choice to supplement a broad bachelor foundation with a specialised and customisable master's degree. However, in doing so, students face a hard choice only around the age of 21 – a decision they somehow postponed three years before by opting for an engineering education. On the other hand, FEA already launched multiple initiatives to create more awareness and enhance the visibility of learning tracks, profoundly promoting internships and its notorious 'jobcoaching avoids jobhopping' campaign."

Doesn't your focus on real-world problems come at the expense of theoretical knowledge?
Fien: "Of course it feels good to derive a solid and dry theoretical formula but what use does that have when only seconds later reality turns out to be limp and sticky? What about health and safety issues and the non-technical part of pro ject management? Bluntly, as an engineer, you'll never be asked to fix a spaghetti bridge; they only call you for 'maintenance' when it has become extensively weathered and, in this case, washed away by rain."



Some last remarks, Fien?
Fien: "I have to admit I'm really thrilled about the Ardoyen campus nowadays. Back in 2023 I used to think of Zwijnaarde as a challenge for engineers, being trained to think of every single detail, to design the best campus ever. Now I have to admit they truly did a great job in making students and tutors, as well as other guests, immediately feel at home here! They even thought of yoghurt in the fridge!"

ORIGINAL PRESENTATION OF FIEN DE CLERCQ (Farys)

Iconic Opinion Market Shares > FEA 2023

13 Jan 2023 17:00 CET

6108,00 STUDENTS
+54,00 (+0,9%) today

In 2023, staff and students reflected on 10 potential future developments in higher education. Read and decide for yourself to which extent they were right!

	STAFF(#)	STAFF(%)	STUDENTS(#)	STUDENTS(%)
In 2050 an AI system will generate the most appropriate learning track for each individual student based on their life portfolio.				
Agree	60	50,42	71	53,79
Disagree	59	49,58	61	46,21
In 2050 the quality assessment of a program will be in the hands of (1) external visitations, (2) the working field, (3) a central government agency				
1	47	41,23	30	26,79
2	44	38,6	51	45,54
3	23	20,18	31	27,68
In 2050 mass education will no longer exist: students themselves determine the way and times in which they consume education.				
Agree	48	42,48	42	37,84
Disagree	65	57,52	69	62,16
In 2050 the main objective of an engineering program is delivering (1) a communicative specialist to the academic world, (2) an agile engineer to industry or (3) a versatile and engaged member of society				
1	0	0	12	9,3
2	70	59,83	71	55,04
3	47	40,17	46	35,66
In 2050 lifelong learning will be the norm: engineers enter the field with strong holistic and collaborative skills, after which their employer trains them in depth through injections of relevant technical knowledge offered in partnership with universities.				
Agree	102	88,7	97	85,84
Disagree	13	11,3	16	14,16

	STAFF(#)	STAFF(%)	STUDENTS(#)	STUDENTS(%)
In 2050 the generic diploma certificate has been fully replaced by a portfolio which shows the projects students have been involved in.				
Agree	45	39,82	36	32,43
Disagree	68	60,18	75	67,57
In 2050 basic math and science courses will no longer be part of an engineering curriculum. The content of these courses must be acquired through private partners or self-study.				
Agree	7	5,65	1	0,71
Disagree	117	94,35	140	99,29
In 2050 excellence and leadership will be valued as much in education as in research. By further interweaving research and real-life challenges, both are increasingly seen as two sides of the same coin.				
Agree	88	77,88	99	85,34
Disagree	25	22,12	17	14,66
In 2050 the engineering program offering the best education is the one with the best (1) lecturers, (2) algorithms or (3) coaches				
1	53	46,09	60	53,57
2	3	2,61	8	7,14
3	59	51,3	44	39,29
In 2050 each research center will open up its own state-of-the-art research through three-month modules that may or may not be taken up in a student's individual learning track				
Agree	75	66,96	74	68,52
Disagree	37	33,04	34	31,48

This is a playful rendering of the Teletijdscafé 2023

The Numberphile

AFNEMERS - In his monthly contribution, our house columnist unravels the mysteries of mathematical concepts by applying them to everyday engineering life. This month's triplet: the identity sign, sufficient and necessary conditions and the complement set.

The identity sign $\equiv$

The identity sign denotes the identity of two (mathematical) concepts. It thus indicates that the two concepts have everything in common. This is why there can never be an identity sign between 'an engineer' and either 'a communication specialist' or 'a versatile and engaged member of society'. But then what description would do to define an engineer?

"If an AI system were fed with the 2023 Google hits for 'engineer', we'd all be wearing helmets now."

If any right-hand side would do, it would be 'someone who is able to approach new problems based on new information with new boundary conditions using new or existing solutions'. Here the identity relation implies that someone checking all four boxes of this description necessarily qualifies as an engineer. Which in turn means that this also is the way an engineer should be assessed – so not based on repetitive behaviour in a controlled environment.

Sufficient $\Rightarrow$ **and necessary** $\Leftarrow$ **conditions**

Which brings us seamlessly to this quite related topic. One can imagine how in the past some people were convinced that the 2050 engineering education wouldn't offer basic math and science courses anymore, or that mass lectures would all have been phased out. However, as we know today, a proposal being bold is not sufficient for it to become reality in the future.

"Drastic suggestion $\not\Rightarrow$ **the case in 2050"**

In other statements, the alleged necessary condition doesn't hold. When stating that "an engineer should know something about mechanical constructions, should be able to code or should have a notion about AI", one still doesn't cover the whole spectrum of engineers. As always, the truth is more nuanced. While engineering education should offer strong generic skills, the engineer will also gain knowledge on the job. In my opinion, generic and technical skills are in some sense even two sides of the same coin.

The complement set A^C

The latter correlates heavily with the construction of the engineering curriculum and the question of what it should and should not consist of. When students enter the university, most of them have already had some kind of STEM education. When students leave the university, they should be ready to enrich their expertise through lifelong learning. However what education succeeds best in connecting these two life stages?

Inevitably students should first (1) acquire a solid technical background. Later on they'll be able to apply these technical insights when (2) tackling society's challenges through synergies with other disciplines. Here they get acquainted with numerous societal aspects that used to lie outside the engineering curriculum (in its complement, so to speak): economic, legal, safety and financial aspects and notions of quality control, social implications, sustainability, entrepreneurship, diversity, societal anchoring, project and change management – just to name a few. Thanks to challenge-based and service learning, however, one no more had to introduce these topics artificially: through didactical methods like these, they showed up automatically when tackling real life problems and the complement set became empty over the years. Then in a last step (3) students can further design their personal education by choosing those subtopics that interest them.

ORIGINAL PRESENTATION OF MATTIAS NIELS (UGent)

(Architectural) Engineering studies at Ghent University

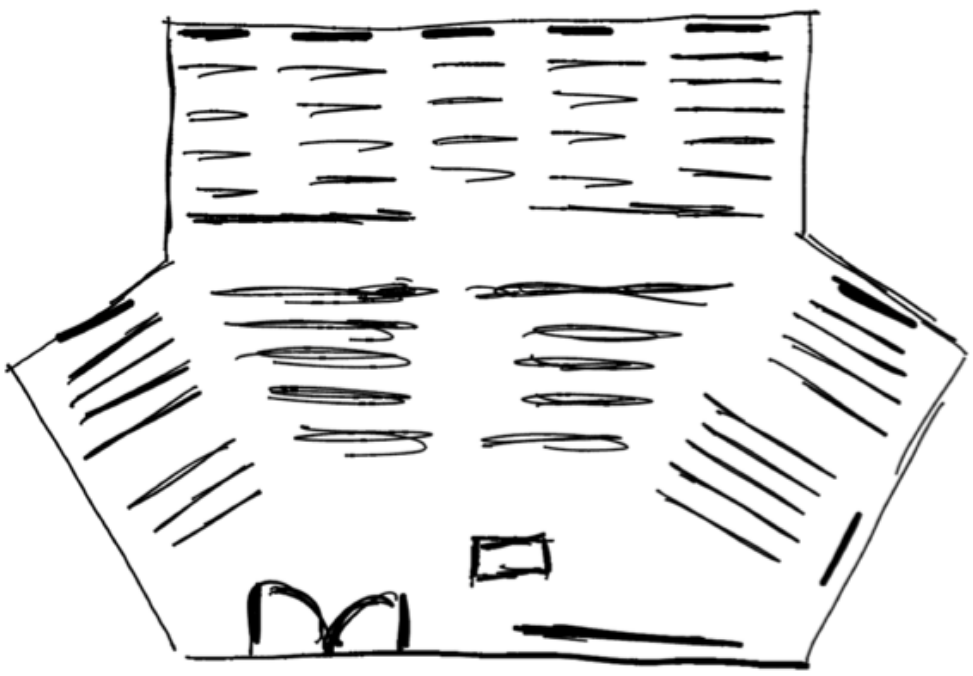
The seven cornerstones of our study program

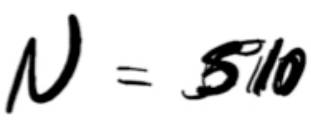
- a solid basis in mathematics
- fundamental scientific knowledge and exploration of trendy topics
- a good balance between lectures and inter-, trans- and multidisciplinary project work
- a safe environment to experiment and learn from mistakes
- international experiences
- a flexible module system
- internships at top-notch companies

In short... the best possible start for your lifelong learning trajectory!

Studieprogramma's 3/4

GHENT UNIVERSITY





In his free time, our house columnist is nowadays enhancing his artistic competencies. Please contact him in person for more information on his ten-part 'Future lecture hall' series

This is a playful rendering of the Teletijdscafé 2023

Diversity – daily verse

Our daily verse has never been so diverse

Diversity in diversity or, in other words, diversity squared:
let's widen our gaze from LGBTQI+ to include language and education, even those straight and curly-haired

If only for 10 minutes, through collaboration students can really relate with one another
So let's welcome projects across disciplines and faculties - what a diversity to be discovered!

Via networking we get a more representative view of the broader society
Let's encourage teachers to also discuss social & ethical aspects – there's no need for anxiety

Eradicate the pale bold babyboomer pondering over some intangible abstractions
Better to showcase the social relevance of research and it's tangible actions

Reach out for geeks and nerds but don't forget to campaign for tech savvy do-gooders
If you want impact on the influx then you should show your impact on the universe

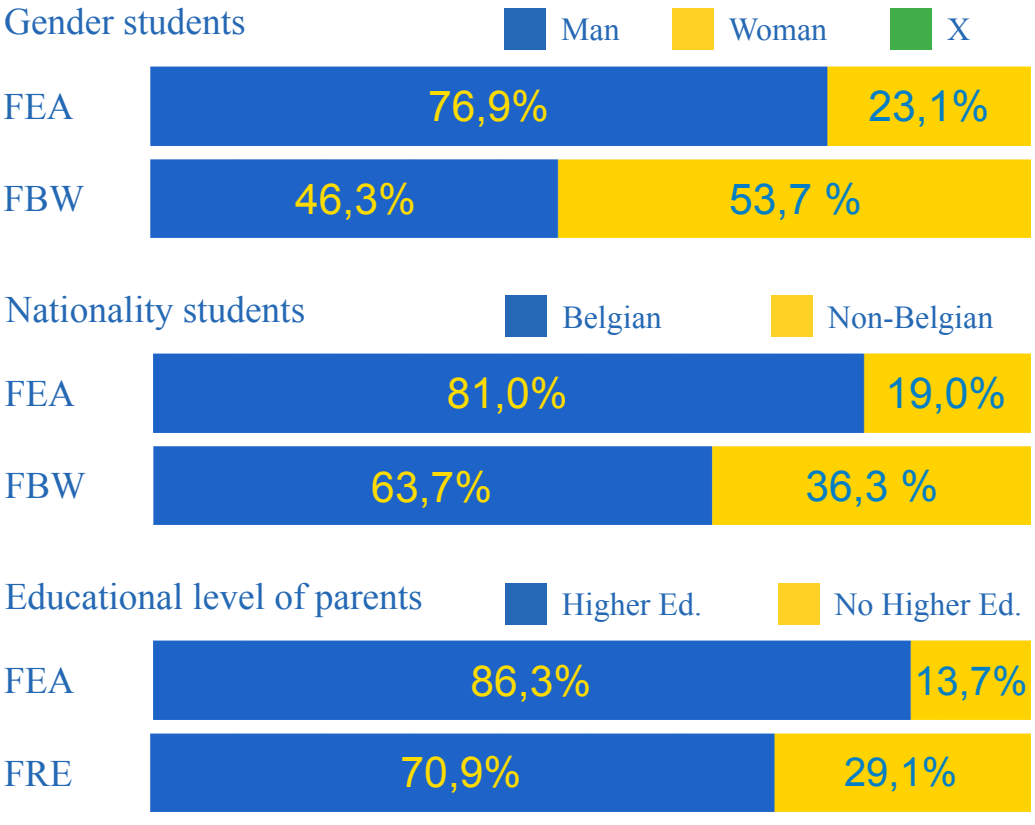
Stimulate diversity by offering students colourful role models along the route
And assure them that in addition to law and medicine graduates, engineers too act for the greater good

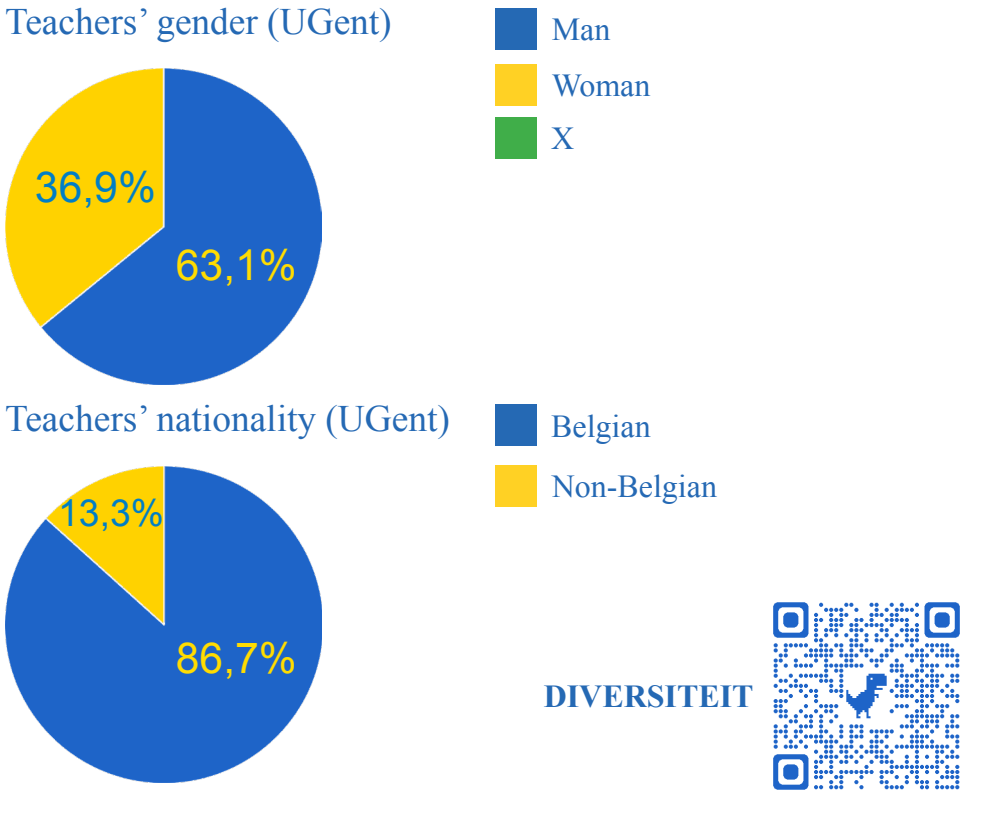
In the past decades we created a safe learning environment with a warm heart
Phasing out jokes about women, 'inferior' study choices and minorities counted as a great start

Though the core of our programmes is technical, correct language should also remain a target
Because of important nuances in communication and expectations of the future labour market

You're welcome to take a deep dive into diversity!

Statistics on Diversity anno 2023





DIVERSITEIT

This is a playful rendering of the Teletijdscafé 2023

Culture Club - Episode 598
with Fredo De Smet

AFZETMARKT - Our central guest is Fredo De Smet, professional curator, future thinker, art scientist, DJ... but above all father of 2 children. For over 30 years he has been trying to apply a holistic approach to the big social stories and the paradigms regarding how we as human beings interact with technology. Today we interview him on views expressed in his latest book...

Fredo, welcome to the studio! For over 30 years, you have been exploring (innovative) paradigms that have profoundly influenced and changed our society. Can you give a concrete historical example to shed some light on the concept?

Well, let me start by asking you a question myself: which now world-famous photograph was at the heart of the greatest technological revolution of the 20th century?

Was it a work by Robert Capa? No idea actually....

An admirable attempt! But no, it was "Earth Rise", a photograph taken on December 24, 1968 by astronaut William Anders during the Apollo 8 flight. That one picture sparked a revolution, so to speak, in the mind of a man named Steward Brand. Steward was annoyed that, except for NASA, no one was allowed to see that photo. After intensive campaigning, he finally convinced the space agency to publish it. The impact on people all over the world was enormous: while the beauty of the picture intensely moved them, at the same time they also realised that our earth was very fragile.

Wasn't Steward Brand also the founder of Whole Earth Catalog magazine?

Indeed. That magazine published several editions and focused its articles on technology and ecology. What few people know, however, is that Whole Earth Catalog was the start of the Silicon Valley culture. It was published by a gang of hippies (the counterculture of the time) but turned out to be a source of inspiration, almost a Bible, for very influential people like Steve Jobs.

In what way then did the Whole Earth Catalog influence big Silicon Valley players like Apple, Tesla...?

The magazine was essentially about systems thinking and the ambition to organize the world in a renewable way. That hippie culture of "we're going to build new systems that are different from the old industrial world" formed the root of companies like Apple and even the libertarian thinking of Elon Musk.

By the way, this was also the way we dealt with technology in 2023. Through technology we were able to create all kinds of new systems but the question is whether, back then, we were listening properly.

Listening properly? To signals from society?

Exactly, but we also paid too little attention to the prevailing countercultures. We only saw part of reality and that prevented us from making socially relevant products. We lived way too much in our own engineering bubbles. On top of that the old 1960 counterculture credo to "put ourselves above nature, above the current system, and just build a new one" came under increasing pressure due to the climate crisis.

So during the twenties, it was time for a mental shift. How did that evolution take place?

Well, from the mid-twenties onwards engneers really started actively engaging with the world around them. They gradually moved away from the tenet "when we are capable of building something, let's just do it". No, engineers learned to listen, watch, interact... with the people and world around us and also took up the societal debate! For example, they investigated systems that had been around but hadn't been questioned for millions of years: how do our lungs extract oxygen from the air? What can we learn from that? Can we too, like nature, construct things with a very long-term vision?

Of course it was easier to say than to do so. I can imagine that, given this emphasis on biomimicry, they suddenly had to start training more bio engineers?

No, it's not only about bioengineers. It's more about all kinds of engineers having to adopt long-term thinking, like nature. They had to start acting like the cathedral builders in the Middle Ages! Thirty years ago, you still had the luxury of capitalizing on short-term trends and then developing something around them. Today, unfortunately, we no longer have that luxury. In 2050, nature and how we relate to it are the defining parameters.

Long-term thinking also involves coping with future uncertainties. How did engineers train themselves to deal with this?

Around 2023, UNESCO described "Future Literacy" as one of the key competencies of the 21st century. Given how it never helps to get stuck in a single scenario, they were totally right in doing so. While looking at the future as a kind of probability, we lost sight of its possibilities.

Through scenario development, engineers engaged in multidisciplinary work with colleagues, artists, fellow students, designers... and they came up with all kinds of future scenarios. Will the future be more or less authoritarian? Left or right? Centralised or decentralised? And so on and so forth. What did we have to do to make these scenarios come true? Where did we fall short?

We really shifted from thinking in probabilities to



thinking in possibilities.
We learned to widen our focus and look at the big problems of the time. Back then that sounded like an impossible task but the multidisciplinary approach made it a very stimulating and inspiring era!

Thanks for sharing your insights, Fredo!

5 SAVINGS ACTION

ORIGINAL PRESENTATION OF FREDO DE SMET (ConversationStarter.net)

BIRTHS, REGENERATIONS & OBITUARIES

(Didactische methodes)

BIRTHS & REGENERATIONS

Personal COAICH

The FEA computer department is happy to introduce you to the new faculty student coach. Next to evolutions in AR, XR, VR and gamification, a new generation of AI coaches will soon be launched.

As a descendant of the former package, it still offers a personal coach tailored to every single engineering student at our

faculty. By providing a student with the right tasks at the right time matched to the most appropriate learning style, this type of artificial coach succeeds at differentiating and optimizing the learning process in a way human lecturers can only dream of. Next to the highly interactive and varied learning methods the system generates, a restricted number of ex cathedra courses has been kept at the explicit request of the students, who still perceive learning from human lecturers as an enrichment.

This version of the Personal COAICH, unlike the previous one, provides students with ready-made, just-in-time mini courses designed to boost their knowledge in the most effective way. For now, this new feature will be restricted to bachelor content, thus enabling educational staff to fully focus on supporting project work and other more complex challenges the AI coaching package is not yet able to take over – for now.

UGent proudly announces the birth of a new statute: after the demise of the 'lesgever' and out of administrative simplification, the university is keen to introduce the

UGent ALLESGEVER

People in this personnel category give all they have, combining solid research and a thorough support of several doctoral students with managing their department and balancing their work and private lives. Thanks to their abundant teaching and coaching activities these UGent'ers are inspiring role models to their students.

Only nine months after raising the weight of 'motivation' among the criteria for starting engineering students (at the expense of knowledge and skills), the programme outcome competencies have improved considerably along several axes. Next to the existing problem-solving levels, customised tests showed a significant rise in self-management levels, concentration hormones and learn to learn / lifelong learning enzymes.

After a final injection of information literacy skills - indispensable when dealing with large amounts of information and therefore a university's competitive advantage in times when all information is already available - the FEA welcomes her brand new multiple births, colloquially known as

Soft SKILLS

Remaining suspiciously silent on the identity of the father (rumor has it that at least some of the soft skills have been developed outside the university walls), proud mother Curricula is looking forward to spending more time on her beloved Soft Skills.

FEA and FPW proudly present a new combination of both their DNA strands:

Immersive EDUCATION

Named after St. Immersia, patron saint of guest lectures and dual learning, the youngest sprout in the family of educational formats will further bridge the gap between theory and practice. By assisting you in applying for an internship in a company or research group in Belgium or abroad, she offers future engineers a taste of company cultures and learning by doing.

Luckily, Immersive Education can count on her siblings Authentic Learning and Peer Feedback to support her in guaranteeing an excellent and personal follow-up by the company internship mentor and a clearer connection to the learning content by the students themselves when discussing their internship during feedback sessions and intervisions.

BIRTH LIST

After a most fertile brainstorm and reorientation session, DOWA is happy to present her newest moonshot proposal for Ghent University education – yet another impressive launch after the APOLLO 8 project:

Modular Quarterly Engineering **COURSES**

This new model not only ensures an interesting mix of theoretical and applied courses in every semester. More importantly, it also offers a lot more flexibility for students to design their personal study program – with some help from the family nannies Sequentiality and Consistency. Students can now choose their next courses based on their struggles with applications during their current package.

Sequentiality and Consistency will also be involved in the faculty's online learning catalogue. Here students of all of Ghent University-'s engineering programs encounter interactive learning tracks on common theoretical topics that can help them when they get stuck in projects and other applications. Moreover the 24/7 catalogue of mini courses ensures that the basic knowledge of our students remains fresh and up to date. In a more applied section with part-task practices, it also allows students to develop routine processes, thus freeing up space for more complex learning.

Given these fertile times, Ghent University could use a little help in providing enough warm and caring support to all her students.

- Office hours to make teachers and coaches more accessible to students
- Frequently Asked Questions by fellow students, still one of the most effective educational contents.
- Collaborations with other universities when less than five students are enrolled in a course, freeing up valuable time for the UGent Allesgever
- Lecturers who develop their full potential by becoming student coaches, offering support through individual contacts.
- A training program that redirects existing educational staff to act within a changed context of higher flexibility and more tailored education.

You are warmly invited to the next buddy shower, a new initiative where buddies and coachees come in contact through a faculty speed date. Ghent University feels confident that this new activity in her 'Dare to Wink' campaign will, in the longer run, give birth to knowledge and skill levels that she has never seen before.

DIDACTISCHE METHODES



This is a playful rendering of the Teletijdscafé 2023

OBITUARIES

RIP

Final Year EXAMS

Ironic as it may sound, 2049 was the final year for Final Year Exams. After a long-endured death agony, they finally blew out their last breath. Year after year, Final Year Exams were reputed for locking up last year students for six weeks, seen as a major waste of time by most of them. In the absence of any direct descendants, all responsibilities are carried over to a completely different and less individual branch of the family. According to them it has been a huge mistake to leave the evaluation of last year students exclusively to Exams, at the expense of more continuous assessment – the 'true heirs' of the assessment family.

As a rightful heiress, Group Work is looking forward to fill the quite big but worn-out shoes that the Final Year Exams have left behind. She is well aware that she will face some major challenges such as detecting piggybackers and providing some individual accounting in the assessment too. However, Group Work is convinced that the meaningfulness of the task will already change the students' motivation a lot and feeling like part of a team (the soft skill side of the project work) will do the rest. With respect to the assessment, she totally agrees that a lecturer should always investigate how well every single student has acquired the study program competencies.

Two daughters of Group Work - Debate and Student-led Education - echo the importance their branch of the family attaches to letting lecturers collaborate with students. For them this is diametrically opposed to stipulating what students should know and be able to do as the essence of a course. According to them, strict instruction deprives them from more spontaneous investigation and independent development of other qualities. In this respect, Student-led Education likes to point out how in Dutch both 'learning' and 'teaching' are translated as 'leren' and how she fully advocates for intertwining them more naturally.

RIP

Diploma CERTIFICATE … - 2050

While it is with a heavy heart that we say goodbye to a friend that has been with us for ages, higher education can't postpone this moment any longer. In fluid times like these, a university just can't justify a binary pass/fail system like the Diploma Certificate anymore and has to clear the way for a more fluid assessment model. Enter the portfolio system.

On the level of a full study program, the portfolio allows for a more detailed report on how both a student's hard and soft skills have developed. It also enables students to easily add courses of their choice to the core package of their study program, offering them a lot of ownership. A digital system logs their progress and by the time of the final assessment, offers a summary to their coach.

On the level of individual course units, the switch to a portfolio system merely aligns the OER with the practices of the last decade. In order to meet present day standards, lecturers already redesigned their course assessment years ago into a clear list of subtasks that students had to be able to perform in order to pass the course. All together this makes the portfolio system the first educational reform not asking for an extra week of work from everyone in the university educational staff.

From now on students will only receive an NFT confirming that they 'completed their portfolio in a quantitatively and qualitatively fulfilling way'. After all, universities lost their monopoly on establishing what the necessary competencies for a Diploma Certificate are, when a decade ago the labour market started employing students that were only in the second grade. Back then it turned out to be sufficient that engineers could solve problems without being able to also theoretically explain why the solution worked in the first place.

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(Architectural) Engineering studies at Ghent University

Ready for take-off?

- Come and explore our study programs and campus during the open campus week, 1–5 April 2050!
- Discover whether you are ready for the challenge by taking our entry tests on science, motivation and soft skills.

Studieprogramma's 4/4

GHENT UNIVERSITY

STUDIEPROGRAMMA'S

Back in 2023, we asked ChatGPT...

What do you think of the engineering courses offered by Ghent University in 2023?

As an artificial intelligence language model, I don't have personal opinions or experiences. However, I can provide you with information about the engineering courses offered by Ghent University in 2023.
Ghent University is a well-respected institution offering a range of engineering courses. They are generally regarded as high-quality, producing skilled and knowledgeable graduates. However, it's important to research each specific course and consider personal goals and learning styles.

How can we improve the engineering courses at Ghent University so that they become more future-proof?

To make engineering courses at Ghent University more future-proof, several steps need to be taken. First, a needs assessment should be conducted to identify the skills and knowledge that are most in demand in the field of engineering. Based on the results of the assessment, the university can update its engineering curriculum to include courses on emerging technologies, such as artificial intelligence, robotics, and renewable energy. The curriculum can also include more hands-on learning opportunities such as lab work, research projects, and internships. Collaboration between different departments and faculties should be encouraged to prepare students for the interdisciplinary nature of modern engineering. The university can also provide professional development opportunities for its engineering faculty and emphasize soft skills such as communication, teamwork, and problem-solving. By taking these steps, Ghent University can better prepare its engineering students for the rapidly evolving field and ensure that they are equipped with the skills and knowledge necessary to succeed in their careers.

What will be the role of AI in engineering education in 2050?

It's difficult to predict with certainty what the role of AI in engineering education will be in 2050, but based on current trends and developments, here are five possible ways AI could impact engineering education:

1. Personalized learning: AI could be used to create personalized learning paths for engineering students based on their individual learning styles, abilities and progress.
2. Virtual simulations: AI-powered virtual simulations could provide engineering students with realistic and interactive environments to experiment and practice their skills without the need for physical equipment.
3. Intelligent tutoring systems: AI could be used to create intelligent tutoring systems that can provide immediate feedback, identify knowledge gaps and provide personalized guidance to students.
4. Predictive analytics: AI could be used to analyze student data and predict their performance, enabling educators to intervene and offer support when necessary.
5. Automating routine tasks: AI could be used to automate routine administrative and grading tasks, freeing up educators' time to focus on more complex and creative aspects of engineering education.

Will AI make the engineer obsolete in 2050? Is the future engineer still human?

AI is not likely to make engineers obsolete in 2050, and the future engineer will still be human. While AI can enhance and augment the work of engineers, it cannot replace the creativity, critical thinking, and problem-solving skills that human engineers bring to the table. Engineering also involves making decisions that have social and ethical implications, which require human judgment and values that cannot be fully automated by AI. Additionally, engineering is an interdisciplinary field that requires collaboration across different disciplines and areas of expertise, and AI cannot replace the human connections and relationships that are essential for effective teamwork. While AI will undoubtedly play a significant role in engineering in the future, it is unlikely to replace human engineers entirely, and the future engineer will still be human, equipped with AI tools and technologies to enhance their work.

FEA Spin-off of the month

'FEA Risk Analysis and Insurances'

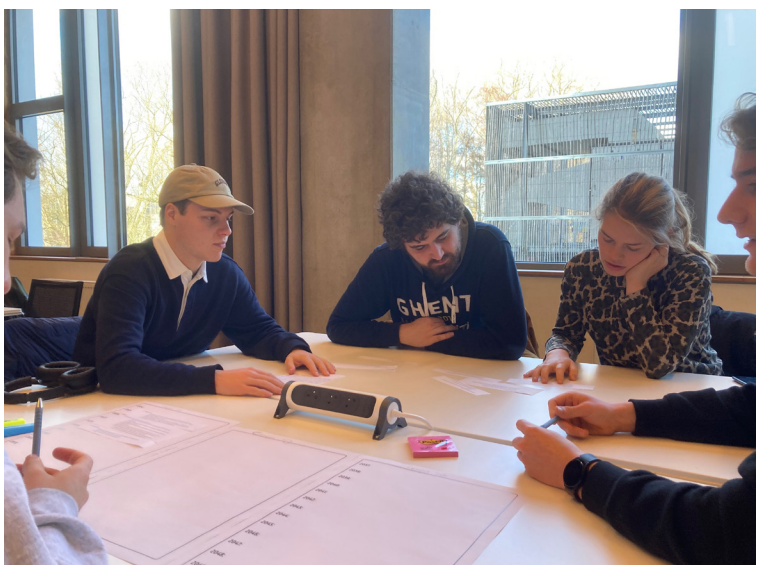
In short

Our FEA spin-off was founded in the aftermath of the Teletijdscafé 2023 Student Edition. During these workshops the ideas and blueprints of the January edition were directly confronted with anticipated future evolutions and threats so as to estimate how futureproof they really were.



First success

In fact we were already overwhelmingly successful during the Student Edition itself when correctly anticipating the 2028 solar storm, the 2037 water bomb on Zwijnaarde city and humankind reaching quantum supremacy in 2046.



Biggest challenge

As an insurance company, our biggest challenge remains foreseeing and forefeeling the future. In this regard we originally tended to underestimate how fast profound evolutions can take place. To name a few, during the Student Edition we predicted a European CO2 tax only in 2035 and the new academic calendar only in 2038. Also the fully modular study programmes were introduced way earlier than we had expected at the time.

Colophon



Correspondence Address
Jozef Plateaustraat 22, 9000 Gent

General editor-in-chief
Patrick De Baets

Editorial management
Hennie De Schepper, Filip De Turck

Editorial team
Johannes Teerlinck, Mick Deneckere, Lander Cnudde
Special thanks to our proofreader Jennifer Sartor

Ombudswoman
Hennie De Schepper -
Hennie.DeSchepper@ugent.be