

Minutes 176th PC-AM-meeting
Tuesday 7 June 2022, 15:45 – 17:15 hr.
Ravelijn 3411

5 *Present:* H.G.E. Meijer(chairman), A.A. Stoorvogel(PD), J.B. Timmer(B-coordinator),
L. van Dissel, K. Proksch, S.J. Geerts, L.S. Lanting, N. Luijten, F. Schuller, B.
Manthey, J. Schut(M-coordinator)

10 *Absent (with notice):* N.I. Muntendam, N. Apeldoorn (Abacus)

1. Opening

The chairman opens the meeting at 15.46.

15 **2. Minutes 173rd meeting 8 March 2022**

Line 435: "it" instead of "is"

Furthermore, "modelling" is sometimes written with two l's and sometimes with one l.

Line 432: The point was that there should be some support to teachers and coordination on programme level on the issue of the 20% rule.

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It turns out that not the latest version of the minutes was shown in the document. In the latest version, this line had already been changed to the above.

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The chairman remarks that he does not recall that an email has been sent, which was promised during the last meeting.

The PD comments that the rule states that 20% of the teaching of the entire programme should be online, not 20% per course.

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Action Point: The PD will inform the teachers regarding the details and coordination of this 20% rule.

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Schuller asks whether the individual teacher is supposed to implement this rule. The chairman agrees that this does not make any sense. He thinks that the roster team that is making these rules, has a questionable policy.

Action points:

- 421 – *Can be removed from the list*

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From the description of the course Mixed-Integer Optimization, it is clear that there is too much overlap with the course Advanced Linear Programming from MasterMath, and thus a student cannot take both courses. A student can choose either of the two courses, but not both.

The chairman thinks this knowledge should be part of the EER, since the individual teachers can forget to mention this to their students.

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The PD reacts by saying that then he should also include all the other MasterMath courses that have overlap with other Master courses. Furthermore, he cannot put these courses in the EER since not all the learning goals of the MasterMath courses

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are available yet.

Lanting suggests that there could be an official document that teachers have access to, that states which courses cannot be taken in combination.

50 The chairman says that there could indeed be a guideline that is sent to the chairholder and the Examination Board.

The PD says that the question is, to what extent he should specify which courses can be done in combination. This is complicated by the fact that the MasterMath courses do not have learning goals, only summaries.

55 The M-coordinator says that the least thing that we can do now, is to communicate that there is an overlap between these two courses.

Geerts asks who then will be responsible for making sure that students do not take these two courses in combination.

60 The PD says that the Examination Board, the M-coordinator, and the chairholder of a student's programme are the persons involved with a student's personal programme.

The chairman summarizes the discussion by saying that the PC may expect that the learning goals of the course MIO are added to Osiris. The PC sees that there is considerable overlap in the courses MIO and ALP, so taking both should be discouraged. The people that are involved with approving individual programmes should be informed.

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The chairman thinks the learning goals for the course MIO are still a bit vague.

70 **Action point:** The chairman will spend some time with the teachers of MIO to polish the learning goals.

Action point: The M-coordinator will communicate the overlap of the courses and the discouragement to following both courses to the people that approve the students' personal programs.

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- 436 – *Stays on the list*

- 442 – *It can be removed from the list*

Advice has been written and it has been sent to the PD.

- 443 – *It can be removed from the list*

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Advice has been written and has been sent.

3. Announcements

Muntendam will stop with the Programme Committee next year. The term of Manthey is ending. The chairman asks if he wants to proceed, to which Manthey answers yes.

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The students have already been talking with candidates for next year. One person is potentially interested, but this student wants some more information first. Lanting will sit down with this person to talk. Van der Kooij can also send out a general announcement that the PC is looking for new students.

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Geerts will be in Delft for the first three months of the academic year, after that he will rejoin the PC. Lanting will stay in the PC.

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4. Advice/correspondence

- *Mastermath:*

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- *Agenda OC meeting 13 May 2022*

- *Minutes OC meeting 8 November 2021*

These minutes were already approved. The new minutes should come this week.

- *Mail from PD about ILOs for MIP course*

Has been discussed (action point 421).

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- *Advice on the current draft bachelor curriculum AM*

No comments

5. Master EER 2022-2023 part B, Programme Section AMMaster

A. EER part B with track changes

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The chairman observes that the specialization AI4 Health is now put as a track within the Mathematics of Data Science specialization. The PD reacts that this is a discussion about how the programme presents itself externally. He thinks that now, there are too many specializations for very few students, so fewer specializations would be better. Also, now there would be a chair associated with each group. The chairman concludes that this is a reorganization of how things are presented and that there is logical reasoning behind it.

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The PC does not oppose this decision.

Geerts asks when a student must choose which track to follow. The chairman says that he thinks that since there is a lot of overlap between the different tracks, this is a choice that you can gradually make. There is no strict timeline.

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The chairman notices that the Osiris code of the course Case Studies for DS&AI is dropped from the table. He asks if the PD can include it again. The PD says that the problem is that there are five codes. The chairman asks if he can put one of the codes in the documents. The PD was thinking of perhaps having one flexible code, as done for the CS. He is still thinking about how to include the code. In any case, it is not an oversight that it is not included in the document.

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The chairman sees that on page 8 of the document, the Final Project and the Research Topic for AI4 Health are put in a different table than before. Before, it was deliberately presented separately because otherwise there are two separate Final Projects. This has been discussed at length, so he is wondering why it is presented differently now. The PD thinks that it is confusing that there are two Final Projects with the same name. He would prefer if the titles were different, for example Project AI4 Health and Research Topics AI4 Health. The chairman says that this has been discussed two years ago. He asks if the PD has read that discussion. The PD has not. Back then, it was decided to not change the names since it would still be a final project. The chairman suggests that for clarity, he would like to stick to the way it was presented. For students, it is very clear that in that track, these are two separate things. Furthermore, it is also the way in which it is done for Double Degree bachelors. Having them next to each other adds clarity. Geerts suggests adding an asterisk with a footnote. The chairman thinks that then you can also just change the name.

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Manthey comments that these regulations are not a poster for advertisement. It should be clear, not necessarily pretty. The chairman says that that is exactly what he wants, which is why he thinks we should stick to the old way. The PD thinks that uniqueness in names helps for clarity for the students, and for looking for a course in Osiris. The

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- 140 chairman says that then the PD should have had a proposal to change the course name. The PD reacts that he only noticed this when making the document so there was no time for that yet. The chairman says that if you put this track under the MDS specialization, but you do not make the two courses explicitly separate, that would be a missed opportunity for clarity. The PD thinks that it was confusing how it was, whereas Geerts and the chairman think that it is confusing now.
- 145 The chairman rounds off the discussion by saying that the PC asks the PD to clarify. The specific suggestion is to return the placement to the old state or possibly rename the course.
- 150 Geerts asks if the part on Capita Selecta can be moved to above year two instead of below. The PD agrees that that is clearer.
- The chairman thinks that the Capita Selecta (CS) deserves a proper course proposal. The current document does not have it. He asks if it can come. The PD reacts that the idea for the CS was that it would be flexible. He wanted to discuss if there should be one CS for the whole of AM or one CS per track. The chairman asks the PC what they would prefer to have to be on the course list of the final degree, CS AM or CS of your specialization. The chairman thinks a single CS for AM creates more flexibility, and the PC members agree. The PD says that he first wanted the PC to agree, so he will change it now. The chairman rounds off the discussion by saying that if the PD creates a course proposal, the PC will probably approve it. This would likely involve an update of the EER that the PC would like to be notified of in September.
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- The chairman notices that the double degree programme with the Indonesian partner has been removed. Has that been agreed upon by the Indonesian partner?
- 165 The PD says that the double degree programme with this partner has been added to EER for five years now, but the partnership was never materialized. The M-coordinator adds that the contract was never officially signed, and the original duration of the unsigned contract has already expired. The chairman concludes that it is fine to remove this part.
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- The chairman asks what a graduation supervisor means. Geerts answers that it is stated in article B1.1: Chairholder of the chair chosen by the students. The PD adds that the formal rule is that the supervisor must be chair. He is still unsure about this rule.
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- Regarding Article B4.3, the chairman asks if the PD has support from the chairs to kick out MIA of the SACS programme. The PD says that it has been discussed with Brune. The chairman says he has asked other chairholders, one from OR and one from SACS and they say they have not heard anything about this. The PD says that on the Open Days, SACS is described more as MIA than SACS, and this he wants to prevent. He thinks that it is more logical to distribute topics over chairs. Furthermore, he thinks it is not clear what the SACS programme exactly means and entails. Lanting says that this is not how it is presented to students. MIA is a very popular chair for students that choose the SACS specialization.
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- The PD says that there was a discussion earlier. He wants there to be a clear-cut structure in the programmes. Especially MDS but also MIA creates confusion. He wants to create clarity for students about what they can do. Since there is an overlap in tracks,
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190 he thinks this will create clarity presentation-wise. The chairman reacts that if this is implemented, several people in his chair will no longer ever get a master student. He thinks that a situation is created that has personal consequences for people, but this has not been discussed with these people.

Geerts adds that everyone he knows that is doing MIA is now a SACS student, and most of them are not interested in Data Science. If MIA is placed in a different specialization, all these students will not have a place.

195 The chairman thinks that you need to consider who is contributing to a programme. He thinks that by removing MIA from SACS, you also remove people from a programme. He thinks that there will be no support for this action, so he opposes it.

200 The PD believes that there must be clarity in the way AM presents itself. He thinks that presentations that are given about SACS are unbalanced since they show topics that are associated with Data Science and not SACS. He says he has discussed this problem and his solution with some chairholders. The chairman says that at least some chairholders do not seem to know about this solution. The chairman asks if the PD would propose to keep his idea. The PD says yes because he thinks the presentation is incorrect. The advantage of this proposal is that he can now specifically indicate chairs in the EER.

205 Lanting reacts that she doubts SACS students will like it if MIA becomes an MDS chair, since it is a popular chair. She thinks that hardly any student will enrol. Geerts adds that there is already a stigma around SACS, people think that it is too theoretical. If MIA is removed from SACS no one will take it, because of the stigma. Lanting thinks that it would be a pity to place a very popular chair for SACS students in a direction where it will not be appreciated. The chairman asks if listing MIA in both SACS and Data Science

210 would be a solution for the PD. The PD thinks it is fine for the listing, he just opposes the presentation of SACS where they present themselves incorrectly. The chairman agrees that if that is the case, he may certainly complain about the presentation. However, the consequence of taking MIA out of SACS is much more drastic. He calls a vote for listing MIA in the SACS programme, which results in five in favour, two blanks and one absent.

215 The chairman later mentions a text message stating that Brune wants the chair MIA to be part of both MDS and SACS.

220 Geerts has some comments that he will send via email. A larger comment is regarding the discussion about the combined master programme in article 4.6. He thinks that the formulation is very strange and asks if it is necessary to have this full article, since combined programmes are already discussed in the faculty section. The M-coordinator says that this was an agreement with Applied Physics, so that is why it is also stated there.

225 Geerts also asks about point G of the article. It is clarified that a course is put under either Physics, Mathematics or the intersection.

The chairman summarized the discussion on this agenda point.

Action Point: The chairman will write an advice listing the topics the PC agrees on, namely:

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- The track AI for Health becoming a specialization within MDS
 - Leaving out the double degree students from the Indonesia partner
 - Some typos and clarification

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- CS to be placed in more clear position and a course proposal for one CS for AM version
- Make clear how the track AI4 Health is organised
- MIA in both specializations

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B. EER part B without track changes

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6. New curriculum B-AM

The chairman asks every member of the PC whether, with one new round of comments and interactions, they feel that they can approve the new bachelor curriculum in two weeks.

Van Dissel, Manthey, Schuller and Proksch think they can approve it. Lanting does not think so, and Geerts does not know.

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Van Dissel counted the number of ECs for Calculus and Analysis in the current curriculum. She saw that all of Analysis is 8 EC and all of Calculus (including Vector Calculus) is 10 EC, so together that would be 18 EC. In the new curriculum, Calculus and Analysis 1,2 and 3, is 16 EC altogether. Thus this is 2 EC less. Where did the 2 EC go? The PD reacts that there is indeed a decrease in the number of ECs. There needs to be more finetuning regarding the topics that will be taught in these courses.

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The chairman has another comment regarding Analysis 3. He thinks that the description of the course does not match its content. He thinks that it seems like a very unbalanced course.

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Manthey says that he is content with the current programming line.

Lanting thinks that as a student, it is hard to see how well and how quickly this new programme can be implemented for next year. She wonders where the quality check of the education will be. For her, it lacks concreteness regarding teachers and materials. Thus, she sees a feasibility problem.

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The PD mentions the following people that will teach the courses.

Q1: Litvak - LS 1, Pérez and Mandal - Analysis 1, perhaps Hoeksma - Programming, Meinsma – Modelling.

Q2: De Jong - LS 2, Pérez and Mandal - Analysis 2, Zwart and Meinsma – Systems theory

Q3: Scheinhardt – Probability Theory, Meinsma – Signals and Transforms, Meinsma - Project

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Q4: Schlottbom and Glas – Numerics, ? - Differential Equations, ? - Modelling

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So, quartile 1 until 3 is almost certain. Knowing that more has been happening behind the scenes than she thought, Lanting has more faith in the new curriculum being possibly approved in two weeks' time.

Proksch found a few typos in the document that she will send to PD.

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The chairman mentions that in module 1, Programming lists something specific, namely object-oriented programming. He thinks that it is too advanced for module 1. Manthey reacts that it is not real object-oriented programming that they had in mind. Python

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280 offers methods related to OOP that are easier to understand and use. They were
planning to teach that. The chairman thinks that if that is the case, they should call it
basic OOP. Also, he asks if they are planning to do elementary and complex algorithms
from pseudocodes in module 1, and if it would not be better to reserve complex
285 algorithms for some later module. Manthey explains that they are handling the
programming in rising steps of complication. The chairman rounds off the discussion by
saying that he is content, as they have clearly thought this through.

The chairman says that he thinks that the assessment scheme for Analysis 1 is very
difficult to read. He asks the PD to explain how a student should read this on an exam.
290 He thinks that if you design a decision tree, students will go down the decision tree
when having to prioritize one question above another in case of time restraints.
Manthey doubts that a student will go down this very complex decision tree in an exam,
but he does think that something equally good can be written with half the text that is
currently used. The PD says that the essential idea is that the teachers thought this
295 through, but he agrees that the decision tree became too complex. It can be formulated
more easily.

The chairman mentions the descriptions and learning goals of courses. The descriptions
of Introduction to PD, Probability theory, Systems Theory and Analysis (description does
300 not match content) are not complete yet. Furthermore, Optimization has vague learning
goals. He will write them all down and send them to the PD.

The chairman asks where the course Presentation Skills is in the new bachelor
programme. It is a training in the individual skill of presenting a mathematics subject.
305 Proksch says that she thinks that it was gone the whole time. The chairman agrees, but
he wants to know whether it will be included or not in the programme. The PD says that
there is an individual presentation in module 2. The chairman thinks that a student
should not be judged on a skill unless he or she has been trained in doing so. His
suggestion is to add Presentation skills to module 3 as part of the project in module 3.
310 The PD says that the project is already very full due to programming and collaboration
sessions. The chairman says that it could be added to the project in module 4. It is not
ideal, but it will have to do.

The chairman will collect all the comments. He will send this around to ask for input.

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7. Bachelor EER 2022-2023, programme part AM

A. List of changes

This has not been discussed.

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B. B-AM EER 2022-2022

Page 20

Section 9: Schuller asks what "without societal context" means, and it means pure math.

Section 9.3: Computer algebra is listed; however, this is not longer taught in the new

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curriculum. The PC approves of it being taken out of the EER. The chairman asks if it can
be changed to programming instead.

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330 Article 10.2, second item: The chairman asks if the matching activity is also there for VWO students. The PD answers that it is there for VWO, however it is not mandatory. For students that are coming from a University of Applied sciences, it is obligatory. The chairman wonders if it would be useful to add this information to the EER, but this is decided against since it is an admission requirement.

Page 24

335 Part A: On the evaluation part of WHW by the PC, it only says that there is information on which the PC bases decisions, but the plan-do-act cycle is not described. The chairman thinks it should be added. It also allows students to know where to go if there is a complaint.

Page 27

340 Van Dissel comments that Analysis 2 has 5 EC instead of the 6 EC that it should have.

Page 29

345 Section 13: The course Analysis in Q1 of year 1 has a different number of ECs than is written there. The PD had a discussion with the Physics department about the course Hilbert Space. They want to change the course for it to support their courses better (for example Quantum Mechanics). The suggestion from Physics is to keep it in for one year and after that evaluate the course. The number of ECs is also incorrect here, it should be 2EC. The chairman asks if it would be possible to get the outline of the course to be able to judge the double degree programme.

Page 36

350 There is a typo (article article).

Page 38

355 The chairman observed that there is some room in the programme, and Neural Networks could be a worthwhile addition to this programme. The PD has not discussed this yet. The chairman thinks that it could be addressed.

The chairman will write the following advice:

360 The PC has noticed that there are a few things that should be clarified in the tables. For the double degree programme with Physics and Computer Science, the PC would like to see more information. Furthermore, the evaluation cycle of the PC could be described. The chairman is fine with dropping the description of the modules, but he does think that the programme intended learning outcomes are a poor description of the learning lines. He thinks that it might make life easier if there is a description. The PC therefore says no to this version, but with these changes, they would accept it.

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8. Bachelor evaluations

- Module 3
- Module 4
- Module 6
- 370 - Module 7
- Module 8
- Module 11
- Module 12

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These topics have not been discussed.

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9. AOB / Questions before closing the meeting

No comments.

10. Closure

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The chairman closes the meeting at 17.33.

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Next meeting: 22 June 2022 (extra meeting)

Nr	Description	Meeting	Responsible
436	Talk with the lecturer of statistics regarding his way of teaching.	03/04/2022	PD
444	Inform the teachers regarding the details and coordination of this 20% rule.	07/06/2022	PD
445	Spend some time with the teachers of MIO to polish the learning goals.	07/06/2022	Chairman
446	Communicate the overlap of the courses and the discouragement to following both courses to the people that approve the students' personal programs.	07/06/2022	M-coordinator
447	Write an advice listing the topics the PC agrees on, namely: - The track AI for Health becoming a specialization within MDS - Leaving out the double degree students from the Indonesia partner - Some typos and clarification - CS to be placed in more clear position and a course proposal for one CS for AM version - Make clear how the track AI4 Health is organised - MIA in both specializations	07/06/2022	Chairman