
Minutes 43rd meeting PC-S&C 2 June 2022, 14:30 – 16:00

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Present: Ronald Aarts (chairman), Sarthak Misra, Francesco Nex, Maarten Korsten (programme director, PD), Jorien Berendsen (programme coordinator, PC), Alejandro Lopez Tellez, Jan Broenink (PD Robotics), Heidi Muijzer-Witteveen (PC Robotics) and Marissa Jonker (minutes maker)

10 Absent with notice: Vignesh Balaji Vijayan

1. Opening

The chairman opens the meeting at 14:32.

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2. Minutes meeting 42 on 12 May 2022

Page 1, line 24, action point 116: there are courses (plural), not just one.

Page 5, line 193: change *if* to *is*: '..., or *is* bachelor course knowledge sufficient?'

Action points:

20 121: done

126: no application, so Berendsen will post the announcement on Canvas

128: advice is sent

129: done

130: not yet available

25 131: will be finalized

3. Announcements, incoming and outgoing mail

- **Advice on Master EER part A 2022-2023**

Has been sent.

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- Students will be notified next week on the changes in the programme due to the Robotics programme.

4. Master EER part B, Programme Section Systems & Control

- **Letter from PD-S&C**
 - **EER part B with track changes**
 - **EER part B**
- 35

Remarks and recommendations on the proposed document:

40 **Page 5:**

In the table *Structural Dynamics, Acoustics & Control* should be changed to *Applied Mechanics and Data Analysis*.

Page 8:

45 In one of the previous meetings, *Machine learning in Engineering* was discussed. It was removed, but the remark was it should not be removed, but it appears to be removed. → *It should not be removed.*

50 Nex asks if his course *2D and 3D Scene Analysis* can be moved from 2A to 2B, otherwise he would have to teach it twice (in 2B it's called *AI for Autonomous Robots: deep learning and reinforcement learning*) → *2D and 3D Scene Analysis* should be removed from the table.

The combination of *Machine learning I* and *Machine Learning in Engineering* is not allowed.

Page 13:

55 In the transition table (B7), it should be removed that *Machine learning in Engineering* is transitioned into *AI for Autonomous Robots*. Instead *2D and 3D Scene analysis* is transitioned into *AI for Autonomous Robots*.
→ *Machine learning in Engineering* should be replaced with *2D and 3D Scene Analysis*

60 The course codes of discontinued courses will exist at least one year s.t. grades can be filled in, so students get their grade when they do the course.

Page 14:

65 Broenink asks if it would be useful to indicate that after 31st august 2023 the courses disappear? Korsten answers that it depends on the situation. It might be done for clarity. We can do it here, or at least on the website.

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

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- The origin document mentions a few specifics
 - Keeping track of Master Thesis project
 - Internship
 - Strict short deadline on finalizing courses
 - Mail from PD-ROB
 - 75 • Draft EER part B
 - Origin EER-B
 - TNO accreditation document
 - Relating PILOs to ILOs
 - Course descriptions
 - 80 • Panel report of the accreditation committee

Page 3:

85 Chairman asks about the term 'graduation committee'. It might not be used consistently throughout the document. In e.g. article B4.7.7 this committee assesses the project, whereas the definition in article B1.b is about supervise the thesis which excludes an external member. Furthermore the name of the committee varies throughout the document. Broenink replies that the external member is excluded from the graduation committee, and is only member of the examination committee.

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Page 10:

Broenink asks about the electives in B3.4: There is a list in table 15 of courses that are not mentioned before. Students can choose any other courses that are mentioned on all the other tables in the document. The research specific deepening courses in tables 10, 11, and 12 mention courses that the students can take if they do a research profile. If they choose a research profile without internship they have to choose 6 courses (they do 4 extra courses instead of an internship).

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A relevant question is: Can a student select a specialization basic course of the other profiles as a deepening course in his/her own specialization? E.g. is it allowed for students of the specialisation *Mechatronics and Physical AI* to do *Image Processing and Computer Vision* as research deepening or is that an elective course? Students might ask this, so we should prepare an answer to share with the programme mentors.

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Example: A student chooses the specialization *Mechatronics and Physical AI*, takes research profile variant 3, meaning 4 extra deepening courses and no internship. The student wants to know more about image processing, so the student wants to do *Advanced Image Processing*. Prior to that course, *Image processing and Computer Vision* has to be followed. This would be a normal elective course, but *Advanced Image Processing* cannot be taken as deepening course.

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There are some options to do free electives. A risk is that if we allow complete freedom, we have no control if we want students to focus on deepening.

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It is decided to leave it as it is (so to allow doing broadening courses instead of deepening courses).

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Page 12:

Aarts asks about the format of the thesis project (report/paper, number of pages). The ME approach is either report based, or paper based. If a paper is written, it should be sufficiently readable and be detailed enough for external members to be able to read it. What will the approach be here? Broenink answers that no information is given on how the report should be shaped. Students should know beforehand/should discuss in supervision meetings on what is the best way to go. That's why it's not in the regulations now.

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Aarts is concerned about papers of e.g. 12 pages being unclear to external members.

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B3.11: Here the committee is called the MSc-thesis project committee, should be supervision committee

B4.1.4: Second to last sentence "must" should be removed.

Page 15:

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B4.7.1 Specific new things on assessment. External examiner should not be involved in supervision – preferably. *Preferably* should be removed.

Leave in independent → hence not involved in the supervision.

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B4.7.2. Formal way to signal that things are not going well. Repairing things should be done earlier instead of asking for an extension later on. If it appears to be really below par, then the extension period is offered which adds some time s.t. the student can at least get a pass. This

140 action can already been taken after the exploration phase (once the project plan is handed in, at about 1/3 of the thesis period). At the end of production phase (2/3 of the thesis period), the student shows basic results to the supervision committee. In the first two phases, the supervision committee can recommend some repair plan, and repair period. If things really go wrong, an extension of 2 months can be added, and the maximum grade is a 6. That replaces (at least compared to S&C) the procedure that the student has to ask for extension via the exam board. This would be too late and is why it should be done earlier. This is the motivation to divide the graduation project in 3 phases.

145 B4.7.10: Leave all the extension stuff to the student and supervision committee. If the student does not agree then an external body has to decide.

150 Berendsen asks about point 8, whether students still get a 6 if they get a 9 in one part, and a 5 in another part. Broenink answers that that is indeed the case, because it is to prevent that they take longer to get a higher grade. Also all the individual parts have to be passed.

Division of percentages: content is 50%, organization and communication the other 50%

155 **Page 17:**

Aarts has a question about the internship form: process & attitude has an asterisk behind it. That means it is gathered by UT examiner from the company supervisor. On page 18, how easy is it to link the feedback from the company supervisor to the internship form? Broenink answers that it is not perfectly linked.

160 Visiting the internship student after say 60/70% of the internship time would be a good habit. It should be doable, and it is advised to the UT supervisors to go. It could also be a teleconference. Wendie Klieverink was very positive on this.

165 Chairman will send a summary of the EER (to Korsten for S&C, Broenink for Robotics).
→ Action 132

The urgency to discuss the descriptions of the 14 courses is not as high as the EER, but a recommendation is needed before the summer break. Everyone should have a look at the descriptions and send an email if there are any comments by **JUNE 17**.

170 → Action 133

Broenink mentions that a few titles of courses are changed, but not the content. e.g. *Computer Vision and Image Processing* is renamed as *Image Processing and Computer Vision*. The contents are copied out of the TNO documents.

175 → The file with the right names will be sent (this week)

Nex mentions the descriptions seem to have different formats. It would be nice to be consistent in this.

180 **6. Course evaluation report Q2**

For Q2 the PC-ME has been contacted about the following courses:

- 201900037 Flexible Multibody Dynamics (M-ME course)

185 An evaluation from 2021 was found. There was some criticism. The course has now been run for the 3rd time. There were remarks on missing lecture notes, the amount of work and the structure. In 2021 it was tried to improve this, but it is not fully solved yet.

- 201900256 Learning and adaptive control (M-ME course)

There was no evaluation found. The chairman will check again with the PC-ME

190 **7. Any other business/Questions at the end of the meeting**

Korsten asks about the student members. We have one active member, and Vijayan will show up again soon. If no new member is found before the summer break, we can also look for a robotics member. Lopez Tellez will leave around October. We can also look then for a robotics student to join the PC? Anyway there is still a vacancy for one student member at the moment.

195 **8. Closure**

Chairman closes meeting at **15:58**.

Next meeting in September 2022

200 **Action points**

Nr	Description	From meeting	Who
126	Post the announcement for new student members on Canvas	04/04/2022	Berendsen
130	Add courses to list for evaluation for Q3.	12/05/2022	P-director
131	Formulate recommendation on moving Modelling and Simulation to quartile 2A.	12/05/2022	Chairman
132	Send the summary of the EER to Korsten and Broenink	02/06/2022	Chairman
133	Read the course description document and if there are any comments, send an email before 17 June	02/06/2022	All