

Annual Report Board of Studies BSc and MSc AES 1/9/2019 – 31/8/2020

Faculty CEG, Delft University of Technology

This annual report of the Board of Studies BSc and MSc Applied Earth Sciences (AES) provides an overview of the actions of the Board of Studies during the academic year 2019-2020. This review serves to inform people and bodies within Delft University of Technology concerned with the AES programmes about the status of recent and ongoing items within the AES Board of Studies. This document also gives new members of the AES Board of Studies insight into recent and ongoing items, and it supports the progress of actions in the coming year.

The AES Board of Studies is a committee that actively, and in a constructive-critical manner, works to ensure the highest quality of education in the AES programmes. The Board interacts regularly with AES teachers, students, the Board of Examiners, Education & Student Affairs, and the AES Programme Coordinator and AES Director of Studies. The Board consists of 11 members: 6 staff members and 5 student members. In 2019-2020 the Board consisted of:

Dr.ir. A.A. Verhagen	chair
Prof. W.R. Rossen	staff member
Dr.ir. D.S. Draganov	staff member
Dr. J. Gebert	staff member
M. Soleymani Shishvan	staff member
Dr. S.R. de Roode	staff member
C. Mulder	student member
E. Blanken	student member
R. Hoedemaker	student member
F. ter Steege	student member
J. Steijn	student member

The Board of Studies was supported by Ms M. Geldof (Secretary to the Board) until February 2020, and Ms E. van der Kruk (Secretary to the Board) since March 2020. In 2019-2020, the Board had seven meetings.

The AES Board of Studies has performed its lawful roles and responsibilities:

- Provide advice on the establishment of the Teaching and Education Regulations (TER) and Annex
- Assess the implementation of the TER
- Provide advice – solicited and unsolicited – to the Dean, the Directors of Education and the Director of Studies concerning the programme and all associated teaching-related affairs.

Important items 2019-2020

In 2019-2020, the Board of Studies focussed on the quality of education, changes in the BSc programme, the MSc redesign and the effects of the Covid-19 situation on education and examinations.

1. Education quality

- 1.1 Educational Quality Assurance
- 1.2 Evasys Questionnaire

2. BSc programme

- 2.1 Changes to BSc courses for 2020-2021
- 2.2 Admission requirements BEP/FEP
- 2.3 Advice on and approval of TER and Annex BSc AES 2020-2021

3. MSc programme

- 3.1 MSc redesign
- 3.2 Advice on and approval of TER and Annex MSc AES 2020-2021
- 3.3 MyStudyPlanning

4. Covid-19 measures

- 4.1 Influence of the Covid-19 measures on education and examinations

Elaboration on items

1. Education Quality

1.1 Educational Quality Assurance

Elske Bakker, quality advisor, joined the Board in November to discuss the system used for course evaluations. In the BSc programme there is a system for evaluation (Evasys/Qualtrics and 'nablokken') but in the MSc programme there is no uniform system for course evaluations. There were also low response rates in the Evasys system, and to improve these rates some changes were implemented. Students receive a survey per course, sent out by the responsible lecturer. The number of questions of a questionnaire was not changed, but because it only concerned one course, students preferred the new system. In the Geo-Energy Engineering track a pilot was implemented, where students filled in the questionnaire in the last session of the course. This ensures a high response rate, but there is no information about the exam. It is important to note that the questionnaire only provides information about how students experienced a course. EQA evaluates a course every three years. This frequency will not change unless the system for evaluation is improved.

1.2 Evasys Questionnaire

The Evasys questionnaire was evaluated by Loes Aartsma and she joined the Board in February to present the findings. Some noteworthy findings were that the surveys do not help lecturers improve their courses, students would like to be able to elaborate on a closed question (yes/no or agree on a scale of 1-5) but if there are too many open questions, students will not answer all questions. The student members of the Board also remarked that students will probably never admit that they found a course "too easy" and only say something about courses that are considered too difficult. The Board also thinks that teachers should get more flexibility for using their own methods for improving a course, separate from what ESA CEG does.

2. BSc Programme

2.1 Changes to BSc courses for 2020-2021

Four courses of the BSc programme have been changed for 2020-2021: Probability and Statistics, Grand Challenges and Applied Earth Sciences, Instrumentation & Signals with Python and Chemical Thermodynamics.

Probability and Statistics

Probability and Statistics was taught in Q1 and Q2 in 2019-2020, and started in week 5 of Q1 and had one exam and a non-obligatory midterm exam. The pass rates of this course were very low, and it was a course that many students dropped, because it was worth only 4 ECTS, compared to other courses worth 5 or 6 ECTS. It was therefore proposed to take one ECTS from Grand Challenges (10 ECTS) and add it to Probability and Statistics, to give the course more weight. Other changes for the programme in 2020-2021: Linear Algebra will be taught in Q1 and Q2, and Probability and Statistics will be moved to Q3.

Grand Challenges and Applied Earth Sciences

One ECTS was taken from Grand Challenges to give Probability and Statistics more weight. Grand Challenges will still be taught in Q1 and Q2. The Board discussed that it was not advisable to make first-year courses prerequisites of each other.

Instrumentation & Signals with Python

The responsible instructor for Instrumentation & Signals worked on improving the course and making it more blended, because the I&S theory and Python barely correlated in the course. The instructor wanted both parts to be fully integrated, but the Board was doubtful about this solution. Ultimately, a change in examination was proposed: Python and theory will be separated and there will be 2 different grades (midterm exam and final exam + pass/fail for practical sessions).

Chemical Thermodynamics

Chemical Thermodynamics was also revised for 2020-2021. The responsible instructor wanted to use a different book and limit the overlap between Principles of Chemistry (first-year course) and Chemical Thermodynamics (second-year course). Another reason for the revision was the fact that the pass rates for the online exam was very low. The assessment for the revised course is 75% for the final exam and 25% for the assignments.

2.2 Admission requirements BEP/FEP

The Board discussed the admission requirements for the Bachelor Thesis and Field Exploration Thesis. The instructors suggested the following prerequisite: "Fulfilled the first two years of the BSc programme AES". They also added that if a student misses just one course from the second year, and if a delay would cost them a whole year, an exception could be made. The Board wanted to know more about this exception, and felt that this should also be communicated to the students, so the sentence "In exceptional cases a student can request the responsible instructor for a deviation from this rule" was added to the admission requirement.

2.3 Advice on and approval of BSc TER and Annex 2020-2021

The Board discussed the BSc TER 2020-2021 on 8 June, Birgid Zaaijer joined the Board in its first discussion of the TER to explain and elaborate on the changes. At the time of the last meeting (29 June) there was no definitive version of the TER, or an English translation of the TER, so the Board was not able to discuss it a second time. The BSc Annex was discussed twice. In 2020-2021, AES will have a proper Annex once again. Compared to the last version of the Annex, the Implementation Regulations 2017-2018, changes were made in the composition of the study programme, the minor abroad was added as a separate subsection of article 4, the admission requirements were moved to the study guide and the transitional measures were updated.

3. MSc Programme

3.1 MSc Redesign

In 2019-2020, the CEG faculty worked on a new Master's programme, Environmental Engineering, and the redesign of the Civil Engineering and Applied Earth Sciences Master's programmes. This was a regular topic on the agenda of the Board. An extra meeting of the Board was organised in April, to inform the Board of the recent developments in the MSc redesign. The 'quartermaster' of the project, Evert Slob, joined the Board to give a presentation of the proposal for the new Master's programme. The new MSc will have 'learning lines' instead of tracks, as this will allow students more flexibility because they will be able to choose modules from these different learning lines, and therefore also combine different learning lines.

In June 2020, the position papers for the new Master's programmes were sent out to the faculty, and the Board members were asked to give feedback on the proposal, which would be passed on to the MSc redesign team. The Executive Board of the TU Delft approved the proposal for the new Master's programme. Work on the programme continues in 2020-2021.

3.2 Advice on and approval of TER and Annex MSc AES 2020-2021

The Board discussed the MSc TER 2020-2021 on 8 June, Birgid Zaaijer joined the Board in its first discussion of the TER to explain and elaborate on the changes. At the time of the last meeting (29 June) there was no definitive version of the TER, or an English translation of the TER, so the Board was not able to discuss it a second time. The MSc Annex was also discussed twice. The articles on the MSc tracks were updated, while some articles were removed because the information was already in the TER or the online study guide.

3.3 MyStudyPlanning

Students of cohort 2020-2021, and of later cohorts, will have to use the tool 'MyStudyPlanning' to register their track and course selection. After a successful pilot in the CME programme in 2019-2020, MyStudyPlanning will also be used in the Civil Engineering and Applied Earth Sciences MSc programmes. Students have to register their track selection at the beginning of the first semester, and their course selection by the end of the semester. Students of cohort 2019-2020, or earlier, will continue to use the old forms, but eventually MyStudyPlanning will be used by all MSc students.

4. Covid-19 measures

4.1 Influence of the Covid-19 measures on education and examinations

Due to the Covid-19 pandemic, all on campus education was cancelled from 13 March 2020 and the examinations of Q3, Q4 and the resits of Q5 were organised online as well. The BoS discussed the effects of the Covid-19 measures in its meetings in May and June. Overall, students were satisfied with the way the university and faculty handled the situation. However, online examinations cause a lot of stress for students because they have to upload hand-written work within a certain time slot, or because online exams do not offer the option of going back to an earlier question. In September 2020, on campus education will be possible once more, but students will only have one day of on campus education, and receive online education for the other courses.

Actions for 2020-2021

In 2020-2021 the AES Board of Studies will focus on:

- Corona-related issues such as online education, the options for doing fieldwork, students' well-being;
- Quality control and evaluations;
- The Master redesign, including transitional rulings;
- Faculty regulations;
- The review of the TER and Annex;
- Programming (Python) in the BSc programme.