

Rapport on  
evaluation of masterstudium in  
Biological Chemistry  
120 SP  
Faculty of Science and Technology

<date>

## Introduction

National authorities require the University of Stavanger to monitor studies in accordance with the provisions of the Act relating to Universities and University Colleges, the Regulations relating to Quality Assurance and Quality Development in Higher Education and Tertiary Vocational Education (the Regulations relating to Quality Assurance of Education) and the Regulations relating to Supervision of the Quality of Higher Education (the Regulations relating to the Supervision of Higher Education).

Section 4-1(3) of the Regulations relating to the Supervision of Education states: "The institution shall have arrangements to systematically check that all study programmes satisfy the requirements in sections 3-1 to 3-4 of the Regulations relating to quality assurance and quality development in higher education and tertiary vocational education."

The note to the paragraph reads: "This means that the institution has satisfactory routines and practices for accreditation of study programmes and revision of accreditation. A revision of accreditation means a review of whether the programme of study satisfies the applicable requirements for accreditation and whether it has satisfactory results."

The Study Quality Regulations include a requirement for periodic evaluations. Section 2-1(2) reads:

"Institutions must conduct periodic evaluations of their study programmes. Representatives from working life or society, students and external experts, who are relevant to the study programme, shall contribute to the evaluations."

At the University of Stavanger, a revision of the study programmes' accreditation pursuant to Section 4-3(3) of the Regulations relating to the Supervision of Studies shall be based on periodic evaluation of the programme in accordance with Section 2-1(2) of the Regulations relating to Quality of Education.

The Dean shall appoint an evaluation committee. The committee shall prepare a report that explains how the programme meets the accreditation requirements in the regulations and any additional requirements set by the university, as well as whether it has satisfactory results. The report will also point out areas for further development. Reference is made to the documents [Accreditation criteria](#) for studies and [Policies and procedures for periodic evaluation and reaccreditation of studies](#).

This template has been prepared by the Director of Education to help the work of the committee and faculty. Content of the document:

1. Composition and mandate of the evaluation committee
2. Overview of documentation to be provided for the committee's work
3. General overview of the programme
4. The committee's assessments in accordance with the accreditation criteria
5. The Committee's overall assessment
6. The Dean's assessment, recommendation and action plan

Template for periodic evaluation of masterStudy 2022, revised by the Director of Education October 2021

The report with the dean's recommendation shall be sent to the Director of Education for further consideration.

### **Composition and mandate of the evaluation committee**

Composition of the Committee:

- 1-2 academic staff from the programme's academic environment
- 1-2 external academic staff from equivalent or adjacent disciplines
- 1 External labour representative
- 1-2 students
- 1 representative from the administrative staff

### **Mandate of the Committee**

- Assess whether the requirements set out in the Regulations relating to accreditation are satisfactorily met, or in which areas the programme does not meet the accreditation criteria
- Assess whether the study programme has satisfactory implementation capacity and documented results
- Provide assessments and recommendations that may be useful for further development of the study programme

Members of the Committee

<b>Background/competence</b>	<b>Name</b>
Academic staff from the programme's academic environment, chair of the committee	Mark van der Giezen, professor IKBM
Academic staff from the programme's academic environment	Jodi Maple Grødem, 1. amanuensis IKBM
Ekstern academic employee from equivalent or related field of study	Morten Kjos, 1. Assistant Professor NMBU
Student	Gillian Tawse
T echnic/administrative representative	Dugassa Nemie-Feyissa, Chief Engineer IKBM
External Labour Representative	Dmitry Kechasov, researcher NIBIO

### **2 Overview of documentation to be provided for the committee's work**

- Studieplan
- Matrix showing how the study programme is structured

- Course descriptions for all courses with reading lists
- Title of all master's theses submitted by the students who have graduated in the last three years
- Schedules for both cohorts for academic year 2021-22
- Overview of the scope of the academic year of 1500-1800 hours divided into self-study, organized learning activities, exams and exam preparation
- Publications of the academic community registered in Cristin 2017-2021
- Any other publications relevant to the study programme 2017-2021
- Overview of the academic environment 31.12.2021 (table) w / link to CV
- Exchange agreements quality assured by the academic community
- The following student data and performance data:

Data	Source
Number of admission places	Board resolutions
Search and admission	UiS Insight Education
Inntakskvalitet	UiS Insight Education
Number of starters	UiS Insight Education
Number of students	UiS Insight Education
Throughput	UiS Insight Education
Dropout litter 2017-2020	UiS Insight Education
Qualifications and exchange 2018-2021	UiS Insight Education
Outgoing students	UiS Insight Education
Passed credits	UiS Insight Education
Internal mobility	UiS Insight Education
Evalueringsdata	Studiebarometeret, internal data
Eksamensdata, tidsserier 2018-2021 Karakterfordeling Strykprosent Pass/enrolled	DBH

### 3 General overview of the programme

Name, qualification and start-up	
Master in Biological Chemistry	

Type of study (tick)	
X	Campus-/stedbasert studies
	Samlingsbasert studium
	Decentralised study programme at another place of study (state place of study)
	Nettstudium
	Online study with physical collections
	Fellesgrad

Studiet is offered as (tick off)	
X	Heltidsstudium
	Deltidsstudium

#### **4 The committee's assessments in accordance with the accreditation criteria**

The programme shall be assessed in accordance with the following accreditation criteria set out in NOKUT's Supervision Regulations (STF) and the Ministry's Regulations on Quality of Education (SKF):<sup>1</sup>

##### **Requirements for the study**

##### **4.1 Information about the programme must be correct, show the content, structure and progression of the programme, as well as opportunities for student exchange. STF §2-1 (2)**

By information is meant what is stated in the study plan and related information about the study programme.

The Committee's assessment:

The university's website (<https://www.uis.no/nb/studieprogram-og-emner/biologisk-kjemi-master-i-realfag/2022> and <https://www.uis.no/en/studieprogram-og-emner/biological-chemistry-master-of-science-degree-programme/2022>) presents the information pertaining to this study programme. Overall aim of the study programme and learning outcomes are all present, divided into knowledge, skills, and general competence.

The structure of the study programme is presented and explained including core and elective courses and specialisations. Links to each individual course are given leading to detailed course descriptions.

The page also provides information about possibilities for student exchange.

There is a second English page (<https://www.uis.no/en/studies/master-of-science-in-biological-chemistry>) where the information is presented slightly different from the above mentioned link.

A few other inconsistencies were noted as well, for example the website mentions two specialisations: Molecular Biology and Chemistry. However, under study plan and courses these are called Molecular biology and Organic chemistry. Some information is missing, e.g., BIO500, MJL540, BIOMAS have no course leader/point of contact. For BIO600, the language of tuition is listed as Norwegian or English but there is no note on eligibility of foreign students. Discussions with students highlight a problem finding information pertaining to the course: A search for 'biological chemistry' from the main university webpage brings up the course information page as the top hit, whereas the same search from the student pages has no relevant hits (<https://www.uis.no/en> vs <https://www.uis.no/en/student>).

Students further highlighted that it was not possible to find which courses were led by or included researchers whose work interested them.

The Committee's recommendations:

Although perhaps not in the most appealing format, all expected and required information is present. All inconsistencies and omissions mentioned above need to be addressed and care must be taken that the Norwegian and English pages are identical information-wise.

<sup>1</sup> In this section, regulatory texts are highlighted in a different font and comments in ordinary font (mostly taken from the comments to the regulations and NOKUT's guidance). The ratings and any Recommendations typed in text boxes.

A rethink on presentation and perhaps a more appealing page might enable attracting more potential applicants. For example, a more general description of the content of the study, who are the staff teaching, what students can expect to learn, and how this leads to employment would be welcome on the website. Also, an explanation what is meant by 'Biological chemistry' and how it differs from programmes offered elsewhere such as biotechnology, biochemistry, and molecular biology. This might emphasize the uniqueness of the study programme.

Information about the various research groups of the academics teaching on this programme and the different possibilities for a master's research project should be mentioned here as well. Overall, the study programme could be presented in a much more appealing and convincing manner to prospective students, especially in the light of impending student fees.

4.2 The learning outcomes for the study programme shall **be described in accordance with the Norwegian Qualifications Framework for Lifelong Learning, and the study programme shall have an adequate name.** STF §2-2 (1)

Learning outcomes must be described as what a candidate should have achieved upon completion of the education. The learning outcomes for study programmes with professional requirements, such as study programmes with framework plans, must meet both the professional requirements and the requirements of the Norwegian Qualifications Framework for Lifelong Learning (NQF).

The Committee's assessment:

The learning outcomes are described on the programme's website. However, they do not seem to align very well with the Norwegian Qualifications Framework for Lifelong Learning descriptors for a level 7 study (<https://www.nokut.no/norsk-utdanning/nasjonalt-kvalifikasjonsrammeverk-for-livslang-laring/nivaa-i-kvalifikasjonsrammeverket/#inndeling>).

Are study programme learning outcomes actually covered via the (core) courses offered? Is there a matrix to ensure no required learning outcome is missed? Overarching learning outcomes need to be mapped to individual course learning outcomes. This is not clear.

Is it certain those specific skills mentioned under S3 are continuously revised and kept up to date? Are these outcomes after the teaching year or only when including the (more individual) research projects?

The Committee's recommendations:

The programme name is Biological Chemistry. As mentioned under 4.1, a definition of what this entails is needed to be able to inform prospective students of what can be expected of the study programme.

The learning outcomes presented need to be covered by the offered courses in the programme. A review needs to be carried out to ensure that the course content actually delivers on the stated learning outcomes. Learning outcome S3 is already been mentioned but also, which course covers ethics as required by G2?

It is recommended to clarify where biostatistics, bioinformatics, or computational biology is covered.

The learning outcomes of individual courses are not described in the same way as for the overall programme and it is advised to standardise this, so that the content of the individual courses is uniform and better presented to the students.

Reflection upon NOKUT's learning outcomes and those from the study programme needs to take place in order to fully align these as required and expected for a level 7 study programme.

#### **4.3 The study programme must be up-to-date academically updated and have clear relevance for further studies and/or working life. STF §2-2 (2)**

The requirement that the study programme is academically up-to-date means that it is up-to-date within knowledge development in both academia and professional, work and/or society. Relevance and up-to-date knowledge in professional, work and/or society are ensured through schemes for interaction with working life and/or society adapted to the content and level of the study programme. It is assumed that the institution has assessed the basis for recruitment on the basis of expected demand/need and total capacity related to the same or similar study programmes at its own institution and other institutions.

##### The Committee's assessment:

Staff teaching on the programme generally have an active research output ensuring the possibility to engage with research-led teaching. How much this actually happens is not easy to assess. The second year of the programme allows placements with industry for the whole of the year, if students decide to choose such a topic.

There is some concern if the offered courses are enough at the forefront of the field or whether more suitable courses are not missed, especially in relation to staff research expertise. Courses that are more relevant to the region, such as focused on agriculture/livestock/aquaculture, are not present and could enhance student employability.

In addition, the new hospital is being build next to the campus but there are no clear biomedically focused courses offered despite the term biomedical being mentioned in the study programme descriptor.

Links to working life are not apparent.

##### The Committee's recommendations:

A stronger relevance to (local) employment possibilities should be visible in the study programme, possibly via specialisations. Use of guest speaker from (local) industry in the programme is something that could be considered more to improve links to working life. A review is recommended for each offered course to assess their level of relevance and how up-to-date they are in relation to the forefront of science and research.

**4.4 The total volume of work of the offer must be 1500-1800 hours per year for full-time students. STF §2-2 (3)**

Scope of work is a calculation of how much time the typical student spends to complete various academic activities required to reach the learning outcomes. Such a calculation should include self-study, exam preparation and organized learning activities. The learning activities a study programme contains will vary, but some examples may be lectures, seminar teaching, laboratory work, supervision and practice. The amount of self-study planned in a study programme will vary depending on the profile of the programme. A balance must be ensured between self-study and organised learning activities in the programme, which will enable students to achieve the learning outcomes in the standard time.

The Committee's assessment:

This was hard to assess and no hard numbers available. Student reports suggest 37.5 hours per week in 2020, split 19.5 and 17.5 between taught/independent study. If calculated based on term time plus exam period, this would be 1440 hours per year.

The Committee's recommendations:

It might be advisable if each module has an expected workload calculation (taught hours, self-study, exam preparation, labs, etc.) so students can plan their studies. Perhaps courses of less than 10 credits could be offered to spread load a little and increase content if desired.

**4.5 The content, structure and infrastructure of the study programmes must be adapted to the learning outcomes of the study programme. STF §2-2 (4)**

The learning outcomes for the programme are achieved through the courses. A course is the minimum credit-giving unit. The content and structure of the programme must show how all the courses in the programme, together with the progression from semester to semester, lead to the learning outcomes for the programme.

The programme must have sufficient access to suitable premises, equipment, library services, administrative and technical services, adequate and suitable ICT resources, network support, suitable learning platform, etc. that support the student's learning and learning environment and the academic staff's teaching and research and/or artistic development work and professional development work.

The Committee's assessment:

How individual courses fulfil the programme's learning outcomes is not made clear. A review of each course offered within the program at UiS revealed that the formulations in the learning outcomes do not correspond sufficiently with the syllabus. For example, it is not clear which courses fulfil learning outcomes K1, G1, G2, and G3.

Teaching facilities, library services, and IT resources are generally assessed as good, with available courses for students and staff in online support and the Canvas learning platform. However, the ability to record lectures in a professional manner is as good as absent in most lecture theatres. The department has laboratory facilities that include advanced instrumentation. Furthermore,

there are dedicated laboratories for cell culture, cultivation of plants (containment level 2 and S3, respectively), and zebrafish. The department also has access to other instrumentation within the faculty.

These resources can be utilised via both the lab components of the taught courses and in the masters research project, which is vital to offer a research masters at the forefront of the field.

One concern is the need for permanent technical employees to maintain these instruments and provide sufficient training to make them available to students at the Masters level. This is a demanding task with regards to both time and expertise.

The Committee's recommendations:

A matrix should be provided to clearly indicate which learning outcome is met by which course and how. Care must also be taken to ensure all level 7 learning outcomes as mentioned by NOKUT are actually embedded in the programme in a thorough and robust manner.

Provide recording equipment in each teaching room to enable live streaming and/or recording of lectures.

**4.6 Teaching, learning and assessment methods must be adapted to the learning outcomes for the study programme. Arrangements shall be made for students to take an active role in the learning process. STF §2-2 (5)**

The various teaching and learning methods must be adapted to the content and structure of the study programme. It is assumed that teaching, learning and assessment methods are adapted to a digitalised society.

The teaching and learning methods must be designed so that the students achieve the learning outcomes described for the programme. The forms of assessment must be suitable for measuring whether the student has achieved the learning outcomes.

How the academic environment facilitates students to take an active role will depend on the profile of the programme, and is also linked to ensuring and maintaining a good learning environment.

The Committee's assessment:

Most courses are taught using a combination of lectures (in person and/or digital) and lab work each week. Lab courses can be wet labs or digital. The descriptions of teaching methods are generally curt and it is unclear to what extent the lectures are delivered virtually, if at all. The exception to this is BIO515 which provides a detailed description of teaching methods that the students can expect. From the course descriptors it is not clear if students get training in writing and oral presentations. Little variation in assessments, mainly end of term exams.

During the MSc project year, students have excellent opportunities to experience working in a laboratory in an academic or industrial setting.

The Committee's recommendations:

Although there seems some variation in teaching methods, this should be better reflected in course descriptors (related to other comments in this document). Overall, more variety in teaching methods and assessments to reflect current practice. Perhaps this relates to the question about pedagogic qualifications of staff. Staff should be given the opportunity to enhance their pedagogic skills and this time should be properly allotted.

Keep and possible increase the practical component of courses via laboratory classes. In addition to enhancing student skills sets, this is also an import recruitment aid.

**4.7 The study programme must have a relevant link to research and/or artistic development work and academic development work. STF §2-2(6)**

The academic community must be able to demonstrate a sufficiently relevant mutual link between R&D/CU activities and the study programme and how students are introduced to R&D/CU during the programme.

The academic community can ensure this link through the use of their own research results, but also through the use of other research results in the education.

The Committee's assessment:

The academic environment comprises both permanent and affiliated members of staff. Together the group has published >100 papers from 2017-2021, and >70% were in level 2 journals. The group also has an extensive network of national and international collaborators.

The contribution of the staff pool to the master's program appears to be limited at course level. It is therefore hard to assess if research-led teaching occurs. Many research active staff are however involved in the supervision of MSc project students. This is the main opportunity to introduce students to research work. Some students have published in peer reviewed journals and some have been involved in national and international research projects. MSc students are also involved in mobility and several students do their thesis in collaboration with industry or other local institutes such as SUS, NORCE, NOFIMA, NIBIO, NordicDX, and Skretting.

The Committee's recommendations:

As mentioned above, an assessment of teaching methods including research-led teaching is needed. Include early-career researchers in teaching to lessen the gap between research and education. Maintain links with non-academic partners for research projects, and ideally embed them in the teaching as well as this will expose students to potential employers.

**4.8 The study programme shall have arrangements for internationalisation that are adapted to the level, scope and distinctive character of the study programme. STF §2-2 (7)**

The requirement means that the study programme is placed in an international context and that the students are thus exposed to a diversity of perspectives. Students at different levels of their studies will experience the international dimension differently, and it will also vary from subject area to subject area.

Arrangements for internationalisation may include a number of different activities, such as the use of international literature, foreign students on exchange, courses with cross-cultural and comparative content, courses in languages other than Norwegian, the use of foreign lecturers, or students' participation in workshops abroad, etc.

The Committee's assessment:

The subject area is by nature very international with texts being written in English. The programme's subjects are taught in English. Many of the employees in the professional environment have an international background. A large proportion of the students in the master's program are foreign. However, there are no students who make use of the opportunity for an international exchange. This should not necessarily be seen as a problem in a two-year master's program where all subjects must be completed during the first year. A large proportion of the students are already international and already mobile so it is mainly a problem that Norwegian students are less mobile than might be desired.

The options for participation in other international events, such as conferences, is limited due to costs involved. Notably the students were offered the possibility to participate in a week-long summer school in collaboration with institutions in Brazil, which brought together teachers and students from Norway, Brazil, and the USA.

The Committee's recommendations:

As already mentioned elsewhere in this document, the low level of uptake of international exchange is noted but explanations were identified as well. It is not necessarily a concern but because of this, the programme should ensure that perhaps other opportunities are included in the curriculum to expose students to the widest international possibilities available.

**4.9 Study programmes leading up to a degree shall have arrangements for international student exchange. The content of the exchange must be of professional relevance. STF §2-2 (8)**

The provision means that the institution must ensure that students at all study programmes leading up to a degree can be offered exchange stays through updated and binding agreements. The content of the exchange must be of professional relevance. The offer of exchange should normally be a minimum of three months and dimensioned in relation to the number of students in the programme and the university's mobility goals. The agreements must be academically relevant to the study programme, be anchored in the academic community and must normally contain pre-approved course packages or course choices at relevant contract institutions. The schemes must be visible and predictable for the students so that they improve the students' opportunities and motivation to go on exchange.

The Committee's assessment:

Information about study exchange is provided and expected to take place in the second term of the first year of the programme which is the sole teaching year of the two-year programme. Several universities are listed. However, information about relevant or recommended courses is missing. Links leading to individual university's course offering lead to sometimes a rather large and overwhelming offer. It is not clear how a student can find a relevant course that is deemed acceptable for the study programme. It is also not clear why the exchange universities that are

available have been offered. Is there an academic link? A more streamlined suggestion of recommended courses for the individual exchange university would be welcome. For Twente it seems this is an overall UiS exchange link and courses for Biological Chemistry students are hard to find. For Otago and Ghent the information is much better though.

In addition, as the exchange takes place in term 2, students need to decide to go on exchange in the first two weeks of arriving in Stavanger. It would also mean that half of the teaching for this programme is not under control of the University of Stavanger. This, combined with the somewhat chaotic offering of courses abroad, might result in students taking less relevant courses that perhaps might lead to graduates having a less than ideal combination of courses. How is course choice abroad reconciled with student specialisations? Who is in charge of checking and guaranteeing specialisations requirements have been met?

From available data, it seems no student has been on an exchange. There have been incoming students but no outgoing students. This is perhaps not surprising considering the above.

The Committee's recommendations:

Offering students the opportunity to enrich their studies with an international exchange option is highly recommended. However, as no students in the past have taken this option it seems there are obstacles achieving this. One obvious problem is the very short period students have to decide and arrange to take an exchange option in term 2. Having just arrived at UiS, it might be too much to ask our new students to decide in 10 working days to decide they already want to leave. Perhaps incoming students need to receive a welcome pack before they arrive to make them aware of the exciting opportunities that are available.

A second obstacle is that some universities do not seem to have any clear structure about which courses to take, and sometimes the information is not in English.

This might have led to no UiS student haven taken the opportunity to go on exchange on this study programme.

As exchange opportunities are valuable for students and society it might be an idea to consider to include an exchange option in the second year during the master research project. Several professors have active research links abroad and some industrial partners have branches abroad. A short stay of a few months as part of the research project might be an alternative to the current options which are clearly not working.

**4.10 For courses of study with practical training, there must be a practical training agreement between the institution and the practical training establishment. STF §2-2 (9)**

There must be agreements with the practical training establishments that ensure and regulate the academic implementation of practice, and that enable practice to be quality assured on the same lines as the parts of the programme that are carried out at the institution.

The Committee's assessment:

n/a

The Committee's recommendations:

n/a

**4.11 The master's degree programme must be defined and delimited and have sufficient academic breadth. SKF §3-2(1)**

The delimitation of the master's degree programme must be clearly stated through a description of subjects, disciplines and knowledge areas covered by the programme. The profile of the programme and possible specialisations must be described in such a way that the breadth of the programme is clearly stated.

The Committee's assessment:

The principle aim of the program is for the student to obtain advanced knowledge in Molecular Biology or Organic Chemistry (the two offered specialisations). In this context, the program has a clear academic scope. However, the information provided in the study programme descriptor is somewhat limited in scope. How the individual courses interlink and provide the asked academic breadth is not clear. The profile and possible specialisations of the programme are not well described. Information provided for the individual courses is rather limited and often only is a list of what is taught rather than an explanation of the rationale of the course or why it would be important. For the one-year masters project it is not clear how objectives are monitored to ensure that students achieve the stated goals on completion. No information is given on this in the course description. However, the study is particularly strong on methodology.

The Committee's recommendations:

There is a mismatch in the name of the chemistry specialisation between the English and Norwegian text. It is recommended to make sure this is the same. It should be Organic Chemistry (however, based on student uptake and Faculty advice, this specialisation is no longer offered after this academic year).

The name Biological Chemistry and the specialisation should be described more clearly within the study description and the study program. A more comprehensive overarching rationale of what the study aims to achieve would be welcome. Elective courses could be better linked to profiles to clarify the direct relevance they have for the study. However, considering there are only two teaching terms, it can be asked whether it is appropriate to divide the study into two specialisations as this limits the choice of subject combinations in semester 2.

How the quality/outcomes of the masters research project are ensured should be clarified.

Taken the above on board, might improve recruitment as it would result in a more appealing, comprehensive and robust offering that shows clear interlinked courses that result in a thoroughly put together student offering.

**Requirements relating to the academic environment**

**4.12 The master's degree programme shall have a broad and stable academic environment consisting of a sufficient number of employees with high professional competence in education, research or artistic development work and professional development work within the study programme. The academic environment shall cover subjects and courses that the study programme consists of. The employees in the academic community must have relevant expertise.** SKF §3-2 (2)

The academic environment associated with the study programme includes people who directly and regularly contribute to the development, organisation and implementation of the study programme.

The academic environment must be broad and composed of employees with relevant expertise in education, research or artistic development work and professional development work in all parts of the study programme. It is not sufficient that the competence is relevant to the study programme. The academic community as a whole must have a high level of expertise that covers the subject area. The academic environments shall include persons with associate professor qualifications and top competence, including senior lecturer, associate professor, docent, professor. The requirement entails reinforcement and sharpening, while at the same time allowing for flexibility in the composition of the academic environment.

The Committee's assessment:

The academic environment consists of five professors and two associate professors. In addition, several researchers and professor 2 positions contribute to the teaching. The subject environment covers the various subjects and subjects that are part of the study programme. The professional environment is stable and has relevant expertise in both education and research.

However, limited information about the staff teaching on this programme has been provided. Principally a link to their UiS staff page which sometimes has no information beyond the name of the person. Information about publications has been provided as well however the instruction above states that is not sufficient that the competence is relevant to the study programme alone. No information is provided about the pedagogic qualifications of teaching staff.

The Committee's recommendations:

Inclusion of postdocs and PhD students in the programme could be beneficial and be important for a strong and good professional environment. It could also have major positive effects on teaching.

It would be good if CVs of key teaching staff is provided which in addition to publications also includes information about their educational qualifications, course or programme leaderships experience, etc. It might be good to mention some of these indicators on the study programme website as with fee-paying international students, these indicators might be valuable in student recruitment.

**4.13 The academic community associated with the study programme must have relevant educational competence.** STF §2-3 (2)

Educational competence includes higher education pedagogy and didactics, as well as competence to utilize digital technology to promote learning. UHR's guidelines for basic teaching qualifications set out the minimum requirements for academic staff. In accordance with the guidelines, UiS assumes that it will require 200 hours of work to develop the desired basic competence and thus meet the requirement for educational competence.

The Committee's assessment:

Most teachers seem to have several years of teaching experience. However, no information about pedagogical or educational competence of staff has been provided. Based on the little information that is provided, there is a mixture of staff with long teaching experience and relative new-comers.

The Committee's recommendations:

Provide the information about the educational/pedagogic qualifications. This might be valuable information as part of the student recruitment. It is important that staff are provided with training needed to fulfil the basic teaching qualifications according to UHR's.

**4.14 The study programme shall have a clear academic leadership with a defined responsibility for quality assurance and development of the programme. STF §2-3 (3)**

The requirement that all institutions must meet is that the academic management must consist of employees in teaching and research positions and have the formal responsibility for ensuring that the programme is carried out in accordance with the curriculum and that the curriculum is developed. The person(s) with the academic responsibility must have the competence to carry out quality assurance and quality development of the programme.

The Committee's assessment:

Based on the information presented, it is unclear who has direct responsibility for the study. The only contact information is for an administrative study coordinator. It is not clear in the documentation how the formal quality assurance of the study takes place.

The Committee's recommendations:

The website and relevant documents should clearly state who is the study programme leader.

A study programme council could be established which regularly and systematically reviews study plans and course evaluations. Such a group should include both lecturers, students, study administrators and relevant working life representatives.

**4.15 At least 50 per cent of the man-years associated with the study programme shall be made up of employees in the main position at the institution. Of these, there must be employees with associate professor qualifications in the central parts of the study programme. In addition, the following requirements apply to the competence level of the academic community:**

**For study programmes at master's level, 50% of the academic environment associated with the programme must consist of employed persons with associate professor qualifications, of which at least 10 per cent with professorial or docent qualifications. STF §2-3 (4)**

The academic environment includes the persons who directly and regularly contribute to the development, organisation and implementation of the study programme. Employees in main positions are employed in at least 50 per cent positions at UiS.

In other words, only the academic community associated with the study in the form of man-years is assessed under this section. Positions from 0.1 full-time equivalents are included in the calculation.

The Committee's assessment:

7 out of 11 courses in the programme are taught by UiS employees, at least 3 have professorial qualifications. However, it is difficult to assess if staff teach the whole course or are only coordinators of courses. Unclear if this aim is met.

The Committee's recommendations:

Greater transparency on the individual contribution of course coordinators and teachers for each course offered would allow to answer this question with more certainty.

**4.16 The academic community shall be able to demonstrate documented results at a high level and results from cooperation with other academic communities nationally and internationally. The institution's assessments must be documented so that NOKUT can use them in its work. SKF §3-2(3)**

The academic community should be able to demonstrate documented results at a high level. What is considered a high level is assessed on the basis of what is considered to be a high level in the field nationally and internationally.

What must be documented is not only the results that the academic community brings with it from their own institution, but also results from R&D/CU collaboration with other academic environments both nationally and internationally. Dgreater research activity is required for a master's programme than for a bachelor's programme. In its audits, NOKUT will also require that the activities in academic environments that conduct studies within a doctoral platform must maintain "high international quality" at all study levels.

The Committee's assessment:

The professional community published 128 scientific publications in international journals in total for the years 2017-2022 (an average of 44 per year). Medical journals dominate in publication data. Publications and master's theses have been written in collaboration with researchers from SUS, NORCE, NOFIMA and NIBIO.

The professional environment is internationally oriented and has employees of various nationalities and collaborates both nationally and internationally.

The Committee's recommendations:

The professional environment is strong and it is important that efforts are made to ensure that this is maintained and further strengthened.

**4.17 The academic community associated with study programmes leading up to a degree shall participate actively in national and international collaborations and networks relevant to the study programme. STF §2-3 (6)**

Collaboration and networks must be relevant to the programme and provide the academic community with experiences that can be used in the programme and that can contribute to the quality of education. This may, for example, be research collaboration, participation in international conferences, cooperation on quality of education, etc. It is the networks in which the academic community actively participates that are assessed. Consideration shall also be given to how the collaboration contributes to the quality of the environment's R&D activities.

The Committee's assessment:

There is limited information on international cooperation and networks. Based on external master's theses and publication list, several professors and associate professors have collaborations with: SUS, Nofima, NIBIO, NIVA, NMBU, UiB, UiO and a number of foreign institutes such as the University of Exeter, UK; National Biotechnology Centre, Spain. Some courses have guest lecturers from other institutes, both nationally as well as internationally.

Whether any research networks exist for students is not clear.

The Committee's recommendations:

Provide more information about international collaborations and networks in the study programme description. If research networks exist for the students, this should be clarified on the information page on the website. The opportunity for students to participate in research projects within international networks could also be clarified.

**4.18 For courses of study with compulsory practical training, the academic environment associated with the study programme must have relevant and up-to-date knowledge from the field of practice. The institution must ensure that the practice supervisors have relevant expertise and experience from the field of practice. STF §2-3 (7)**

"Practice supervisors" means persons who facilitate and supervise the student during his/her practical training.

"Relevant competence" in the second sentence means relevant professional knowledge and supervisory competence.

In study programmes that have practical training, it is assumed that the institutions and academic communities themselves ensure systematic contact with the field of practice, so that the study programmes and the academic communities' own practical experience are updated and in line with developments in the field of practice. It is important for the quality of the study programmes that there is a regular professional interaction between competence persons in the field of practice and key competence persons who have a main position at the institutions. The academic community at the institution must have practical knowledge in order to cooperate well with the field of practice and integrate/build bridges between theory and practice in the education.

The Committee's assessment:  n/a
The Committee's recommendations:  n/a

## 5 The Committee's overall assessment

The committee commends this programme for its strong commitment to practical teaching throughout the curriculum. This offering is quite unique in Norway and probably internationally. The opportunity offered to second year students to focus on their Master's project throughout the year is also a strong aspect, especially as there are many opportunities to do this in industry, an option taken by many students. With the (upcoming) retirement of several professors, we realise that the curriculum could be refreshed, which is not necessarily a bad thing. The location of the university hospital close to campus and the strong presence of local companies focused on food production offer unique opportunities to strengthen the overall programme and give students more insight into working life.

We would recommend that the web pages (English and Norwegian, although this is an international study programme) are be updated to include relevant information that could improve recruitment, such as more information about staff research interests, opportunities to collaborate with industry and success stories of former and current students. A more proactive stance should be taken in light of the impending introduction of tuition fees. This degree programme is highly oversubscribed, but its presentation to the outside world could still be improved.

The Committee recommends that the presentation of each course and its contribution to the overall learning outcomes of the programme as a whole be reviewed as this is currently not well defined. In addition, it is currently not clear how staff research activities are transformed into research-led teaching; clarification would be welcome. The pedagogical qualifications of staff could also be better presented, which should also be important for recruitment. It would be advisable to establish a study

programme council (or similar), which regularly reviews study plans, course evaluations and other issues related to the programme.

Overall, this is a well-recruited degree programme that could be presented even better, as the inclusion of experimental work throughout the programme is quite a unique selling point for prospective students.

## **6 The Dean's assessment, recommendation and action plan**

Here, the Dean gives his assessment and recommendation before the report is sent to the Director of Education for further consideration. Also provide sample processing

If all accreditation criteria are considered met:

- The accreditation of the study is recommended to be continued.

If not all assessed criteria are considered met, but necessary adjustments to meet the requirements can be made within a reasonable time:

- It is recommended that the programme's accreditation be continued with an action plan to fulfil the criteria.

If not all assessed criteria are considered met and the necessary restructuring to meet the requirements cannot be done within a reasonable time:

- Recommendation for temporary deferral of admission while necessary development work is being done for the programme to meet the requirements, or
- Recommendation and plan for phasing out and closure

The report has been considered by the following committees at the faculty: <selection>  
<date>

The Dean's assessment and recommendation:

Priority measures for further development:

UiS, <date>

<Dean's name>

Dean

<Name of the Faculty>

*The document is approved in Public 360 by the Dean himself<sup>2</sup>*

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<sup>2</sup> No signed and scanned documents are desired