Annual Report Programme Committee Applied Mathematics Academic year 2021-2022

H.G.E. Meijer

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1 Programme Committee

1.1 Members

During the academic year 2021/2022, the programme committee Applied Mathematics consisted of the following members;

Employees. H.G.E, Meijer (Chair), B. Manthey, K. Proksch, F.P. Schuller

Students. S.J. Geerts, L.S. Lanting, N.I. Muntendam, L. van Dissel

In addition, the meetings are attended by the programme director (A.A. Stoorvogel), the bachelor coordinator (J.B. Timmer), the master coordinator (J. Schut) and the education officer of Abacus, N. Apeldoorn. Proksch and Muntendam were appointed in September 2021. Students discuss and prepare agenda items together before the meeting.

1.2 Communication

The staff represents the different groups within the department. Anything specific to a chair will naturally be communicated within, to and from the chair. Students would discuss important items within the student association Abacus, and the Educational Officer from the Abacus board joined meetings too.

2 Meetings

We assembled eight times during the academic year.

Meeting	Main items
14 Sep 2021	Course Evaluations Spring 2021, Evaluation MDS-track
16 Nov 2021	First discussion of new Bachelor AM curriculum, Evaluation ongoing teaching
18 Jan 2022	Open discussion on curriculum, vision education in master and CBL
8 Mar 2022	Materials Linear Optimization, CBL in Scientific Computing, Update on BSc Curriculum
19 Apr 2022	Proposal new Bachelor AM curriculum, Course Intro to PDE
10 May 2022	Master TER and Bachelor TER
7 Jun 2022	Master TER, new Bachelor AM curriculum, Skipping BSc Evaluations
22 Jun 2022	Final proposals Bachelor and Master TERs

3 Advices and Recommendations

Advices concern the right to consent, while Recommendations concern strong suggestions.

3.1 Asked

171 We reacted to an initial draft of the new bachelor's curriculum. While we supported the general philosophy, we reacted specifically to the nature of the projects, the possibility of electives, the course Intro to PDE, Optimization and the double degree.

172 We were asked to provide our vision on Challenge-Based Learning (CBL) in the AM programme. There is a problem guaranteeing that students achieve the learning goals; hence, we recommend not implementing CBL in the regular AM courses and projects.

173 We gave detailed feedback on the new curriculum, including many points on learning goals. Programming and modelling were also key aspects to be improved as formulated in our advice.

174 We merely acknowledged the changes in the formulations in the faculty part of the Master EER.

175 The specialisations in the master EER changed from four to three, with AI4Health merged into Data Science as a track. A double-degree programme that was never taken by any student is removed. We agreed on these first two points. The Capita Selecta courses for different tracks and chairs were streamlined, but a concrete course proposal was lacking. It was unclear how graduation supervisors and chairs within specialisations were organized. Because of the last two items, we gave a negative advice.

176 We discussed the complete AM Bachelor EER, including the new curriculum. We identified a few articles that should be clarified. We noted some inconsistencies in the new curriculum. We felt the learning lines of differential equations and programming deserved more attention in particular, and hence gave a negative advice.

177 The EER regulations were updated according to our previous discussion and Faculty council comments, and we agreed to that. Nevertheless, the curriculum still was not clear or incomplete for some courses, so we still did not agree.

178 The updated master EER was discussed, and while the Capita Selecta still requires attention, we gave a conditional positive advice.

179 During the final discussion of the new curriculum, module 11 still gave rise to discussions regarding the study load. Intro to PDE and the electives to be developed will require more attention. As we think the proposed new curriculum is a better programme than the current one, we gave a positive advice.

3.2 Not Asked

None

4 Course Evaluations

Evaluation of the bachelor programme happens per panel meetings, once per quartile, and the institutional student evaluation (UT-SEQ) with a teacher reaction. The latter does not come to the PC automatically. For the master's, questionnaires for evaluating courses taught for AM were sent to students. Most courses are fine the way they are taught. Courses taught within Mastermath are always evaluated, though response rates vary.

- The final project of module 8 is not worthwhile for AM students as they can hardly contribute to the efforts of CE and IEM students. During spring 22, it became clear that the AM students would do a different project starting spring 23.

- Communication with the lecturer of Scientific Computing was hard. Moreover, in spring 22, the course organisation became cluttered due to a CBL experiment.

- The Data Science track seems ok, but more contacts with industry for good internships are needed.

- We invited the lecturer of Linear Optimization as students complained for years about the expensive book that was listed as required material but not needed in their opinion. The lecturer explained what he had changed to enable students to use the book more as it might be more formal than what they were used to read.

We also discussed course proposals for Intro to PDE and Capita Selecta. The PDE course was not endorsed as the proposal was not discussed with the programme management beforehand. The idea of a general AM Capita Selecta was endorsed, with the master BME variant as an example, but the plan did not become concrete yet.

5 Self-Evaluation

This academic year, the new curriculum led to considerable discussion during meetings and informally when preparing opinions and exploring options. It was tough to keep disagreeing with the new curriculum until the final bits were polished. Even then, there are still quite a few topics such as programming, modelling, optimization, electives and the PDE course that are likely to cause new discussions. The timeline for the whole discussion was far from optimal. With the PD as the primary responsible person and a curriculum committee that is not very active, this is not entirely a surprise. However, it was a very close call to get sufficient reactions during the first half of July for a positive vote, just before the summer break and via online channels only. The additional meeting in June was necessary but also a stretch, as the members at some point had no additional time for yet another discussion. Some documents came in late this year, and the course evaluations were skipped in the meeting on 7 June because of time pressure. Internal PC communication functioned pretty well during the academic year.

The panel meetings and the UT-SEQ provide information to some extent, but it is hard to get more in-depth information and less superficial comments about the courses unless something goes wrong. It seems wise to evaluate if the goals (more abstraction and better pass rates for AM) are attained.