

The logo for AeQui, featuring the letters 'AeQui' in a purple, sans-serif font. A light blue, hand-drawn style line loops around the letters, starting from the top left of the 'A', passing under the 'e', looping around the 'Q', and ending at the top right of the 'i'.

AeQui

PO Box 5050
NL-3502 JB Utrecht
+31 30 87 820 87
www.AeQui.nl
info@AeQui.nl

Bachelor Logistics Engineering Breda University of Applied Sciences

*Report of the extensive programme assessment
1st and 2nd December 2022*

Utrecht, The Netherlands
February 2023
www.AeQui.nl
Assessment Agency for Higher Education

Colophon

Programme

Breda University of Applied Sciences

Bachelor Logistics Engineering

Location: Breda

Mode of study: fulltime

Croho: 34390

Result of institutional assessment: not applied for

Committee

Mariëlle Klerks, chair

Mieke Damen, domain expert

Jens de Craen, domain expert

Jan Verbist, domain expert

Adrienne Stickel, domain expert

Anne van der Rijdt, student member

Tineke Kleene, secretary

The committee was presented to the NVAO for approval.

The assessment was conducted under responsibility of:

AeQui VBI

PO Box 5050

3502 JB Utrecht

The Netherlands

www.AeQui.nl

This document is best printed in duplex

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Summary

On 1st and 2nd December 2022 an accreditation committee presented by AeQui visited the Bachelor programme Logistics Engineering at Breda University of Applied Sciences. The committee judges that the programme meets each standard; the overall judgement of the committee is that the quality of the programme is **positive**.

Intended learning outcomes

The committee concludes that the intended learning outcomes of the programme tie in with (inter)national requirements for logistics engineering and are in tune with the demands of the professional field. The logistics industry committee (LIC) plays an active role. The programme has extended the Dutch national profile into a T+-shaped professional profile and has made some clear choices regarding substantive focus. The intended learning outcomes also meet the international requirements of a bachelor's programme.

Curriculum

The intended learning outcomes (including the BoKS) are covered by the content of the programme. The programme is coherent, between semesters as well as within semesters. Study components consist of a fixed set of building blocks and per building block learning goals have been defined. The committee likes the integrated approach in the programme (offering skills and knowledge in a logistics context) which facilitates students to directly apply new knowledge and skills in practical situations.

The committee highly appreciates the fact that there are many opportunities for students to shape their own programme and is also positive about the PPD part of the programme which helps the students make choices.

The committee is positive about the preliminary plans for the design and contents of the new specialisation track in the future year 3. As the other components of years 3 and 4 will basically remain unchanged in the new years 3 and 4, the committee expresses its confidence that the new years 3 and 4 will reflect the same quality as the current (old) years 3 and 4.

Staff

The lecturers are very enthusiastic, international, very much approachable, open for feedback and really form a team. The team has all the required expertise. The many recent changes in the programme have led to new roles and responsibilities and the programme has already provided different types of training. However, training of staff will still need a lot of attention in the nearby future.

The workload seems to be quite high. Keeping a good balance is a challenge for everyone. The committee is confident that the management will continue having a close eye on this.

Students think some lecturers need to improve their level of English. The committee recommends to make training in English compulsory for those who have not yet reached the required level and teach in the English-taught track.

Facilities

The committee concludes that the facilities match the educational concept of the programme. The learning environment supports active and collaborative learning; students and lecturers can use different types of (class)rooms for smaller or larger groups. The campus feels like a living and working place for students and lecturers/ researchers and companies, some of which are situated on the campus. This stimulates the cooperation between education, research and the industry. The classrooms are well-equipped and on the campus students and lecturers can find all facilities they need. Specific hardware and software is available for the LE programme. Long opening hours (7.00 – 22.00), enable students to study whenever they like.

Student wellbeing is addressed adequately. BUAs has an extensive care system which enables students to get in touch with different kinds of experts and follow different extracurricular courses. In addition,

the PPD programme plays an important role in student support. The committee thinks the introduction of a soft landing programme is a good idea, especially for foreign students.

The programme has good systems in place to stimulate the information provision. Staff and students both have their own communication portals and in 2022-2023 a new LMS, which will support the new educational concept, will be implemented.

Quality assurance

The committee believes there is a genuine quality culture in place. BUas's quality assurance system and planning and control cycle is translated into the context of the academy and of the programme. All relevant stakeholders are involved. The programme has found a good balance between formal evaluations (like NSE and HBO Monitor) and more informal conversations (round tables and pizza sessions). Students feel safe to give feedback and feel they are taken seriously. The staff is intrinsically motivated to improve the programme continuously. The committee likes the concepts of round table and pizza sessions. It is seen as an important addition to the formal QA instruments.

Assessment

The committee concludes assessment within the programme is well-balanced. It contains a variety of formative and summative assessments, matching the levels and content of the modules. The committee likes the increased role of formative assessments and the integral vision on assessment with the portfolio playing a central role.

Several measurements ensure the quality of assessments, such as the Board of Examiners, the development cycle, involvement of different stakeholders, the 4-eyes principle and the use of rubrics, answering models and blueprints.

Lecturers are supported adequately to carry out their job as examiners. Generally, the quality of the assessment of courses/modules is adequate. With respect to the assessment of the thesis and work placement in year 3, however, the committee notes that the quality of the assessment could be improved. The fact that the assessment of the

thesis is done by four people (8-eyes) and the assessment of the work placement by two people (4-eyes), however, ensures intersubjectivity which partly compensates for some of the abovementioned weaknesses.

According to the students grading of other assessments sometimes depends on the lecturer. The Board of Examiners and the assessment committee are aware of this and are addressing this issue.

Achieved learning outcomes

The committee concludes that the graduates who leave the programme have achieved the intended learning outcomes. This is proven by the quality of the theses, the fact that the industry is very positive and that most graduates find a job at bachelor's level quite soon after (and sometimes even before) graduation.

Recommendations

For further improvement of the programme, the committee suggests the following:

- The programme should improve the assessments forms by linking the criteria to the intended learning outcomes and the learning objectives, by indicating the weight of the different criteria and by showing how the quantitative judgments are translated into a grade.
- Examiners should fill out the assessment forms of the thesis and the work placement in year 3 structurally and with care, by writing down useful feedback which is linked to the criteria and thus to the learning outcomes. The committee emphasises the role of the Board of Examiners in keeping a close eye on the improvement process.
- Lecturers should calibrate more on the use of the different assessment forms/rubrics. The committee especially stresses the importance of increased calibration regarding assessment of final projects.
- Training of staff will need continued attention in the nearby future in order to adequately support staff in keeping up with the various new developments within the programme. With respect to English language training, the programme could consider making English language training com-

pulsory for staff that has not yet reached the required level and teaches in the English- taught programme.

- The management should keep a close eye on the work pressure and support lecturers in finding a good balance.

The committee specifically stresses the importance of following up the abovementioned recommendations regarding the assessment forms and calibration, since the previous accreditation committee already commented on this.

All standards of the NVAO assessment framework are assessed positively; the committee therefore awards a **positive** recommendation for the accreditation of the programme.

On behalf of the entire accreditation committee,
Utrecht, February 2023

Mariëlle Klerks
Chair

Tineke Kleene
Secretary

Overview

The judgements per standard are presented in the table below.

Standard	Judgement
1. Intended learning outcomes	Meets the standard
2. Orientation of the curriculum	Meets the standard
3. Contents of the curriculum	Meets the standard
4. Structure of the curriculum	Meets the standard
5. Qualifications of incoming students	Meets the standard
6. Staff: qualified and size	Meets the standard
7. Accommodation and infrastructure	Meets the standard
8. Tutoring and student information	Meets the standard
9. Evaluation of the programme	Meets the standard
10 Assessment system	Meets the standard
11 Achieved learning outcomes	Meets the standard
Overall judgement	Positive

Introduction

The institute

Breda University of Applied Sciences (BUAs) celebrates its 55th anniversary in 2022. Buas serves over 7000 students in total. The nine domains that Buas covers are: Tourism, Leisure & Events, Hotel, Facility, Built Environment, Logistics, Games, Data Science & AI, and Media. These domains are clustered into five academies.

The mission of Buas is: *"Empowering young professionals on their journey to shape a better world"*. The vision of Buas is: *"Educating for and in a continuously changing world"*.

In the new strategic period Buas aims to become more than a standard university of applied sciences. The current challenge for students learning to deal with so many different questions, problems, crises and developments, requires 'something extra', according to Buas. Therefore, Buas' added value for industry and society should be elevated to the next level: Buas+.

The strategic direction for 2022-2025 focuses on three core pillars: Education +, Research and Development +, and Community Organisation +. In 2030 Buas aims to be an internationally leading knowledge institute, with industry-relevant, high-quality and innovative education and research.

The programme

The Bachelor of Logistics Engineering (LE) is a four-year full-time bachelor programme of professional orientation, amounting to 240 EC. It is part of the Academy of Built Environment & Logistics (ABEL) which offers two other bachelor's programmes (logistics management and built environment) and one master's programme (International Supply Chain Management).

The programme has both an English-language and a Dutch-language track. The choice for an English track is justified by the fact that Logistics

Engineering is a very international industry. The committee considers this a well-founded decision.

On 1st September 2022 the LE programme had 140 students, 82 of which attend the Dutch-taught track and 58 the (international) English-taught track

Brief history

In 1979 the programme started under the name *Vervoerskunde* at the Verkeersacademie in Tilburg. In 1994 the programme moved to Breda, its name changed into *Logistiek en Technische Vervoerskunde* and the Verkeersacademie was merged with the Nederlands Wetenschappelijk Instituut voor Toerisme into NHTV, the Nationale Hogeschool voor Toerisme en Verkeer. In 2007 an international variant of the programme started. In 2018 NHTV changed its name into Breda University of Applied Sciences (Buas). The name of the degree programme changed into *Logistics Engineering (LE)*.

Distinctive feature Internationalisation (CeQulnt)

Internationalisation is one of the top priorities at Breda University of Applied Sciences – in the Academy for Built Environment & Logistics (ABEL) in general, and specifically in the logistics programmes. For that reason, the Buas Logistics Engineering study programme strives to obtain the distinctive feature in the form of the certificate for quality in internationalisation (see the CeQulnt Self-Evaluation Report on Logistics Engineering at ABEL, Buas 2022). The results of this application are described in a separate report.

The assessment

Breda University of Applied Sciences (Buas) assigned AeQui to perform a quality assessment of its bachelor programme Logistics Engineering. In close co-operation with the programme manage-

ment, AeQui convened an independent and competent accreditation committee. A preparatory meeting with representatives of the programme was held to exchange information and plan the date and programme of the site-visit.

In the run-up to the site visit, the committee has studied the self-evaluation report on the programme and reviewed a sample of student work. The findings were input for discussions during the site visit.

The site visit was carried out on 1st and 2nd December 2022 according to the programme presented in attachment 2. The committee has carried out its assessment in relation to, and in consideration of, the cluster of programmes in which this programme is placed. The contextualisation of the programme within its cluster was conducted by the complete committee during the preliminary meeting and the final deliberations. The knowledge required for this was present in (part of) the committee.

The committee has assessed the programme in an independent manner; at the end of the visit, the chair of the committee presented the initial findings of the committee to representatives of the programme and the institution. Due to personal circumstances, one of the panel members was unable to attend the site visit. He delivered, however, his input and judgement during the process.

In this document, the committee is reporting on its findings, considerations and conclusions according to the 2018 NVAO framework for extended programme assessment. A draft version of the report was sent to the programme management; its reactions have led to this final version of the report.

Initiated by the programme, a development dialogue will be planned in the course of 2023. The results of this development dialogue have no influence on the assessment presented in this report.

Intended learning outcomes

The committee concludes that the intended learning outcomes of the programme tie in with (inter)national requirements for logistics engineering and are in tune with the demands of the professional field. The logistics industry committee (LIC) plays an active role. The programme has extended the Dutch national profile into a T-shaped professional profile and has made some clear choices regarding substantive focus. The intended learning outcomes also meet the international requirements of a bachelor's programme. The committee assesses that the intended learning outcomes **meet the standard**.

Intended learning outcomes

Standard 1: The intended learning outcomes tie in with the level and orientation of the programme; they are geared to the expectations of the professional field, the discipline, and international requirements.

Findings

At the basis of the programme is the document Beroeps- en Opleidingsprofiel Logistiek (BOP). This document was drawn up in 2021 by the Landelijk Platform Logistiek (LPL) with a delegation from the educational institutes and the Top Sector Logistics. The relationship with and footing in the industry is guaranteed because the document was established in consultation with representatives of the industry, including ABEL's logistics industry committee (LIC). At the site visit the committee talked to members of the LIC and was positively surprised by its active participation in the programme.

The logistics Engineering (LE) field

In their work, logisticians focus on optimising processes. They make decisions about the:

- (physical) layout of e.g. a warehouse, production operation, chain and/or network;
- control (the way processes are controlled);
- information provision;
- personnel organisation: the effective coordination between logistics and other functions in the organisation.

These decisions depend on the logistics objectives. The logistics professional is focused on achieving the logistics objectives, at least relating to economic, service and sustainability aspects.

The logistics professional in the Logistics Engineering programme focuses on process optimisation in organisations and in global chains and networks from a technical perspective. It involves technical and process optimisation related to business objectives. The emphasis is on technology with more attention to logistics design, application of ICT and use of physical logistics-technical transport and tools.

Competences

The core competence of the programme is: Developing, managing and executing logistics processes in a professional manner. This competence is elaborated into 14 sub-competences (entry level), divided in operational (C), tactical (B) and strategic (A) level. In the Self Evaluation Report (SER) these levels (degrees of complexity) are defined in terms of assignment characteristics, context characteristics and degree of autonomy. Based on the advice and minimum requirements of the BEng (Bachelor of Engineering) competence levels, as described in the Dutch national professional profile for logistics engineering, the final levels to be achieved for the competences for the LE study programme were determined. This means at the end of the programme some sub-competences must be achieved at level 2 and others at level 3. The Self Evaluation Report contains an overview of the sub-competences and associated intended final levels.

Several career progression competences [door-groeicompetenties] were added to these entry-

level competences: developing and demonstrating personal leadership is a precondition for being able to grow into managerial positions

Profile of the BUAs programme

Content wise the programme has opted for digital transformation and artificial intelligence, process development and technical processes and automation technology in logistics.

In the ABEL+ plan the BUAs logistics curricula consider integrated working and thinking as one of the distinguishing characteristics for the logistics professional. With the emphasis on integrated working, by providing opportunities to seek integrated answers to complex practical issues as a link between different disciplines, the curricula explicitly opt for the training of what is called a T-shaped professional. A T-shaped professional is a professional who *has specialist, substantive knowledge and skills* (the vertical part of the T) as well as *the competences to connect with professionals from other adjacent disciplines* (horizontal part of the T). The competence of 'Integrated Working' is therefore formulated as follows:

You are able to work together not only within your own discipline (the vertical chain) but also to cooperate with adjacent, other or new disciplines. Based on this, you can find new solutions to (multiple) problems and tasks.

BoKS

In addition to the core competence and the sub-competences, the national profile contains a Body of Knowledge and Skills (BoKS) which describes the minimum knowledge and skills that the LE graduates should have.

Level

In the Dutch National Profile of Logistics Engineering the relationship between the sub-competences and the Dublin descriptors and HBO-

standard is indicated.

Keeping the ILO's up to date

The National Profile is meant to be a dynamic document, which is periodically tested for its topicality, both with respect to developments in the professional field, as well as with respect to developments in higher education.

The programme has different ways to gather information about trends and developments in the field. ABEL has a very active logistics industry committee (LIC) and researchers who are involved in advising the logistics team on trends in the industry. In March 2022 a (partly) new LIC started. The members are experienced managers or researchers working in an international context. The Self Evaluation Report contains an overview of all LIC members.

Participating in EFLE, the European Forum of Logistics Education, is another way to gather information about international trends and developments.

Considerations

The committee concludes that the intended learning outcomes of the programme tie in with (inter)national requirements for logistics engineering and are in tune with the demands of the professional field. The logistics industry committee (LIC) plays an active role. The programme has extended the Dutch national profile into a T+ shaped professional profile and has made some clear choices regarding substantive focus. The intended learning outcomes also meet the international requirements of a bachelor's programme.

Based on the above the committee establishes that the intended learning outcomes **meet the standard**.

Curriculum

The intended learning outcomes (including the BoKS) are covered by the content of the programme. The programme is coherent, between semesters as well as within semesters. Study components consist of a fixed set of building blocks and per building block learning goals have been defined. The committee likes the integrated approach in the programme (offering skills and knowledge in a logistics context) which facilitates students to directly apply new knowledge and skills in practical situations.

The committee highly appreciates the fact that there are many opportunities for students to shape their own programme and is also positive about the PPD part of the programme which helps the students make choices.

Based on the abovementioned qualities, the committee establishes that the programme **meets this standard**.

Orientation

Standard 2: The curriculum enables the students to master appropriate professional research and professional skills.

Findings

Professional field

Interaction with the professional field is organised in the form of assignments for placements, thesis projects and minors such as Smart Cities, the Modern Supply Chain, and Modern Business in a Changing World. During the programme many real life cases are used, either provided by the industry or triggered by current developments (e.g. the congestion in the Suez Canal).

According to the Self Evaluation Report lecturers also maintain close contact with the professional industry and continue to develop themselves in the field of innovations in logistics. This was confirmed at the site visit. Apart from this the Logistics Industry Board (LIC) plays a very active role. Not only are they consulted regularly by the programme, they also come up with suggestions by themselves.

Research

From the start of the programme, research education is a core part of the curriculum, with study components that contain quantitative, qualitative, and applied research, statistical analysis and training in the use of research software (e.g., Excel, SPSS). Around 50% of the main phase is

aimed at applying knowledge in externally commissioned research projects (such as during work placement, minor and graduation assignment). At all times the research is practically oriented and therefore suits the programme.

Since 2015 research activities have been organised in the Research and Business Innovation Department (RBI) with its own manager who is part of ABEL's management team. The expertise areas with the highest priority are Urban Intelligence and Smart Cities & Logistics. Supply chain visibility has become increasingly dominant in the research activities of ABEL with projects such as Datasience for Logistics Innovation (DALI) (of which the committee was given a presentation during the site visit), Last Mile Info, Fieldlabs and the professorship of Smart Cities & Logistics. In 2018 the Logistics Community Brabant successfully spun off from ABEL's research unit. The Logistics Community Brabant (LCB) is a partnership with Eindhoven University of Technology, Nederlandse Defensie Academie (NLDA) and Tilburg University and stimulates and facilitates logistics research and regional valorisation. LCB is located at the BUas campus, ensuring close cooperation with the ABEL academy. During the site visit the committee was given a tour and was given a presentation about the activities of LCB.

By participating in RBI and LCB research and project activities, not only students but also lecturers become more knowledgeable and competent in terms of having up-to-date logistics knowledge and improved research skills.

Considerations

The committee concludes that the programme enables students to develop their professional as well as their research skills. The programme contains many elements which bring the students in contact with the professional field (e.g. as a result of the partnership with DHL), like placements, cases provided by the industry or triggered by current developments (e.g. the Suez Canal case) and many lecturers and guest lecturers who work in the field.

The committee also concludes that research is very well in place in the programme. Quite a large part of the programme is focussed on (applied) research and the application of knowledge in externally commissioned research projects. Supply chain visibility has become increasingly dominant in the research activities of ABEL with many interesting and relevant projects. Also the Logistics Community Brabant (LCB) stimulates and facilitates logistics research and regional valorisation. In general, there is a tight connection between the programme and both the industry (Logistics Industry Board – LIC) and research (Research Business Innovation Department - RBID).

Based on the above the committee establishes that the programme **meets this standard**.

Contents

Standard 3: The contents of the curriculum enable students to achieve the intended learning outcomes.

Findings

The programme is introducing a new curriculum. Students who are now in their 3rd or 4th year are still in the old curriculum and students who are now in the 1st and the 2nd year follow the new curriculum. Years 3 and 4 mainly consist of a minor, a placement and a graduation, which will remain

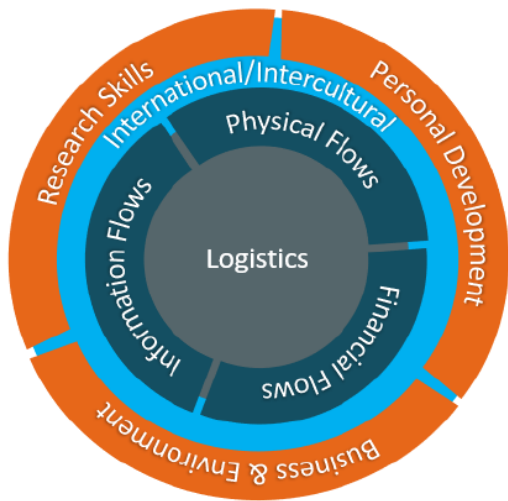
unchanged in years 3 and 4 of the new curriculum.

The only part that is still under construction is the (new) specialisation part in which students can choose study components that deal with the logistics challenges of the future. At the site visit the committee was told by the management there is already a framework for this specialisation. According to this framework, students can choose two topics out of four or five in which they want to specialise in. They will work together in groups with research and industry on these topics, but will all focus on their own part. The topics will also be fed by the lectorship "Smart cities and logistics" and will also contain subjects like digital transformation/AI, Supply change resilience (brought in by industry) and sustainability.

The programme is offered in Dutch and in English, but content-wise both tracks are the same. Some students combine their programme with the Logistics Management Programme and at the end get a double degree.

Also, it is possible for mbo and vwo entrants to follow a 3 year programme. Basically, these students skip the first year of the programme, so the remainder of the programme they follow is the same as the regular programme. See standard 5 for elaboration on how influx of mbo students is regulated.

The Self Evaluation Report contains a schematic overview of the (new) curriculum. This overview shows that in year 1 and 2 each semester contains a project (10 EC), two cases (5 EC each), connection to industry and research (5 EC) and Personal and professional development (PPD) (5 EC). Year 3 consists of a placement (30 EC) and a specialisation (30 EC) and year 4 contains a minor (30 EC) and the graduation placement (30 E).



The fundament of the new curriculum consists of building blocks. The curriculum focuses on the organisation, planning, execution and control of physical information and financial flows, being the inner peel of the model. The outer peel within the model consists of three building blocks in which the more generic items are covered: Competences for research (judgement), for personal development (communication & learning skills) and for business and environment related topics (knowledge, understanding and applying). A layer for the international and intercultural aspect was added to emphasise that logistics, and therefore the focus of the curricula (both English- and Dutch-taught), is on the international professional field and all the skills and attitude components that come with it.

Each of these building blocks is incorporated in every semester of the logistics curricula. Per building block learning goals have been defined. And in each study component students work on developing knowledge and skills, a professional attitude associated with the BoKS, and on the sub competences.

The mastering of the competences is encouraged by the integrated approach to the study components. In these new study components relevant and appropriate content of the former curriculum is used and put in a logistics context. This means that knowledge and skills related to e.g. statistics,

finance and law, is put in a logistics context and not offered separately. As a result, students are better facilitated to directly apply new knowledge and skills in practical situations.

The (new) programme is built up as follows:

- The 1st semester has introductory characteristics. It focuses on the broad scope of logistics and supply chain management;
- The 2nd semester is a deepening into Physical Flows and an introduction to Service Operations Management;
- The 3rd semester focuses on Operations Management;
- The 4th semester revolves around Supply Chain Re-Design, Entrepreneurship and Sustainability.

The relevant learning goals of the former curriculum, as well as the new learning goals, fit into the design of these themes. In this way, the curriculum complies with the LPL competences, with the demands of the industry and ABEL's ambition in the field of digital transformation and artificial intelligence, process development and technical processes and automation technology in logistics.

Students are satisfied with the content of the programme, although some of them would like to get more in-depth knowledge about technical engineering. The committee thinks it might be beneficial to develop a specialisation module about this.

Internationalisation

In the old curriculum, especially in the English-taught track, attention was already paid to international aspects and intercultural skills. The new curriculum is now the same for both the Dutch-taught and English-taught tracks and in both of them there is a greater focus on international/intercultural skills. In addition, many of the challenging topics used in the study components are oriented towards international companies and cross border issues. Students are also encouraged to do the work placement, minor or graduation internship abroad.

Personal pathways

In the logistics curriculum students are offered several opportunities to choose their personal pathways:

- In PPD students can choose from several courses focusing on well-being, study skills, logistics content or a topic of their own choice.
- In the 1st and 2nd year, students can choose to focus on a personal profile in various study components.
- In the 3rd and 4th year students have at least two opportunities to choose their own pathway in the work placement and graduation internship.
- For the 3rd year a 30 EC specialisation track is currently being developed, to be implemented in academic year 2023-2024.
- In the 4th year students choose a minor programme.

In developing the logistics curricula, the BoKS was used to compile the learning objectives that are central to the study components in the study programme. Therefore, in all modules various knowledge elements, tools, analysis techniques and skills from this BoKS are incorporated.

The competence matrix in the Self Evaluation Report shows that all of the intended learning outcomes (competences) are covered by the programme.

Considerations

The intended learning outcomes (including the BoKS) are covered by the content of the programme. The programme is coherent, between semesters as well as within semesters. Study components consist of a fixed set of building blocks and per building block learning goals have been defined. The committee likes the integrated approach in the programme (offering skills and knowledge in a logistics context) which facilitates students to directly apply new knowledge and skills in practical situations.

The committee highly appreciates the fact that there are many opportunities for students to

shape their own programme and is also positive about the PPD part of the programme which helps the students make choices.

The committee is positive about the preliminary plans for the design and contents of the new specialisation track in the future year 3. As the other components of years 3 and 4 will basically remain unchanged in the new years 3 and 4, the committee expresses its confidence that the new years 3 and 4 will reflect the same quality as the current (old) years 3 and 4.

Based on the above the committee establishes that the programme **meets this standard**.

Structure/ learning environment

Standard 4: The structure of the curriculum encourages study and enables students to achieve the intended learning outcomes.

Findings

Until 2021 BUAs' educational vision was focused on the following topics (BUAs strategy 2018-2021):

- BUAs students have a distinctive profile: they are (among other things) self-managing and (self-)responsible, and creative and innovative.
- BUAs offers an inspiring and ambitious study culture.
- Collaborative learning in learning communities should be encouraged.

In 2018, the BUAs Executive Board (EB) decided to direct extra focus and resources towards implementation of the educational strategy. Additional funding was provided for multiple years to develop education with a focus on Community Learning in Practice (CLiP). ABEL decided to use the CLiP development for a start of a curriculum renewal.

The main results are that ABEL for education in 2022-2025

- has added 'Internationalisation' as a fourth theme to take internationalisation to the next

level by fostering a study environment at ABEL in which students and staff develop a cross-cultural attitude and skills to work in an international society and industry.

- strives for excellent education and didactics. The current student-staff ratios and the high number of contact hours are good starting points.
- stresses the distinctive value, which stands for the connection to industry, and easily approachable lecturers creating personal relationships with students.

The committee has noticed that there is a truly international environment, especially in the English taught programme.

Instructional methods

For each component of the curriculum competences were translated into professional tasks and professional products that demonstrate the student's level. The programme regards content as being important and therefore in each study component students read literature, conduct research, work in projects and share mutual information and knowledge.

Students are encouraged to reflect on their learning process and preferences and to shape their study path based on this. They keep track of all achievements in their own portfolio, which is developed and assessed in the PPD study components and will also be addressed in the new set-up of work placements and graduation assignments from next year on. The opportunities for the student to pursue differentiation in a flexible learning environment makes this development portfolio even more important. Students have to be proactive in goal setting and self-management. They are guided in this process by means of workshops and coaching sessions in PPD.

Appendix 10 of the Self Evaluation Report contains an overview of the types of study components, a description of didactical approaches and the relationship with the sub-competences. The course catalogue (year 1 and 2) and the study

component manual (year 3 and 4) contain details about the instructional methods used in each study component/course.

Recent developments (Corona)

During the COVID-19 pandemic, BUAs managed to switch very quickly to online education and online assessment. Moreover, BUAs kept the doors open for students as much as possible. In addition, ABEL study coaches invested a lot of time in keeping in contact with students and ABEL used its research projects to devise many placement and graduation assignments when the industry partners were struggling and were therefore unable to host students. Because of these efforts, Covid hardly had any effect on student dropout rates and the effect on study success seems limited based on the forecast of the students currently in their third and fourth years.

Language of instruction

The programme offers an English-taught and a Dutch-taught track and therefore incoming students can choose their main language of instruction. As students are educated to work in an international professional field, the committee thinks offering the programme in English has a proper justification. The committee appreciates the fact that Dutch students also have the option to follow the programme in Dutch.

Considerations

The committee concludes that the learning environment matches the ambitions of the programme of educating students to self-managing and (self-)responsible, and creative and innovative professionals. Working in projects closely tied to the professional field promotes the development of these skills. The projects also activate students and stimulate their collaborative skills. They do not only learn to collaborate with each other, but also with people in the professional field. The PPD line mentioned in the previous section supports students in making their own choices and take self-direction. In this way students can design their own learning process without getting

lost. The fact that the theory part of the programme is tailored to the projects ensures that students can often apply the theory in practice immediately; theory and practice are very much aligned in the new curriculum.

The projects are not only linked to the professional field, but also to research: this is where education, research and industry come together. Students experience that research is not just an addition to the programme, but an integrated part of the industry. Research is part of day to day practice.

The international environment as well as the international orientation of the curriculum contents and topics stimulate both the Dutch and the foreign students to develop their international and intercultural skills. The international classroom in the English-taught track offers more opportunities to develop these skills than the less diverse classroom in the Dutch-taught track. The committee, therefore, applauds the fact that Dutch and foreign students are sometimes mixed in different projects, so that students in the Dutch-taught track can benefit from the diversity of the international classroom in the English-taught track. The committee deems this a good form of internationalisation at home. The focus on international and multicultural skills is very much in line with the future work situation in industry.

Based on the above the committee establishes that the programme **meets this standard**.

Incoming students

Standard 5: The curriculum ties in with the qualifications of the incoming students.

Findings

As indicated in standard 2 (content) there are different programmes for Dutch students with a havo, vwo and mbo background. The English-taught track is similar to the Dutch-taught track, but has a different influx. These students also need to prove their English is up to level.

The entry criteria for both the Dutch and the English-taught track are contained in the Teaching and Examination Regulations (TER).

The accelerated 3-year vwo programme corresponds to a total of 180 EC and consists of a propaedeutic phase consisting of 60 EC and a main phase consisting of 120 EC.

The short 3-year mbo programme consists of a main phase comprising 180 EC. This 3-year programme is the same as the main phase of the regular programme. Students who want to follow this programme must have obtained a certificate drawn up by the Board of Examiners. A certain set of courses must have been successfully completed in order to get the certificate and be granted access to the main phase. At the site visit, the committee learned that the programme works together with several mbo schools (schools for vocational education). mbo students who want to continue their education at BUAs can already start following courses at bachelor level while they are at mbo which enables them to skip the first year of the LE programme. The committee likes this cooperation very much.

After entering the LE programme, students have several opportunities to follow deficiency courses.

BUAs organises many orientation activities for prospective students. To inform students and to help them make the right decision in their choice of study, BUAs organises open days and evenings, not only to provide information about the programmes, but also to allow prospective students to get a taste of the atmosphere of the academy, the lecturers and the campus. After submitting their enrolment application students receive an invitation for matching activities, such as doing an online assessment and attending a matching day. This results in a recommendation about the student's suitability for the study programmes.

The ratio of Dutch-taught track to English-taught track has changed over the years. In the past just

a few students started the international programme. This is shifting. This academic year, the intake for the international track is even greater than for the Dutch-taught track. The growth at the English track is due to the increase of the influx of international students. The Dutch track is mainly entered by students with a havo diploma. The percentage of mbo graduates entering the programme has decreased significantly over time.

The dropout rate bothered the team a few years ago. It turned out that a few aspects of the programme caused dropouts, so extra activities were initiated, like extra guidance before a resit. And for the new curriculum it was decided to integrate difficult content in practical assignments. These actions helped a lot as can be seen in the sharply decreased dropout rate that dropped to an average of 19%, although the English-taught track has still an above-average dropout rate.

At the site visit the committee talked to members of the LIC about the dropping influx rates and possible solutions for this, after which they suggested it would be an idea to use social media more. Via social media (LinkedIn, tictoc, etc.) students and alumni could share their experiences and familiarise prospective students with the field of LE. They also suggested the LE programme could learn from other programmes

at BUAs like Building Environment. The committee is enthusiastic about the fact that the LIC plays such a proactive role in this initiative and wants to encourage the programme to sell themselves to prospective students in a more proactive way.

For those students who passed the propaedeutic phase and binding recommendation of the programme, the study success rates are consistently high. An average of more than 80% students leaves BUAs with a degree within 5 years.

Considerations

The committee concludes that for each version of the programme an adequate inflow policy is in place. The programme is open for students with different backgrounds (mbo, havo, vwo) and nationalities and for each there is a suitable inflow policy.

The committee thinks there is a good match between the influx requirements and the different variants of the programmes. Matching the background of the students to the relevant track enables different types of students to complete the programme within 3 or 4 years.

Based on the above the committee establishes that the programme **meets this standard**.

Staff

The lecturers are very enthusiastic, international, very much approachable, open for feedback and really form a team. The team has all the required expertise. The many recent changes in the programme have led to new roles and responsibilities and the programme has already provided different types of training. However, training of staff will still need a lot of attention in the nearby future.

The workload seems to be quite high. Keeping a good balance is a challenge for everyone. The committee is confident that the management will continue having a close eye on this.

Students think some lecturers need to improve their level of English. The committee recommends to make English-language training compulsory for those who have not yet reached the required level and teach in the English-taught track.

Based on the above the committee establishes that the programme **meets this standard**.

Standard 6: The staff team is qualified for the realisation of the curriculum in terms of content and educational expertise. The team size is sufficient.

Findings

The educational team of LE and LM together consists of 25.6 FTE, of which 3.8 FTE is allocated to the Master programme and 3.1 FTE is allocated to research. The student: staff ratio is 1:21.1.

During the site visit it became clear that the lecturers really are a team. This is emphasised by the fact that during Covid time, they stuck together and supported each other in solving all different kinds of problems.

Elements which play a role in the compilation of the team are knowledge and expertise, educational level, industry and/or educational background, internationality or international experience, didactical training and BKE, English proficiency, participation in research and development over the last four years and scale/job title/position. The overview of personnel shows that all these requirements are represented in the team as a whole. Most lecturers have experience in the industry and they have diverse international and cultural backgrounds. More than half of the team has been involved in research over the past four years. Because there are a lot of new employees

who usually start their didactical training one year after employment, the number of lecturers with didactics education and BKE is lower than the target.

Given the programme's focus on internationalisation, specific attention is being paid to development of English language skills, intercultural understanding, as well as diversification of staff. Furthermore, in line with the curriculum renewal, professionalisation of staff focuses on the development of didactical skills and knowledge needed for staff to be able to make the transition from lecturing specialists with a focus on specific knowledge areas to specialists that create a learning environment and coach students to answer future questions together with community partners. In addition, staff are further professionalised in assessment in order to adequately accommodate the new assessment approach (cf. Standard 10).

BUas is moving towards a community organisation, including team-based working, professional autonomy and leadership, as well as cross-domain learning and cooperation. ABEL has started implementing team-based working in the form of teaching teams which have the joint responsibility for the execution of a semester of the curriculum

as from January 2021. To support staff in the transition to team-based working, several training sessions were organised. In addition to this, staff are learning from each other; team-based teaching is already a new reality. Learning communities with the industry also provide an essential source of on-the-job learning. Because lecturers participate in research activities, they are active in innovation, develop their research skills and herewith ensure the innovation of the programme.

Although staff are still in the midst of a transition phase, there are a number of study components which are already taught by multiple staff members, making the curriculum more resilient to unforeseen personnel changes than in the past. To support the development of maturity in team-based working, a change agent has been assigned.

To ensure shared responsibility within the teams and the optimal use of the quality of the team members, team roles have been defined. Connecting layers ensure that team members with a specific role in one semester team join forces with their colleagues from other semester teams (and other academies). The connecting layer structure was introduced in the 2021-2022 academic year and will be implemented further in the academic year 2022-2023.

According to the Self Evaluation Report attention needs to be paid to the further development of skills required for team based working, to work pressure. Also the new roles and responsibilities need to be clarified.

According to the Self Evaluation Report the level of English and the extent to which lecturers are

inspiring could be improved. English training is an integrated part of staff training options. For staff English at C1 level is required of all lecturers. The overview of employees show that most staff members meet this requirement, all except 3.

Considerations

The lecturers are very enthusiastic, international, very much approachable, open for feedback and really form a team. The team has all the required expertise. The many recent changes in the programme have led to new roles and responsibilities and the programme has already provided different types of training. However, training of staff will still need a lot of attention in the nearby future, such as didactical skills and knowledge transforming lecturers from specialists with a focus on specific knowledge areas to specialists that create a learning environment and coach students and training in the field of assessment. The workload seems to be quite high. Keeping a good balance is a challenge for everyone. The committee is confident that the management will continue having a close eye on this.

Students think some lecturers need to improve their English. The committee recommends to consider if conversational training should be compulsory for those who haven't reached the required level and teach in the English-taught track. The programme could also consider the Erasmus staff training option, where participants could also be funded with travel costs with Erasmus for language courses e.g. in English in Ireland.

Based on the above the committee establishes that the programme **meets this standard**.

Services and facilities

The committee concludes that the facilities present match the educational concept of the programme. The learning environment supports active and collaborative learning; students and lecturers can use different types of (class)rooms for smaller or larger groups. The campus feels like a living and working space for students and lecturers/researchers and companies, some of which are situated on the campus. This stimulates the cooperation between education, research and the industry. The classrooms are well-equipped and on the campus students and lecturers can find all facilities they need. Specific hardware and software is available for the LE programme. Long opening hours (7.00 – 22.00), enable students to study whenever they like.

Students' wellbeing is addressed adequately, not only in Covid time. BUas has an extensive care system which enables students to get in touch with different kinds of experts and follow different extracurricular courses. In addition, the PPD programme plays an important role in student support. The committee thinks the introduction of a soft landing programme is a good idea, especially for foreign students.

The programme has good systems in place to stimulate the information provision. Staff and students both have their own communication portals and in 2022-2023 a new LMS, which will support the new educational concept, will be implemented.

Based on the above the committee establishes that the programme **meets both standards**.

Accommodation and infrastructure

Standard 7: The accommodation and material facilities (infrastructure) are sufficient for the realisation of the curriculum.

Findings

General facilities

Since September 2019 BUas is situated on a campus where three buildings (Horizon, Frontier and Ocean) offer room to more than 7.000 students and more than 700 employees. The underlying concept of the campus is building communities, which starts with cross-domain collaboration. Therefore, general services are divided over the three buildings. The ABEL academy are situated in the Frontier Building, together with the academy for AI, Games and Media. For the logistics programmes, lectures and meetings with students and staff take place in this building most of the time. During the site visit the committee had a guided tour of the building.

In the other buildings LE students can find, among other things, sport facilities, restaurants, a

library, an Innovation Square, BUas research education and Student-services (FC&S) and a service desk.

Inside the buildings there are no fixed work spaces for staff, but a variety of work spaces designed for different activities and work processes. The layout of the learning environment is based on the strategic educational vision, where the concept of active and collaborative learning in learning communities is key. There are many different collaboration places which enable students to see the campus as a daily living and working space, far more than just a place to attend lectures.

Outside on the campus site but also inside the buildings the Act Like a PRO concept is visible. PRO stands for Positivity, Respect and Openness. This concept refers to many concrete behaviours which create an atmosphere in which everyone feels safe, comfortable, and accepted.

Facilities in the classroom

Like all buildings on campus, the frontier building features standard classrooms (ranging from small ones for groups up to 20 students, larger ones for 40 and 80 students and a few very large lecture halls) and creative classrooms. Because the learning environment is shared with all academies, other academies will also use these facilities and the ABEL academy can use other facilities in other buildings. Every classroom or lecture hall is equipped with a writing wall and a smartboard. In 2020 the Teams environment was introduced as part of the software applications suite which contains relevant software such as Visio and specific Excel add-ons. An ABEL-wide support team set up instructions and guidelines for online education. Also online testing in combination with online proctoring software was introduced by an ABEL team.

A hardware simulation lab has been built especially for Logistics Engineering. Using scale models produced by Fischer Technik, this simulation lab enables students to program robots, a conveyor belt and other automation devices in logistics. In addition to this simulation lab, one classroom is equipped with personal computers to use specific software programmes on the premises. For Logistics Engineering these are: SAP Business one (ERP package), Ortrec (a package for route planning and route execution), FleXsim (simulation software) and Lekin (software package for Scheduling).

Considerations

The committee concludes that the facilities match the educational concept of the programme. The committee especially likes the open spaces and therefore visibility and approachability of staff, it also likes the fact that staff is stimulated to work on campus. The learning environment supports active and collaborative learning; students and lecturers can use different types of (class)rooms for smaller or in larger groups. The campus feels like a living and working space for students and lecturers/ researchers and companies, some of which are situated on the campus. This stimulates

the cooperation between education, research and the industry. The classrooms are well-equipped and on the campus students and lecturers can find all facilities they need. Specific hardware and software is available for the LE programme. Long opening hours (7.00 – 22.00), enables students to study whenever they like.

Based on the above the committee establishes that the programme **meets this standard**.

Tutoring and student information

Standard 8: The tutoring of and provision of information to students are conducive to study progress and tie in with the needs of students.

Findings

BUAs regards it important to pay attention to student's well-being. This is achieved by specific actions such as creating a BUAs-wide understanding of the care system for students and setting up one location for communication and information about extracurricular training courses, such as Mirro (e-health provider for students) and BEST training courses (training courses for Better Studying). For personal problems such as controlling stress, sadness or concentration and procrastination, online support is available 24/7. On an individual level students can also make an appointment with a BUAs psychologist or with a coach for students when having doubts about their choice of studies. At the site visit the committee talked to a group of students and they confirmed that there are many possibilities to get help when needed. Especially during Covid time this extra support (e.g. mindfulness) has proven to be very useful. They also mentioned the different tools which are available for students with functional impairments.

The first point of contact for all kinds of questions in the first and second year is the mentor. This formal tutoring is also part of the PPD programme which was introduced in the new curriculum. It gives room to personal guidance and support in the case of personal issues. Students find the mentors to be very approachable.

During the third and fourth year, individual guidance (tutoring) is offered by the coordinators and supervisors of the placement and graduation assignment. In the case of personal issues, students can also address their concerns with them.

Together with the other academies ABEL will create a 100-day soft landing programme at the start of everyone's studies from September 2023. This soft-landing programme will be executed by mentors.

Information provision

The switch to Microsoft 365 opened the way to collaborate more easily, sharing documents, recording lectures, etc. The staff and student portals are the central points of information for respectively staff and students. A new redesign of the Learning Management System (LMS) was considered necessary and in 2022-2023 a new LMS, Brightspace, will be implemented. It is seen as a flexible and powerful learning innovation platform that can support the new educational concept.

Recent developments

In 2020 the programme was offered online for a larger part. As the programme already started with online education before Covid, this hardly led to any delay for the students. It even offered

new opportunities, as BUAs was asked to support the field lab experiments concerning crowd management. Many students took part in these experiments and they still run.

The wellbeing of students was monitored properly and students were e.g. invited to attend trainings like mindfulness of find other support.

Considerations

Students' wellbeing is addressed adequately. BUAs has an extensive care system which enables students to get in touch with different kinds of experts and follow different extracurricular courses. In addition, the PPD programme plays an important role in student support. The committee thinks the introduction of a soft landing programme is a good idea, especially for foreign students.

The programme has good systems in place to stimulate the information provision. Staff and students both have their own communication portals and in 2022-2023 a new LMS, which will support the new educational concept, will be implemented.

Based on the above the committee establishes that the programme **meets this standard**.

Quality assurance

The committee believes there is a genuine quality culture in place. BUAs's quality assurance system and planning and control cycle is translated into the context of the academy and of the programme. All relevant stakeholders are involved. The programme has found a good balance between formal evaluations (like NSE and HBO Monitor) and more informal conversations (round tables and pizza sessions). Students feel safe to give feedback and feel they are taken seriously. The staff is intrinsically motivated to improve the programme continuously. The committee likes the concepts of round table and pizza sessions. It is seen as an important addition to the formal QA instruments.

Based on the above the committee establishes that the programme **meets this standard**.

Standard 9: The programme has an explicit and widely supported quality assurance system in place. It promotes the quality culture and has a focus on development.

Findings

QA at BUAs level

At an institutional level, responsibility for quality assurance lies with the EB. The function of directing quality assurance has been allocated to the Education, Research, & Information Management office (ER&IM), within the Education & Research team. The Finance, Control, & Student services office (FC&S) is responsible for coordinating this cycle.

QA at ABEL and programme level

Every organisational unit within BUAs uses their own PDCA cycle. BUAs' goals are central. In the Academy Plan ABEL 2022-2025 the aims and ambition of the academy have been formulated and form the basis for QA at ABEL level.

Many people are involved in QA: management team, educational advisors and student counselors, curriculum committee, the logistics team, the degree programme committee and the Board of Examiners, students and with the introduction of team based working, also the semester teams. The last ones are expected to take control over evaluation and improvement of education. During the site visit the committee got the impression of not only a comprehensive quality assurance system, but also a quality culture in which lecturers are intrinsically motivated to improve

education and students feel safe to give feedback. Students are even trained to give feedback, something the committee welcomes. The notes of the degree programme committee show they address relevant issues like the work load, use of English and group work.

In addition to the standardised evaluation surveys of study components, all students are invited to 'round tables' in which the evaluation results are discussed, and shared opinions of the entire class are retrieved. The programme also uses results of the National Student Survey (NSE), the Elsevier Best Studies results and the Keuzegids HBO. Students are also represented in the degree programme committee and in ABEL's participation council. Starting from 2022-2023, as a pilot, all evaluation results, supplemented with the team's own experiences, are discussed with student representatives and within the team of lecturers during 'pizza sessions' for the semester concerned. The committee thinks this is a good initiative.

Information regarding the programme's quality is also gathered from students who drop out, from the logistics industry committee, recent graduates and alumni.

Considerations

The committee believes there is a genuine quality culture in place. BUAs's quality assurance system and planning and control cycle is translated into the context of the academy and of the programme. All relevant stakeholders are involved.

The programme has found a good balance between formal evaluations (like NSE and HBO Monitor) and more informal conversations (round tables and pizza sessions). Students feel safe to give feedback and feel they are taken seriously. The staff is intrinsically motivated to improve the programme continuously. The committee likes

the concepts of round table and pizza sessions. It is seen as an important addition to the formal QA instruments.

Based on the above the committee establishes that the programme **meets this standard**.

Assessment

The committee concludes the assessment programme is well-balanced. It contains a variety of formative and summative assessments, matching the levels and content of the modules. The committee likes the increased role of formative assessments and the integral vision on assessment with the portfolio playing a central role.

Several measurements ensure the quality of assessments, such as the Board of Examiners, the development cycle, involvement of different stakeholders, the 4-eyes principle and the use of rubrics, answering models and blueprints.

Lecturers are supported adequately to carry out their job as examiners. Generally, the quality of the assessment of courses/modules is adequate. With respect to the assessment of the thesis and work placement in year 3, however, the committee notes that the quality of the assessment could be improved. The fact that the assessment of the thesis is done by four people (8-eyes) and the assessment of the work placement by two people (4-eyes), however, ensures intersubjectivity which partly compensates for some of the above-mentioned weaknesses.

According to the students grading of other assessments sometimes depends on the lecturer. The Board of Examiners and the assessment committee are aware of this and are addressing this issue.

The committee recommends the programme to take appropriate action and stresses the importance of following up the recommendations, since the previous accreditation committee already commented on this.

The committee has carefully balanced the positive aspects of the assessment (system) in the programme and the aspects that need improvement and comes to the conclusion that the programme **meets this standard**.

Standard 10: The programme has an adequate student assessment system in place.

Findings

The ABEL Assessment Policy Plan contains a vision on assessment, in line with BUAs' and ABEL's educational vision. According to the Self Evaluation Report assessment is seen as systematically collecting information about the student's competences. This means lecturers do not only mark separate results, but encourage desired learning processes and a targeted development with regard to professional competence and self managing skills. Students have space for competence development instead of just collecting credit points. Many different types of formative and summative assessments are used. On top of this competence based (portfolio) assessment takes

place in PPD and at the placement and graduation sessions.

Students collect study results, deliverables, feedback and reflections in a portfolio. Furthermore, they explain why the 'proof' shows the student's development in particular competences and reflect on development and motivation.

Assessment programme

The assessment programme contains an overview of formative and summative assessments in the 1st and 2nd year, including the assessment types, the assessment moments (including resits), the number of EC's attached to each summative assessment and, in case of two summative assessments, the weight between the two.

Development of assessment programme

The assessment programme is set up by the development team, approved in the curriculum committee and adopted by the management team after taking advice for consent from the degree programme committee (DPC). Every year the assessment programme per semester is updated if necessary following the same procedure.

Development of individual assessments

Tests/assessments are developed according to an assessment cycle. After making a test design, important steps are constructing a test blueprint (exams), answer model (for examinations) or rubric (for assessments). Rubrics for group assignments may entail a component regarding the individual contribution to prevent free-riding. The four-eyes principle is used in the design and in the marking process, when it comes to doubtful cases. In 2022-2023 the four-eyes principle was extended to the assessment of placement reports. The committee regards this a good idea, as it is such an important part of the programme.

The committee has studied a selection of exams and their assessments. The committee is positive about their quality. During the site visit, students told the committee that they have the impression that grading sometimes depends from the assessor. The committee discussed this with the Board of Examiners and learned that the Board is well-aware of this and that this issue has their continued attention.

The thesis assessment form (as well as the work place assessment form in year 3) is split up into four parts: Person, Process, Product and Presentation, but it is not clear how the underlying criteria are related to the competences to be assessed. The quality of the feedback on the assessment forms varies and is sometimes hardly readable (hand written) and often incomplete in the sense that not all aspects of an assessment criterion are covered. It is not clear whether the four people grading the thesis (8 eyes principle) have all looked at all criteria. It's also not clear what the weight of the different parts ((sub)criteria) of the

assessment is and how assessors have come from qualitative criteria to a grade. Although the members of the committee think that the quality of all theses they have studied is good enough to pass, they think the assessment procedure as well as the assessment forms should be improved.

The committee noticed that the rubric used for the assessment of the thesis and the work placement in year 3 seem to have a lot of room for interpretation. Also, the connection to the competences being assessed is not always obvious. During the site visit, the committee discussed these observations with the Board of Examiners and with the Assessment Committee. They told the committee that they have noticed these issues as well and the assessment committee assured the committee that it is taking appropriate actions to address them. The committee was pleased to hear this as these weaknesses touch upon the reliability and transparency of the assessment

The fact that the assessment of the thesis is done by four people (8-eyes) and the work placement in year 3 by two people (4-eyes), ensures intersubjectivity which partly compensates for the abovementioned shortcomings in the assessment form. In order to secure the reliability and transparency of the assessments the committee recommends to connect the criteria in the rubric to the competences.

Something else the committee noticed is the fact that on the assessment forms it is not clear how the score on the criteria are translated into the final grade. This should be more transparent for both examiners and students. The committee advises to include this in either the student manual and/or the assessment form itself.

Quality assurance

The quality of examinations is safeguarded in different ways. Examiners and assessors receive guidance and support from BUAs support staff, ABEL's educational advisors and guidelines as written in ABEL's APP and TER. Since 1st January 2021 there is a BUAs-wide Exam Centre: a new

support centre for lecturers regarding assessment. Guidance and support is also offered by the connecting layer through the role of 'quality of assessment' in the method of team-based working.

ABEL's Board of Examiners (BoE) consists of a chairperson, a secretary, three lecturers (one of whom is external to ABEL), a student counsellor (for advice) and secretarial support. The BoE regularly reviews graduation reports (of different levels). At the site visit the committee talked to students, lecturers and members of the BoE about assessments. Members of the BoE told that they often take samples of assessments to judge the quality. They also carry out items analyses on the results of MC assessments and based on these results e.g. advise against including certain questions in the assessment. The committee was quite impressed by this thorough items analysis.

Professional development

For new lecturers the BKE course and part of the didactical training course are mandatory. Most lecturers are BKE qualified. All lecturers who are responsible for developing, administering and/or assessing tests within their own unit of study are regarded as examiners. Two educational advisors have obtained SKE certification. Some MT members and the BoE are also working towards this certification.

Recent developments

In 2020 the programme was offered online for a larger part. As BUAs had already been experimenting with online assessments before Covid started, with ABEL being a pilot for the rest of BUAs the programme had no problem to change to online assessing, including online proctoring.

Considerations

The committee concludes that the assessment programme is well-balanced. It contains a variety of formative and summative assessments, matching the levels and content of the modules. The committee likes the increased role of formative

assessments and the integral vision on assessment with the portfolio playing a central role.

Several measurements ensure the quality of assessments, such as the BoE, the development cycle, involvement of different stakeholders, the 4-eyes principle and the use of rubrics, answering models and blueprints.

Lecturers are supported adequately to carry out their job as examiners. Generally, the quality of the assessment of courses/modules is adequate. However, the criteria on the assessment forms of the thesis and the work place assessment in year 3 are not explicitly linked to the intended learning outcomes, there is no weight attached to the different criteria and the translation from qualitative judgments into grades is not transparent. The fact that the assessment of the thesis is done by four people (8 eyes) and the assessment of the work placement in year 3 by 2 people (4-eyes), however, ensures intersubjectivity, which partly compensates for the weaknesses of the assessment form.

According to the students grading of other assessments sometimes depends on the lecturer. The BoE and the assessment committee are aware of this and are addressing this issue.

The committee stresses that the programme should improve the assessment forms of the thesis and the work placement in year 3, urges the examiners to fill out the assessment forms properly and emphasises the role of the BoE in keeping a close eye on the improvement process. In addition to this, lecturers are advised to calibrate more on the use of the different assessment forms/ rubrics, especially those used for the graduation.

The committee stresses the importance of following up the recommendations, since the previous accreditation committee already commented on this.

The committee has carefully balanced the positive aspects of the assessment (system) in the programme and the aspects that need improvement and comes to the conclusion that the programme **meets this standard**.

Achieved learning outcomes

The committee concludes that the graduates who leave the programme have achieved the intended learning outcomes. This is proven by the quality of the theses, the fact that the industry is very positive and that most graduates find a job at bachelor's level quite soon after (and sometimes even before) graduation.

Based on the above the committee establishes that the programme **meets this standard**.

Standard 11: The programme demonstrates that the intended learning outcomes are achieved.

Findings

Graduation programme

The graduation programme consists of the graduation project in year 4 (30 EC). In the graduation project students solve a complex problem from the industry. During the graduation period students work on more complex problems than during the year 3 work placement. They are involved with themes such as process optimisation in production and warehousing environments, supply chain optimisations, KPI dashboards or emission reductions (sustainability). The graduation is assessed by the supervising lecturer, the chairperson, an external assessor (who is appointed as examiner by the BoE) and the company supervisor (as advisor). The graduation manual contains the graduation assessment form and a rubric which is used for filling in the form.

The committee studied a representative selection of 15 theses. The members of the committee found that in general the content and level of the assignments suited the content and level of the programme and they could agree with the grades which were given.

Alumni and professional field

Alumni have no problems finding a job after graduation. Many of them are offered a job in the company where they did their placement. Some are even offered a job before they graduated.

More than 90% of the jobs match the education level. The HBO monitor 2021 shows no unemployment among alumni.

One third of the graduates continues their education following a master's programme. BUAs has special agreements with different partner institutes like Cranfield University in the UK.

According to the Self Evaluation Report, the industry is very satisfied with the level achieved by and the quality of the placement students. At the site visit this was confirmed by representatives of the field. Alumni told the committee they felt well prepared for the field, being all round logistic engineers. They think they are good at running a project (compared to students from other universities) and find it good to hear that the cultural aspect is now taken into account in the programme as well, as that is something they need in the industry.

Considerations

The committee concludes that the graduates who leave the programme have achieved the intended learning outcomes. This is proven by the quality of the theses, the fact that the industry is very positive and that most graduates find a job at bachelor's level quite soon after (and sometimes even before) graduation.

Based on the above the committee establishes that the programme **meets this standard**.

Attachments

Attachment 1 Accreditation committee

Het panel voor de beoordeling van de opleidingen is als volgt samengesteld:

Naam	Rol	Korte functieomschrijving
drs. Mariëlle Klerks	Voorzitter	Zelfstandig onderwijskundig adviseur
De heer Ir. J. (Jens) de Craen	Lid	Directeur Landstede MBO in Harderwijk met de verantwoordelijkheid over o.a. de technische (inclusief logistiek en ict opleidingen) en de economische opleidingen.
Adrienne Stickel-Holtschke MA	Lid	International Coordinator, Department of Business, Fulda University of Applied Sciences
Mevrouw M.R. (Mieke) Damen MA	Lid	Eigenaar / consultant Morgownik & Damen B.V.
Jan Verbist	Lid	Zelfstandig adviseur op het gebied van international logistics, in Antwerpen
Anne van de Rijdt	Student-lid	Student BSc International Development aan de WUR
Tineke Kleene	Secretaris	

Attachment 2 Program of the assessment

Day 1 : Thursday 1 December 2022

Time	What	
12:00	Arrival panel	
12:00 – 13:30	Deliberations & Lunch	Internal consultation panel
13:30 – 14:30	Board & management	Introduction, purpose and programme of the assessment, pitch
14.45 – 15:15	Research/associate professors	Research, role and position in the program
15:30 – 16:30	Alumni & Industry partners	Connection between programme and professional field, examination and intended learning outcomes
16.30 – 17:15	Deliberations	Internal consultation panel
17:15 – 17:30	Evaluation day 1	Focus-points for the next assessment day

Day 2 : Friday 2 December 2022

Time	What	
08:30 – 08:45	Arrival panel	
08:45 – 09:15	Campus tour	Demonstration-possibility
09:15 – 10:00	Showcases of projects and products	Demonstration-possibility
10:15 – 11:15	Teaching staff	Intended learning outcomes, programme, examining, quality of staff
11:30 – 12:15	Testing Committee, Board of Examiners and Graduation co-ordinator	Exam policy, examining, testing and learning outcomes achieved
12:15 – 13:30	Lunch	Lunch and document review
13.30 – 14.00	Lunch	Open dialogue / Discussion items
14:00 – 14:45	Internationalisation officers	Internationalisation, role and position in the programme
15:00 – 16:00	Students from year 1, 2, 3 and 4, (including a delegation of the programme committee)	Programme, testing, quality of staff, final results
16:00 – 17:30	Wrap-up session panel	Additional research, formulating conclusions (evt om 16.00 nog kort gesprek met management)
17:30 – 18:00	Feedback and closure	Feedback of findings and conclusions

Attachment 3 Documents

1. Strategic direction 2022-2025: BUas+ more than a University of Applied Sciences
 2. Academy Plan ABEL+ 2022-2025
 3. Influx - recruitments & admission
 4. Beroeps- en Opleidingsprofiel Logistiek (Professional and Educational Profile Logistics, 2019)
 5. Creating Professional Value, Strategy 2018-2021, September 2017
 6. Composition of the Logistics Industry Committee
 7. Education@work: Educational Vision 2014-2024
 8. People connected to building blocks
 9. ABEL's Assessment Policy Plan 2021-2024
 10. Overview of the types of study components, a description of didactical approaches and the relationship with certain sub-competences
 11. Course catalogues a, b, c, d,
 12. Overview of employees
 13. Team-based working
 14. Standard BUas training for required qualifications
 15. Semester teams and expert groups
 16. Policy Plan on student well-being
 17. White Paper on BUas skills for life
 18. Quality Agreements 2019-2024
 19. Quality Assurance System for Education
 20. LE assessment programme 2022-2023
 21. Placement Handbook
 22. Graduation Handbook
 23. Criteria for external examiners
 24. 20-21 Course catalogues a (Dutch-taught curriculum) and b (English-taught curriculum) that Y3 students attended
 25. Former version Beroeps- en Opleidingsprofiel Logistiek (Professional and Educational Profile Logistics, 2013)
- Graduation Projects (Theses) of 15 students
 - ABEL Teaching and Examination Regulations 2022-2023

Attachment 4 Abbreviations

ABEL	Academy for Built Environment & Logistics
AFP	Accommodation, Facility and Planning Office
APP	Assessment Policy Plan
BELO Student	Association of the Academy for Built Environment & Logistics
BEST	training Training courses for BEtter STudying
BKE	Basic Examination Qualification
BEng	Bachelor of Engineering
BoE	Board of Examiners
BoKs	Body of Knowledge and Skills
BOP	Beroeps- en Opleidingsprofiel Logistiek
BSc	Bachelor of Science
BUas	Breda University of Applied Sciences
BUas +	BUas Next level
CIR	Study Component of Connection to Industry and Research
C&M	Cultuur & Maatschappij
CLiP	Community Learning in Practice
DALI:	DAscience for Logistics Innovation
DPC	Degree Programme Committee
EB	Executive Board
EC	Study Credit (28 hours)
ECTS	European Credit Transfer System/ study credits
EFLE	The European Forum of Logistics Education
ER&IM	Education, Research and Information Management
FC&S	Finance, Control, and Student-services
FTE	Full-time equivalent
havo / havo	Higher General Secondary Education
HBO/ hbo	Hoger Beroeps Onderwijs (the Dutch name for the sector of universities of applied sciences)
IC	Introduction Committee
IM&ICT	Information Management & Informaton Communication Technology Office
ISO	Dutch National Student Organisation
KD&R	Knowledge Development & Research
LCB	Logistics Community Brabant
LE	Logistics Engineering
LGBTQ+	Lesbian, gay, bisexual, transgender, queer +
LIC	Logistics Industry Committee
LM	Logistics Management
LMS	Learning Management System
LPL	Landelijk Platform Logistiek
LSVB	Dutch national union of students
MARAP	Management contract
MAEK academy	Academie Voor Training en Organisatieontwikkeling
MC&S	Marketing, Communication & and Student-community
NHTV	Nationale Hogeschool Toerisme & Verkeer

NLDA	Nederlandse Defensie Academie
NSE	Nationale Studenten Enquête (National Student Survey)
NVAO	Nederlands-Vlaamse Accreditatieorganisatie (Accreditation Organisation of the Netherlands and Flanders)
Nuffic:	the Netherlands Organisation for International Cooperation in Higher Education
OCW	Ministry of Education, Culture and Science
P&O	People & Organisation
PDCA	Plan, Do, Check & Act
PPD	Study Component of Personal & Professional Development
PRO	Positive, Respectful, Open
QA	Quality Assurance
RBI	Research & Business Innovation
R&D	programme Research & Development programme
SBM	Strategic Business Management
SKE	Senior Examination Qualification
SME	Small & Medium Enterprises
SPSS	Statistical analysis software
TER	Teaching and Examination Regulations
VSNU	Dutch Association of Universities
vwo	Pre-university level (secondary education)
WHW	Wet op het hoger onderwijs en wetenschappelijk onderwijs (Higher Education and Research Act).