Master of Science
IT Audit, Compliance and Advisory
Vrije Universiteit Amsterdam

Report of the limited programme assessment
16-18 November 2022

Colophon

This document is best printed in duplex

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Summary

From 16 to 18 November 2022 an assessment committee of AeQui visited the School of Business and Economics at VU Amsterdam to perform a quality assessment of eleven degree programmes in Economics. This document reports on the committee's assessment of the Master of Science (MSc) in IT Audit, Compliance and Advisory (ITACA) according to the 2018 NVAO framework for limited programme assessment. ITACA is a post-initial part-time 66 ECTS master programme offered in Dutch. It is a broad post-initial master programme, which educates students to become IT auditors who can analyse, investigate, solve and report on multi- and interdisciplinary issues. The assessment committee has established that the ITACA programme meets all four NVAO standards under consideration: intended learning outcomes, teaching-learning environment, assessment and achieved learning outcomes. As a result, the committee's overall assessment of the quality of the MSc programme IT Audit, Compliance and Advisory is **positive**.

Intended learning outcomes

The profile of the MSc ITACA is rooted in the vision on education of both VU and SBE and is adequately reflected in the learning outcomes and curriculum of the programme. Since the previous accreditation, the intended learning outcomes have been restructured and reformulated: the current set reflects adequately the domain, level and orientation of the programme. The learning outcomes combine a quite general formulation with the articulated ambitions of the University, the School and the programme. Moreover, the recognition by the professional association NOREA ensures that ITACA fulfils the domain-specific requirements of an IT-auditor. The committee thinks highly of the comprehensive way in which the programme is informed about the requirements of the professional field. Its contacts through students, part-time staff, alumni, Curatorium and NOREA ensure that the ITACA curriculum is up-to-date at all times. The assessment committee judges that the MSc ITACA **meets this standard**.

Teaching-learning environment

In terms of the programme's teaching-learning environment, the committee endorses the changes that have taken place since the previous visit and considers that these are for the better. It thinks highly of the new curriculum set-up, which follows the concept of the House of IT Auditing. There is a much clearer link now between the course learning goals and the programme learning outcomes. This connection is also visible in the curriculum design and its attention to constructive alignment between programme objectives, course goals and assessment formats. The committee endorses the decision of the programme to offer ITACA as a Dutch-language programme that does justice to the English terminology and international environment of the discipline. The admission requirements are transparent and prove to be effective as ITACA students tend to finish the programme in time. Students and alumni were/are highly positive about their choice to engage in this degree programme. They praised the organisational capacity of the programme team members and the personal attention of the programme director in making their study life feasible.

In addition to all positive considerations, however, the committee sees one area that requires priority attention and swift action: (the way) the academic orientation of the programme (is implemented in the curriculum). Despite the efforts, the academic credentials of the core programme need improvement, while the curriculum can benefit from more explicit attention to research orientation, to disciplinary-specific methodologies, and to research-based education. Weighing the different components of the teaching-learning environment standard, the committee considers that the considerable improvement efforts and the many (very) positive elements outweigh the insufficiently developed academic orientation in the ITACA programme. Being aware that the programme team, as well as the School of Accounting, shares these concerns and has support of the faculty board and the curatorium to remedy the situation, the committee concludes positively on this standard and urges the programme stakeholders to step up the programme's recruitment efforts. The assessment committee judges that the MSc ITACA **meets this standard**.

Assessment

The assessment in the MSc ITACA programme is robust. This appreciation is based on the fact that both course and thesis assessment are embedded in well-established policies and frameworks at the level of the University and the School. The sample of assessment formats shows that the assessment principles and policies are properly implemented in the course assessments. The ITACA assessment plan demonstrates that course learning goals are assessed adequately, which in turn ensures that the learning outcomes at the programme level are covered. Since the previous accreditation visit, both the School and programme have made considerable efforts to bring assessment quality up to par. The Examination Board Executive Education has grown in capacity and competency and is capable of assuring the assessment quality of the ITACA programme. The assessment of the master thesis is organised very well. The programme can rely on a solid thesis procedure and policy, which are communicated effectively in person and on paper to the students. The thesis evaluation form contains adequate criteria, an extensive assessment matrix, and space for individual feedback. The sample of thesis assessments reviewed by the committee showed that the assessment grid allows for consistency in the thesis grading and is used properly: all supervisors and examiners are providing insightful information on their scores and final grade. The assessment committee judges that the MSc ITACA **meets this standard**.

Achieved learning outcomes

In order to establish whether the programme learning outcomes have been achieved, the committee reviewed a sample of master theses and checked what graduates were doing professionally after they finished the ITACA programme. The thesis sample and the discussions on-site revealed that upon graduation, ITACA students have achieved all programme learning outcomes. The thesis review has shown that students are capable of writing good quality final products. The discussion with alumni confirmed that the ITACA programme is highly relevant for the professional careers of the participants. The assessment committee judges that the MSc ITACA **meets this standard**.

Recommendations

The assessment committee has issued a positive judgement on the MSc ITACA programme and on the quality of each individual accreditation standard. Nonetheless, the committee also sees room for improvement in a number of areas, which are interlinked. The committee urges the MSc ITACA
to enhance the academic orientation of the programme by:
- recruiting additional programme staff with adequate academic credentials;
- incorporating the academic dimension and disciplinary-specific methodologies more explicitly in the curriculum;
- including research-based education in the delivery of the programme modules.

In view of its positive assessment of the programme quality as a whole and its judgement on each of the four accreditation standards, the committee issues a **positive advice** to NVAO regarding the accreditation of the MSc IT Audit, Compliance and Advisory at the School of Business and Economics of VU Amsterdam.

On behalf of the entire assessment committee, Utrecht, March 2023

Hans van Ees
Chair

Mark Delmartino
Secretary

Introduction

The School of Business and Economics at Vrije Universiteit Amsterdam offers a post-initial MSc programme in IT Auditing, Compliance and Advisory. Every year, between 30 and 40 students start the ITACA programme, which is spread over 30 months and offered in Dutch. The external assessment of the MSc ITACA programme is part of a wider cluster assessment covering degree programmes at Erasmus University Rotterdam, VU Amsterdam, the University of Utrecht and Wageningen University.

Institution

Vrije Universiteit (VU) Amsterdam is a university with nine faculties in Humanities, STEM, Social and Medical Sciences. Since its foundation in 1880, VU Amsterdam has stood for scientific and value-driven education, research and knowledge transfer. Its education and research are closely linked and have a strong social orientation. All education is provided on one campus in the heart of the Zuidas Knowledge District.

The School of Business and Economics (SBE) is one of VU's faculties and offers four BSc, ten MSc and 15 postgraduate programmes in economics and business administration. Since its establishment in 1948, SBE has evolved into a school with more than 8,000 students and over 500 academic and non-academic staff members.

The school is governed by the SBE faculty board under the leadership of the dean. The academic staff is divided in departments; each head of department assigns the teaching, research and administrative tasks. SBE has a well-established system of quality assurance of teaching and assessment, which is based on the VU Manual for quality assurance of teaching and learning and to which all programmes adhere. SBE has two examination boards in the economics cluster: one governing all government-funded programmes and one for accredited postgraduate programmes.

SBE Executive Education (EE) offers nine post-initial degree programmes, as well as several short courses and in-company training. SBE EE is an integral part of the faculty, but operates independently on strategic, financial and support matters. A dedicated associate dean is responsible for the educational portfolio of EE and reports to the dean and the faculty board.

Programme

Each degree programme has a dedicated programme director who is responsible for content, organisation and quality assurance. The director ensures that the curriculum is adjusted to the intended learning outcomes and that the learning environment meets the quality requirements of SBE. In the bachelor and larger master programmes, one or more programme coordinators assist the director. Each degree programme has a programme committee comprising of an equal number of students and lecturers, appointed by the SBE faculty board.

The MSc IT Audit, Compliance and Advisory is a part-time 66 ECTS programme offered in Dutch. Every year, between 30 and 40 students start the post-initial programme, which is spread over 30 months. This means that around 100 students are enrolled in total. During the previous accreditation in 2016, the panel came to a conditionally positive judgement recommending the programme to enhance the course leaning goals and the assessment process. In 2017 the programme fulfilled these requirements and obtained a positive accreditation decision from NVAO. In view of the internal mid-term review in 2020, the programme addressed also other components which the previous panel had earmarked for improvement, such as the programme's academic orientation and the embedding of research methodology in the curriculum.

Assessment

This assessment is part of a wider cluster assessment Economics group 1, which consists of the Erasmus University Rotterdam, VU Amsterdam, Utrecht University and Wageningen University. The group assigned AeQui to perform a quality assessment of its bachelor, master and research master programmes in Economics. Together with the cluster group and its individual schools/faculties, AeQui convened an independent and competent assessment committee. The committee members are shortly presented in attachment 1.

At VU Amsterdam, the cluster assessment features 11 bachelor, master and post-experience (executive) master programmes. In the run-up to the visit, a preparatory meeting was held with representatives of SBE to exchange information and plan the dates and programme of the site visit. The visit was carried out from 16 until 18 November 2022 according to the programme presented in attachment 2.

In so far as the MSc ITACA is concerned, the assessment committee members studied the programme's self-evaluation report and reviewed a sample of 15 master theses. Their first impressions on the report and the thesis (evaluations) formed the basis for discussion during an online preparatory meeting on 8 November 2022, and guided the committee's questions during the site visit.

Prior to the visit, the committee held an Open Consultation Hour for students, teaching and support staff; eventually nobody used the opportunity to speak individually and confidentially with the committee. Initiated by the programmes, the visit also featured a Development Dialogue. The results of this dialogue have no influence on the assessment in this report.

Furthermore, the programme put at disposition many relevant materials, which served as background information for the assessment committee before and during the visit. An overview of these materials is listed in attachment 3.

The committee has assessed the programme in an independent manner; in relation to, and in consideration of, the cluster of programmes in which this programme is placed. The contextualisation of the programme within its cluster was conducted by the complete committee during the preliminary meeting and the final deliberations.
At the end of the visit, the chair of the assessment committee presented the initial findings of the committee to representatives of the programmes and the school.

In the underlying document, the committee is reporting on its findings, considerations and conclusions according to the NVAO framework 2018 for limited programme assessment. A draft version of the report was sent to the programme management at the end of February 2023; its reactions have led to this final version of the report.

1. Intended learning outcomes

The MSc ITACA is a broad post-initial master programme that focuses on judgement and advice regarding the quality of the strategic and operational realisation and use of IT in the management of organisations. The profile of the ITACA programme is rooted in the vision on education of both VU and SBE. The intended learning outcomes reflect the domain, level and orientation of the programme. Moreover, the recognition by the professional association NOREA ensures that ITACA fulfils the domain-specific requirements of an IT-auditor. The committee thinks highly of the comprehensive way in which the programme is informed about the requirements of the professional field. Its contacts through students, part-time staff, alumni, curatorium and NOREA ensure that the ITACA curriculum is up-to-date at all times. The assessment committee judges that the MSc ITACA **meets this standard**.

Findings

Purpose

Since 1986, VU Amsterdam is offering the Master of Science (MSc) IT Audit, Compliance and Advisory (ITACA). ITACA is a broad post-initial master programme, which educates students to become IT auditors who can analyse, investigate, solve and report on multi- and interdisciplinary issues in an IT audit related professional environment. Being a specialist discipline in the audit domain, ITACA focuses on judgement and advice regarding the quality of the strategic and operational realisation and use of IT in the management of organisations.

The assessment committee gathered from the written materials and the discussions that the objective of this master programme aligns with the vision of both VU and SBE, which is formulated along two axes: (1) the behavioural component is firmly embedded in the core values responsible, personal and open of the VU; and (2) the content component consists of the roles academic, professional and citizen. These elements have guided the elaboration of education in the MSc ITACA and are reflected in the learning outcomes of the programme and the course learning goals. The committee endorses that integrating the academic, professional and citizen roles with the behavioural components responsible, personal and open creates a unique profile for both SBE and for the master students that graduate from the ITACA programme. The programme set-up also reflects

the core values of both University and School as can be seen in the contents of the curriculum, the educational approach, the close student/lecturer interaction, and the connection between teaching staff and external stakeholders.

The students indicated in their written and oral contributions that they are highly positive about the ITACA programme, which clearly delivers on its promises. They particularly appreciate the personal attention by the programme management and the way the programme is organised and communicated. The course contents, moreover, can be applied in a professional context.

The committee was informed that the ITACA programme is recognised by NOREA, the professional organisation of IT Auditors, for delivering a curriculum that fulfils the requirements it set out in the domain-specific reference framework for IT-Auditing. NOREA has accredited three other IT audit programmes in the Netherlands. The ITACA programme at VU stands out among these programmes for its focus on *Bestuurlijke Informatie Voorziening* (BIV) / *Administratieve Organisatie* (AO), on managing technology, and on the research component. Moreover, at VU students follow a 30 months programme for a total amount of 66 ECTS and are expected to produce a research-based master thesis. Apart from ITACA, also the IT audit programme at TIAS in Tilburg is NVAO accredited.

Intended Learning Outcomes

The programme's intended learning outcomes consist of learning goals and learning objectives: the goals refer to what graduates are or have and are set SBE-wide; the objectives refer to what graduates can do or make and are specific to the ITACA programme. The committee observed that there is a direct link between the respective goals and objectives, and that both goals and objectives are clustered around five dimensions: academic and research skills, bridging theory and practice, social skills, broadening horizons, and self-awareness.

The ITACA programme features six learning goals and six learning objectives. Compared to the previous accreditation visit, the intended learning outcomes have been reformulated to reflect the AACSB format: the Association to Advance Collegiate Schools of Business is a highly reputed accreditation body whose international quality standard SBE managed to obtain since the previous accreditation visit.

The committee noticed that the six learning outcomes combine a quite general formulation with the specific ambitions of the University, the School and the programme. The intended learning outcomes make the programme scope concrete and address the areas in which a graduate should function as IT auditor and for which academic knowledge, insight, attitude and skills are essential. The committee established that the intended learning outcomes of ITACA are formulated at the appropriate master level and reflect the academic orientation of the programme.

Professional Field

As a post-initial programme that caters for a student audience who is already at work in the auditing domain, the programme has very strong and close links with the professional field. The committee was informed that in addition to the students, also the teaching staff members often combine a position at the university with part-time work in the professional field. Moreover, the programme gets first-hand information on the needs of organisations that employ IT auditors and envisage paying the ITACA tuition fee for their employees.

In order to ensure that the quality of the programme in general and the curriculum components in particular align neatly with the demands of the professional practice, an advisory board – which is called curatorium in case of ITACA – supervises the programme. This curatorium consists of alumni and other industry representatives and advises programme management and SBE EE on the expectations and demands of the work field. While their role is comparable to an advisory board in initial programmes, the committee got the impression during the visit that the curatorium seems to follow-up the programme developments more intensively and regularly, for instance, by attending final exams, graduation events and alumni days. Moreover, the curatorium does not only supervise the quality level, but also the financial position of the programme. With regard to the latter, the committee was informed – and reassured by the programme director – that the curatorium has no financial authority or mandate to allocate funds. It is an independent advisory body that reports to the Faculty Board. Twice a year the curatorium discusses programme developments, including student and staff evaluations, intended learning outcomes, (changes to) module contents, programme budget, etc.

The professional organisation of IT auditors, NOREA, is an important external stakeholder for the programme. Upon graduation, ITACA students can register with NOREA and as qualified and registered auditors they have to comply with specific professional rules and requirements. Every four years, NOREA organises a reaccreditation of the programmes it recognises. ITACA was reaccredited most recently in 2019. An important component of this exercise is the review of the ITACA curriculum and its alignment with the domain-specific reference framework of NOREA. Asked by the committee whether the professional requirements of NOREA are possibly in conflict

with the academic orientation of ITACA, the programme team explicitly denied that this is the case. While NOREA has other demands, the committee was told that there is room in the programme to accommodate both academic and professional components. The programme director moreover indicated that NOREA appreciates the specific attention of the ITACA programme for the academic dimension of IT auditing. The committee obtained a similar message from the representative of the curatorium: the requirements of both NVAO and NOREA are a source of reinforcement rather than tension.

Considerations

Based on the written materials and the discussions on site, the assessment committee considers that the profile of the MSc ITACA is rooted in the vision on education of both VU and SBE and is adequately reflected in the learning outcomes and curriculum of the programme. The recognition by the professional association NOREA ensures that ITACA fulfils the domain-specific requirements of an IT-auditor.

The committee endorses the way in which the intended learning outcomes have been restructured and reformulated since the previous visit; the current set of learning goals and learning objectives reflects the domain (IT auditing), level (master) and orientation (academic) of the programme. The six learning outcomes combine a quite general formulation with the articulated ambitions of the University, the School and the programme.

The committee thinks highly of the comprehensive way in which the programme is informed about the requirements of the professional field. The contacts through students, part-time staff, alumni, curatorium and NOREA ensure that the curriculum is up-to-date at all times. According to the committee, the curatorium plays an important role in supervising the ITACA programme, which goes beyond the role a 'regular' advisory board tends to have.

In view of the above findings and considerations, the assessment committee judges that **the MSc ITACA programme meets standard 1, intended learning outcomes.**

2. Teaching-learning environment

The programme's teaching-learning environment is adequate. The changes that have taken place since the previous visit are for the better. The new curriculum set-up, which follows the concept of the House of IT Auditing, is very interesting. There is a much clearer link now between the course learning goals and the programme learning outcomes. The committee endorses the decision of the programme to offer ITACA as a Dutch-language programme that does justice to the English terminology and international environment of the discipline. The admission requirements are transparent and effective as ITACA students tend to finish the programme in time. Students and alumni were/are highly positive about their choice to engage in this degree programme. They praised the organisational capacity of the programme team members and the personal attention of the programme director in making their study life feasible. In addition to all positive considerations, there is one area that requires priority attention and action: the way in which the academic orientation of the programme is implemented in the curriculum. Both the programme team and the curriculum need a boost in terms of academic orientation. Being aware that all stakeholders share these concerns and are looking for a solution, the committee judges that the MSc ITACA **meets this standard**.

Findings

Programme

The ITACA programme amounts to a total study load of 66 ECTS and is spread over 30 months: the programme starts in January of year one and finishes in June of year three. The first (half) year is dedicated to the basics of *Bestuurlijke Informatievoorziening / Administratieve Organisatie* (12 ECTS); in year two and part of year three, students follow ten disciplinary-specific modules (39 ECTS); the master thesis and final exam (15 ECTS) at the end of year three are the culmination of the programme. It is an explicit choice of the programme to offer a 66 ECTS programme: the ITACA programme team wants to offer a comprehensive set of content-related modules rather than dropping one or two modules to remain within the regular 60 ECTS study load.

The committee was informed that the curriculum in its current form has been introduced in 2018-2019. The committee acknowledges that the programme structure is now more coherent than at the time of the previous accreditation. Certain module contents have changed, some modules are new and others have been renamed to better fit their content. As of September 2023, the total study credits in the graduation phase will be split between the master thesis (12 ECTS) and the final oral exam (3 ECTS). The committee endorses that

this decision has been taken to give the oral exam the clout it deserves within the entire programme set-up. The oral exam does not only constitute a means to demonstrate and assess important learning goals, but it also includes the thesis defence.

The modules are all components of the so-called House of IT Auditing, which was introduced by the programme director. According to the committee, the House of IT Auditing constitutes a strong visual representation as well as a hanger (in Dutch: *kapstok*) to show the relevance of the curriculum in general and the interconnection and consistency between the different modules in particular. This coherence is furthermore ensured by three core teaching staff who are responsible for the consistency of the module contents within one study year each.

Furthermore, the committee learned that there is a link between the course learning goals and the programme learning outcomes, which is not only visible on paper – the committee studied the curriculum map, the assessment plan and the study guide – but is also implemented in the day-to-day teaching and assessment practice of the courses. The committee gathered from the extensive description in the self-evaluation report that the re-

spective programme learning objectives are addressed throughout the curriculum and that each course has formulated specific course objectives that contribute to an overall programme objective and are assessed explicitly.

The relationship between course-level objectives and programme-level intended learning outcomes is made clear to students in the course descriptions in the study guide. Moreover, the learning objectives and their related course objectives are presented in the Assessment Plan, which also indicates the forms of assessment used in each course in relation to the course-level learning objectives. The committee observed in the assessment plan for the MSc ITACA that the courses and the thesis together ensure that all learning outcomes are covered in the curriculum. According to the committee, the programme team has definitely and fully addressed the recommendation of the previous accreditation panel to align more concretely the programme learning outcomes and the course learning outcomes. Moreover, the result of these efforts has been rolled successfully in the ITACA curriculum 'new style'.

Following the points for attention mentioned by the previous accreditation panel, the assessment committee discussed on-site the academic orientation of the programme. In particular, the committee inquired about the position of scientific literature in the compulsory reading list and the way students are taught about methodology. According to the programme team, the current reading list consists of academic articles in the broad domain of IT audit and of articles written by specialists in reputable accountancy firms. The latter publications reflect the professional orientation of the programme and often address the latest innovations in the discipline. Students are also introduced to the academic publications of the ITACA teaching staff, which are mainly papers presented at conferences of different quality levels.

Furthermore, the programme team indicated that there is no dedicated research methods module:

all incoming students have research skills at (pre-)master level, either through their previous degree or via the pre-master programme. Research methodologies for the master theses are described in the thesis manual and addressed by the thesis supervisors. Moreover, the committee was informed that the programme's core team of thesis supervisors performs an additional quality check on the research proposal in order to enhance the quality of the research questions. This additional check, which was introduced in 2021 is likely to improve the academic quality of the master theses. According to the committee, there is room to pay more explicit – and visible – attention to the research orientation and the ITACA-specific methods in the curriculum. This, in turn, is likely to further increase student exposure to scientific literature.

Language of instruction

The language of instruction in the ITACA programme is Dutch. The IT auditing domain, however, is becoming increasingly international, both in terms of terminology and work environment. Hence, most of the materials are in English and also the names of the modules and programme title are in English. International participants who are sufficiently fluent to follow Dutch-language classes are welcome to the programme and do their oral and written exams in English. According to the committee, the programme team has made a relevant choice to offer ITACA as a Dutch-language programme that does justice to the English terminology in, and the international environment of, IT auditing.

Didactics

The key design principle in ITACA education is constructive alignment, which means that content, assessment and teaching formats are internally connected. In view of the post-initial character of the programme, module coordinators do not only want students to acquire knowledge and skills, but also focus on applying knowledge and insight and on communicating properly about the approach adopted to solve problems. Moreover, it is important that students who are invariably

employed in the field of IT audit can work together during their study and exchange experiences. The master thesis in turn should allow students to contribute to the further development of the IT audit domain. The committee acknowledges that by implementing this design principle of constructive alignment, the programme meets the requirements of the previous accreditation panel regarding the quality – and internal alignment - of the teaching and assessment formats.

Furthermore, the didactical approach of the MSc ITACA is aligned with the educational vision of VU and the teaching methods at SBE: most courses and staff make intensive use of activating teaching formats and interactive tools to involve students as much as possible and to check whether they have understood the course materials. The committee was informed that such teaching formats are explicitly promoted by VU and SBE because it helps students to understand the materials in greater depth, it enhances their analytical and problem-solving skills, and it develops an attitude towards self-reflection. Students from their side indicated to the committee that they appreciate the open and personal connections they have with teaching staff and programme management.

The committee gathered from the written materials and the discussions on site that the implications of the COVID-19 pandemic have accelerated the need for - and the possibilities of - new ways of teaching. SBE is using the lessons learned during the lockdown to develop its education vision on and implementation of promising online teaching tools and techniques that are relevant beyond a single course. In this regard, the committee noticed that the Faculty Board promotes blended learning as an important instrument for teaching innovation, yet leaves a lot of discretion to the individual programmes for implementing such forms of educational innovation. The ITACA programme is discussed with the Task Force Active Blended Learning set up by the SBE. A survey among students and staff showed that both groups see benefits in both on-campus and

online education. The committee was informed that the default setting is to organise ITACA education on-site, while offering several facilities for online learning.

In line with its findings and advise on the research orientation of the curriculum, the committee gathered from the discussions on-site that there is room for more research-based education in the curriculum. Such an approach, however, requires that teaching staff are sufficiently qualified in terms of research competences and have adequate expertise to discuss high-level scientific publications, as well as their own research endeavours with students in class. The committee was informed that this approach is adopted in a few but certainly not all modules. The committee understands that this is still very much work in progress, and the committee endorses this development: the academic orientation has taken up a more prominent position in the curriculum than before and there are opportunities for research cooperation with VU's School of Accounting.

Students
The committee read in the self-evaluation report and the appendix on student data that the student intake in the ITACA programme has grown slowly but steadily over the past few years and now attracts on average 35 new students per year. Given that students stay for 30 months and three academic years with the programme, the total number of students enrolled in ITACA is around 120. Traditionally, most participants are working for one of the bigger accountancy firms, although in recent years there are also more students who are employed at smaller companies or in big internal audit departments.

The admission requirements are clearly stipulated in the programme's Education and Examination Regulations: students should have an academic master degree in the broad domain of information management. Applicants with an academic or professional bachelor degree follow a pre-master programme of 15 ECTS to enhance

their academic skills. It is not possible for applicants to repair content related deficiencies in the pre-master. Yearly about 10 to 15 students enrol for the pre-master programme. Moreover, students should be professionally active in a relevant domain at the time of their enrolment.

The committee gathered from the written materials and the discussions on-site that the programme is feasible and that students who pass the first year mostly finish the programme within the nominal duration of 30 months. The drop-out rate (30%) is high because several students enrol for the Summer School part of the programme without intending to complete the entire degree. Students and alumni confirmed that the programme is tough but manageable.

In their extensive written contribution to the report, students indicated that they are highly satisfied with the programme: they appreciate the way the programme is organised, promoted and communicated. The programme team is very approachable. The course modules are relevant in view of their current professional position and their career ambitions for the future. Moreover, any comment students may have on individual courses or the alignment across course contents is picked up smoothly. During the discussion on-site, students indicated that a major point for attention they had mentioned in the written contribution – the high number of guest lecturers makes it sometimes difficult to ensure coherence within and across modules – has in the meantime been picked up through a stronger coordination by the programme team members who are responsible for the consistency of modules in the respective years. Similarly, concerns regarding the final exam have also been addressed. The committee understood from the materials and the discussion that ITACA's dedicated programme committee consisting of staff and students plays an important role in bringing student concerns to the programme level and in following up that these concerns are addressed.

Staff
The committee gathered from the self-evaluation report that the teaching and the coordination is performed by staff belonging to the Accounting Department of SBE. According to the overview in the appendix to the report, the ITACA programme consists of seven staff members who have an average 0.3 FTE appointment with SBE. All staff are male and Dutch; five staff members hold the basic teaching qualification (BKO). The core ITACA team consists of the programme director, coordinating staff for each programme year, the thesis coordinator, a few discipline-specific experts and some thesis supervisors. Most courses feature several guest lecturers, who are specialists in a specific domain and connect theory with practice.

Looking at the overview of the academic staff, the committee noticed that only one staff member holds a PhD while another one is a PhD candidate. According to the programme team, nine people with a PhD and two PhD students are involved in ITACA education while twelve thesis supervisors hold a PhD. While the thesis supervisors cover the research and academic dimension during the thesis trajectory, the committee voiced its concern over the academic credentials of the (core) team at SBE delivering the ITACA modules.

This topic has been discussed extensively with the programme team, also in relation to the above-mentioned weaknesses in the academic orientation of the curriculum and the didactical underpinning of the programme through research-based education. The programme team is very much aware of this situation, shares the concern of the assessment committee, and has been looking already for a long time to recruit a second professor. In this search, the team gets the full support of the department, the faculty and the programme curatorium. However, until now it proved not possible to find a suitable candidate. The committee was informed that the pool of academics with a specialisation in IT auditing is very limited. Following accreditation by AACSB, the programme team sent out a recruitment notice

among AACSB member institutions, but also this step has not yet resulted in a valid candidate.

According to the committee, the limited academic clout of the core team is an important weakness of the programme. It jeopardises the academic orientation of the programme and the expectations that students and third parties like external assessment committees rightfully have of an academic master programme. Hence it is of paramount importance that the programme team is expanded with more academically proficient staff and lecturers. Acknowledging that the issue is known and a solution is supported by the faculty board and the programme management, the committee urges the team and the faculty to step up their recruitment efforts.

Considerations

Based on the written materials and the discussions on-site, the assessment committee considers that the teaching-learning environment of the ITACA programme is adequate. The committee acknowledges not only the considerable efforts by the programme team to address the recommendations and action points of the previous accreditation panel, but also considers that these efforts have paid off. Hence, the committee endorses the changes that have taken place since the previous visit and considers that these are for the better.

The committee thinks highly of the new curriculum set-up which follows the concept of the House of IT Auditing. There is, moreover, a much clearer link now between the course learning goals and the programme learning outcomes, which in turn ensures that by the time of their graduation, all ITACA students will have achieved all intended learning outcomes.

The committee also endorses the decision of the programme to offer ITACA as a Dutch-language programme that does justice to the English terminology and international environment of the discipline.

The committee welcomes the attention in the curriculum design to constructive alignment between programme objectives, course goals and assessment formats. Moreover, the educational approach of the ITACA programme does justice to the vision on education of both VU and SBE.

The admission requirements are transparent and prove to be effective: apart from students dropping out during the first year or taking the first year as Summer School, ITACA students tend to finish the programme in time. Moreover, the committee spoke to a few students and alumni who invariably were highly satisfied with their choice to engage in a post-initial degree programme trajectory of at least 30 months.

Based on the enthusiastic statements of both students and alumni on paper and during the visit, the committee is convinced that the programme team plays an important role in making study life as feasible as possible for ITACA students. Moreover, coordinators ensure that there is coherence within and across modules, while guest lecturers provide professional perspectives on specialist issues that are relevant for the students' professional practice.

In addition to all these positive findings and considerations, there is one component in the teaching and learning environment that according to the committee is not yet up to standard: the way the academic orientation of the programme is implemented in the curriculum. This consideration consists of different elements which are interlinked: the academic credentials of the core programme team are very limited. In fact, only the programme director combines a proper academic qualification with extensive experience. This weakness then translates in the academic orientation of the curriculum and its educational format. According to the committee, there is room to pay more explicit attention to the research orientation and ITACA-specific methods in the curriculum. This, in turn, is likely to further increase student exposure to scientific literature. Similarly, there is room for more research-based education

in the delivery of the modules. However, both research orientation and research-based education can only be realised if the programme team is sufficiently qualified in this regard. Finally, the committee thinks that the current team composition makes the programme vulnerable as only one – and very key – academic staff member fulfils all academic and didactic requirements.

Weighing the different components of the teaching-learning environment standard, the committee considers that the considerable improvement efforts and the many (very) positive elements outweigh the insufficiently developed academic orientation in the ITACA programme. Given that the programme team, as well as the School of Accounting, is very much aware of the situation, shares the concerns of the committee, and feels supported by the faculty board and the curatorium to remedy this situation as soon as possible, the committee comes to an overall positive conclusion on the teaching-learning environment of ITACA, with the strong advice to step up the programme's recruitment efforts.

In view of the above findings and considerations, the assessment committee judges that **the MSc ITACA programme meets standard 2, teaching-learning environment.**

3. Assessment

The MSc ITACA features a robust system of assessment, which is embedded in the central policies and procedures of the VU and SBE. The assessment principles are properly implemented in the course assessments. The programme's assessment plan monitors that course learning goals are assessed adequately, which in turn ensures that all learning outcomes at programme level are covered. The current assessment committee recognises that since the previous accreditation visit, both School and programme have made considerable efforts to bring assessment quality up to par. The Examination Board Executive Education has grown in capacity and competency, and assures the assessment quality of the MSc ITACA. The assessment of the master thesis is organised very well. The programme can rely on a solid and transparent thesis procedure. The sample of thesis assessments reviewed by the committee showed that the assessment grid allows for consistency in the thesis grading and that all supervisors and examiners are providing insightful information on their scores and final grade in the thesis evaluation form. The assessment committee judges that the MSc ITACA **meets this standard**.

Findings

System of assessment

The committee gathers from the written materials and the discussions on site that the Economics programme operates an assessment system that complies with the assessment policy and procedures of SBE, which in turn are based on a university-wide policy on assessment quality. The programme has put at disposition both policy documents, the *Handboek Onderwijskwaliteit - VU Toetskader* and the *SBE Beleidsplan – Toetsbeleid*.

Moreover, the committee noticed that the MSc ITACA has its own programme-specific Assessment Plan with a vision on education and on assessment, a curriculum map, and an overview of course learning objectives and assessment types. The assessment plan describes the forms of testing; in this way both programme director and examination board have an instrument to control the relationship between the programme's intended learning outcomes and course-level objectives and assessment.

Furthermore, each course coordinator creates an assessment file. This file contains, among other things, a test blueprint, the exam, resit exam and/or assignments, a model answer plus scoring guide, a test and item analysis, the results of the course evaluation, and a short reflection report by the examiner. According to the committee, next to good quality policy documents, the ITACA programme also developed a relevant assessment plan that does justice to both central policies and the specificity of the degree programme.

Courses

At the level of individual courses, coordinators select the most appropriate assessment methods for testing the learning goals. They do so in close collaboration with the programme director who ensures that across the programme a variety of assessment methods is used. Course coordinators are free to tailor the different exam components to the requirements of their course, provided they inform the programme management accordingly. Teaching staff is encouraged to experiment with innovative forms of teaching and testing; in every course, however, the individual student performance should be the decisive factor in the assessment. The committee agrees to the emphasis on individual exam components and to the promotion of diversity and innovation in assessment formats.

The committee noticed that SBE and the ITACA programme uphold the four eyes principle: when constructing the exam, the examiner – who very often is also the course coordinator – takes the course objectives into account and the extent to which these are assessed by the exam. Every course coordinator appoints a co-reader with

content knowledge to check the contents of the exam, thus ensuring that all draft exams are reviewed by at least one other member of staff. The committee welcomes this approach.

In the run-up to the site visit, the ITACA programme put at disposition a few individual courses and their assessments. According to the committee, these materials reflected the overall provisions for assessment and were in line with what one can expect of exams in a master programme of academic orientation.

Further to its findings on the alignment of programme learning outcomes and course learning goals, the committee noticed that the programme team has gone at lengths to enhance the assessment of the modules, make the assessment process more transparent and link the individual assessment formats to the respective learning goals per module. Over the years, the programme did not only address the recommendations of the previous accreditation panel but also incorporated and implemented the revised and enhanced assessment system in the day-to-day assessment of the modules and the thesis.

Thesis evaluation
The master thesis is the culmination of the part-time ITACA programme. It is conceived as a course with a thesis coordinator, course learning goals and clear arrangements between student and supervisor. These rules, procedures and arrangements are explained during an information session to students and in the thesis manual. It is an explicit choice of the programme management to conceive the thesis trajectory as a structured process. In this way, students maintain a study rhythm, which in turn enhances their chances to finish the thesis and thus the degree programme in time.

The committee noticed that the manual (*scriptiewijzer*) is extensive and informative. It contains, among other things, a detailed assessment grid with ten individually weighted criteria. Each criterion has rubrics per score (4 or 5, 6, 7, 8 or 9) and

invites assessors to write a qualitative appreciation of their scores. Moreover, there is a dedicated section for strong and weak points of the thesis and its oral presentation. The thesis evaluation form is first completed by the supervisor, then two examiners complete individually and independently their form prior to the final exam including thesis defence. After the final exam, the examiners decide together on the score per criterion and the final grade.

The committee was informed that, following the mid-term review in 2020, several supervisors have been replaced by colleagues with a PhD and by PhD students, in order to enhance the quality of the theses. The current thesis coordinator is an experienced academic staff member who ensures calibration among supervisors and coaches new or less experienced supervisors.

As part of its external assessment, the committee reviewed a sample of 15 master theses and their evaluation forms. Reporting on their review, committee members appreciated that the thesis evaluation form addresses all relevant criteria and allows for feedback. This results in a very transparent evaluation process, which is centred around a detailed rubric yet leaves room for additional comments. Overall, the committee had a very positive impression on the way the theses were assessed. In all 15 cases, the final grade was in line with their own appreciation. Moreover, the feedback motivating individual scores and final grades was insightful. Compared to other (executive) master thesis approaches, the committee thought that the ITACA approach constituted an example of good practice.

The committee's distinctly positive impression of thesis evaluation in the MSc ITACA seems to confirm that the efforts of the programme and the Examination Board since the previous accreditation visit are paying off. The Examination Board investigated a sample of completed thesis forms in the year 2019-2020, while an external assessor reviewed some ITACA theses as part of the programme's mid-term review. In all these cases the

results were positive, i.e. in line with the original assessment.

Quality assurance

The committee gathered from the written materials that different stakeholders are involved in assuring the quality of assessment: there is first and foremost the Examination Board, but also the programme director and individual examiners play a role. The Examination Board supervises the examination process and carries final responsibility for safeguarding the quality control of assessment and examinations. It investigates systematically whether the process of assessment within SBE is carried out according to predefined criteria. These criteria are well established and include the reliability and validity of the tests. In the event that tests are not up to standard, the Examination Board reports to the programme director and the examiner and issues interventions for improvement.

During the site visit, the committee met with representatives of the Examination Boards. It gathered from the written materials and the discussion that these Boards – there is one for all publicly funded degrees and another one for privately funded programmes – fulfil their legal tasks adequately and have relevant expertise regarding assessment, fraud and legal issues. The external member has extensive assessment expertise. It is a conscious decision of SBE to have several programmes supervised by one Examination Board as this leads to greater uniformity, clarity and authority.

The committee noticed, moreover, that since the previous accreditation visit, the Examination Boards have grown in capacity and competence, taking on board the recommendations of the previous NVAO report. In terms of assessment quality assurance, the examination board currently does not only guard the quality of assessment, but also looks into assessment policy, assessment plans, assessment construction, and organization. The committee also established with satisfaction that over the past few years the Examination Boards have stepped up the inspections of course examinations and theses.

The Examination Board Executive Education is in charge of assuring the assessment of privately funded degree programmes, such as the MSc ITACA. The committee noticed from the materials and discussions that the Examination Board follows-up attentively any issue that may pop up in the programme and that the ITACA programme has been served with similar intensity as all other privately funded degree programmes. Just as for other programmes, the Examination Board has paid considerable attention to online assessment recently and informed students and staff about plagiarism. According to the committee, the quality assurance of the assessment in the MSc ITACA is in competent hands with the Examination Board Executive Education.

Considerations

Based on the written materials and the discussions on-site, the assessment committee considers that assessment in the MSc ITACA is robust. This appreciation is based first and foremost on the fact that both course and thesis assessment are embedded in well-established policies and frameworks at the level of the University and the School. The sample of assessment formats the committee has reviewed shows that the assessment principles and policies are properly implemented in the course assessments. The ITACA assessment plan, moreover, demonstrates that course learning goals are assessed adequately. This, in turn, ensures that the learning outcomes at programme level are covered.

Furthermore, the committee considers that both School and programme have made considerable efforts since the previous accreditation to bring assessment quality up to par. Similarly, the Examination Board has grown in capacity and competency, as demonstrated by the variety of assessments tasks it has been assuming over time. The committee welcomes these developments and is convinced that the Examination Board Executive

Education is very capable to assure the assessment quality of the MSc ITACA programme.

The committee considers that the assessment of the master thesis is organised very well. The programme can rely on a solid thesis procedure and policy, which are communicated effectively in person and on paper to the students. The thesis evaluation form contains adequate criteria, an extensive assessment matrix, and space for individual appreciations and feedback of the supervisor and the two examiners. The sample of thesis assessments reviewed by the committee showed that the extensive assessment grid allows for consistency in the thesis grading and is used properly: all supervisors and examiners are providing insightful information on their scores and final grade.

In view of the above findings and considerations, the assessment committee judges that **the MSc ITACA programme meets standard 3, assessment**.

4. Achieved learning outcomes

The MSc ITACA is set up in such a way that upon graduation, students have achieved the intended learning outcomes. This was confirmed by the committee when it established through its review of a sample of ITACA theses that the thesis quality is good. The discussion with alumni showed that the ITACA programme is highly relevant for the professional career of the participants. According to the committee, the MSc ITACA programme **meets this standard**.

Findings

There are two ways to establish whether the programme learning outcomes have been achieved – through a quality review of the final products and through checking what graduates are doing after they finished the programme. The committee has looked at both elements when assessing the end level qualifications of the MSc ITACA.

Thesis quality

The master thesis is seen as the final product of the ITACA programme. It fits with the academic orientation and master level of the programme and reflects a demand from the professional field for academically trained master graduates. In their master thesis, students demonstrate the achievement of the learning goals academic skills, broadening your horizon, and self-awareness. In addition to the thesis, a final oral exam (which includes the defence of the master thesis) assesses the learning goals professional/social skills and bridging theory and practice. In order to graduate, students should pass both master thesis and final exam.

As part of their external assessment, committee members reviewed a sample of 15 MSc ITACA theses. The sample selection was based on a list featuring 64 students who graduated in the academic years 2020-2021 and 2021-22. The selection was representative in terms of scoring and supervisors involved.

According to the committee, each of the 15 theses was clearly of sufficient quality to pass. Hence, none of the theses was reallocated internally for a second opinion. The committee found that

across the sample and taking into account the distribution of scores, the thesis quality was good. In almost all cases the research question was clearly formulated, and addressed in the analysis. The committee did notice though that also in good quality theses, students did not indicate clearly how the research had contributed to the research domain or what the interested reader could learn from the thesis results.

The committee was informed that every year, the best quality theses are turned into articles and published in the book "Research in IT Auditing: a multidisciplinary view." Moreover, a few students decided recently to enter a PhD trajectory after graduating the ITACA programme.

In sum, the thesis review has demonstrated convincingly, according to the committee, that ITACA students have achieved the programme learning outcomes when they complete the master thesis.

Graduate performance

The committee gathered from the written materials and the discussions that most graduates work in some of the bigger internal audit services of financial institutions, corporate firms, government organisations, big accountancy firms and supervisory bodies such as the Dutch Central Bank. Most students study ITACA in order to obtain registration with NOREA as EDP-auditor. Being registered as IT auditor – and thus recognised as an expert – has a positive influence on the career development of ITACA graduates.

All ITACA students automatically join the student and alumni association VUrORE, which evaluates

the programme regularly and provides feedback on this evaluation through the programme committee. It also organises domain specific seminars and webinars to keep alumni up to date and facilitate the continuous education of registered EDP-auditors. Students and alumni informed the committee that also their employers are/were satisfied with the ITACA programme, notably for its in-depth courses, the technical skills and the interdisciplinary character.

In sum, the discussions with alumni have convinced the committee that the programme lives up to the expectations of the participants and delivers content-wise what it sets out to do.

Considerations

Based on the written materials, the thesis sample and the discussions on-site, the committee considers that upon graduation, MSc ITACA students have achieved all programme learning outcomes. The thesis review has shown that students are capable of writing good quality final products. The discussion with alumni confirmed the committee's finding that the programme boosts the careers of the participants.

In view of the above findings and considerations, the assessment committee judges that **the MSc ITACA meets standard 4, achieved learning outcomes.**

Attachments

Attachment 1 Assessment committee

Hans van Ees, chair
Prof. dr. van Ees is emeritus professor Corporate Governance and Institutions at the University of Groningen and former Dean of the University College Groningen. His research deals with corporate governance, board of directors and sustainable corporate performance. Hans has extensive accreditation experience.

Niels Hermes, member
Prof. dr. Hermes is professor International Finance at the University of Groningen. His expertise lies in the fields of corporate governance, microfinance, international finance, financial systems and economic growth. Niels has extensive accreditation experience.

Eelke de Jong, member
Prof. dr. de Jong is emeritus professor of International Economics at Radboud University in Nijmegen. His research focuses on the role of culture, in the sense of norms and values, in economic behaviour. Eelke has extensive accreditation experience.

Ann Jorissen, member
Prof. dr. Jorissen is professor in the department Accountancy and Finance at the University of Antwerp, and vice-dean of the Business and Economics Faculty. Her research interests are in the areas of accounting and corporate governance.

Wim Van Grembergen, member
Prof. dr. Van Grembergen is emeritus professor in the department of Management Information Systems at the University of Antwerp. Wim was among others the academic coordinator of the master programme IT-Audit.

Judith Kikkert, student-member
Ms Kikkert is a master student MSc Management, Economics and Consumer Studies at Wageningen University and student-member of the university-wide Board of Education. Judith holds a bachelor's degree *Economie en Beleid* from Wageningen.

Mark Delmartino, external secretary
Mark Delmartino is owner of the Antwerp-based company MDM CONSULTANCY. As certified NVAO secretary he regularly supports assessment committees.

All committee members and the secretary have signed a declaration of independence. The assessment committee has been submitted to, and validated by, NVAO prior to the site visit.

Attachment 2 Site visit programme

<u>Venue</u>: VU Amsterdam, De Boelelaan, Amsterdam

Wednesday 16 November 2022

08.30	Arrival of the committee and set-up
09.00	Session with Faculty Board
10.00	Session with Management BSc EBE, BSc EOR & MSc EOR
11.00	Session with Students and Alumni BSc EBE, BSc EOR & MSc EOR
12.00	Session with Staff BSc EBE, BSc EOR & MSc EOR
13.00	Lunch and internal meeting
14.00	Session with Management MSc RMFI
14.40	Session with Students and Alumni MSc RMFI
15.20	Session with Staff MSc RMFI
16.00	Break and internal deliberation
16.30	Return meeting with Management MSc RMFI
17.00	Internal deliberation
17.30	End of day 1

Thursday 17 November 2022

08.30	Arrival of the committee and internal meeting
09.00	Session with Examination Board
10.00	Session with Management MSc ECO & MSc STEE
10.50	Session with Students and Alumni MSc ECO & MSc STEE
11.40	Session with Staff MSc ECO & MSc STEE
12.30	Lunch and internal meeting
13.30	Session with Management MSc Marketing FT + PT
14.20	Session with Students and Alumni MSc Marketing FT + PT
15.10	Session with Staff MSc Marketing FT + PT
16.00	Break and internal deliberation
16.30	Return meeting with Management MSc ECO & MSc STEE
17.00	Internal deliberation
17.30	End of day 2

Friday 18 November 2022

08.30	Arrival of the committee and internal meeting
09.00	Session with Management MSc FIN, MSc A&C and MSc ITACA
10.15	Session with Students and Alumni MSc FIN, MSc A&C and MSc ITACA
11.30	Session with Staff MSc FIN, MSc A&C and MSc ITACA
12.45	Lunch and internal deliberation

14.00	Return meeting with Management MSc ITACA
14.30	Internal deliberation
15.30	Preliminary feedback
16.00	Development Dialogue Executive Programmes
17.00	Development Dialogue Funded Programmes
18.00	End of site visit

A list with the names of the participants is available at AeQui.

Attachment 3 Overview of materials

Information materials
Self-evaluation report MSc IT Audit, Compliance and Advisory, VU School of Business and Economics, 2022.

Appendices to the self-evaluation report
- Intended Learning Outcomes
- Programme 2021-2022
- Course descriptions 2021-2022
- Assessment plan 2021-2022
- Thesis Manual and thesis assessment form 2021-2022
- Teaching and Examination regulations 2021-2022
- Regulations and Guidelines Executive Programmes 2021-2022
- Overview of academic staff including quality
- List of all graduates in academic years 2020-2021 & 2021-2022
- Intake, drop out and success rates
- AACSB Memorandum
- Domain-specific reference framework – NOREA Beroepsprofiel van de IT-auditor (2018)

Additional materials
Following materials were made available online for the committee:
- VU Assessment Policy
- SBE Assessment Policy
- Annual Reports Examination Committees
- Annual Reports Programme Committees

Graduation products
For every programme under review, the assessment committee studied a sample of graduation projects. In case of the MSc ITACA, the committee reviewed 15 master theses which had been successfully submitted by students in the academic years 2020-2021 and 2021-2022. The selection was representative in terms of scoring and theses had been supervised by a variety of staff.

A list with student numbers is available at AeQui