Danmarks
Akkrediteringsinstitution

IT-Universitetet i København
Rektor Mads Tofte
Dorthe Stadsgaard

Sendt pr. e-mail:
rektor@itu.dk, itu@itu.dk, dost@itu.dk

Akkrediteringsrådet

2. december 2016

Bredgade 38
1260 København K
Tel. 3392 6900
Fax 3392 6901
Mail akkr@akkr.dk
Web www.akkr.dk

CVR-nr. 3060 3907

Sagsbehandler
Rune Heiberg Hansen
Tel. 72 31 88 07
Mail rhh@akkr.dk

Ref.-nr. 16/057003-03

Positiv institutionsakkreditering af IT-Universitetet i København

Akkrediteringsrådet har på rådsmødet 1. december 2016 behandlet akkrediteringen af IT-Universitetet i København (ITU)**.**

Rådet traf på rådsmødet 11. december 2014 afgørelse om betinget positiv akkreditering for IT-Universitetet i København (ITU)**.**

I har haft en frist på to år til at rette op på de forhold, der var udslagsgivende for rådets betinget positive akkreditering og har inden udløbet af denne frist indsendt dokumentation for ændringer af disse. Danmarks Akkrediteringsinstitution har udarbejdet en supplerende akkrediteringsrapport, som er vedlagt.

Rådet har akkrediteret IT-Universitetet i København (ITU) **positivt**, jf. akkrediteringslovens[1] § 8**.** Rådet har truffet afgørelsen på baggrund af vedlagte supplerende akkrediteringsrapport fra Danmarks Akkrediteringsinstitution. Akkrediteringsrapporten er udarbejdet på baggrund af ITUs høringssvar, selvevalueringsrapport og øvrig dokumentation.

Akkrediteringsrådet har truffet afgørelsen ud fra en helhedsvurdering på grundlag af de kriterier, som fremgår af akkrediteringsbekendtgørelsen[2], retningslinjerne i "Vejledning om institutionsakkreditering" af 1. juli 2013 og akkrediteringsrådets notat af 23. juni 2016 "Vurdering af institutionernes kvalitetssikringssystemer".

Akkrediteringsrådet har for det første vurderet, at ITU løbende gennemfører de indsatser, som uddybningspunkter til de fem kriterier beskriver. I forhold til de problemer akkrediteringspanelet har konstateret, er der tale om mindre, klart afgrænsede problemstillinger, som ITUs ledelse allerede er opmærksom på, og som efter akkrediteringsrådets vurdering aktuelt adresseres på en tilfredsstillende måde af institutionen.

For det andet har Rådet vurderet, at der er god kvalitet i udmøntningen af kvalitetssikringsarbejdet. Det vil sige, at ITUs indsats er velbeskrevet og bygger på en velfungerende og systematisk praksis. Institutionen har et udbygget informationssystem med relevante data for den enkelte uddannelse, og fastlagte politikker for, hvornår og hvorledes ledelsen vil skride ind overfor en uddannelse, der udviser problemer. Ligeledes er der en god informationsudveksling, både vertikalt og horisontalt, som understøtter velbegrundede indsatser. ITU gennemfører også løbende justeringer i sin kvalitetssikringspraksis, og der er et bredt engagement blandt in-

[1] Lov nr. 601 af 12. juni 2013 om akkreditering af videregående uddannelsesinstitutioner (akkrediteringsloven).
[2] Bekendtgørelse nr. 745 af 24. juni 2013 om akkreditering af videregående uddannelsesinstitutioner og godkendelse af videregående uddannelser (akkrediteringsbekendtgørelsen)

stitutionens ansatte og ledelse, som fører til udvikling og anvendelse af indvundne erfaringer i fremtidige indsatser.

Rådet er opmærksomt på, at der inden for ITUs i øvrigt velfungerende kvalitetssikringssystem på enkelte punkter stadig kan være indsatser, som det endnu ikke er muligt at se resultaterne af, eller indsatser, som fortsat er under indfasning. Rådet noterer, at akkrediteringspanelet i disse tilfælde har vurderet, at de valgte indsatser er formålstjenlige, og forventer at implementeringen af dem vil sikre, at indsatserne fører til opfyldelse af de definerede mål.

Akkrediteringsrådet henviser i øvrigt til akkrediteringsrapporten for uddybende grundlag for rådets afgørelse.

Det følger af en positiv institutionsakkreditering, jf. akkrediteringslovens § 9, stk. 1, at det er muligt for uddannelsesinstitutionen at foretage justering af eksisterende uddannelser og uddannelsesudbud. Uddannelsesinstitutionen kan derudover oprette nye uddannelser og nye uddannelsesudbud, når disse er prækvalificeret og godkendt, jf. akkrediteringslovens §§ 18 og 21.

Danmarks
Akkrediteringsinstitution

Akkrediteringen er gældende til og med 1. december 2022, jf. akkrediteringslovens § 9.

Akkrediteringsrådet vil underrette ministeren om institutionens positive akkreditering.

I er velkomne til at kontakte direktør Anette Dørge på e-mail: akkr@akkr.dk, hvis I har spørgsmål eller behov for yderligere information.

Med venlig hilsen

Per B. Christensen
Formand
Akkrediteringsrådet

Anette Dørge
Direktør
Danmarks Akkrediteringsinstitution

Bilag:
Kopi af akkrediteringsrapport

Dette brev er også sendt til:
Styrelsen for Videregående Uddannelser, Uddannelses- og Forskningsministeriet

The Danish
Accreditation Institution

Institutional accreditation

2016

ACCREDITATION REPORT

IT-UNIVERSITY OF COPENHAGEN

FOLLOW-UP ON CONDITIONAL POSITIVE INSTITUTIONAL ACCREDITATION

Institutional accreditation – Accreditation of IT-University

The report can be downloaded from www.akkr.dk

Contents

Introduction

This follow-up accreditation report contains an analysis and an assessment of the quality-assurance system at the higher education institution IT-University of Copenhagen. The report is a follow-up on the conditional positive institutional accreditation ITU received in 2014.

The report assesses whether the educational institution has developed an adequately effective system for quality assurance such that in the coming accreditation period the institution itself can carry out ongoing quality assurance of its own programmes.

Institutional accreditation does not include independent assessment of the relevance and quality of the individual programmes at the educational institution. The aim of the accreditation is to identify whether the institution as a whole has established a quality-assurance system that regularly and systematically can ensure and develop the quality and relevance of its programmes. However, sub-elements of individual programmes can be included in the assessment of whether the quality-assurance system works well in practice.

About institutional accreditation

Institutional accreditation is an assessment of whether the quality-assurance system of the institution is well described and well documented and whether it works in practice. The system is to ensure that the institution has constant focus on quality, develops the system regularly and reacts when something is wrong. This applies before and after institutional accreditation has taken place.

Effective quality-assurance is characterised by being regular and systematic and by living up to the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESGs). Quality assurance must have a clear division of duties and responsibilities and must have a strong foothold at management level. Furthermore, institutions must have an inclusive quality culture and focus on quality-assurance work for all of their programmes, the specific teaching, as well as the special problems, conditions and needs relevant for the individual institution.

On this basis, the accreditation report assesses whether the quality-assurance system of the institution lives up to the requirements placed for institutional accreditation in the Accreditation Act, including particularly the five criteria listed in the associated Executive Order.

Accreditation panel and method

In order to support assessment of the quality-assurance system, the Danish Accreditation Institution has set up an accreditation panel comprising a number of experts. Among other things, members of the panel are skilled within management and quality assurance at institution level, and they are familiar with the higher education sector and with relevant labour-market conditions and student conditions.

The accreditation panel has read the documentation material, and together with employees from the Danish Accreditation Institution they have visited the institution to assess its quality- assurance system and practices. Annex 1 in the report repeats the main features in the method used in the follow-up accreditation.

Decision

As an independent body, the Accreditation Council makes a decision on the accreditation of the higher education institution. The Council decides whether the quality-assurance system of the institution justifies positive accreditation, conditional positive accreditation or rejection of accreditation.

This report and its assessments form the basis for the decision by the Accreditation Council.

Overall assessment and recommendation

In the initial accreditation, the Panel found several problems in the organisation of ITU's quality assurance. In 2014, the Panel found that ITU collected the various data separately on the individual study programmes and not as part of ongoing monitoring of the whole study programme. The problems were also related to quality assurance of the programmes' research base, the programmes' relevance and the pedagogical management of a diverse student body. It is the Panel's view that since the initial accreditation ITU has worked hard and systematically to address the issues raised in the initial accreditation. Thus the Panel notes that ITU has made several positive changes and improvements in its quality-assurance system.

In 2014, the different sources of information concerning the individual study programmes were collected and analysed separately and not as part of ongoing monitoring of the whole study programme. In order to monitor the individual study programmes, ITU has now developed and implemented an annual Study Programme Report, which includes all relevant information about the individual study programmes in a single coherent report. The Study Programme Report contains information such as key figures, including VIP/DVIP ratios, results from evaluations, reviews with external experts and dialogue with Employers' Panels. Heads of Study Programmes are responsible for day-to-day operation of ITU's individual study programmes and for writing and following up on the Study Programme Reports. The Panel has seen good examples of how the Study Programme Reports are used to detect and follow up on issues when they occur. Furthermore, the Panel has seen how the issues detected in the individual Study Programme Reports are reported and followed up in an Education Portfolio Report, which serves as management information about ITU's eleven study programmes. Thus, the Panel views the Study Programme Report and the Education Portfolio Report as major improvements of ITU's quality-assurance system.

In 2014, ITU already had a well-functioning course evaluation system, which was used to ensure feedback on the quality of the individual courses. However, student evaluation of entire study programmes and final projects did not take place. ITU has now developed procedures for these evaluations, and these were implemented in 2016. The Panel has seen the results from the first evaluations of entire study programmes and notes that they give ITU relevant and useful knowledge about how students evaluate the programmes as a whole.

In the initial accreditation, the Panel found that ITU was not ensuring that all study programmes had a sufficient research base. The Panel found that ITU lacked a clearly defined standard for the ratio between internal and external lecturers. ITU also lacked clear procedures for course manning that could identify when study programmes had deficiencies in the research base. ITU has since adopted and implemented standards and procedures for the use of external lecturers as part of ensuring the research base of the study programmes. In 2015, ITU adopted a new Quality Policy, which includes specific goals concerning the research base of the study programmes. The Panel has seen how ITU is working towards this goal by annually increasing the ratios on the study programmes that do not yet meet the standard. The Panel has also seen how the course manning system has been improved so that all study programmes are manned four semesters ahead, and how the course manning plan is linked to a recruitment plan to ensure that new scientific staff are hired in time when deficiencies in the research base occur. To ensure the research base further, ITU has introduced a new goal, according to which only internal lecturers are to supervise final projects. The Panel finds that ITU has taken several appropriate initiatives to ensure that all study programmes have a sufficient research base.

In 2014, the Panel found that the individual study programmes did not receive feedback from employers on an ongoing basis. This was particularly a problem for study programmes with high unemployment. ITU has now developed a systematic dialogue with employers on all study programmes. In 2015, ITU established one executive-level Employers' Panel and seven programme-specific Employers' Panels, all of which have met twice a year to discuss the relevance of the individual study programmes. ITU has developed a template for the Employers' Panels, which among other things ensures that they give their views on the unemployment situation and the employability of the graduates from the study programme. The Panel has also seen how feedback from the programme-specific Employers' Panels and unemployment figures are reported and followed up in the annual Study Programme Report, and the Panel is impressed with ITU's systematic dialogue with employers in order to ensure the relevance of the study programmes.

In the initial accreditation, the Panel criticized ITU for not having established an institutionalized strategy on the pedagogical aspects of teaching a diverse student body on the MSc programmes, nor having adopted systematic approaches to this effect. ITU has since implemented a new policy and new procedures for handling student diversity on the MSc programmes. In the new policy for student diversity, ITU addresses student diversity through a number of initiatives, such as different admission tracks, and an admission memo to get better information about the educational backgrounds of the students admitted in order to identify challenges with regard to admission. Furthermore, ITU has introduced a semester workshop on all the study programmes to involve the teachers in discussions about student diversity. Based on the documentation and the site visits, it is the Panel's view that these workshops serve as a good forum for discussions about student diversity, including didactic tools to manage student diversity. However, the Panel finds that as far as pedagogical aspects are concerned the semester workshops are not yet used to systematically discuss didactical challenges which may occur when teaching students with different educational backgrounds. Currently, pedagogical issues are primarily dealt with by the individual teachers, and it is the Panel's view that ITU would benefit from exchanging experience and sharing pedagogical approaches among the teachers. Thus, it is the Panel's view that ITU still faces a challenge in this area. However, the Panel finds that ITU has developed tools to handle student diversity, and the Panel is confident that ITU will gradually use these tools to discuss the pedagogical aspects of student diversity more systematically in the future.

It is thus the Panel's view that ITU has taken several important steps with regard to a more systematic and institutionalized approach to quality assurance. The annual Study Programme Reports provide systematic information, which is followed-up and discussed with students and lecturers in the Subject Area Teams and Board of Studies, and it is the Panel's view that lecturers and students in general are engaged in quality-assurance work at the institution. ITU has established well-functioning procedures to ensure the research base and a close and systematic dialogue with prospective employers. ITU has also defined a policy and developed a practical approach to handling student diversity. As noted, the Panel believes that, despite the steps already taken to this effect, the institution would benefit from a stronger focus on the pedagogical aspects of teaching a diverse student body and hence the institution should further develop the systematic approaches to address these pedagogical challenges.

Overall, the Panel is impressed to see how ITU has addressed the issues from the initial accreditation thoroughly and systematically.

On the basis of these assessments, it is recommended that ITU is awarded a positive accreditation.

Background information

Description of Expert Panel

- Júlio Domingos Pedrosa da Luz de Jesus (Chairman), Professor and former Vice Chancellor at the University of Aveiro in Portugal. Júlio Pedrosa has been associated with the EUA - Institutional Evaluation Programme since 2004, where he has chaired several evaluation panels.

- Kristine Bacher, MSc in Mathematics and Geography from Roskilde University. Kristine Bacher has participated in evaluation panels with the EUA - Institutional Evaluation Programme and has been a member of the Academic Affairs Committee in the European Students Union.

- Fiona Crozier, Head of International, Quality Assurance Agency in the United Kingdom. Fiona Crozier has previously been the Director of Quality at University College Cork in Ireland and Vice President of the European Association for Quality Assurance (ENQA).

- Hans-Ulrich Heiss, Professor of Computer Science, Technische Universität in Berlin. Hans-Ulrich Heiss is the Chairman of the Association of Engineering and Computer Science Faculties, and a board member of the German Accreditation Commission for Quality Management Systems (ASIIN e.V.).

- Tom Togsverd, CEO at Togsverd Consult. Tom Togsverd was previously the Director General of the Federation of ICT and Electronics at the Confederation of Danish Industry.

Members of the team from the Danish Accreditation Institution

A project team from the Danish Accreditation Institution has been responsible for the process and the methodology used in the institutional accreditation:

- Steffen Westergård Andersen, Director of Operations, Universities and Educational Institutions of Arts and Culture (Project Owner)
- Jan Vernholm Groth, Accreditation Officer (Project Manager)
- Petra Frydensberg, Accreditation Officer
- David Metz, Special Advisor
- Andreas Fuglsang Olsen, Project Assistant

Criteria I and II:
Quality policy and strategy as well as management and organisation

It is the Panel's assessment that ITU fully complies with the criteria.

In the initial accreditation in 2014, the Panel recognized that generally ITU was collecting and analysing relevant information about the study programmes such as key figures and course evaluations. However, the Panel was concerned that the different sources of information were collected and analysed separately and not as part of ongoing monitoring of the entire study programme. Furthermore, it was the Panels' view that the Head of Studies was the only person who had access to all relevant information about ITU's eleven study programmes. The Panel was concerned that this made the system very vulnerable because it relied so much on just one person (Accreditation Report 2014, p. 9).

Since the accreditation in 2014, ITU has implemented a new Study Programme Report, which collates all relevant information on the individual study programmes, including key figures, course evaluations, programme reviews with external experts and input from Employers' Panels. In addition, ITU has implemented an Education Portfolio Report consisting of information from all the Study Programme Reports. The eleven Heads of Study Programme now have day-to-day responsibility for their study programmes and they are responsible for writing the Study Programme Reports.

In the initial accreditation, the Panel found that ITU already had a well-functioning course-evaluation system, which was used to ensure the quality of the individual courses. However, entire study programmes and final projects were not evaluated. ITU has now developed and implemented procedures for evaluations of entire study programmes and final projects.

As a part of restructuring the entire quality-assurance system, ITU has also decided to adopt a new Quality Policy. For this reason, the Panel discussed ITU's new Quality Policy as part of the follow-up accreditation. The Panel also had focus on the use of Study Programme Reports and the Education Portfolio Report. The Panel was especially interested in understanding how the different aspects of information in the quality-assurance system are collected in the reports, and how responsibilities are divided between the different management levels. Finally, the Panel focussed on how teachers and students are involved in quality assurance of the study programmes.

Quality Policy

ITU adopted a new Quality Policy in November 2015. The Policy unifies all the different management goals concerning ITU's eleven study programmes, including goals from the Development Contract and ITU's overall strategy, into a single set of goals, shared by all the University's programmes. The Quality Policy has three Quality Policy Areas:

1) Recruitment and Admission of Students
2) Teaching and Learning
3) Graduates' Careers

For each policy area, the Quality Policy defines a number of standards and states who is responsible for the standards. Each standard also has a description of alarm-handling processes describing the corrective steps if the standard is not met (Self-Evaluation Report, pp. 53-113).

In the initial accreditation in 2014, the Panel noted that ITU had a number of different strategic documents describing the goals for the development of the institution and quality assurance of the institution's education activities. For this reason, the Panel has looked into how the goals from ITU's

different strategies have been unified in the new Quality Policy. For instance the Panel notes that the Teaching and Learning policy area includes goals from the Development Contract about course evaluation, completion time and student diversity. The policy further defines a number of standards reflecting these goals. For instance, in order to comply with the goal for completion time in the Development Contract, the Quality Policy states that *"IT University of Copenhagen will reduce the average overrun of study time for its graduates in 2015 by 0.5 months compared with 2011; 1 month in 2016 compared with 2011 and 1.6 months in 2017 compared with 2011"*. The Policy further states that every programme must meet its specific target set in the annual Study Programme Report. If the goal is not met, a number of actions must be taken. For instance, the location of issues causing delay must be identified, and an action plan must be developed for how to handle the issues (Self-Evaluation Report, p. 95).

The Panel is pleased to see that ITU has adopted a new Quality Policy unifying all the different management goals concerning ITU's study programmes. The Policy connects the strategic goals in ITU's strategy and Development Contract with operational goals for all study programmes in the Quality Policy. Further, the three policy areas and the related standards cover the study programmes' research base, the programmes' level and content and the programmes' relevance. The Policy defines clear standards for each policy area, and follow-up procedures if the standards are not met. In the Panel's view the new Quality Policy is an improvement towards a coherent quality-assurance system.

Management and organisation

The Vice Chancellor is responsible for the Quality Policy, and implementation of the Policy takes place through processes anchored in the Executive Management (Self-Evaluation Report, p. 79).

Operational responsibility for the quality work is placed in the Education Group, which is a group of managers with different responsibilities related to quality work at the institution. The Education Group includes the Head of Studies, the Head of Department, the Head of Research and Learning Support, the Head of Student Affairs and Programmes, and the Head of Communication. The Education Group is responsible for writing an annual Education Portfolio Report, extracting the essential information from the individual Study Programme Reports. Furthermore, the Education Group is responsible for holding annual Quality Status Meetings with the eleven Heads of Programme based on their Study Programme Reports.

ITU's eleven study programmes are organised in four Subject Area Teams (SATs) according to their academic field: Business, Digital Communication, Games, and Software. For example, the BSc in Software Development, the MSc in Software Development and the Professional Masters in Software Engineering are organised in the SAT for Software. The SATs consist of Heads of Study Programme for the individual study programmes and a student representative for each study programme. Each SAT chooses a Head of Study Programme and a student representative for the Board of Studies, which the Head of Studies chairs.

The faculty at ITU is organised in one Department which is divided into five sections. The Head of Department has overall responsibility for the Department and for allocating resources to the programmes. Thus, the ITU is organised in a matrix structure in which researchers from the five sections are allocated to the eleven study programmes. Every section has a Head of Section who is in charge of the faculty within the section. The Head of Department is overall responsible for *the course manning process* which outlines who is to teach which courses. The Head of Department is also responsible for employing staff and for quality assurance of the lecturers' academic and teaching competences. The Re-

search and Learning Support offers courses, seminars and individual support to improve lecturers' teaching competences.

In the initial accreditation in 2014, it was the Panel's impression that ITU's quality organisation was strongly centred around the Head of Studies, because he was the link between the education activities, the Management and the Education Group. The Panel saw this as a weakness because information was not sufficiently spread and discussed in the organisation, and in the Panel's view this made the system vulnerable (Accreditation Report 2014, p. 24).

The Panel notes that the individual Heads of Study Programme have been given a strengthened and more formal role and are now responsible for day-to-day monitoring and follow-up if the standards in the Quality Policy are not met by their study programme. This role is executed in relation to the Study Programme Reports, which are described below.

Procedures for Study Programme Reports and Education Portfolio Report

To support its systematic quality-assurance work, ITU has developed templates for two annual key reports containing information about the individual programmes and implementation of all the standards set out in the Quality Policy:

- The Study Programme Report, which is written by the individual Heads of Study Programme
- The Education Portfolio Report, which is based on the Study Programme Reports and written by the Education Group.

Study Programme Reports

The Study Programme Reports include information about the individual study programmes:

- Primary Quality Data, including drop out, completion and delay, VIP/DVIP ratios (from 2016), unemployment and private-sector employment.
- Admission Memo, including number of applicants and number of admitted students.
- Course Evaluations (all courses are evaluated every semester).
- Student evaluations of entire study programmes (ITU conducted the first evaluations for the BSc and MSc programmes in 2016).
- Evaluations of final projects and other projects (from 2016).
- Programme-specific Employer's Panel Reports.
- Programme Review Report (all study programmes are reviewed by external experts every fifth year. So far four study programmes have been programme reviewed).
- Programme-specific Graduate Survey Report (conducted every third year).
- Study Environment Assessment (conducted every third year).

(Self-Evaluation Report, p. 13; p. 17)

All the standards in the Quality Policy are documented in the reports and scored as red, yellow or green, and actions have to be described for red or yellow assessments. The reports also contain an action plan based on a summative analysis. In future reports there will also be a follow-up on the action plan of the previous period.

Before the Study Programme Report is submitted to the Education Group, the relevant Subject Area Team is heard. The final Study Programme Report is also sent to the Executive Management and the relevant programme-specific Employers' Panel (Self-Evaluation Report, pp. 13-14).

Education Portfolio Report

The Education Portfolio Report contains summary information from all the Study Programme Reports and gives a status of how the individual programmes are performing relative to the standards in the Quality Policy (Self-Evaluation Report, p. 173-192). The Education Group has individual Quality Status Meetings with the

Heads of Programme on their Study Programme Reports before drafting the Education Portfolio Report. At these meetings, the Study Programme Reports are reviewed and the proposed Action Plans discussed. ITU explains that the Study Programme Reports' summative analyses and action plans should be seen as conclusions of the discussions in the Education Group, as the Reports are only final when the Education Group and the Head of Study Programme agree on the action plan (Audit trail 4, p. 12).

The Education Portfolio Report is submitted to the Executive Management and the executive-level Employers' Panel after a hearing in the Study Board. The report is discussed at a Portfolio Status Meeting between the Executive Management and the Education Group (Self-Evaluation Report, p. 14).

ITU's Executive Management makes decisions regarding ITU's study programmes based on the Education Portfolio Report. The decisions are documented in a Decision Memo. Furthermore, the ITU Board of Directors reads and discusses the Education Portfolio Report and questions the Executive Management about their follow-up actions (Self-Evaluation Report, p. 83).

All the processes in the Quality Policy are described in a computer-generated annual wheel, which ensures the flow between the different tasks (Self-Evaluation Report, p. 86).

In the initial accreditation in 2014, the Panel noted that ITU collected and discussed key information such as course evaluations, key figures, dialogue with Employers' Panels and programme reviews with external experts in different contexts. Thus, it was the Panel's view that the different sources of information were collected and analysed separately and not as part of ongoing monitoring of the entire study programme. Therefore, the Panel had focus on how the different parts of the new quality-assurance system are connected and feed into each other.

During the site visit, ITU illustrated how the different tasks (Primary Quality Data, Admission Memos, Employers' Panel Reports and so forth) are carried out and feed into the Study Programme Reports, which in turn feeds into the Education Portfolio Report.

The Panel asked the Management about how the programme reviews with external experts connect to the Study Programme Reports. The Management explained that the programme reviews are followed-up in the Study Programme Reports. Further, the Panel observed how the Employers' Panels make an annual report with recommendations that feed into the Study Programme Reports.

During the site visit, the Panel got the impression that all management levels were deeply engaged in the quality assurance system and happy about the new reporting system, which gives them a better overview of what is going on the individual study programmes and better tools for following up on detected issues. Although the system is fairly new, it builds on existing quality assurance elements and integrates them in a coherent system.

Thus, it is the Panel's view that the new Study Programme Reports and Education Portfolio Report connect all the relevant information on the individual programmes in a coherent report that is discussed and followed up on at all Management levels and in all fora at the institution, including the Board of Studies and the Subject Area Teams (SATs).

The Panel was also interested to explore ITU's new procedures to evaluate entire study programmes and projects. In the initial accreditation, the Panel found that ITU already had a well-functioning course-evaluation system, which was used to ensure the quality of the individual courses. However, entire study programmes, final projects and other projects were not evaluated.

ITU developed and implemented procedures to evaluate entire study programmes and final projects (bachelor projects and master thesis) in early 2016, while procedures to evaluate other projects will be developed during spring 2016. The results from the three evaluations will be included in future Study Programme Reports (Self-Evaluation Report, pp. 44-45).

The Panel has seen the results from the first evaluations of entire study programmes and notes that they give ITU valuable knowledge about how students evaluate the programmes as a whole. However, the Panel also noticed that only very few students answered the questionnaire (Audit trail 4, pp. 4-11). The Panel is confident that ITU will work to increase the number of respondents in the future. The Panel notes positively that information from the new evaluations will be included in future Study Programme Reports.

The use of the Study Programme Reports and the Education Portfolio Report

In 2015, the first round of Study Programme Reports was carried out. This was followed by a trial run of the Study Programme Quality Status Meetings between the Education Group and the Heads of Study Programme for each of the eleven study programmes. This was again followed by a trial run of the Education Portfolio Report process and the Portfolio Quality Status Meeting between the Education Group and the Executive Management (Self-Evaluation Report p. 11; Audit trail 4, p. 12).

The Panel has analysed the Study Programme Reports from four different study programmes which were selected for audit trails:

- MSc in Digital Design and Communication (DDK)
- BSc in Digital Media and Design (DMD)
- Professional Master in IT Management
- MSc in Software Development and Technology (SDT)

The Panel notes that the four reports contain goals from the Development Contract related to the individual study programmes and Primary Quality Data, as well as information about how the programmes perform with regard to the standards.

The Heads of Study Programme comment on the red and yellow scores in the Reports. The Reports also contain a summary analysis and an action plan for follow-up on each of the identified issues.

Table 1 (see next page) presents an overview of the follow-up on the red scores in the four Study Programme Reports the Panel examined. For an instance, it shows that DDK has received a red score because the unemployment rate is above ITU's standard. For this reason, the issue has been discussed in the Employers' Panel. In their report, the Employers' Panel recommends stronger focus on coding skills and project management in the study programme. Furthermore, the chairman of the Employers' Panel has been involved in planning a semester and the introduction of new students (Audit trail 2, pp. 4-14).

Two study programmes (DDK and SDT) have experienced problems with average completion time. In these cases, the Report states that the study progress reform will solve the problem.

The Reports also show that two study programmes received red scores because they are below the target of VIP's to teach the programmes. According to the action plan, measures are to be taken in order to adjust course content or hire new staff for the two study programmes.

Based on the analysis of the four Study Programme Reports, it is the Panel's view that these Reports are an effective tool for detecting and following up on critical issues in the study programmes.

Table 1. Study Programme Reports – red scores and action plan (Audit trail 4)

Study Programme Report	Red scores	Initiatives described in the action plan
MSc in Digital Design and Communication	Unemployment is 17.3 % in 2015 and does not meet ITU's standard of 17 %. Furthermore the study programme is affected by the national dimensioning model and must reduce its intake.	The Employers' Panel has met to discuss the issue. The Head of the Employers Panel has talked to new DDK students at an introduction. There is collaboration with a new liaison officer about a catalogue of potential external collaboration options for DDK Students (p. 25; 34).
	The study programme rejects well-qualified students.	The programme cannot admit more students (p. 28).
	Completion time within the scheduled time is 63 % and does not meet the standard of 70 %.	It is expected that the study progress reform will make this point redundant from 2016 (p. 32).
BSc in Digital Media and Design	5 out of 8 courses in the course evaluations have a score below the standard 4.75 (on a scale from 1 to 6).	Follow-up initiatives are described for the 5 courses with low scores. For instance a dialogue between Head of Programme and lecturers has been carried out to address the problems concerning a course. At another course a new method of examination will be introduced to address the problems (pp. 47-48).
	The current manning of courses for spring 2016 yields a ratio of 54 % VIPs compared to the target of 71 %.	In collaboration with the Head of Studies and Head of Department, it is Head of Programmes responsibility to analyse available teaching competences in relation to programme curriculum, and produce a plan with suggested measures to improve the VIP/DVIP ratio. Suggested measures will be either adjustments in course content to match available competences or competence specifications for staff recruitment (p. 55).
Professional Master in IT Management	The study programme has intake twice a year but there are not enough students at both intakes to make it beneficial for both students and the University.	To increase the number of students (40 students twice a year), continuous communication and marketing by the communication department are needed (p. 73).
	There are not enough VIPs who are able to teach on the master programme.	In order to increase the number of faculty being able to teach on the master programme, faculty with research experience within IT management and leadership is being considered (pp. 73-74).
MSc in Software Development and Technology	Average delay was 9.4 months in 2015 compared to the target 9.2 months.	This is an improvement compared to the previous years and it is connected to admitted students having better skills. It is expected that the progress reform will improve the numbers in the years to come (p. 87).

The Panel has looked at minutes from the Quality Status Meetings and the SAT meetings at which the four reports were discussed. The minutes show that all the red scores were on the agenda for Quality Status Meetings in October 2015 and SAT meetings in December 2015 (Audit trail 4).

The Panel has also looked into the Education Portfolio Report from 2015 to see how the Study Programme Reports have been followed up on at Executive-Management level. The Education Portfolio Report from 2015 mentions a number of challenges which are addressed in the action plan and in the Education Group's recommendations to the Executive Management, e.g.:

- Some programmes have low employment and are affected by the national dimensioning model. It is stated that, with the new programme-specific Employers' Panels, ITU has a better opportunity to develop the programmes for the current and future job market.
- Lack of possibilities to hire the necessary number of new VIPs with the right qualifications. The Head of Department is responsible for investigating how to increase the VIP/DVIP ratio for 2016 and how to maintain a higher VIP/DVIP ratio for the coming years.
- To investigate how to enhance systematic work on diversity on the MSc programmes.

(Self-Evaluation Report, pp. 138-140)

The Panel finds that there is a consistency between the issues raised in the individual Study Programme Reports and the action plan in the Education Group Report. Thus, issues like low employment and research base, which have been detected in the Study Programme Reports, are followed up in the Education Portfolio Report. Since the Panel's analysis is based on the first round of reports, it is not possible for the Panel to tell whether the planned actions will all be followed through. Based on discussions with the Executive Management and the Education Group, the Panel is confident that ITU will detect and act on critical issues when they occur.

Teacher and student involvement in the quality-assurance system

In the initial accreditation in 2014, the Panel found good examples of a well-functioning bottom-up quality culture on some study programmes. However, it was the Panel's view that ITU could benefit from a more systematic and institutionalized approach to quality assurance, which could support and further develop the quality culture.

In 2015, ITU implemented a semester workshop on all study programmes to discuss student diversity among the teachers (see Criterion IV for an elaboration on this issue). In addition to the semester workshops, the teachers on some study programmes explained on the site visit that they had cluster meetings for sharing knowledge – for instance teachers on the MSc programme in Digital Design and Communication emphasised that they have formed "clusters" and hold cluster meetings at which, among other topics, they discuss pedagogics and progression between courses. Each cluster is connected to one of the programme's specialisations and functions as a forum for sharing knowledge. The teachers on these study programmes valued this because it gave them information about other courses in a semester, as well as an opportunity to discuss topics across courses with their colleges. One of the external lecturers, who had participated in a semester workshop, also thought it had given him a better understanding of the programme as a whole.

It is the Panel's impression that the teachers in general were engaged in the quality of their courses. Thus, on the site visit the teachers told how they follow-up on the evaluations of their courses. However, some teachers expressed that they were critical towards the use of the written evaluation although all the teachers valued the oral evaluations with the students. Some teachers also told that they had been involved in the follow-up on programme reviews with external experts, and that they

considered this very meaningful. However, most teachers had not heard about the Study Programme Reports. A few teachers suggested that the communication about changes relating to quality-assurance activities in the system and the study programmes could be better.

On the site visit, the students mostly expressed that they were involved in quality-assurance work through course evaluations. The students in the SATs and the Board of Studies also told that they had been involved in discussions about course evaluations and Study Programme Reports. Some student representatives from the Board of Studies and the SATs expressed that it had previously been difficult for them to get access to key information about their study programmes. They therefore expressed great expectations to the new Study Programme Reports, which contain key figures and other relevant information about the study programmes.

It is the Panel's view that ITU has taken some important steps with regard to a more systematic and institutionalised approach to quality assurance. The annual Study Programme Reports provide systematic information which is discussed with students in the Subject Area Teams and Board of Studies. Student diversity is discussed on the semester workshops, and progression between the courses is discussed at the cluster meetings. Thus, it is the Panel's view that teachers and students are generally engaged in the quality assurance work at the institution, and that ITU has adopted a more systematic and institutionalized approach to quality assurance, which involves teachers and students.

Assessment of Criterion I and II

It is the Panel's assessment that ITU fully complies with the criteria.

In the initial accreditation in 2014, the Panel was overall concerned that the different sources of information were collected and analysed separately and not as part of ongoing monitoring of the entire study programme. It is the Panel's view that the new Study Programme Reports ensure that all relevant information on the individual study programme is collected and analysed in a coherent report. The Reports contain key information such as course evaluations, key figures, dialogue with Employers' Panels and programme reviews with external experts. ITU has also developed and implemented procedures for student evaluation of entire study programmes and final projects.

In the initial accreditation in 2014, the Panel was concerned that the system was vulnerable because it relied so much on the Head of Studies, who was the only person who had access to all relevant information about ITU's eleven study programmes. It is the Panel's view that the eleven Heads of Study Programme are now responsible for the day-to-day operation of their study programmes, and responsible for writing and following up on issues raised in the Study Programme Report. The Education Portfolio Report and the Quality Status Meetings ensure that problems are followed up on all management levels.

The Panel has also viewed ITU's new Quality Policy, which combines ITU's strategic and operational goals in a coherent document. The Policy contains clear standards and alarm-handling procedures to ensure follow-up if the standards are not met. The Panel has seen evidence that the Executive Management has taken action when critical issues are identified through quality assurance work. Thus, the Panel is confident that the Executive Management will also take action when incidents occur in the future.

Finally, it is the Panel's view that ITU has adopted a more systematic and institutionalized approach to quality assurance, not only through the Study Programme Reports but also through the semester workshops. This ensures that teachers and students are involved in ongoing discussions about the quality of individual study programmes.

Criterion III:
Programme knowledge base

It is the Panel's assessment that ITU fully complies with the criterion.

In the initial accreditation in 2014, the Panel assessed that ITU's high use of external lecturers was a challenge to the research base of the part-time master programmes and some of the BSc and MSc programmes, and that the University lacked ambitious formalized goals for the use of lecturers on its programmes. The course manning process was not systematically used to ensure the research base of the programmes, and the Panel was unable to find evidence that the University had made a written analysis and a multi-year plan which was clear about the research profiles of the lecturers it intended to recruit in coming years (Accreditation Report 2014, p. 35).

Since the accreditation in 2014, ITU has written a new Quality Policy that includes a university-wide as well as a programme-level standard for the ratio of external lecturers to internal. Furthermore, a new standard is that final projects must be supervised by an internal researcher. The course manning process has been revised, making it possible both to do long-term planning in accordance with the new standards and – by delegating to middle managers closer to the internal teachers – making it easier to include knowledge of teacher qualifications in the process. As an integrated part of the manning process, ITU now also maintains a long-term recruitment plan.

In the follow-up accreditation, the Panel reviewed the new standards concerning the research base of programmes and the revised procedures for course manning and recruitment.

Standards for research base

ITU has reformed both policy and procedures on how to ensure its programmes' research base substantially. In the revised policy, there is a new minimum standard across ITU on the balance between VIP and DVIP in teaching. ITU uses its own ratio of VIP/DVIP and sets a minimum, increasing from 2.22 in 2015 to 3.0 in 2018. For a particular programme, it can never be below 80 % of the minimum standard for the entire ITU (Self-Evaluation Report, p. 97).

When ITU calculates its ratio, it looks at the amount of ECTS points produced by students by attending a module (i.e. a course or a project/thesis). This means the ratio takes into account how many students attend a module in a given semester and how many ECTS points the module is rated for. ITU then multiplies these two numbers and finally distribute them as either "VIP" or "DVIP", depending on the division of responsibility for teaching between VIP and DVIP on that module. In effect, the indicator measures to which degree the student population's study activities are governed or initiated by teaching done by either VIP or DVIP; i.e. it measures (expected) student work hours (Self-Evaluation Report, p. 97).

The Panel notes that this way of calculating the ratio contrasts with the usual ratio defined and encountered by the Accreditation Institution at other universities, which looks at the number of teachers' working hours spent. Thus, ITU's ratio is not comparable with measurements at other universities, and because it depends on the number of students attending a course, it cannot be calculated for a programme until after course enrolment. The new standard can, however, be compared with the ratios reported for programmes in the initial accreditation in 2014. The current (2015) standards of 2.22 for all study programmes at ITU as a whole or 1.78 for an individual study programme are both higher than the measured ratios for six of ITU's ten study

programmes at the initial accreditation in 2014 (Accreditation Report 2014, p. 31). Thus the new standard indicates a significant progress since 2014.

ITU forecasts student enrolment on courses to estimate a prognosis for the VIP/DVIP ratio for a programme. After each semester, the actual VIP/DVIP ratio is calculated and recorded in the Study Programme Report. If the prognosis indicates a low ratio, ITU will transfer VIP from a programme with a high VIP/DVIP ratio. If the recorded VIP/DVIP ratio is too low for two successive years, the Head of Study Programme must propose a change in the curriculum in collaboration with the Department (Self-Evaluation Report, p. 97).

The Panel notes that changes in the curriculum affected by the VIP/DVIP ratio might also affect the level and content of the study programmes. However, the Panel is aware that ITU has a procedure for mapping learning objectives that will ensure that the level and content of the study programmes always meets the qualification framework.

The Panel recognises that ITU has adopted its own method of calculation of the VIP/DVIP ratio that measures the degree to which the student population's study activities are governed or initiated by teaching done by either VIP or DVIP. The Panel views this as an indicator that can be used to monitor the research base of the study programmes. Further, it is the Panel’s view that ITU has set an ambitious and realistic quantitative standard for the VIP/DVIP ratio as compared to the practice documented during the initial accreditation in 2014. Taken together with the revised organizing of the manning process (see the following sections) it will ensure the research base and at the same time take into account that ITU will use external teachers to ensure that practice is incorporated in the study programmes.

The Panel has also noticed that ITU has decided on a number of additional standards to ensure the research base. The Quality Policy mentions a standard on contact and feedback on BSc and MSc courses, which governs a minimum for teaching hours in relation to ECTS points. It predicates a minimum amount of teaching on mandatory courses corresponding to 3 hours and 50 minutes of contact time weekly for a 7.5-ECTS-points course during a 14-week semester (Self-Evaluation Report, p. 100).

Furthermore, the Policy has a new standard that only in exceptional circumstances can a DVIP supervise a final project on a study programme. An exception mentioned is when no publication channels exist for the subject (Self-Evaluation Report, p. 97).

The Panel notes that a considerable number of final projects were supervised by DVIP in 2015 and 2016 (Audit trail 1, p. 10). On the site visit the management told that this was an effect of the fact that the allocation of supervisors had taken place prior to full implementation of the new policy. The standard of only using DVIP in exceptional circumstances will be followed close in the future, supported by an increased awareness of the need to reserve VIP resources for supervising. By 2017, ITU expects the standard to be fully implemented.

In general, the use of DVIP must now be substantiated in a need for practice incorporation into the course or as an emergency solution when a VIP "becomes unavailable" at short notice (Self-Evaluation Report, p. 92). According to the standard on Research-based Course Design and Supervision, any DVIP who is responsible for a course must be associated with a VIP who can assist in planning/designing the course (Self-Evaluation Report, pp. 97-98).

A standard ITU labels "robustness" is that all parts of all courses which are mandatory for a student must be teachable by at least two VIP (Self-Evaluation Report, p. 97).

The Panel notes positively that ITU has decided to ensure the research base further by imposing these standards.

Procedures for course manning

Since the initial accreditation, ITU has revised its course-manning process. Through this process, a Course Manning Plan is produced for each semester. The purpose of the plan is to ensure that all courses on a study programme are research based. The new process for course manning follows three steps:

1. The individual Heads of Study Programme for ITU's eleven study programmes is required to do initial planning of course manning for the study programme he or she is responsible for. The initial plan is then sent to all relevant members of faculty, who can discuss it with their Head of Section. The Head of Section is responsible for personnel management of the faculty members of the section and for fulfilling teaching goals agreed with the Head of Department.
2. Teams of one Head of Section and one Head of Study Programme collaborate on a revised manning plan for each programme, after which the Head of Section forwards it to the Head of Department who is overall responssible for the research base on ITU's study programmes.
3. Based on the revised plan, the Head of Department meets with the Head of Research & Learning Support to discuss the VIP/DVIP ratio and the other measurements in the standards on research base (VIP as responsible for course and supervisors on final projects). They agree how to act on problems, discuss it with relevant parties and finally approve the plan.

(Self-Evaluation Report, p. 28)

The course manning plan also informs about the planning of recruitment and quality standards are considered (e.g. VIP/DVIP and number of VIP able to teach obligatory courses). The Head of Department is responsible for the recruitment plan. Both course manning and recruitment are planned four semesters ahead. At the end of each semester, a new semester is added to the plans (Self-Evaluation Report, p. 27).

In the initial accreditation in 2014, the Head of Department was responsible for course manning for ITU's eleven study programmes. Furthermore, it was not clear to the Panel when action had to be taken, because ITU did not have a standard that would show when a study programme had deficiencies in the research base.

The Panel notes that ITU's revised course-manning process is based on a close collaboration between the Head of Study Programme, who is responsible for the study programme, and the Head of Section, who is responsible for personnel management of the faculty members of the section. This brings the manning closer to the individual study programmes and the people who have the most detailed knowledge about the content of the courses and the lecturers who can teach them. Also, manning is discussed in relation to ITU's new standard for the VIP/DVIP ratio, and actions can be taken in due time because manning is done four semesters ahead and linked to a recruitment plan. The Panel sees the revised course manning process as a major improvement of ITU's quality assurance system that can help to ensure the research base of the study programmes.

The practice of course manning

The Panel drew up a request for an audit trail on research based teaching, detailing the practice of course manning and the recruitment strategy. Additionally, for the BSc in Digital Media and Design (DMD) and the Professional Master in IT Management (ILM), the Panel requested the course manning plan and recruitment plan. For the following site visit, the Panel requested to talk to main stakeholders in the two study programmes and to have a presentation of the course manning system.

During the presentation at the site visit, it became clear to the Panel how the system works and how it will work in the future.

The system is still in development, and in the documentation, course manning and the forecast, respectively, had been done in two separate spreadsheets. However, a new spreadsheet integrating both is about to be implemented. This will make it easier to monitor the VIP/DVIP forecast, and take corrective measures early, when appropriate.

In the two study programmes selected for the audit trail, the registered VIP/DVIP for the autumn semester 2015 were provided. The Professional Master in IT Management (ILM) is shown in figure 1.

Both study programmes were selected for previously having a poor VIP/DVIP ratio, but they are now both above the new minimum standard. One study programme is with 74 % above the overall standard for all of ITU of 71 % "VIP" (i.e. accumulated student ECTS points with a VIP as responsible). For the other, ILM, the ratio is 70 %, which is above the minimum for an individual study programme; 66 %.

The Panel discussed different challenges in the course manning process with the representatives from ITU. One issue is how to maintain an overview of which members of faculty can both teach a given course and are actually available to teach the course. The knowledge on capability resides in the main planning teams, Heads of Study Programme and Head of Section. Head of Section gets feedback from individual faculty members on availability, and knows plans for sabbaticals etc. It is possible that two planning teams can both want to use the same teacher for different courses, since several teachers can teach courses in several different study programmes. The representatives from ITU explained that such issues should be resolved in negotiations between the Heads of Section involved or ultimately by the Head of Department.

During the site visit, the Panel discussed with representatives of ITU the issue that when VIP teaching time is allocated for courses, it is necessary to reserve some time for supervision of the students' final projects. If this is not done, both the standard requiring VIP supervisors and the minimum VIP/DVIP ratio might not be adhered to. ITU explained that this is already taken into consideration in the planning phase.

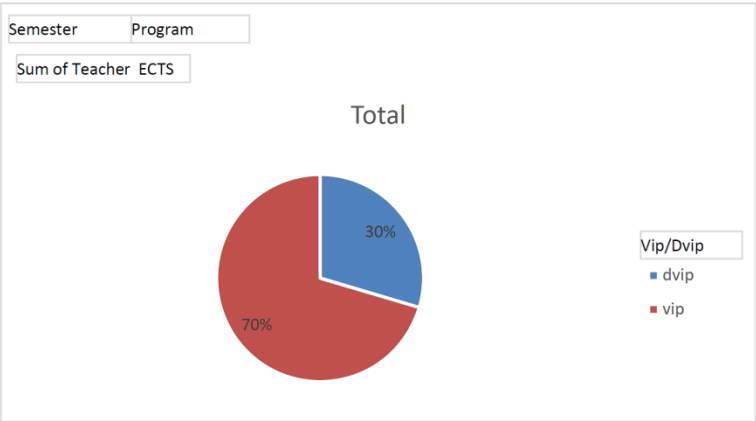
The Panel notes that a four-semester course-manning plan was available for both the sampled study programmes (Audit trail 1, p. 15; p. 60).

As mentioned, courses are monitored in the course manning plan for "robustness" (i.e. numbers from faculty or others able to teach it) and this may trigger an update of the recruitment plan, and if not the course

Figure 1. VIP/DVIP Professional Master in IT Management, Fall 2015 (Audit trail 1, p. 61).

Semester	Autumn
Program	M-nyILM

Row Labels	Sum of Teacher ECTS
dvip	487,875
vip	1162,125
Grand Total	**1650**



The VIP/DVIP-ratio average of all study programmes should be 2.44 = 71 % VIP coverage. coverage.
No study programme must have a VIP/DVIP ratio of less than 80 % of average VIP/DVIPratio, which means 0.8 * 2.44 = 1.95 = 66 % VIP

may be changed or shut down. The same may be the case if the VIP/DVIP ratio is too low.

The Panel discussed how, besides the teaching needs of course manning, the research strategy informs recruitment planning. The Head of Department explained that strategic priorities regarding selection of research areas play a very important role in prioritizing future recruitment. He gave examples of subjects that are prioritized, e.g. block chain databases.

The Panel notes, that a long-term recruitment plan covering more than two years is in place (Audit trail 1, pp. 49-57).

The Vice Chancellor explained that the new organisation of the course manning process, which is relatively decentralized as compared to previously, is a considerable organizational change, and it is likely to take some time to adapt to this.

The Panel notes the procedures imply new roles for several people in securing the research base through course manning and planning of faculty recruitment, and that it is to be expected that it will take some time before everything runs smoothly with observance of all deadlines. The demonstration of the new tools to support the process, and the existence of a four-semester plan, however, indicate that it can work. Overall the Panel finds that the new roles and tools strengthen the quality assurance of the programmes' research base and the organization's robustness.

Assessment of Criterion III

It is the Panel's assessment that ITU fully complies with the criterion.

ITU has followed up on the weaknesses pointed out in the initial accreditation in 2014 concerning inadequate measures to ensure the programmes' research base systematically and with a long-term perspective. A new policy with increasingly ambitious standards for the proportion of accumulated student credits VIPs should be responsible for has had, and will have, the effect of achieving a quantitatively better VIP coverage of the study programmes at ITU. Together with the involvement of Heads of Section in manning, bringing deeper knowledge of teacher qualifications into the process, this will strengthen the research base, since this standard influences both decisions on recruitment of VIPs and the number of courses for which VIP faculty is responsible. Likewise, the standard of only allowing DVIPs to supervise final projects in exceptional circumstances will ensure an important closeness to research for the study programmes. This has not been fully implemented in practice yet, but ITU representatives have stated that it will be, and that VIP resources will be reserved in the course manning procedure for supervising. This indicates that the requirements of this standard, which the Panel finds to be of great importance, will be brought into effect.

The fact that decisions on course manning are now decentralized to the teams of Heads of Section and Heads of Study Programme also makes the organization more robust than previously, when this was the responsibility of one person in central management. As already mentioned, this new organisation of the task can also contribute to heightening the quality of the research base of the study programmes, since decisions on manning are now made by managers closer to the faculty members, who presumably have more detailed knowledge of their strengths.

Finally, actions on deficiencies in the research base can be taken in good time, because manning is now done four semesters ahead and linked to a four-semester recruitment plan.

Criterion IV: Programme level and content

It is the Panel's assessment that ITU partially complies with the criterion.

ITU has a tradition for accepting students on its MSc programmes from a wide variety of educational backgrounds. Hence, the student body consists of professional bachelors, university bachelors from both foreign and Danish universities, and students with a bachelor's degree from ITU. ITU considers this student diversity a strength, but is aware of the challenges it can pose to progression and the academic level at the MSc programmes.

At the time of the initial accreditation in 2014, ITU had recently implemented a number of initiatives to address these challenges. The Accreditation Panel recognised that ITU was trying to respond to and deal with the issue. However, the Panel found that, although ITU had known about the challenges of teaching a diverse student body for fifteen years, since the first MSc programmes were introduced, the University could still benefit from a more systematic approach to the pedagogical aspects of teaching a diverse student body. The overall purpose of such an approach would be to ensure that all teachers have the didactic tools for teaching a diverse student body, so that the challenges and potentials of student diversity are met systematically in the pedagogical practice. The Panel emphasised that such a systematic approach was even more important given the high use of external lecturers who were not fully integrated into the research and learning environments at the institution. Furthermore, in 2014 the Panel found indications that student diversity might actually pose a challenge to the programmes' academic level (Accreditation Report 2014, p. 8 and p. 40).

Since the accreditation in 2014, ITU has rethought how to deal with the challenges related to student diversity, and formulated a policy and strategy that lay out ITU's new approach to student diversity. The University has also set in motion structural initiatives related to admission and the MSc structure, as well as pedagogical initiatives related to knowledge sharing on didactic tools.

In the follow-up accreditation, the Panel discussed ITU's policy and procedures for handling student diversity. The Panel decided to take a closer look at experience from the two MSc programmes with the most student diversity after admission – Software Development and Digital Design and Communication.

Policy for student diversity

ITU wants to continue admitting a significant proportion of the MSc students from outside ITU. ITU's development contract 2015-2017 with the Ministry of Research and Higher Education includes a goal for an annual intake of 230 MSc students who qualified at a Danish educational institution other than ITU. The annual intake of MSc students with a bachelor's degree from the ITU is expected to be 119 students (Self-Evaluation Report, pp. 404-405).

Since 2014, ITU has developed two key policy documents concerning student diversity: A policy, explaining ITU's conception of student diversity, and a strategy listing ITU's goals and initiatives on the issue.

ITU's approach to student diversity is based on a two-sided definition of student diversity described in *ITU policy concerning student diversity*, which was adopted in January 2016:

- *Progression diversity*, which arises when two students are in a learning situation concerning a specialised topic that is well understood by one student but new and challenging to the other student.

- *Diversity of professional disciplines*, which is when two students view the same learning situation from different perspectives due to differences in professional disciplines, and are able to contribute on equal terms.

(Self-Evaluation Report, pp. 410-411)

The policy states that progression diversity produces a challenging learning environment and should be minimised, while diversity of professional disciplines is valuable because it prepares students for collaboration in multi-disciplinary settings and therefore should be nurtured (Self-Evaluation Report, pp. 410-411).

The definition is reflected in ITU's strategic thinking on the issue: While progression diversity should be handled through structural changes of the MSc programmes and the admission requirements, diversity of professional disciplines should be handled through didactic tools (Self-Evaluation Report, pp. 22-23, p. 412, p. 443).

At the site visit, the Panel asked about the reasoning behind the definition of two kinds of student diversity at the meetings with the management. The management emphasised that the definition had made it possible to have a more systematic discussion about how to ensure progression at the MSc programmes, while at the same time safeguarding ITU's identity as a university with a diverse student body.

The Panel notes that ITU has constructed a two-sided definition of student diversity. The Panel understands progression diversity as a matter of the different educational backgrounds causing different *prerequisites* for progression, and diversity of professional disciplines as a matter of different educational backgrounds resulting in different relevant *perspectives* on the same learning situation.

The Panel acknowledges that the two-sided definition of student diversity can serve as a starting point for discussing and formulating a strategy on student diversity. However, the Panel finds that the definition can lead to a too rigid strategic thinking on how to handle progression diversity. As described above, ITU has an approach to student diversity in which the two kinds of diversity are juxtaposed with two kinds of action – structural and pedagogical initiatives, respectively. While the Panel recognises the relevance of ITU's efforts to reduce progression diversity through structural changes, the Panel finds that a certain degree of progression diversity is unavoidable when admitting students with diverse educational backgrounds. Therefore, progression diversity probably cannot exclusively be managed by structural means, but also needs to be addressed in teaching by means of didactic tools.

Finally, the Panel notes that the scope of the definition is limited. In making an overall characterization of student diversity in the MSc programmes, other kinds of diversity are relevant. For instance, students and teachers at the site visit emphasised that diversity of national backgrounds is a distinctive feature of ITU's learning environment.

Procedures and practice to manage student diversity

ITU's *strategy concerning student diversity* is included in the new Quality Policy and contains three focus areas:

- The structure and level of the MSc programmes
- Admission of students
- Didactic tools

(Self-Evaluation Report, pp. 93-94)

How far ITU is with developing or implementing the initiatives within each focus area varies. ITU informs that the initiatives in the strategy will have been implemented by the end of 2017 (Self-Evaluation Report, p. 91).

An account of ITU's procedures and practice is given below, ordered by the three focus areas.

Procedures and practice concerning the structure and level of the MSc programmes

One of the focus areas in ITU's work on student diversity concerns the structure of the MSc programmes, and how this structure supports progression and a proper academic level.

In 2007, ITU introduced its own BSc programmes, and this lead to a widening of the gap, in terms of academic prerequistes, between students with a BSc in IT and students with a different educational background. At the time of the accreditation in 2014, the Panel found indications that this gap could pose a challenge to the academic level (Accreditation Report 2014, p. 38; p. 44).

In 2014, ITU was aware of this challenge and had already taken initiatives to better ensure the level and progression on the MSc programmes for students with a BSc from ITU.

In its work since then, ITU has built upon these initiatives:

- ITU has continued the procedure on *mapping study programmes*, already in place in 2014, as a means of ensuring a proper academic level in accordance with the Danish Qualification Framework for Higher Education (Accreditation Report 2014, p. 39). The Quality Policy states that the mappings should be reviewed at least once a year (Self-Evaluation Report, p. 96).
- ITU has formulated a goal that all MSc programmes are to have different *admission tracks*, catering for different educational background: One IT-specialised track for the university's own BSc graduates and students with comparable backgrounds and another track for students from more diverse educational backgrounds (Self-Evaluation Report, pp. 93-94).
  These admission tracks were already in place at some of the programmes in 2014 (Accreditation Report 2014, p. 38).

Currently ITU is in the midst of considering a revision of the MSc structure that would entail a different way to ensure progression than by way of admission tracks. The revision would entail the establishment of a new fifth MSc programme, aimed at students with diverse educational backgrounds. The existing admission tracks for students with diverse educational backgrounds would then be restructured to fit in as one out of four specialisation tracks at the new programme. Further, the four existing MSc programmes would undergo a revision that would increase the level of specialisation and progression for the University's own BSc graduates and students with comparable backgrounds (Self-Evaluation Report, pp. 412-414).

The purpose of this revision would be to ensure that all MSc students experience the relevant academic progression as they transition from BSc to MSc level. Furthermore it would make it more transparent to both applying and graduating students, as well as employers, what degree and competence profile the individual student is graduating with (Self-Evaluation Report, pp. 412-414).

ITU informs that the revision of the MSc structure will be discussed by the Board of Studies and Subject Area Teams during 2016 (Self-Evaluation Report, p. 23).

The Panel finds ITU's efforts and plans to work on the MSc programmes' structure in order to better ensure progression and level to be relevant. The Panel finds that the outlined revision would, on one hand, reduce progression diversity at the individual programme and hence reduce the challenges associated with student diversity. On the other hand, the revision could also result in a less multidisciplinary learning environment, making it more difficult to gain the possible learning outcomes associated with student diversity. However, the Panel believes that there are ways in which to maintain a diverse learning environment, e.g. joint projects across the revised MSc programmes, as a possible way of taking

advantage of the students' diverse perspectives.

Procedures and practice concerning admission of students

Admission procedures and practice constitutes a second focus area in ITU's work on student diversity. ITU has a procedure for admitting students that was also in place in 2014. According to this procedure, two full-time teachers evaluate each applicant's grades and motivation for application, and the relevant Head of Study Programme participates in this procedure (Accreditation Report 2014, p. 39; Self-Evaluation Report, p. 24).

Since 2014, ITU has set two new initiatives in motion:

- Firstly, ITU has implemented the procedure of *admission memos*, in autumn 2015.
- Secondly, ITU plans to make a quantitative *follow-up analysis* on how admission groups perform later with regard to progress and employment, and expects that this data will be used in the Study Programme Reports in 2016 (Self-Evaluation Report, pp. 93-95; p. 24).

The admission memo is a tool for following up on how the latest intake of students corresponds to ITU's goals and standards regarding admission, and identify possible challenges and solutions in regard to admission. For instance, there exists a goal stating how many of the admitted MSc students who should have qualified at a Danish education other than the IT University of Copenhagen (The Self-Evaluation Report, p. 404; Audit trail 3, p. 5; p. 25; p. 30).

Following every student intake, the Head of Study Programme fills out an admission memo template that contains data on the number of applicants, number of students offered admission, and number of students admitted after early drop out (Self-Evaluation Report, p. 24; p. 89-90; p. 404).

If a goal or standard has not been met, the Head of Study Programme must explain the background for this and if necessary propose actions that could improve the situation (Self-Evaluation Report, p. 24).

The admission memos are distributed to the Executive Management, education group and the analysis department (Self-Evaluation Report, pp. 192 and 335). Information from the admission memo is also included in the study programme reports (Self-Evaluation Report, p. 13).

The Panel has seen three admission memos that concern the two MSc programmes with the most student diversity (Software Development and Digital Design and Communication). In the memos, the Heads of Study Programme reflect on relevant topics or challenges, such as how to adjust the intake of different admission groups, how to improve the admission procedure or how to prevent early dropout (Audit trail 3, app.1, 6 and 7).

In the admission memo concerning the MSc programme in Software Development from autumn 2015 the Head of Study Programme states that the intake of bachelor graduates from university colleges has been downscaled, because many did not have the basic knowledge necessary for the first semester courses (Audit trail 3, p. 25). Furthermore, the memo suggests arranging some meetings with the heads of the main university colleges in order to explore the possibilities for ensuring that their students have the qualifications for admission to ITU (Audit trail 3, p. 26). The following admission memo, from spring 2016, shows that this suggestion has been followed and that there is an ongoing dialogue with the university colleges about the need to communicate to their students which courses they should take if they later wish to be admitted to ITU (Audit trail 3, p. 33).

At the site visit, the Head of Study Programme said that the dialogue with the university colleges had been prompted by the admission memo and explained that it would be an advantage for the study programme to be able to admit university-

college bachelors with the necessary educational background.

In the Panel's view, one of the important tasks in relation to admission is to ensure that the priority of admitted students with a variety of educational backgrounds is met, while at the same time ensuring that the admitting students have the academic prerequistes that enable progression and ensure a proper academic level.

The Panel notes that all goals and standards concerning admission are cited in the admission memo, making the different priorities very visible. The Panel finds that this enables the Heads of Study Programme to reflect on and describe how the different priorities have been taken into account. Thus, the Panel finds that the admission memos work well as a device for reflection on the latest intake and identification of challenges and solutions in regard to admission.

The Panel finds ITU's thorough evaluation of applicants to be a relevant procedure that helps ensure that the students admitted are qualified. The Panel also finds ITU's plans to analyse how different admission groups perform later on in their studies and careers to be a good idea, since such information might provide input for future decisions on admission requirements.

Procedures and practice concerning semester workshops

The third focus area in ITU's work on student diversity concerns the pedagogical aspects of having a diverse student body.

In the initial accreditation in 2014, the Panel found that ITU was in need of a more systematic approach that could ensure that all teachers have didactic tools for teaching a diverse student body. The overall purpose of such an approach would be to systematically ensure that all teachers give due consideration to the use of didactic tools for teaching a diverse student body, so that the challenges and potentials of student diversity are met in the pedagogical practice. The Panel emphasised that this is even more important given the high use of external lecturers that are not fully integrated into the research and learning environments at the institution (Accreditation Report 2014, p. 8 and p. 40).

Since then, ITU has developed a concept of semester workshops, and this was tested during 2015 and 2016. The concept formalises the practice of teachers' seminars, that some of the study programmes had previously held prior to each semester (Self-Evaluation Report, p. 24).

ITU's *strategy concerning student diversity* states that: "In first semester activities with students of diverse backgrounds, the University must ensure that the teachers are aware of the diversity and have the right knowledge and didactic tools to address it" (Self-Evaluation Report, pp. 93-94). The corresponding quality standard requires that a workshop on coordination and pedagogics for each MSc programme is held prior to semester start, and that this workshop address the diversity and background of new cohorts (Self-Evaluation Report, p. 95).

In ITU's guidelines on semester workshops it is specified that pedagogical handling of student diversity should be discussed on at least one of the two yearly semester workshops (Self-Evaluation Report, p. 416). In order to support the dialogue at the workshops, the Learning Unit has developed different workshop models and made a section on didactic tools for handling diversity of professional disciplines on the existing Teaching & Assessment Wiki (Self-Evaluation Report, p. 24, pp. 418-442).

ITU states that the Head of Studies and the Learning Unit will continue to develop the semester workshops during 2016, and that it will evaluate how the faculty and students have profited from the workshops (Self-Evaluation Report, p. 25).

The Panel has seen minutes from three semester workshops, two of which concern the two MSc programmes with the most

student diversity (Software Development and Digital Design and Communication).

The minutes show that the issue of student diversity was addressed at the semester workshops, but not in a manner that fully mirrors the intentions described in the quality policy. Thus, none of the workshops put primary focus on the *pedagogical* handling of student diversity. Instead, the participants focused on initiatives in regard to admission, recruitment or specialisations. Moreover, the issue of diversity of professional disciplines did not take centre stage. Instead, other kinds of student diversity were discussed; progression diversity – particularly the difference in regard to general academic skills between bachelor graduates from university colleges and university bachelors – and gender diversity.

At the site visit, the Panel explored the participants' experiences with the semester workshops as well as with knowledge sharing on pedagogics in general. The management stated that the experience with the semester workshops so far should be seen as a first step in the process of creating awareness among the teachers about the need to discuss and share knowledge on student diversity.

The teachers mentioned that there are informal forums for sharing knowledge on pedagogics, for instance the cluster meetings. Some of the teachers said that they do not see a great need for more systematic knowledge sharing on didactic tools to deal with student diversity, while others thought this would be a good idea. Only some of the external lecturers had heard about the semester workshops.

The Panel finds that ITU has taken on the task of developing a more systematic approach to teaching a diverse student body by introducing semester workshops as a device for ensuring knowledge sharing on didactic tools to manage student diversity.

The Panel positively notes that the minutes of the workshops held so far show that focus has been on the kinds of student diversity that teachers experience as the most urgent or challenging for the MSc programme in question. While not fully in line with the policy concerning student diversity – in which diversity of professional disciplines is highlighted as the relevant theme for the workshops – this practice supports the overall goal of improving how ITU manages student diversity. It also supports a quality culture in which teachers participate in the formulation of relevant points of focus in ITU's work on managing student diversity.

Thus, the Panel finds that the semester workshops work well as a means of creating awareness among teachers about the need to discuss and share knowledge on student diversity. However, it is also the Panel's view that the semester workshops do not yet fully function as a device for ensuring that teachers have the right knowledge and didactic tools for addressing student diversity.

Firstly, the minutes from the previously held workshops make it evident that it is far from always the case that the issue of the *pedagogical* handling of student diversity is the main focus, or a point of focus at all, at the semester workshops. This indicates that the teachers do not use the workshops as a forum for sharing knowledge on didactic tools.

Secondly, none of the policy documents on semester workshops clarify how external lecturers should be included in the workshops or otherwise gain the right knowledge and didactic tools for managing student diversity.

In conclusion, the Panel finds that the introduction of the semester workshops is an important step towards developing a more systematic approach to teaching a diverse student body. However, the Panel finds that the University still has some way to go when it comes to ensuring that all teachers share knowledge on, and have the didactic tools for managing student diversity.

Assessment of criterion IV

It is the Panel's assessment that ITU partially complies with the criterion.

The Panel would like to stress that it views the diversity of educational backgrounds as part of ITU's identity and brand. The Panel recognises that the task is complex, since ITU must find ways to address the challenges of the diversity of educational backgrounds, while at the same time safeguarding the advantages of this diversity.

The Panel is pleased to see that ITU has taken the issue of student diversity seriously and set a range of initiatives in motion. The Panel notes that ITU has developed a broad approach to student diversity, consisting of structural as well as pedagogical initiatives. The Panel finds this broad approach to be a relevant way to improve the academic progression and level in the study programmes.

The Panel finds that ITU now has a strategy in place that clearly sets the course for the University's work on student diversity. The Panel notes that a certain degree of progression diversity is unavoidable when admitting students with diverse educational backgrounds. Consequently, the challenges related to progression diversity probably cannot be handled solely through structural initiatives, but must also be handled pedagogically in the teaching and learning situations.

The Panel finds that the admission memos work well as a procedure for reflecting on and, if needed, following-up on the priority of admitting qualified MSc students.

The Panel finds that ITU's introduction of semester workshops is an important step towards developing a more systematic approach to the pedagogical aspects of dealing with student diversity.

Even so, the Panel also finds that the University still has some way to go when it comes to ensuring that all teachers have and share the didactic tools to manage student diversity. Firstly, pedagogics and didactic tools to manage student diversity are not the main theme at the semester workshops, as was the intention. Secondly, ITU still has no systematic way of ensuring that external lecturers are involved in knowledge sharing on didactic tools for teaching a student body – neither through semester workshops nor through other procedures.

The Panel would like to emphasize that its impression from the site visit is that the teachers are very engaged in how they deal with student diversity in daily teaching. Moreover, the workshops held so far show that the teachers have engaged in discussions on the kinds of student diversity that they experience as the most urgent and challenging. This forms a good basis for further developing this model of sharing knowledge on pedagogical management of student diversity so it can accommodate and facilitate the teachers' involvement in the issue of teaching a diverse student body.

Furthermore, it is the Panel's impression from the site visit that the students predominantly view student diversity as a positive asset of ITU's learning environment, and experience that they learn a lot from working together with fellow students who come from different educational backgrounds.

In conclusion, it is the Panel's assessment that ITU has set in motion a range of relevant initiatives that considerably improve its handling of student diversity. However, ITU still has a way to go in ensuring that all teachers are involved in the exchange of knowledge and experience concerning the use of didactic tools for teaching a diverse student body.

Criterion V: Programme relevance

It is the Panel's assessment that ITU fully complies with the criterion.

In the accreditation in 2014, the Panel saw that ITU had strong focus on the relevance of the study programmes. However, the Panel also found that ITU could benefit from more effective and systematic ways of following up on employment issues. In addition, the individual study programmes did not get feedback from the Employers' Panel on an ongoing basis.

In 2015 ITU established one Executive-Level Employers' Panel and seven programme-specific Employers' Panels. ITU has also developed a template for feedback from the Employers' Panels which ensure that they give their views on the unemployment situation and the employability of the candidates from the study programmes. Unemployment figures are further collected and analysed in the annual Study Programme Reports and in the programme reviews with external experts.

During the follow-up accreditation the Panel had a special focus on ITUs new Employers' Panels and the use of the Employers' Panel Reports.

Standards and procedures to ensure programme relevance

Since the initial accreditation ITU has established a two-level model with an Executive-Level Employers' Panel and seven programme-specific Employers' Panels. The seven programme-specific Employers' Panels discuss the individual study programmes while the executive-level Employers' Panel discusses the overall portfolio of study programmes.

The new programme-specific Employers' Panels in some cases cover BSc and MSc programmes that are closely related. For instance, the same panel covers BSc in Digital Media and Design and MSc in Digital Design and Communication. The part-time programmes (professional masters) each have their own panel, as they are considered too different to be covered by the same panel (Self-Evaluation Report, p. 36).

Each of the eight Employers' Panels consists of 5-7 employers' representatives at frontline manager level (programme-specific Employers' Panels) or CEO-level (executive-level Employers' Panel). All the panels meet twice a year, in spring and autumn (Self-Evaluation Report, pp. 479-482).

Once a year, the programme-specific Employers' Panels compiles a report documenting its views and recommendations for the individual programmes. As input to the writing of the report, ITU's administration provides the Panel with information about the context of the study programme, such as goals and quality standards that apply to the study programmes in question as well as primary quality data containing all relevant key figures for the study programme.

ITU has developed a template for the Employers' Panel reports to ensure that all Panels comment on the unemployment rates of the individual programmes. The template also obliges the Panels to comment on the so-called Employment Tickets; a description of a skill or expertise for which it is difficult to find employees and that is currently in demand on the labour market. The purpose of the tickets is to serve as inspiration in the development of the study programme in question (Self-Evaluation Report, p. 36). Furthermore, the Panel has to comment on the depth of the study programme and the relevance of the curriculums. Finally, the Panel has to make a SWOT analysis of the study programme and give its recommendations (Self-Evaluation Report, pp. 200-208).

The report is submitted to the Heads of Study Programme, the Subject Area Team, the Education Group, the Executive Management and the executive-level Employers' Panel (Self-Evaluation Report, p. 200).

The executive-level Employers' Panel compiles a similar report once a year based on the most recent reports of the programme-specific Employers' Panels. ITU has also developed a template for the executive-level Employers' Panel report. The report is used as input to the Education Group's annual Education Portfolio Report and as input to an annual discussion between ITU's Board of Directors (Self-Evaluation Report, pp. 209-214).

According to the Quality Policy, ITU has to follow up on the recommendations of the Employers' Panels. The follow up is reported in the annual Study Programme Report. The Heads of Study Programme are responsible for the follow up on the recommendations from the programme-specific Employers' Panels, while the Heads of Studies are responsible for the follow up on the executive-level Employers' Panel Report (Self-Evaluation Report, p. 105). In the Employers' Panel reports the employers are also asked to give an account of how ITU has followed up on their recommendations (Self-Evaluation Report, p. 206; p. 212).

Unemployment figures for the individual study programmes are reported in the Employers' Panel Reports as well as the Study Programme Reports. The Head of Study Programme is responsible for following up if the employment standards are not met. The standards stipulate that the unemployment of the graduates is to be 14 percent at the most in 2015. Furthermore, no study programme at ITU should be affected by the national dimensioning model. Among other things, if the standard is not met, the Head of Study Programme has to put the issue on the agenda for the next Employers' Panel meeting. The Head of Study Programme also has to conduct a focus group interview with a handful of new alumnae (Self-Evaluation Report, p. 52).

The Panel finds that ITU's two-levelled model for Employers' Panels ensures an overall strategic perspective on the programmes' relevance, while at the same time ensuring that the individual study programmes get feedback from an Employers' Panel on an ongoing and regular basis.

Moreover, the Panel finds that the procedures for following up on work by the Employers' Panels ensure that the findings and recommendations of the Employers' Panels feed into the quality-assurance system as a whole.

Dialogue with employers and follow-up on recommendations

The Panel has seen minutes from meetings of the eight Employers' Panels as well as the first generation of reports from the Panels. The programme-specific Employers' Panels met twice in 2015/2016 and the executive-level Employers' Panel met once in 2016. According to the minutes, 5-10 representatives from companies and organizations have participated in the meetings. From ITU, the Vice Chancellor has participated in almost all the meetings along with the relevant Heads of Study Programme, the Head of Studies and the Head of Communications.

At the meetings the Heads of Study Programme gave a presentation of the individual programmes, which was followed by discussions about Employment Tickets and the needs of the labour market for the study programme in question. All the minutes contain recommendations from the Panels about the content and relevance of the individual study programmes (Audit trail 2, pp. 65-119).

All eight Employers' Panels have submitted their first reports for 2015. The reports are approximately 10 pages and give a brief summary of the discussions in the Panels regarding employment tickets and the content of the study programmes. They also contain comments on the employment situation, and most of the Panels have completed a SWOT analysis for the study pro-

grammes. All the Panels agree or agree to a certain extent that the study programmes give the students the relevant competencies for the future job market (Audit trail 2, pp. 16-54; 120-137).

The following concerns and recommendations are raised in the reports for the four study programmes selected for interviews during the site visit:

Employers' Panel Report for BSc in Digital Media and Design and MSc in Digital Design and Communication
The unemployment rate for DDK was 17.3 % compared to the national average of13.5 % in 2015. It should be noted that the Ministry of Higher Education has dimensioned DDK so the annual student intake will be lowered from 153 students in 2015 to 130 in 2020. The Employers' Panel sees a need for coding skills and project management in the study programme. The Employers' Panel is also concerned that the overall academic level is too low for some students. The Chairman of the Employers' Panel has been involved in the planning of a semester and the introduction of the new students (Audit trail 2, pp. 4-14).

Employers' Panel Report for Professional Master in IT Management
The Employers' Panel recommends that management of complex IT projects should be covered by the study programme. The Employers' Panel also recommends that there should be a clearer definition of the target group to increase the number of students. Instead of focusing solely on people working professionally with IT alone, the programme should also try to attract people without an IT-related background working in organizations where IT is of significant importance. Finally the Employers' Panel mentions it as a threat to the study programme that the lack of research-based learning material about IT management makes it hard to achieve the goals of the study programme (Audit trail 2, pp. 129-137).

Employers' Panel Report for MSc in Software Development and Technology
The Employers' Panel is concerned that it could potentially be difficult for employers to comprehend the difference in competencies between the two tracks (the Design Track for students without a BSc in IT and the Advanced Computing Track building on a BSc in IT). The Employers' Panel therefore recommends that the two tracks be separated into two different programmes and degrees (Audit trail 2, pp. 26-36).

In addition to the dialogue with the Employers' Panels ITU's dialogue with employers also takes place by way of the 5-year programme review, in which the external panel includes employers who are not members of an ITU Employers' Panel, as well as academic experts within the field (Self-Evaluation Report, p. 38).

In 2015, the MSc programme in Software Development went through the programme review, as did the MSc in Games. The review for Software Development raises the same critique as the Employers' Panel: The two tracks do not have sufficiently clear, independent and unique competence profiles. This makes the difference in competencies between the two tracks unclear for students and employers alike (Audit trail 4, pp.77-80; p. 257).

The Education Group has started a project to redesign the programme. The project is running from May 2016 and until end of 2016. The output of the project will possibly be a separation of the two tracks into two programmes, or else other changes that address the need for transparent competence profiles (Audit trail 4, p. 257).

At the site visit, the Head of Study Programme said that the work on considering how to redesign the programme has begun. He also explained that the current two tracks have different obligatory courses and thus have different lines of progression that cater for the difference in admission requirements for the two tracks. The students from Software Development had heard of the possible split of the pro-

gramme into two programmes, and voiced worries about whether this split would result in the students on the design track being seen as second-rate programmers. They also emphasized that they learn a lot when they cooperate on courses or projects across the two tracks.

During the site visit, the Panel explored ITU's experiences with the new model for Employers' Panels. The chairmen of all eight Panels all had positive evaluations of the meetings and of the process of writing the Employers' Panel Reports. They also felt confident that ITU will discuss and follow-up on their recommendations.

Based on the analysis of the Employers' Panel Reports, it is the Panel's view that the report is a good procedure for detecting critical issues in regard to programme relevance and ensuring that the dialogue with employers results in recommendations that can qualify ITU's work.

Furthermore, it is the Panel's impression that the Reports support the commitment of the Employers' Panels, since the procedure makes clear what the concrete outcome of their work should be.

Moreover, the Panel sees the handling of the issue of the two tracks on the MSc programme in Software Development as evidence that the relevant management levels at ITU are committed to following-up on recommendations that come out of the involvement of employers.

Assessment of Criterion V

It is the Panel's assessment that ITU fully complies with the criterion.

In the initial accreditation in 2014, the Panel found that the individual study programmes did not get feedback from the Employers' Panel on an ongoing basis. In 2014, ITU had one Employers' Panel that covered all 11 study programmes.

It is the Panel's view that ITU has ensured that the individual study programmes get feedback on an ongoing basis by establishing the seven programme-specific Panels. The Employers' Panels' work is underpinned by policies and procedures that make sure meetings are held regularly and that the feedback is communicated to the relevant actors at the individual study programmes.

Moreover, the Panel finds that the procedures for following up on work by the Employers' Panels ensure that the feedback feeds into the Study Programme Reports and the Education Portfolio Report.

It is the Panel's view that ITU's introduction of employment standards and procedures for following-up on unemployment figures ensures that employment issues are detected and acted upon.

In conclusion, the Panel finds that ITU has significantly improved its model for Employers' Panels and put in place suitable procedures for detecting critical issues and following up on recommendations.

Recommendations by the Panel

1. **Stronger focus on pedagogical management of the challenges associated with student diversity**
   The Panel recommends that ITU find ways to ensure that all teachers can manage the challenges of teaching students with different educational backgrounds; what ITU has labelled progression diversity. The Panel acknowledges that semester workshops are a good starting point for creating awareness among teachers about the issue of student diversity, especially new teachers, and that the workshops could potentially become a forum for knowledge-sharing on didactic tools. At the same time, the Panel recommends a broader and more ambitious strategy on pedagogical management of student diversity. The Panel suggests that ITU seek inspiration for such a strategy in research on the issue and from best practices of teaching a diverse student body.

2. **Dissemination of cluster meetings**
   Some of ITU's study programmes have well-functioning cluster meetings at which lecturers discuss progression between courses and didactic issues. The Panel recommends that the cluster meetings be disseminated to more study programmes at ITU. At the same time the Panel stresses that it is important that the cluster meetings are initiated by the teachers on the study programmes, thereby supporting a bottom-up quality culture.

3. **More involvement of teachers in quality-assurance work**
   Lecturers are involved in discussions about the quality of the study programmes through the semester workshops and the cluster meetings. The Panel recommends that lecturers in general be involved in discussions about quality assurance at ITU in order to further increase ownership of the quality assurance system and ensure that the system is continuously developed and improved.

4. **Continued work to ensure transparent competence profiles**
   ITU has started a project to redesign the MSc in Software Development to ensure transparent competence profiles for the two tracks. The Panel recommends that ITU continue its work to ensure that all study programmes have transparent competence profiles, for the sake of the applicants, the students and the employers.

5. **Continued monitoring and development of the quality assurance system to ensure that it is fit for purpose**
   ITU has a well-functioning quality-assurance system with procedures that ensure that problems are detected and followed-up on. The Panel recommends that ITU evaluate and develop the quality-assurance system after a period to make sure that it is fit for purpose.

Annex

I. Methodology used in a follow-up accreditation

The objective of institutional accreditation is to enhance the educational institution's efforts to develop programmes of an ever-increasing academic quality and relevance. The institution can plan its own quality assurance initiatives as long as these initiatives meet the five criteria for quality and relevance stipulated in the Executive Order.

This section introduces the methodology that is used in connection to a follow-up institutional accreditation and that forms the basis for the report's assessments.

Guidelines and criteria listed in the Executive Order
The Accreditation Act and the criteria listed in the Executive Order[1] provide the basis for the assessment of an educational institution's efforts to develop and maintain academic quality and relevance.

The criteria describe what is expected of the institution's policies, strategies and procedures, as well as what is expected of the institution's quality assurance in practice. The Act and the Executive Order comply with the European standards for quality assurance of further and higher education (European Standards and Guidelines). The five criteria are described in more detail in the guidelines for institutional accreditation.

Criteria I and II deal with the overall framework for quality assurance at institution level. Under criterion I, the institution must describe its quality assurance policy and quality assurance strategy, as well as the procedures and processes on which the policy is based. Criterion II focuses on how quality assurance efforts are rooted at management level, and on organisation and allocation of responsibilities in quality assurance work as well as management information and quality culture.

Criteria III, IV and V deal with how the institution in practice ensures that all its programmes possess the appropriate knowledge base, academic content and level, as well as the appropriate pedagogical quality, and are relevant for the labour market and society in general. Documentation for compliance with the five criteria should also describe the link between the different aspects of the quality-assurance system and how it is rooted in the different levels of management and the quality culture.

Only the areas that did not comply with the criteria in the initial accreditation process are documented and assessed in a follow-up accreditation process following a conditional positive accreditation.

Process and documentation
The Danish Accreditation Institution has established an accreditation panel whose function is to assess an institution's quality assurance work. Among other things, members of this panel are skilled within management and quality assurance at institution level, and are familiar with the higher education sector and with relevant labour market conditions as well as student perspectives.

[1] Act no. 601 of 12 June 2013 and Executive Order no. 745 of 24 June 2013

The institution provides documentation of how the institution has worked to solve the problems addressed in the initial accreditation report in the form of a self-evaluation report, key figures and supplementary material that documents the quality assurance practice at the institution. This documentation, as well as information the panel itself has collected during the visits to the institution form the basis of the assessment of the initiatives that the institution has taken to improve its quality assurance system and practice.

In its *self-evaluation report*, the institution describes, documents and offers examples of the initiatives taken regarding its quality assurance system and its quality assurance practices. Based on this self-evaluation report, the accreditation panel pays one or two *visits to the institution*. During a site-visit, the panel meets with the management, teachers, students, employers and others who can contribute knowledge to the identified problems that in the initial accreditation were deemed to require follow-up. On the basis of an analysis of all the documentation material, the panel assesses the quality assurance system and how the institution carries out its quality assurance work in practice.

On the basis of the panel's assessments, the Danish Accreditation Institution prepares a draft accreditation report, which is submitted to the institution for consultation. The report includes the panel's assessment of the institutions follow-up on each of the problems which in the initial accreditation where assessed to be in need of improvement, and the panel's overall recommendation. Following the consultation, the final accreditation report is prepared and submitted to the Accreditation Council. Based on the report, the Accreditation Council decides whether to provide the educational institution with an accreditation.

II. Audit trails

The Panel selected four audit trails for the follow-up accreditation:

- **Audit trail 1:** Research-based teaching exemplified by the BSc in Digital Media and the Design and Professional Master in IT Management. The purpose of the audit trail was to examine how ITU is using course manning to plan and monitor the use of external lecturers on the individual study programmes.

- **Audit trail 2:** Relevance of all study programmes. The purpose was to examine how ITU is involving Employers' Panels to ensure the relevance of the study programmes.

- **Audit trail 3:** Student diversity, exemplified by the two MSc programmes with most student diversity after admission. One of them should have completed a programme review. The purpose of the audit trail was to examine how ITU is handling student diversity on the MSc programmes.

- **Audit trail 4:** Quality assurance of entire study programmes exemplified by the study programmes in audit trail 1 and audit trail 3. The purpose was to examine the quality assurance of entire study programmes, i.e. how ITU was using information in the study programme reports to monitor and follow-up on quality issues on the individual programmes.

III. Case log

1 March 2016	Documentation report received
5 April 2016	First visit to the institution by the accreditation panel
24-26 May 2016	Second visit to the institution by the accreditation panel
12 September 2016	Accreditation report submitted for hearing at the institution
26 September 2016	Hearing responses for accreditation report received from the institution
Assessment of criteria changed after hearing responses?	No
1 November 2016	Case processing completed
1 December 2016	Processed by the Accreditation Council at council meeting

IV. Programme for visits to the institution

Opening meeting April 5

April 5	
Schedule	**Meeting**
9.00-12.00	Internal meeting in the Panel and AI at the IT-University
12.00-13.00	Lunch
13.00-14.15	Meeting with ITU's Management and Education Group
14.15-14.30	Break
14.30-15.45	Continued meeting with ITU's Management and Education Group
16:00-17:00	Internal meeting in the Panel and AI

Site visit May 24-26

May 24	
9.00 – 9.45	Executive Management and Education Group
10.00 – 11.00	Management levels involved in course manning on BSc in Digital Media and Design (DMD) and Professional Master in IT Management (ILM)
11.15 – 12.30	Students from BSc in Digital Media and Design (DMD)
12.30 – 13.30	Lunch
13.30 – 14.30	VIP from BSc in Digital Media and Design (DMD) and Professional Master in IT Management (ILM)
14.30 – 15.15	Break
15.15 – 16.15	DVIP from BSc in Digital Media and Design (DMD) and Professional Master in IT Management (ILM)
16.30 – 17.30	Chairmen for Employers' Panels
17.30 – 18.15	Meeting in the Panel
May 25	
9.00 – 10.15	Management levels with responsibility for handling student diversity on the two MSc programmes with most student diversity: Digital Design and Communication (DDK) and Software Development and Technology (SDT)
10.30 – 11.45	Students from Digital Design and Communication (DDK) and Software Development and Technology (SDT)
11.45 – 12.45	Lunch
12.45 – 13.45	VIP from Digital Design and Communication (DDK) and Software Development and Technology (SDT)
14.00 – 15.00	DVIP from Digital Design and Communication (DDK)
15.00 – 17.00	Meeting in the Panel
May 26	
8.30 – 9.15	Students from Professional Master in IT Management (ILM)
9.30 –10.45	Executive Management and Education Group
10.45 – 12.30	Meeting in the Panel

V. Key figures

The key figures in this section are taken from the Self-Evaluation Report from 1st March 2016, pp. 58-63.

Dropout BSc one year after enrolment, admission year 2012-2014

	2012	2013	2014
BSc in Digital Media and Design	18.3 %	29.6 %	16.0 %
BSc in Global Business Informatics	12.7 %	18.5 %	9.1 %
BSc in Software Development	9.2 %	14.9 %	18.5 %

Dropout MSc three years after enrolment, admission year 2010-2012

	2010	2011	2012
MSc in Digital Design and Communication	20.9 %	11.0 %	12.6 %
MSc in Digital Innovation and Management	9.6 %	13.0 %	10.7 %
MSc in Games	10.9 %	11.9 %	18.5 %
MSc in Software Development	25.6 %	22.9 %	19.8 %

Completion on time BSc, admission year 2009-2011

	2009	2010	2011
BSc in Digital Media and Design	59 %	68 %	54 %
BSc in Global Business Informatics	-	52 %	50 %
BSc in Software Development	60 %	58 %	39 %

Completion on time plus one year BSc, admission year 2009-2011

	2009	2010	2011
BSc in Digital Media and Design	70 %	79 %	66 %
BSc in Global Business Informatics	-	75 %	61 %
BSc in Software Development	68 %	76 %	79 %

Completion on time MSc, admission year 2010-2012

	2010	2011	2012
MSc in Digital Design and Communication	5 %	8 %	12 %
MSc in Digital Innovation and Management	23 %	27 %	14 %
MSc in Games	48 %	37 %	35 %
MSc in Software Development	9 %	13 %	17 %

Competion on time plus one year MSc, admission year 2010-2012

	2010	2011	2012
MSc in Digital Design and Communication	56 %	62 %	74 %
MSc in Digital Innovation and Management	69 %	72 %	75 %
MSc in Games	78 %	75 %	75 %
MSc in Software Development	42 %	50 %	53 %

Unemployement 4-7 quarters after graduation MSc

	2010	2011	2012
MSc in Digital Design and Communication	16.7 %	18.6 %	17.3 %
MSc in Digital Innovation and Management	8.4 %	8.1 %	5.0 %
MSc in Games	33.1 %	14.0 %	14.3 %
MSc in Software Development	6.9 %	14.9 %	3.2 %

The Danish Accreditation Institution

Bredgade 38
DK-1260 Copenhagen K
Phone: +45 3392 6900
akkr@akkr.dk
www.akkr.dk

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