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FINAL REPORT

HO CHI MINH CITY UNIVERSITY OF TECHNOLOGY

CLUSTER MECHANICAL ENGINEERING

TEXTILE ENGINEERING (BACHELOR OF ENGINEERING)

TEXTILE – CLOTHING TECHNOLOGY (BACHELOR OF ENGINEERING)

LOGISTICS AND SUPPLY CHAIN MANAGEMENT (BACHELOR OF ENGINEERING)

January 2024



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DECISION OF THE AQAS STANDING COMMISSION ON THE STUDY PROGRAMMES

- “TEXTILE ENGINEERING” (BACHELOR OF ENGINEERING)
- “TEXTILE – CLOTHING TECHNOLOGY” (BACHELOR OF ENGINEERING)
- “LOGISTICS AND SUPPLY CHAIN MANAGEMENT” (BACHELOR OF ENGINEERING)

OFFERED BY HO CHI MINH UNIVERSITY OF TECHNOLOGY, HO CHI MINH CITY, VIETNAM

Based on the report of the expert panel, the comments by the university, the discussions of the AQAS Standing Commission in its 19th meeting on 04 December 2023, and the circulation procedure of 15 January 2024, the AQAS Standing Commission decides:

1. The study programme “**Logistics and Supply Chain Management**” (Bachelor of Engineering) offered by **Ho Chi Minh City University of Technology, Vietnam** is accredited according to the AQAS Criteria for Programme Accreditation (Bachelor/Master).

The study programme complies with the requirements defined by the criteria and thus the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG) and the European Qualifications Framework (EQF) in their current version.

2. The study programmes “**Textile Engineering**” (Bachelor of Engineering) and “**Textile – Clothing Technology**” (Bachelor of Engineering) offered by **Ho Chi Minh City University of Technology, Vietnam** are accredited according to the AQAS Criteria for Programme Accreditation (Bachelor/Master).

The accreditations are conditional.

The study programmes essentially comply with the requirements defined by the criteria and thus the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG) and the European Qualifications Framework (EQF) in their current version. The required adjustments can be implemented within a time period of twelve months.

3. The conditions have to be fulfilled. The fulfilment of the conditions has to be documented and reported to AQAS no later than **31 January 2025**. The confirmation of the conditions might include a physical site visit within the time period of twelve months.
4. The accreditation is given for the period of **six years** and is valid until **31 January 2030**.

Conditions:

For the study programmes “Textile Engineering” (Bachelor of Engineering) and “Textile – Clothing Technology” (Bachelor of Engineering):

1. The management of the study programmes must document how it systematically ensures and guarantees access to the necessary facilities and equipment to enable all students to fully achieve the learning outcomes at both programme and course levels.

The following **recommendations** are given for further improvement of the programmes:

For all study programmes:

1. It is recommended to incorporate topics on sustainability and digitalisation into the curricula in the next revision, either by integrating them into relevant subjects or introducing an additional subject dedicated to these themes.
2. It is recommended to carry out evaluations using a qualitative approach more intensively to understand the root cause and to develop suitable measurements for the high drop-out rate of all study programmes.
3. It is recommended that the plan to conduct more classes in English should be realised as soon as possible to facilitate the learning experience of international students at HCMUT.
4. There should be smaller groups of students when working in the laboratories, so that the lecturers can give practical instructions in a more understandable way as well as a closer supervision for students.

Additionally for the study programmes “Textile Engineering” (Bachelor of Engineering) and “Textile – Clothing Technology” (Bachelor of Engineering):

5. The internship should be extended to one semester or 15 weeks to give students the opportunity to get to know the company and understand the machines more deeply, and also to work on an industrial project.
6. In order to keep updated with international trends, lecturers should participate in more international associations in textile.

With regard to the reasons for this decision the Standing Commission refers to the attached experts' report.

EXPERTS' REPORT**ON THE STUDY PROGRAMMES**

- “TEXTILE ENGINEERING” (BACHELOR OF ENGINEERING)
- “TEXTILE – CLOTHING TECHNOLOGY” (BACHELOR OF ENGINEERING)
- “LOGISTICS AND SUPPLY CHAIN MANAGEMENT” (BACHELOR OF ENGINEERING)

OFFERED BY HO CHI MINH UNIVERSITY OF TECHNOLOGY, HO CHI MINH CITY, VIETNAM

Visit to the university: 25-27 July 2023

Panel of experts:

Prof. Dr.-Ing. Jürgen Mallon	University of Applied Sciences Kiel, Professor for Quality Management and Logistics (Germany)
Prof. Dr.-Ing. Katerina Rose	Reutlingen University, Professor for Clothing Technology and CAD (Germany)
Dang Thuy Quynh Anh	IKEA Services Vietnam Co. Ltd, Production Engineer - Synthetic and Assembly Home Furnishing (Vietnam) (representative of the labour market)
Elif Carman	Student of RWTH Aachen, Industrial Engineering (Germany) (student expert)

Coordinator:

Ronny Heintze

Vi Le

AQAS, Cologne, Germany

I. Preamble

AQAS – Agency for Quality Assurance through Accreditation of Study Programmes – is an independent non-profit organisation supported by more than 90 universities, universities of applied sciences and academic associations. Since 2002, the agency has been recognised by the German Accreditation Council (GAC). It is, therefore, a notified body for the accreditation of higher education institutions and programmes in Germany.

AQAS is a full member of ENQA and also listed in the European Quality Assurance Register for Higher Education (EQAR) which confirms that our procedures comply with the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG), on which all Bologna countries agreed as a basis for internal and external quality assurance.

AQAS is an institution founded by and working for higher education institutions and academic associations. The agency is devoted to quality assurance and quality development of academic studies and higher education institutions' teaching. In line with AQAS' mission statement, the official bodies in Germany and Europe (GAC and EQAR) approved that the activities of AQAS in accreditation are neither limited to specific academic disciplines or degrees nor a particular type of higher education institution.

II. Accreditation procedure

This report results from the external review of the the Bachelor's programmes **“Textile Engineering” (Bachelor of Engineering)**, **“Textile - Clothing Technology” (Bachelor of Engineering)**, and **“Logistics and Supply Chain Management” (Bachelor of Engineering)** offered by **Ho Chi Minh City University of Technology, Vietnam**.

1. Criteria

Each programme is assessed against a set of criteria for accreditation developed by AQAS: the AQAS Criteria for Programme Accreditation (Bachelor/Master). The criteria are based on the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG) 2015. To facilitate the review each criterion features a set of indicators that can be used to demonstrate the fulfilment of the criteria. However, if single indicators are not fulfilled this does not automatically mean that a criterion is not met. The indicators need to be discussed in the context of each programme since not all indicators necessarily can be applied to every programme.

2. Approach and methodology

Initialisation

The university mandated AQAS to perform the accreditation procedure in September 2022. The university produced a Self-Evaluation Report (SER). In December 2022, the institution handed in a draft of the SER together with the relevant documentation on the programmes and an appendix. The appendix included e.g.:

- an overview over statistical data of the student body (e.g. number of applications, beginners, students, graduates, student dropouts),
- the CVs of the teaching staff/supervisors,
- information on student services,
- core information on the main library,
- as well as academic regulations.

AQAS checked the SER regarding completeness, comprehensibility, and transparency. The accreditation procedure was officially initialised by a decision of the AQAS Standing Commission on 27 February 2023. The final version of the SER was handed in May 2023.

Nomination of the expert panel

The composition of the panel of experts follows the stakeholder principle. Consequently, representatives from the respective disciplines, the labour market, and students are involved. Furthermore, AQAS follows the principles for the selection of experts defined by the European Consortium for Accreditation (ECA). The Standing Commission nominated the aforementioned expert panel in May 2023. AQAS informed the university about the members of the expert panel and the university did not raise any concerns against the composition of the panel.

Preparation of the site visit

Prior to the site visit, the experts reviewed the SER and submitted a short preliminary statement including open questions and potential needs for additional information. AQAS forwarded these preliminary statements to the university and to all panel members in order to increase transparency in the process and the upcoming discussions during the site visit.

Site visit

After a review of the SER, a site visit to the university took place on 25-27 July 2023. On site, the experts interviewed different stakeholders, e.g. the management of the higher education institution, the programme management, teaching and other staff, as well as students and graduates, in separate discussion rounds and consulted additional documentation as well as student work. The visit concluded by the presentation of the preliminary findings of the group of experts to the university's representatives.

Reporting

After the site visit had taken place, the expert group drafted the following report, assessing the fulfilment of the AQAS Criteria. The report included a recommendation to the AQAS Standing Commission. The report was sent to the university for comments.

Decision

The Standing Commission was informed about the procedure in its meeting on 04 December 2023. The report, together with the comments of the university, forms the basis for the AQAS Standing Commission to take a decision regarding the accreditation of the programmes. Based on these two documents, the AQAS Standing Commission took its decision on the accreditation in a circulation procedure on 15 January 2024. AQAS forwarded the decision to the university. The university had the right to appeal against the decision or any of the imposed conditions.

In February 2024, AQAS published the report and the result of the accreditation as well as the names of the panel of experts.

III. General information on the university

Ho Chi Minh City University of Technology (HCMUT) was founded in 1957 and is part of Vietnam National University – Ho Chi Minh City (VNU-HCM), a national multidisciplinary consortium of six universities, one research institute and several affiliate centres and institutions. HCMUT is spread across two campuses and is structured into eleven faculties, 63 departments, 4 training centres, 14 supportive offices, and 9 research and technology transfer centres. According to the report, the university has an annual student body of about 20.000 students and 1.300 full-time staff members. The goals of the university stated in the SER include the achievement of an international standard in engineering education, to enhance intellectual growth, and to assert a role as a leading university of training and scientific research in Vietnam. According to the strategic objectives 2021-2025, the university strives to achieve (1) effective governance in the context of university autonomy; (2) higher education internalisation; (3) internationally qualified human resources; (4) excellence in science, technology, and innovation; (5) exceptional facilities and infrastructure; and (6) social responsibilities and community services.

HCMUT receives funding from three major sources: (1) governmental funding, both permanent and temporary, to be used for salaries and the maintenance of facilities; (2) tuition fees, research projects, and technology transfers; and (3) sponsorships from local or international organisations.

The Faculty of Mechanical Engineering (FME) consists of eight departments and offers facilities including two offices, eleven laboratories, one computer room, a practical training unit and a research and technology transfer centre. As of December 2022, the faculty employs 109 full-time academic staff, including lecturers, senior lecturers, associate professors, and full professors. The annual number of graduates is reported as approximately 750 students. The faculty offers seven study programmes and three programmes to be accredited are Textile Engineering (TE), Textile – Clothing Technology (TCT), and Logistics and Supply Chain Management (LSCM).

IV. Assessment of the study programmes

1. Quality of the curriculum

Bachelor's/Master's degree

The intended learning outcomes of the programme are defined and available in published form. They reflect both academic and labour-market requirements and are up-to-date with relation to the relevant field. The design of the programme supports achievement of the intended learning outcomes.

The academic level of graduates corresponds to the requirements of the appropriate level of the European Qualifications Framework.

The curriculum's design is readily available and transparently formulated.

[ESG 1.2]

General information

The curricula of the three programmes are structured into three categories: (1) general topics offered independently of the study programme, including a block on “Mathematics and Basic Sciences”, a block of four subsequent English classes, military training and physical education, and a block on “Socials and Economics”; (2) subject specific courses, which are divided into core and major courses, and (3) a cluster of practical courses and graduation projects.

As stated in the SER, the curricula of the programmes are designed according to a top-down approach. This means that the design and revision of a programme starts with the definition of the required programme

objectives (POs) in accordance with the university's visions and missions and the Vietnamese Quality Framework (VQF)'s regulations. The programme objectives are then translated into intended learning outcomes (ILOs) and categorised into (1) knowledge, (2) skills, and (3) autonomy and responsibility. These ILOs are said to be reflected in the design of curricular structures and courses. HCMUT states that both POs and ILOs are periodically reviewed and updated and to involve input from all relevant stakeholders, i.e. lecturers, students, alumni, and employers.

The most recent revision of three curricula were in 2019 which have mainly focused on the adjustment of the number of credits required for graduation in the undergraduate programmes, from 142 credits to 128 – 132 credits. One credit is equivalent to 50 hours of study for the learners, including time spent on lectures, mentoring, self-study, research, experience, and participation in exams and assessments. Regarding to time spending in classroom, one credit is equal to 15 hours of lectures or 30 - 45 hours of practice, experiments, and discussions. One hour in class is equal to 50 minutes.

1.1 Textile Engineering (Bachelor of Engineering)

Description

As stated in the SER, the Bachelor's programme in Textile Engineering (TE) aims to train qualified technical personnel for the textile industry and has been built on an interdisciplinary foundation including materials science and engineering, chemical engineering, mechanical technology, colour science, biology, aesthetics, simulation design, logistics, industrial management, automation, and internet of things. The programme defines its programme's objectives (POs) as: (1) basic knowledge of mathematics and science to study professional knowledge and to do further study; (2) basic engineering knowledge and needed major knowledge in order to be able to solve related problems; (3) personal, professional, teamwork, and communication skills in order to work in interdisciplinary and multicultural environments; (4) having a specialised foreign language level to be sufficient for knowledge exchange and work with others, and (5) good understanding of economics and politics, basic knowledge of social science and humanities.

The faculty stated in the SER that the intended learning outcomes (ILOs) were built through consulting with the faculty's vision and mission, POs, stakeholders' feedback including employer, alumni, students, and lecturers. Specifically, there are seven ILOs for this study programme:

- a. Be able to identify, form and solve complex engineering problems based on applied knowledge of mathematics, science, and engineering;
- b. Be able to apply the technical design process to come up with appropriate solutions, taking into account the requirements related to public health, safety, environment, economy, culture, society;
- c. Be able to communicate effectively with stakeholders;
- d. Have professional ethics and responsibility in proposing technical solutions, making appropriate judgments, and having to consider their impact in global, economic, environmental, and social contexts;
- e. Be able to work effectively in groups, through which each member demonstrates his or her responsibility to accomplish a common goal;
- f. Be able to design and conduct experiments, to analyse and interpret data in the engineering field;
- g. Be able to receive and apply new knowledge with appropriate learning activities and working methods.

The curricular structure of the Textile Engineering programme consists of 131 credits, including 119 compulsory course credits, 3 elective course credits in the economic-management group, and 9 free elective course credits. Beside the three blocks of courses mentioned above, the study programme offers core subjects and major subjects that are taken throughout 8 semesters. Core subjects include Introduction to engineering, General mechanics, Science of textile material, Polymers in Textile, Testing and experiments of textile materials,

Mechanics of machines, Application of CAD-CAM in textiles, Audit and assessment of textiles products, and Garment and clothing technology. Major subjects listed in the curriculum are Spinning technology 1 and 2, Weaving technology, Knitting technology, Textile machinery, Fabric construction, Nonwoven technology, and Technology in dyeing and finishing fabric.

In the semester 1 and 2, students are required to take English courses (English 1 and 2) and general courses such as Calculus 1 and 2, General physics 1 and 2, General chemistry, Linear algebra, General physics labs, Physical education 1 and 2, Introduction to engineering, General mechanics, and Military training. In semester 3, courses offered include English 3, Numerical methods, Science of textile materials, Polymers in textile, Physical education 3, Testing and experiments of textile materials, and Marxist and Leninist philosophy. Courses in semester 4 consist of English 4, Probability and statistics, Spinning technology 1, Weaving technology, Mechanics of machines, and Marxist and Leninist political economy. Semester 5 offers courses such as Dyeing, Spinning technology 2, Knitting technology, Free elective 1, and Scientific socialism. Courses including Textile machinery, Fabric construction, Nonwoven technology, History of Vietnamese Communist Party, and Elective A selected from the course group of Economics, Administration and Management are offered in semester 6. Students are to take courses like Application of CAD-CAM in textiles, Audit and assessments of textile products, Technology in dyeing and finishing fabric, Free elective 2, and Ho Chi Minh ideology in semester 7. Garment and clothing technology, Environment and Human, Introduction to Vietnamese law, and Free elective 3 are course in semester 8. Additionally, students are to take the course block of graduation practices/projects including Textile practices, Internship, Project 1, and Capstone project from semester 5 to 8, respectively.

Experts' evaluation

Based on the SER and the site visit, the experts are aware that the programme is an important part of the HCM University of Technology, Faculty of Mechanical Engineering. Graduates are in demand of the labour market and have good chances to find work immediately after graduation and build their careers. The targeted qualifications are presented in full and without gaps and confirmed with documented intended learning outcomes on the programme level, which meet the European Qualifications Framework level 6. The logical structure of the curriculum leads students from general basics to specific topics. All subject areas are linked with interdisciplinary knowledge. The process of manufacturing a textile fabric is logically mapped in the sequence through the curriculum. Students first learn the basic technical knowledge about mechanics, physics, or chemistry and then in higher semesters this knowledge flows into subject-specific areas such as spinning, weaving, knitting, and finishing. The percentage distribution of general (42.9%) and specialised knowledge (57.1%) indicates that specialised knowledge is in the foreground and forms the majority of the study time. The allocation of credits to courses is also appropriate. Thus, students have a concrete idea why certain theoretical topics of overlapping fields are treated in connection with textile topics. However, topics on sustainability and digitalisation which reflect current international trends have not been paid much attention through the design of the curriculum. It is recommended to include these aspects in the curriculum in the next revision, e.g. in the form of integration in corresponding subjects or as an extra subject dealing with this topic (**Finding 1**).

According to the discussions during the site visit, the experts assess that the content of the courses meets the requirements of the industry, as these are regularly consulted and updated with industry representatives. The focus is on the processing of the textile surface, its mechanical properties, architecture, and functionality, while the knowledge of textile machinery is reduced to basic knowledge in the field of mechanical engineering. This conscious decision reflects a keen understanding of the specific needs and dynamics of the Vietnamese market, as the demand for experts specialising in textile machinery in Vietnam is perceived as relatively modest. In essence, the educational strategy of the study programme is responsive to industry requirements, with a focus on practical aspects of textiles. The prioritisation of textile surface processing, coupled with a measured approach to textile machinery education, positions students to not only meet but also anticipate and adapt to

the prevailing market demands, aligning with the globalised nature of technology sourcing in the contemporary Vietnamese textile industry.

Evaluation of the curriculum takes place every semester. Students, alumni, and industry representatives are asked for feedback. The group of people giving the feedback is sufficiently large to be able to present a realistic opinion. The feedback from the group is collected and evaluated for actuality through the quality assurance office before changes are made. Small adjustments are in principle immediately implemented and extensive adjustments are carried out in the period 4-5 years. Question forms for the evaluation of the curriculum and its modification are available. The question forms are precisely elaborated, comprehensible and provide objective results. They are easily comparable and show the trend of the development of the study programme as well as the curriculum. Due to the regular adaptation and updates of content, the curriculum proves to be compliant with the current development. Conversations between faculty, alumni and industry representatives guide the development very effectively. In the module handbook all courses are described, and the learning outcomes are defined. The curriculum covers subject-specific and cross-subject knowledge, as well as subject-related methodological, and general skills.

In terms of hands-on training in laboratories on the HCMUT campus, more theoretical knowledge concerning weaving and flat knitting is transferred. In particular, these areas are supplemented at cooperating industrial partners, where laboratory facilities for spinning, circular knitting and finishing are available. This fact has the advantage that the students can get to know the most modern technology and variety of machines directly in the industry. Large European companies such as Groz Beckert, Decathlon, Ikea, and alike have branches and production facilities in the near vicinity of Ho Chi Minh City. It is seen positively that HCMUT has very close contacts with the industry, as it allows the needs of the industry and the university to match and complement each other.

The duration of internship is 8 weeks, divided into two sections. During the first 4 weeks, students conduct a field trip to the industry and have the opportunity to observe all the areas that belong to the study programme. Then students can choose a company and an area in which they are interested to continue the internship in the remaining 4 weeks. On this basis, the students can decide on which area they want to deepen their knowledge and skills in the future. However, when the students are doing internship in the industry, it is difficult for the student to recognise the actual functionality of a textile machine in such a limited time, as industrial machines are also equipped with protective covers. Therefore, the internship should be extended to one semester or 15 weeks to give students the opportunity to get to know the company and understand the machines more deeply and also to actually work on an industrial project (**Finding 2**).

Written theses were presented to the expert panel during the site visit. The content, preparation, form, and level are comparable with European standards. It is obvious that the topics are oriented towards the fields of technology or production management. This is also very current and relevant for the field. It should be emphasised that students can work on and write about the topics in industry. Students also proposed and integrated the latest technology and digital tools which are highly appropriate for this field.

Conclusion

The criterion is fulfilled.

1.2 Textile – Clothing Technology (Bachelor of Engineering)

Description

According to the SER, the Bachelor's programme in Textile – Clothing Technology (TCT) aims to train qualified technical personnel for the textile industry and has been built on an interdisciplinary foundation including

anthropometric, Textile – Clothing Technology, aesthetics, simulation design, logistics, industrial management, automation, and internet of things. The programme defines its programme's objectives (Pos) as: (1) basic knowledge of mathematics and natural science; (2) acquirement of the necessary industry and technical foundations; (3) personal, professional, qualitative, teamwork skills, good communication, ability to formulate, design, implement and operate in corporate and social context interactions and to solve interdisciplinary and multidisciplinary problems as well as research in specialised fields and advanced learning; (4) good communication in English; (5) understanding of economics, politics, and basic knowledge in the social sciences and humanities.

Seven intended learning outcomes of this study programmes are listed as follows:

- a. Be able to identify, form and solve complex engineering problems based on applied knowledge of mathematics, science, and engineering;
- b. Be able to apply the technical design process to come up with appropriate solutions, taking into account the requirements related to public health, safety, environment, economy, culture, society;
- c. Be able to communicate effectively with stakeholders;
- d. Have professional ethics and responsibility in proposing technical solutions, making appropriate judgments, and having to consider their impact in global, economic, environmental, and social contexts;
- e. Be able to work effectively in groups, through which each member demonstrates his or her responsibility to accomplish a common goal;
- f. Be able to design and conduct experiments, to analyse and interpret data in the engineering field;
- g. Be able to receive and apply new knowledge with appropriate learning activities and working methods.

The curricular structure of the Textile – Clothing Technology programme consists of 132 credits, including 120 compulsory course credits, 3 elective course credits in the economic-management group, and 9 free elective course credits. Beside the three blocks of courses mentioned above, the study programme offers core subjects and major subjects that are taken throughout 8 semesters. Core subjects include Introduction to engineering, General mechanics, Science of textile material, Clothing technology 1, Testing and experiments of textile materials, Mechanics of machines, Logistics marketing, Application of CAD-CAM in textiles, Audit and assessment of textiles products, and Garment and clothing technology. Major subjects listed in the curriculum are Art in costume fashion, Clothing technology 2, Sewing equipment, Costume design 1 and 2, Graphics design, Techniques of costume decoration, and Clothing assembly line design.

In the semester 1 and 2, students are required to take English courses (English 1 and 2) and general courses such as Calculus 1 and 2, General physics 1 and 2, General chemistry, Linear algebra, General physics labs, Physical education 1 and 2, Introduction to engineering, General mechanics, and Military training. In semester 3, courses offered include English 3, Numerical methods, Science of textile materials, Clothing technology 1, Physical education 3, Testing and experiments of textile materials, and Marxist and Leninist philosophy. Courses in semester 4 consist of English 4, Probability and statistics, Art in costume fashion, Clothing technology 2, Mechanics of machines, and Marxist and Leninist political economy. Semester 5 offers courses such as Logistic Marketing, Sewing Equipment, Costume Design 1, Field trip to industrial system, Free elective 1, and Scientific socialism. Courses including Graphics Design Practices, Costume Design 2, Techniques of costume decoration, History of Vietnamese Communist Party, and Elective A selected from the course group of Economics, Administration and Management are offered in semester 6. Students are to take courses like Application of CAD-CAM in textiles, Audit and assessments of textile products, Clothing assembly line design, Free elective 2, and Ho Chi Minh ideology in semester 7. Textile and dyeing technology, Environment and Human, Introduction to Vietnamese law, and Free elective 3 are course in semester 8. Additionally, students are to take the course block of graduation practices/projects including Textile practices, Internship, Logistics system design project, and Capstone project from semester 5 to 8, respectively.

Experts' evaluation

Through discussions conducted during the site visit, the experts affirm that the course content aligns with industry requirements. This alignment is achieved through regular consultations and updates with industry representatives. The curriculum primarily emphasizes garment production and process management as well as practical training through courses such as Textile practices, Internship, Logistics system design project, and Capstone project in the later semesters. Curriculum evaluation is a routine process conducted every semester, involving feedback from students, alumni, and industry representatives. The diverse feedback group ensures a realistic opinion, collected and evaluated by the quality assurance office before implementing changes. Minor adjustments occur promptly, while significant modifications take place every 4-5 years. Precisely elaborated and comprehensible question forms facilitate the evaluation process, providing objective and easily comparable results. Regular updates and adaptation of content maintain the curriculum's compliance with current developments, with effective guidance from conversations between faculty, alumni, and industry representatives. As such, the programme integrates a balance of theoretical knowledge and practical skills in the field of textile and clothing technology.

Graduates are in demand on the labour market and have good chances to find work immediately after graduation and build their careers. The targeted qualifications are presented in full and without gaps and confirmed with documented intended learning outcomes on the programme level, which meet the European Qualifications Framework level 6. The logical structure of the curriculum leads students from general basics to specific topics. All subject areas are linked with interdisciplinary knowledge. There are also related areas such as costume design, logistics or graphic design. The process of garment production is logically mapped in the sequence through the curriculum. Students first learn the basic technical knowledge of mechanics, physics, or chemistry and then in higher semesters this knowledge flows into subject-specific areas of garment production and process management. Surprisingly, but not negatively, is the fact that there is a relatively high proportion of courses that are artistically oriented. The percentage distribution of general (42.9%) and specialised knowledge (57.1%) indicates that specialised knowledge is in the foreground and forms the majority of the study time. The allocation of credits to courses is also appropriate. In the module handbook all courses are described, and the learning outcomes are defined. The curriculum covers subject-specific and cross-subject knowledge, as well as subject-related methodological, and general skills. Concrete connections between theoretical topics from various disciplines and textiles are established, providing students with a clear understanding. However, the study programme should pay more attention to addressing contemporary international trends such as sustainability and digitalization, as they are not clearly presented in the curriculum. It is recommended to incorporate these aspects into the curriculum in the next revision, either by integrating them into relevant subjects or introducing an additional subject dedicated to these themes (**see Finding 1**).

Apart from the hands-on training in laboratories at HCMUT involving the transfer of theoretical knowledge, student can do the internship spanning 8 weeks, divided into two phases. The initial 4 weeks involve a field trip to the industry, allowing students to observe all program-related areas. In the subsequent 4 weeks, students choose a company and area of interest for further internship. The proximity of large European companies like Groz Beckert, Decathlon, and Ikea to Ho Chi Minh City allows students to experience modern technology and various machines directly within the industry. The close ties between HCMUT and the industry are viewed positively, facilitating a mutual exchange of needs and complementing each other. However, the limited time during industry internships makes it challenging for students to fully grasp the functionality of textile machines. The recommendation is to extend the internship to one semester or 15 weeks, providing students with a deeper understanding of companies, machines, and the opportunity to work on industrial projects (**see Finding 2**).

During the site visit, written theses were presented to the expert panel, meeting European standards in terms of content, preparation, form, and level. The topics predominantly focus on technology or production

management, demonstrating relevance to the field. Notably, students incorporate the latest technology and digital tools, demonstrating their aptness for the industry and its current requirements.

Conclusion

The criterion is fulfilled.

1.3 Logistics and Supply Chain Management (Bachelor of Engineering)

Description

As stated in the SER, the Bachelor's programme in Logistics and Supply Chain Management (LSCM) aims to train students to construct technology-based supply chain architectures, introduce new methods into supply chain design, manage efficiently the supply systems and create trust, and common values among logistics and supply chain networks. The programme defines its programme's objectives (POs) as: (1) building a solid foundation of mathematics and the natural sciences for academic research and pursuing higher education, (2) deep knowledge, technical skills, and tools for engineering solutions to real-world complex problems and effectively analyse, evaluate, design, implement, execute, and improve the logistics and supply chain systems, (3) developing soft skills such as teamwork, communication, analytical and problem-solving, decision-making, leadership, etc., (4) gaining political expertise, improve personal ethics, and enhance fundamental knowledge in social sciences and humanities.

The study programme has ten intended learning outcomes, listed as below:

- a. Ability to utilise and apply STEM (Science, Technology, Engineering, Mathematics) knowledge;
- b. Well-rounded individuals with adequate political knowledge, good personal ethics, and essential competencies to contribute to the industrialisation and modernisation goals of Vietnam;
- c. Ability to collect and analyse data; design and conduct experiments;
- d. Ability to design, redesign systems and processes to improve their performance, while satisfying economic, social, political, environmental, safety, and sustainable development conditions;
- e. Ability to work in a team;
- f. Ability to work independently;
- g. Ability to identify, formulate, and solve complex problems;
- h. Ability to develop communication skill, presentation, and public speaking skills with minimum English requirement equivalents to TOEIC 450;
- i. Enhancement of lifelong learning awareness;
- j. Ability to carry techniques, tools, and related skills to careers (logistics engineers) or to pursuing leadership positions in profession, communities, and/or organisations (supply chain managers).

The curricular structure of the Logistics and Supply Chain Management programme consists of 128 credits, including 116 compulsory course credits, and 12 free elective course credits. Beside the three blocks of courses mentioned above, the study programme offers core subjects and major subjects that are taken throughout 8 semesters or 4 years. Introduction to engineering is the only core course of this programme. Major subjects listed in the curriculum are Operation management, Management of business logistics, Computer application for industrial engineering, System engineering, Operation research, Procurement management, Work design and ergonomic, Forecasting engineering, Supply chain management, Engineering economy, Facility planning, Quality management and control, Project management, Project management practice, Freight transportation, Warehouse and inventory management, Analysis and design of management information system, Decision making models in supply chain, and Planning and scheduling in supply chain.

In the semester 1 and 2, students are required to take English courses (English 1 and 2) and general courses such as Calculus 1 and 2, General physics 1 and 2, General chemistry, Linear algebra, General physics labs, Physical education 1 and 2, Introduction to engineering, Operation Managements, and Military training. In semester 3, courses offered include English 3, Numerical methods, Management of business logistics, Computer application for industrial engineering, System engineering and Marxist and Leninist philosophy. Courses in semester 4 consist of English 4, Probability and statistics, Operation research, Procurement management, Work design and Ergonomic, and Marxist and Leninist political economy. Semester 5 offers courses such as Forecasting engineering, Supply chain management, Engineering economy, Free elective 1, and Scientific socialism. Courses including Facility planning, Quality management and control, Project management, Project management practice, History of Vietnamese Communist Party, Free elective 2, and Elective A selected from the course group of Economics, Administration and Management are offered in semester 6. Students are to take courses like Freight transportation, Warehouse and inventory management, Analysis and design of management information system, Free elective 3, and Ho Chi Minh ideology. Decision making models in supply chain, Planning and scheduling in supply chain, Introduction to Vietnamese law, and Free elective 4 are courses offered in semester 8. Additionally, students are to take the course block of graduation practices/projects including Field trip to industry, Internship, Logistics system design project, and Capstone project from semester 5 to 8, respectively.

Experts' evaluation

The development of the curricular of the study programme Logistics and Supply Chain Management (LSCM, Bachelor of Engineering) is based on the intended learning outcomes, programme objectives and the Vietnamese Quality Framework. The curriculum development follows an 8-step process that includes the development of objectives, surveying of ITU (Introduction-Teaching-Utilising) and is undergoing an annual assessment and improvement cycle. The study programme LSCM was official launched 10 years ago upon request of industrial partners. Similar programmes in the world have been benchmarked. Nowadays, there are 20 Vietnamese universities that offer this programme under the same name. The study programme is technology-based and focuses on the optimisation of process and technology by extensive use of statistics and data science.

This development process ensures that the intended learning outcomes is achieved and that academic/scientific and labour market requirements are seriously considered. For the annual assessment and improvement of curriculum many surveys are conducted, including key stakeholders such as students, teaching staff, alumni, and employers. The close link with labour market and alumni to ensure the appropriateness of the programme has to be mentioned as benefit.

The academic degree awarded to the graduates corresponds to the learning outcome of the European Qualification Framework level 6 within the first cycle education which leads to a Bachelor's degree. The intended level of qualification is validated by a thesis (capstone project), usually prepared in collaboration with an industrial company on real cases. These cases are often selected during the internship, which is preceding the thesis.

All information about the ILO on the programme and course level and curricular elements are published on webpages of FME. An idealised typical course plan declares the order of curricular elements and supports the learner's progression. Additionally, there are academic advisors supporting the students with their progression and selection of elective course. A broad range of industrial contacts can be used to find appropriate internships. The LCSM programme has 128 credits, including 116 compulsory course credits and 12 free elective courses credits, which students find manageable and appropriately distributed.

Within the module handbook, comprehensive descriptions of all courses are provided, accompanied by clearly outlined learning outcomes. As per the guidelines articulated in the module handbook, the curriculum

encompasses not only subject-specific knowledge but also extends to cross-subject understanding. Additionally, the curriculum emphasises the development of subject-related methodological competencies and cultivates general skills essential for academic and professional endeavours.

Curricular modifications follow a predefined process and are published in a transparent manner. The annual revision of curricular shall not exceed 7% of the volume of the study programme. Holistic revisions of the study programme based on surveys are conducted every 5 years. As the last holistic modifications have been done in 2019 (reduction of credit points), the next revision will be in 2024. More content on digitalisation and sustainability should be included in the curriculum in the next revision (**see Finding 1**).

Conclusion

The criterion is fulfilled.

2. Procedures for quality assurance

Bachelor's/Master's degree

The programme is subject to the higher education institution's policy and associated procedures for quality assurance, including procedures for the design, approval, monitoring, and revision of the programmes.

A quality-oriented culture, focusing on continuous quality enhancement, is in place. This includes regular feedback mechanisms involving both internal and external stakeholders.

The strategy, policies, and procedures have a formal status and are made available in published form to all those concerned. They also include roles for students and other stakeholders.

Data is collected from relevant sources and stakeholders, analysed, and used for the effective management and continuous enhancement of the programme.

[ESG 1.1, 1.7 & 1.9]

Description

In 2020, HCMUT issued a policy in quality assurance in which quality assurance of teaching and learning process is included as one of strategic objectives. Also, the university states that all faculties and departments have ISO 9001:2015 and lists several successful accreditation processes conducted by AUN-QA, ENAEE, HCERES amongst others which concern both institutional and programme levels. The SER also mentions a set of institutional quality standards, which are said to be revised on a regular basis.

Responsible parties and implementing units are said to be active on the university, faculty, and department level, including an Office of Quality Assurance (OQA), the University Academic Council, Science Committees of the respective faculties, as well as Programme Councils.

Curriculum design and development processes are said to follow these steps: feedback from stakeholders is collected and analysed by the OQA and then forwarded to the University Academic Council, who proposes solutions and improvements will be implemented in the curriculum. Teaching and learning processes and student assessment are said to be continuously reviewed and evaluated with the help of lecturers' end of semester reports, students' course evaluations, and educational inspectors. The overall quality of the curriculum, skills and knowledge of graduates, ILOs, as well as aspects of training and services provided by the university is said to be evaluated by annual or biannual satisfaction surveys which involve online questionnaires and/or interviews with university students, university seniors, alumni, enterprises, and staff members. In addition, data on student workload, dropout rates, composition of the student body, and employment status of graduates are gathered through surveys. According to the SER, reports of collected data and feedback are submitted to the relevant units on the university, faculty, and department level and published on the OQA website. In addition

to surveys and interviews, the university also offers annual student conferences as well as annual staff conferences at the department, faculty, and university level, in which the participants can voice their opinions and suggestions.

Experts' evaluation

Before the issuance of the policy in quality assurance in 2020, HCMUT has already started in 2010 to conduct international accreditation for their study programmes. In 2012, an office for quality assurance has been established and the scope has been extended during the reaccreditations from 9 departments and offices in 2015, to 12 departments and offices in 2018 and 22 departments and offices in 2021. In this comprehensive quality management system, responsibilities and targets are clearly defined and published.

The process of constructing and developing FME programmes, consisting of 8 steps, is based on the vision and mission of HCMUT and FME and is supported by extensive and frequent surveys considering the input of main stakeholders (students, lecturers, alumni, and employers). The quality of curriculum is also validated by an evaluation one year after graduation to capture information about employment situation, level of response to the labour market and to identify strengths and weakness. On an annual formal basis, there will be meetings with company representatives, university lecturers and leaders to exchange information about labour market development and requirements. Besides these formal evaluation meeting, the faculty members are also using their contacts (field trips, conferences, seminars, and other events) to collect information about actual trends and requirements. This information will contribute to the programme improvement cycle. The annual revisions of curricular shall not exceed 7% of the volume of the study programme. Holistic revisions of the study programme based on surveys are conducted every 5 years. The experts find this process well-structured and can be smoothly operated.

There are also surveys about the curricula, the progression and completion rate, the societal and financial needs, student and staff satisfaction, ethics, soft skills, and student self-management. Also, the experience and findings of academic advisors and form teachers are considered. The experts mentioned the high drop-out rate during the site visit and were confirmed that the statistical analysis has been conducted. However, it is recommended to carry out more evaluations using qualitative approach to understand the root cause and to develop suitable measurements (**Finding 3**).

The curriculum improvement process involves the Office of quality assurance and the academic council. All these information will be analysed by the Office of quality assurance and the academic council will propose solutions to improve the curriculum. The results of the evaluation and survey are published on the website of the office of quality assurance. The students are informed about the results and can also discuss with the lecturers about the evaluation results of courses.

There are procedures in place to prevent academic fraud. Although the plagiarism checker software is not available for Vietnamese language, many regulations and organisations in the university have been established to support staff members and students against discrimination and intolerances, e.g. labour union or youth union.

The HCMUT Office of Academic affairs uses an online data base to store all academic data of the students for a few years. This allows the students to keep the overview, but it also facilitates the evaluation of FME student progress and performance.

Conclusion

The criterion is fulfilled.

3. Learning, teaching and assessment of students

Bachelor's/Master's degree

The delivery of material encourages students to take an active role in the learning process.

Students are assessed using accessible criteria, regulations, and procedures, which are made readily available to all participants and which are applied consistently.

Assessment procedures are designed to measure the achievement of the intended learning outcomes.

[ESG 1.3]

Description

According to HCMUT, the learning process in the programmes is conducted using a variety of strategies and techniques that help students to develop critical thinking skills, acquire relevant knowledge, and achieve all ILOs related to their individual programme. The learning methods employed in the courses are supposed to foster student-centred learning and include groupwork, lectures, blended learning, project-based learning, and experimental learning. The latter two are said to be of special importance for the study programmes as these methods are crucial in the translation of theoretical approaches to real-world engineering contexts. FME reports that its programmes have implemented the CDIO framework since 2009, which stresses engineering fundamentals set in the context of (1) conceiving, (2) designing, (3) implementing, and (operating) real-world systems and products. In order to support the practical/experimental parts of students' learning processes, the university states that all necessary tools, equipment, and machines are made available in open labs and workshops. The learning process is further said to be supported by an eLearning platform (BKeL) which offers students access to information, tasks and assignments, discussion forums, and the course syllabus including assessment methodology. The university states that the overall timetables of study allow for flexibility and that specific study times such as evening and weekend classes are offered in order to accommodate to the needs of part-time and employed students.

As stated in the SER, assessment takes place in the form of entrance, progress, and final tests. Assessment methods include multiple-choice and writing exams, open or closed book exams, and oral tests for project courses and is said to be based on the particular ILOs of the respective course. Decision on assessment method is made by the individual course instructor and the responsible Head of Department. The assessment schedule is organised by the Academic Affairs Office. Exam dates, deadlines, and assessment regulations are said to be published on the offices' website and the official student academic time about one month in advance. Further information is additionally disseminated via social media. The report also states that the assessment regulations are reviewed by the academic committee of the university on a regular basis.

The university states that the resitting of an exam is not permitted due to the academic regulations of the university, but that students who have convincing reasons such as health problems, accidents, etc. will be considered by the Academic Affairs Office to postpone the current examination and offer to take the examination of the same course in the following semester. General appeals and complaints can be submitted via the BKeL system, the academic units of the department or the faculty, the Academic Affairs Office, and the regular surveys after each semester. Appeals and complaints with regards to assessment results can be submitted to the Academic Affairs Office which will lead to a remarking of the assessment by a different lecturer or a specific council.

Experts' evaluation

The expert panel observed during their site visit that the teaching staff is very dedicated. This was evident during all rounds of discussion. It should be emphasised that HCMUT manages to keep the curriculum up-to-date with its quality management process. The comprehensive and up-to-date education provided to the

students ensures they acquire a broad and well-rounded expertise in their field of study. The curriculum is carefully designed to cover a wide range of relevant topics, exposing students to various aspects of the subject matter. Additionally, this positive outcome of the students is achieved through a combination of innovative and student-centred teaching methods. The faculty employs a dynamic approach that integrates traditional lectures with hands-on learning experiences, such as laboratory work, case studies, and interactive projects. This ensures that students not only grasp theoretical concepts but also apply them in practical situations, fostering a deeper understanding of the subject matter. Furthermore, the use of modern technology in the classroom enhances the learning experience. Active and collaborative learning is another key component of the teaching methodology. Group discussions, team projects, and peer-to-peer interactions encourage students to exchange ideas, solve problems collectively, and develop critical thinking skills.

Through the support services offered by the university and the lecturers, it is possible to find solutions for students who have problems in their studies. The expert panel also welcomed the process that new teachers receive a great deal of support from their colleagues and the university at the beginning of their teaching careers. This ensures that students also experience good teaching from lecturers with less experience. The module handbook is another instrument to ensure the good learning experience for students. The experts appreciate that the module handbook for each study programme is well-structured and transparent by including all core elements such as descriptions, learning outcomes, teaching methods, references, amongst others. In terms of assessment, the university has clear assessment regulations. According to SER, the university states that the resitting of an exam is considered for students in special circumstances such as health problems, accidents, internet connection issues (for online exams), etc. In those cases, students are allowed to postpone the current examination and can be offered to take the exam of the same course in the following semester.

Conclusion

The criterion is fulfilled.

4. Student admission, progression, recognition and certification

Bachelor's/Master's degree

Consistently applied, pre-defined, and published regulations are in place which cover student admission, progression, recognition, and certification.

[ESG 1.4

Description

HCMUT's admission policy is implemented according to the national regulations issued by the Ministry of Education and Training, and the university has to specify all standards, criteria, quota, tuition fees, and training capacity to the Ministry and related parties every year. For the last period of admission, the university reports the following schemes: (1) direct admission according to the enrolment regulations of the Ministry of Education and Training, (2) priority admission according to the regulations of VNU-HCM, (3) admission of foreign students or graduates from foreign high schools, (4) admission according to the results of the national high school graduation exam, (5) admission according to the results of the capability assessment of VNU-HCM, which is said to follow the same approach as the US SAT and the UK TSA exams. Formal requirements are said to be disseminated via public media and public events, such as the Admission Consultancy Festival.

As stated in the SER, students' progression throughout the semester is monitored via regular meetings with their Academic Advisor and the recording of grades and credit accumulation. The university states in the SER that the recognition of competences gained at other higher education institutions is regulated with regards to

the transfer of credits from other VNU-HCM member universities, the transfer of students who have studied abroad or at another domestic university, and the ASEAN Credit Transfer System as well as the Europe Credit Transfer System (ECTS). Informal and non-formal prior learning is said to be recognised according to subject and student-specific cases.

Upon graduation, students will receive the degree of Bachelor of Engineering, diploma supplement, an academic transcript, and a transcript of training and extracurricular activities. A temporary graduation certificate valid up to 6 months can be issued for students to apply for a job, while waiting for the official degree.

Experts' evaluation

There are published consistent regulations which cover student admission, progression, recognition, and certification. The admission process is sufficient to recruit students who have academy profile and capability appropriate to afford study loads of programme curriculum and satisfy programme objectives. HCMUT declared widely on the university's website yearly of policies and admission criteria and there is an enrolment project which specify all standards, criterias, quota, tuition fees, training capacity, etc. and must be submitted to the Ministry and disclosed to related parties every year.

In year 2022, there was 5 admission methods which including: (1) the enrolment regulations of Ministry of Education and VNU-HCM (1-5%), (2) priority admission according to the regulations of VNU-HCM (15-20%), (3) admission of foreign students (1-5%), (4) admission from result of highschool exam (1-5%), and (5) general admission according to the result of capability assessment of VNU-HCM (75%). The national exams (admission method 5) is the most common way for university to overall assess the candidates including A0 (Mathematics, Physics, Chemistry) and A1 (Mathematics, Physics, English); the test is intergrated in terms of both knowledge and ability to reason and solve problems which sames approach as US SAT (Scholastic assessment test) and the British Thinking Skills Assessment (TSA).

After the enrollment process, the faculty will analyse data which provided by Academic Affair Office (AAO), to have an overview on study programme as well as student composition such as religion, ethnicity, cumulative GPA, province and gender. Students will receive the admission notice (via student's email or faculty's website) and consult on selecting procedure for study programme after completing first year of study, student then will choose the appropriate majors; this process is performed clearly and carefully in decision on establishment of university admission committee in 2019.

The university uses the credit system for all training levels, programmes, and methods. There are transparent regulations of credit recognition and credit transfer system including ACTS - ASEAN Credit Transfer System and ECTS – Europe Credit Transfer System which opens up opportunities for students to experience an international learning environment without disturbing the learning process. The Academic Affair Office stipulate the procedure for credit recognition and transfer.

FME forms professional councils to consider study results and credit transfer levels and based on the comparison of learning outcomes, study content and volume, course assessment methods to ensure the quality of programmes. Transferred students need to meet the specific requirements issued by MOET or VNU-HCM. The number of transfer students into HCMUT each year is negligible. The programme management will review transcript of students, then the Dean of faculty decides on transferred courses, connect student to appropriate courses in the programme and accumulate the credits for student. Students studying at HCMUT also have opportunities to have exchange study in their partner universities. The details of all scholarship programme are published on the official website of university.

The graduation at HCMUT takes place twice during an academic year, required conditions for graduation including: accomplishment of all credits (142 credits for TE & TCT, 138 credits for LCSM), GPA from 5 (out of 10), English, Social activities, Physical education, Military training. Students will be officially awarded the

degree of Bachelor of Engineering after finishing all graduation procedures. Graduation ceremony and distribution of Bachelor's degrees are held twice a year. However, to assist students in applying a job, the university issues a temporary graduation certificate, and this certificate is valid within 6 months till date students receive the diploma.

Besides the Bachelor of Engineering degree, students will also receive: official diploma supplement which record all the scores for all subjects during study programme; training and extracurricular records which clearly state all extracurricular activities, social workdays and training scores from year to year.

Conclusion

The criterion is fulfilled.

5. Teaching staff

Bachelor's/Master's degree

The composition (quantity, qualifications, professional and international experience, etc.) of the staff is appropriate for the achievement of the intended learning outcomes.

Staff involved with teaching is qualified and competent to do so.

Transparent procedures are in place for the recruitment and development of staff.

[ESG 1.5]

Description

In the SER, the Faculty of Mechanical Engineering has totally 101 staff, in which 88 faculty members are working at the university, while 13 studying abroad. The number of lecturers are 70, 53 of which hold a PhD and 17 of which hold a Master's degree. Two of the lecturers have full professor positions, 13 are employed as associate professors and twelve as senior lecturers. The Textile and Garment Department currently has 11 staff. The number of staff currently working at the university is 11. Among 8 lecturers, Textile and Garment Department has 1 associate professors, 2 main lecturers and 1 senior lecturer. The ISE Department currently has 15 staff. The number of staff currently working at the university is 11. Among 11 lecturers, ISE Department has 2 associate professors, 3 main lecturers and 2 senior lecturers.

According to the university's regulations, the number of teaching hours depends on the title of each lecturer. For instance, for lecturers with a doctorate degree, the required teaching hours are 300 hours/year. Faculty members are said to have a combination of incomes: (1) a basic salary based on professional rank and experience, (2) extra income depending on annual performance in teaching, research, and service quality, (3) teaching allowance, (4) research allowance, (5) compensation for participation in service activities of the university.

With regards to staff development, HCMUT emphasises that lecturers are encouraged to study abroad and/or improve their qualifications on an international level. As such, 13 staff members are reported to currently conduct their PhD projects abroad and five gathering postdoctoral experiences. On a university level, staff members are obliged to be self-trained to improve the teaching quality. In addition, the faculty states that a professional development workshop is organised the lecturers to improve teaching skills and knowledge of quality assurance and accreditation. The faculty members are also assigned to work with industrial partners and potential employers of the students to prepare students for activities such as internships, scholarships, industrial workshops, etc.

Experts' evaluation

HCMUT has established a 5-year strategic plan indicating that development of human resources is one of the important development strategies of the university. This also includes the planning for teaching capacity to ensure the availability of sufficient lecturers. The current teaching staff is sufficient not only in quantity but also in quality, given their academic background from related fields (Textile engineering, Clothing technology, Industrial system engineering and Logistics) with industry experiences and degrees from prestigious institutions around the world.

For the recruitment of lecturers, a standardised recruitment process with transparent criteria and involving three councils is in place. This recruitment process includes steps certified by BSI in accordance with ISO 9001:2015. The main criteria for recruitment are teaching ability and research profile. There is also a clear process to invite visiting lecturers including: lecturers from other universities, employee from industry who have Master's degree, PhD that related to the curriculum; retired lecturers and foreign lecturers. The invitation to visiting lecturers only lasting one semester, then basing on the feedback of stakeholders (students, colleagues, managers, etc.) university will decide to extend the invitation.

The staff development of the faculty is based on a long-term planning of vacancies and future needs due to increasing numbers of students. Each new faculty member becoming a lecturer has at least a Master's degree and has successfully participated a training course for the certificate of teaching competency of Higher Education. Junior faculty members undergo a one-year training on teaching, supervised and mentored by an experienced lecturer. Annually, the lecturers also attend the training courses to improve the teaching skills (curriculum development, new teaching or learning methods, student assessment methods, etc.) which organized by the national university and the Ministry of Education and Training, or under cooperation with Arizona State University – USA, Erasmus, AUN-SEED NET, HEEAP, etc. Due to the limited number of PhD holders in the Vietnamese academic system, there are no transitions between academic and industrial careers. To overcome this situation, FME is requesting young lecturers to supervise real case project with students and to conduct industrial technology transfer projects. This approach is seen as positively but should not be limited in the domestic market, especially in the field of textile. In order to keep updated with the international trend, lecturers of the study programmes “Textile Engineering” and “Textile and Clothing Technology” should participate in more international associations in textile (**Finding 4**).

The experts' group highly evaluate the high percentage of lecturers with international PhD at FME and a good balance between experienced lecturers and young lecturers with an average age of 35 years. Lecturers with PhD are required to teach 300 hours/year, which were claimed to be manageable during the site visit. The lecturers are encouraged to attend training course to improve their teaching skills. Therefore, FME is holding an annual symposium and provides the opportunity to attend short term training course at home or abroad (especially with Arizona State University).

The duties of the faculty members are clearly defined and annually assessed by the university. These assessments consisting of 5 KPIs (including teaching, research, and other tasks) are the basis for the determination of the salary level to ensure workload balancing and to get a proper ratio between lecturers and students. These assessments also include the supporting staff and personnel of the faculty.

Besides the financial aspect, FME is fostering and supporting the research and technology transfer activities by provision of research grants, bonus for articles, scientific competitions, and the organisation of domestic and international scientific conferences. Every year, the FME holds scientific conferences nationally or internationally to allows teaching staffs and students to present and publish research aim to enhances academic and scientific knowledge and reputation of lecturers.

Conclusion

The criterion is fulfilled.

6. Learning resources and student support

Bachelor's/Master's degree

Appropriate facilities and resources are available for learning and teaching activities.

Guidance and support is available for students which includes advice on achieving a successful completion of their studies.

[ESG 1.6]

Description

HCMUT receives funding from three sources: (1) governmental funding, (2) income from university activities, i.e. tuition fees, research grants, and services such as technology transfer, and (3) sponsorship from local and international organisations.

Learning resources

The campus on which the programmes are offered includes classrooms, conference halls, lecture halls, laboratories, workshops, computer rooms, cafeterias, libraries, self-study rooms, and sports facilities. FME also provides a CDIO workspace, which is open for students for team and project work and includes all necessary equipment for conducting engineering projects, such as electrical motors, gear boxes, actuators, electrical components, 3D printers, laser cutters, projectors, and computers. In addition, the faculty also manages 14 laboratories and practical working spaces: a mechanical workshop, a CAD/CAM laboratory (approximately 30 computers), a metrology laboratory, a control and automation laboratory, a machine design laboratory, a manufacturing engineering laboratory, a material processing technology laboratory, a textile and garment engineering laboratory, Vietnamese-Italian textile technology centre, practical sewing workshop, a thermodynamic and heat transfer laboratory, a construction machinery and handling equipment laboratory, a mechatronics laboratory, and a logistics and supply chain management laboratory. The IT facilities include computers, free Wi-Fi access, and specialised software. Also, the university provides learning management systems in which students can access module handbook/course descriptions, aims, ILOs, learning outlines, teaching and learning activities, assessment methods, and learning material for each class. Students are said to have access to two libraries, the central library of HCMUT and the VNU-HCM library, which together offer access to over 400.000 books, journals, online databases, and additional media.

Student support

With regards to student support, the university offers several possibilities for academic counselling. Each student is assigned an academic advisor in their first semester and also a thesis supervisor for their internship and thesis project. Further counselling is provided by the university's Academic Affairs Office, the faculty's Academic Affairs Unit, and the individual lecturers. Financial support is offered in the form of tuition fee exemption and reduction for students with disabilities, students from lower socioeconomic backgrounds, and ethnic minorities. The university also reports that additional financial aid was provided to support students facing natural disasters and the Covid-19 epidemic. Also, the faculty disseminates information on additional scholarships provided from businesses or other universities. Furthermore, the university provides housing opportunities for staff and students. Career services are offered in the form of Career Days, alumni and lecturer support, and a Student Service & Career Centre. Medical care and psychological counselling are said to be available on campus. Students' mobility is said to be supported by the Office of External Relations, the faculty,

and the individual departments. Scholarships are said to be in place. Finally, students can access supporting information online, e.g. on a Students' FAQ website, a university wiki, and the websites of the Student Support & Career Centre and the Student Association.

Experts' evaluation

The module handbook contains detailed descriptions with all the important information that students need. Students are thus able to find out transparently what content and learning outcomes they can expect in each module. The administration and lecturers work together to ensure that there is as little overlap as possible, and it seems that they are succeeding in their efforts. There do not seem to be any structural obstacles, so that students can complete their studies in the standard period of study. Students have a wide choice of literature and study spaces on campus. Students can contact the teaching staff without any problems and receive answers in a timely manner.

Regarding internationalisation, international students are welcomed and supported by the university upon their arrival in Vietnam. However, as most of classes are conducted in Vietnamese, it would be challenging for the international students to follow. The experts were informed during the site visit that courses in English will be planned and integrated in the next period. Therefore, it is recommended that this plan should be realised as soon as possible to facilitate the learning experience of international students at HCMUT (**Finding 5**). Fortunately, the students themselves speak English very well and are interested in studying abroad, especially in Japan or Korea.

The experts believe that with the current design of the curriculum and the laboratories, students are able to apply their learned knowledge in practice. During the site visit, the expert panel was able to determine that there are many efforts of the faculty to keep their laboratories and machine equipment up to date. The experts find the laboratory facilities of the study programme "Logistics and Supply Chain Management" already adequate. In the field of textile, laboratory facilities for spinning, circular knitting and finishing are very modern and represent the state of the art. The facilities which exist are extremely well suited for study and research. Sewing machines, high-speed sewing machines, overlocks, cover-locks, ironing equipment are available in sufficient quantity. For other areas such as weaving, flat knitting, warp knitting, or tailor mannequins, the lack of equipment is compensated by the practical courses in industry during the internship. The experts acknowledge that budget is a challenge of the faculty, but suggest that an expansion of equipment for the laboratories at the campus should be considered for future development. This would be greatly beneficial for students in these field, so that their use of equipment and practical training will not be restrained in the scope of internship. In the meantime, however, the management of the study programmes "Textile Engineering" and "Textile – Clothing Technology" must document how it systematically ensures and guarantees access to the necessary facilities and equipment to enable all students to fully achieve the learning outcomes at both programme and course levels (**Finding 6**).

Additionally, according to the teaching staff, one group during the practical training in the lab consists of about 25 students. This number of students in one lab is quite high that not all students can observe or have enough time for practice on machines. Also, this will affect the efficiency of lecturers in supervising students. Therefore, there should be smaller groups of students when working in the laboratories, so that the lecturers can give practical instructions in a more understandable way as well as a closer supervision for students (**Finding 7**). During the campus tour to the laboratories, the experts observed that there are safety regulations for laboratories in place. It would be more beneficial for the students if the safety regulations could be improved to be even better.

In terms of software relevant to the field, the experts learned that there is no financial budget available or is very limited and appreciate the efforts of the faculty by using open-source software as alternatives. 2D and 3D free software are very similar to licensed software and students can learn quickly if the basics in a software

are already available. For example, FreeCAD or Blender software. The application of the software in practical projects is very instructive and the graduates have good basic knowledge, which they will certainly need in their professional life.

Conclusion

The criterion is partially fulfilled.

7. Information

Bachelor's/Master's degree

Impartial and objective, up-to-date information regarding the programme and its qualifications is published regularly. This published information is appropriate for and available to relevant stakeholders.

[ESG 1.8]

Description

As stated in the SER, information regarding the programmes, the curricula, the ILOs, and graduation requirements are published on the website of the Academic Affairs Office (AAO) and the FME website. The websites are said to be updated on a regular basis, especially with regards to informing students about changes in regulations. In addition, social media accounts, newspapers, and public events are also used to disseminate information to the general public.

Experts' evaluation

HCMUT set up related channels where stakeholders could look up and get update for important information. Information regarding programmes and its details (curriculum information, programme objectives, student outcomes, course learning outcomes) are published and regularly updated on the website of the office of academy affair (AAO) and Faculty of Mechanical Engineering (FME).

For each course, courses learning outcomes, content, methods of study, assessment methods and contents are published and annually updated in each course outline on department website. The most important channels for students to get the information related to the programme are Back Khoa e-learning system (BkeL) and MyBK system, where student can download all documents (course syllabus, lecturers, video, links, exercises, etc.) and reviewing scores.

Besides information regarding study programmes, student also can look up the requirements and admission process at the entrance section, the rules, and criteria for graduation on AAO's website. The website is up to date and is also available in English, thus making it possible for international students to get all the information they need to study at HCMUT beforehand.

Conclusion

The criterion is fulfilled.

V. Recommendation of the panel of experts

The panel of experts recommends accrediting the study programmes “**Logistics and Supply Chain Management**” (**Bachelor of Engineering**) offered by **HCM University of Technology, Vietnam** without conditions.

The panel of experts recommends accrediting the study programmes “**Textile Engineering**” (**Bachelor of Engineering**) offered by **HCM University of Technology, Vietnam** with conditions.

The panel of experts recommends accrediting the study programmes “**Textile - Clothing Technology**” (**Bachelor of Engineering**) offered by **HCM University of Technology, Vietnam** with conditions.

Commendation:

HCMUT presents a great commitment to academic excellence, underpinned by a well-structured quality assurance system that ensures the quality standards are met. The institution fosters a quality-oriented culture, evidenced by a well-structured curriculum that effectively benchmarks with the dynamic needs of the labour market, thus equipping students with relevant skills and knowledge. The teaching staff at HCMUT is noteworthy, characterised by their passion and motivation and is well supported with a long-term development plan by the university. The university's emphasis on cross-knowledge integration further enhances the interdisciplinary approach to education. Notably, the high proficiency in English exhibited by both lecturers and students reflects the readiness for internationalisation. The good relationship between lecturers and students further contributes to the overall positive learning experience.

Findings:

1. It is recommended to incorporate topics on sustainability and digitalisation into the curriculum in the next revision, either by integrating them into relevant subjects or introducing an additional subject dedicated to these themes.
2. For the study programmes “Textile Engineering” and “Textile – Clothing Technology”, the internship should be extended to one semester or 15 weeks to give students the opportunity to get to know the company and understand the machines more deeply and also to work on an industrial project.
3. It is recommended to carry out evaluations using qualitative approach more intensively to understand the root cause and to develop suitable measurements for the high drop-out rate of all study programmes.
4. In order to keep updated with international trends, lecturers of the study programmes “Textile Engineering” and “Textile and Clothing Technology” should participate in more international associations in textile.
5. For all study programmes, it is recommended that the plan to conduct more classes in English should be realised as soon as possible to facilitate the learning experience of international students at HCMUT.
6. The management of the study programmes “Textile Engineering” and “Textile – Clothing Technology” must document how it systematically ensures and guarantees access to the necessary facilities and equipment to enable all students to fully achieve the learning outcomes at both programme and course levels.
7. There should be smaller groups of students when working in the laboratories, so that the lecturers can give practical instructions in a more understandable way as well as a closer supervision for students.