



**Report development dialogue
Information Science
Utrecht University**

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Introduction

On 5 and 6 October 2023, the bachelor's programme Information Science and the master's programme Information Science of Utrecht University were assessed by an independent peer review panel as part of the cluster assessment Information Science.

The following panel members were involved:

- Prof. Olga De Troyer, emeritus professor of Computer Science, Vrije Universiteit Brussel – chair;
- Prof. Geert Poels, professor of Management Information Systems, Ghent University;
- Prof. Alessandro Bozzon, professor of Human Centered AI, Delft University of Technology;
- Amber Pater BSc, master student Information Sciences, Radboud University – student member.

Anne-Lise Kamphuis MSc was the secretary on behalf of Academion.

During the site visit the development dialogue took place by means of thematic sessions with the panel and representatives of the programmes, based on development points brought forward by the programmes. In the regular interviews during the site visit, some of these development points were also discussed.

Report of thematic sessions

1. Staff workload and increasing student applications

The programmes have seen a significant increase in student numbers in the previous years. Although the teaching staff has also been expanded, the student-staff ratio is less favourable than before. On average the bachelor's programme has over 400 students and the master's programme over 300 students. In the master's programme the mandatory courses have groups of 70-100 students, in the bachelor's programme these courses are taught to groups of 150-200 students. In these courses individual assessment is limited due to limited teaching capacity. The lecturers experience a relatively high workload, although in the interview they indicated that the allocation was generally fair. Also, student-assistants help to lower the workload. The programme presented several plans to mitigate the workload: to hire permanent staff with a teaching profile, to hire 3-4 assistant professors for BI and HCI and to improve the monitoring of quality.

The panel members indicated that the current measures and plans to mitigate the workload seem very good. During the discussion, various aspects that could increase or decrease workload were identified:

- The master's programme plans to have theses assessed by a panel of experts rather than only by two supervisors. The panel noted that this sounds very good in terms of quality but would also increase the workload. The programme is advised to reconsider this plan in light of the balance between workload and added value for the thesis assessment. The panel thinks that there is already a lot of quality control regarding the thesis. There may be no need to add more weight to this.
- The panel advises not to change the fact that students can start their thesis at any moment throughout the year, since this spreads the workload.
- To reduce e-mails from students, the programme may consider reserving 10 minutes in each lecture for students to ask questions.
- The number and type of assignments and projects within a course could be reconsidered. The panel suggests experimenting with different mixtures.

- Group assignments can help to reduce the workload. The programme is advised to use peer assessment to minimize free-riding behaviour: have students in the group evaluate each student's contribution to the assignment and possibly differentiate the individual student's grade based on that. Software is available to support this. Another idea is to have groups examine and give feedback on each other's work: have the groups present their work and let another group ask questions. This will give the lecturer a good initial idea of the quality of the work and what to focus on during the assessment.
- Good written exams (multiple choice, open questions, or a combination) can also be appropriate for testing insight and reasoning. These types of exams can reduce the workload, but it requires an initial investment to develop good exam questions.
- Hire educational assistants (without a PhD) to supervise projects and workshops.

2. Visibility and definition of the information science field

The bachelor's programme has defined 'information science' as "the academic discipline that studies how people, and the societies and organizations in which people live and work together, interact with information technology, and how this interaction can be shaped to serve the interests of people and organizations optimally". The panel members mentioned that the term 'information science' is not always known in countries in Europe, and seems to be somewhat unique for the Netherlands. The programme explained that the existing reference frameworks (AIS/ACM IS and Wirtschaftsinformatik) do not fully match with information science. Also, the term 'information science' is not mentioned in the 'Sectorplan Informatica'. Therefore, each university has its own interpretation of what the discipline entails. During the discussion, the idea was brought up to develop a domain-specific reference framework for the Dutch field of 'information science', clearly defining what this domain *is* and *does*, and what it *is not*. The framework should also include reference curricula. The panel advises involving the ICT Research Platform Netherlands in this process.

The next step would be to develop a stronger vision, especially for the master's programme. There is already a clear vision for the bachelor's programme, but the master's programme's vision can be improved. The vision should present a clear definition of information science and explain how the two very different tracks (BI and HCI) fit within the same overarching master's programme. To align with the 'sectorplan', it is advisable to refer to the term 'informatica' in the vision.

The programme indicated that the term 'information science' is not used in the same way in secondary schools in the Netherlands, which may negatively affect the interest of potential students for the bachelor's programme. To clarify the field of information science to prospective students, secondary school teachers may be persuaded to visit the university to get acquainted with the field, for instance by developing lessons for secondary schools with them. This can help teachers to address specific information science topics in schools, and in this way make the field more visible for prospective students.

In the interviews during the site visit, it became clear that the field of information science is not well known in the job market either. In the professional field a 'different language' seems to be used, complicating the job market orientation of graduates. During the thematic session, refining the professional profile of the programme was discussed to tackle this issue. In consultation with alumni, the programme could identify which knowledge and skills are needed in the professional field, and based on that build a professional profile. Consequently, the educational programme should be aligned with the professional profile.

3. Mental wellbeing of the students

In general, students nowadays face challenges concerning mental wellbeing. Also, students experience more pressure and stress than some years ago. This is due to various factors, including the social isolation during the corona pandemic, the challenging housing situation, limited financing from the government and, related to this, the necessity to have a part-time job besides studying. The programme presented the current support structures to guide and help students, including study advisors, student psychologists, confidential advisors, a complaints procedure, a diversity committee, and various tools for personal problems available for students. Currently, the second student wellbeing programme and action plan are being implemented (2022-2025). In September 2023 a faculty-wide taskforce started a programme on student wellbeing, based on four themes: fostering student resilience (kickstart programme), lecturers as role models, community building and monitoring student wellbeing.

The panel sees that a lot of student support is available. The single point of contact is the study advisor, who can refer students to other counsellors. In the thematic session, students explained that they developed a prototype for a tool in the context of monitoring wellbeing. This tool is connected to the myUU app and intended to check wellbeing periodically and connect students to a wellbeing hub for direct access to support. The taskforce is currently working on further developing the prototype. The panel was positive about this idea, as it feels that monitoring wellbeing is very important. The students added that monitoring will also help identify students who would normally remain invisible. For some students it can be a big step to look for support. Knowing/seeing other students take the step often lowers the experienced barrier. The panel added that it may also help if the information about support is shared by the study association, as this reaches students more easily.

The programme explained they are considering to introduce a kickstart programme prior to the introduction that will focus on building resilience (based on the idea of positive health). This programme is especially intended for students that struggle with the transfer to university. The question was raised whether such a programme would not have a stigmatizing effect. Also, because of self-selection, some students who need it might not join. It may be better to integrate this programme in the regular introduction and/or to make it a mandatory component of the curriculum: inspire students to reflect and work on their wellbeing. Especially when combined with monitoring, this may be very effective.

The thesis project was discussed, as this is often the period of time in which students run into problems. They can become isolated because they have to work alone for a longer period of time with only one supervisor. Sometimes there are intervision groups for students. In this way students still regularly meet other students while it can also lower the supervisor's workload. One idea is to make this approach the standard for everyone. Another idea is to have the second assessor be present at all meetings (instead of being involved in the beginning and the end only). However, this may not be desirable in light of objective assessment. Another suggestion is to organize (poster) sessions in which students present their projects to each other.

4. Research orientation vs. professionalization

The master's programme is characterized by a strong focus on research. At the same time, the programme is aware of a demand for professionalization in light of preparing students for the job market. Various courses in the curriculum incorporate professional skills. Also, students are encouraged to carry out their thesis

project at a company (in the BI track around 50% of students do this, and in the HCI track, around 33%). The HCI track plans to introduce a portfolio for students to showcase their professional skills and experience.

The thematic session started with the observation that only a minority of the graduates move on to research positions. The panel inquired about the reasons for the strong research focus when many graduates end up elsewhere. The programme indicated that it believes that becoming proficient in research will give students a good basis for everything. Also, the programme wants to underline its academic nature, in comparison to professional master's programmes in this field. Besides that, many alumni who do not work in full-scale research positions, still apply research methods, like focus groups and interviews for business process modelling and user interface design. The panel agreed that the programme should distinguish itself from professional master's programmes. In general, this is done primarily through teaching an academic way of thinking and working, which is not limited to performing research. The most important aspect is to present various research methods and teach students to critically reflect on these so they will know which to choose in different situations. Of course, performing research is important for an academic programme, and each thesis should include a significant research component. However, it seems that the focus on research may be a bit too heavy in some courses and too predominant, especially in the learning outcomes, as these pay relatively little attention to professional skills.

The tension between being an academic programme and the need for professionalization was then discussed. The panel does not feel that professional skills are lacking in the curriculum. Rather, it sees that these are embedded in the curriculum (e.g., communication as a professional skill is integrated in various writing assignments). The panel would not advise to add all kinds of specific skills to be taught. Professional profiles for the tracks (including the skills graduates should possess) could be a good starting point for thinking about professionalization in the curriculum (backward engineering).

Some ideas brought forward in the discussion to pay more attention to professionalization include inviting more guest lecturers from the industry, inviting alumni to share their experiences in the professional field and introducing a (simulated or real-life) industry consultancy project, possibly in cooperation with a company. Also, the plan to have HCI students build up a portfolio will help. This may be helpful for BI students as well. Finally, a professional advisory board would help align the programme with the professional field, although there is no need to blindly follow everything the professional field asks for. There will always be some discrepancy between the academic and the professional field.