

Disciplinary strategic unit for mathematics, natural sciences and technology (UHR-MNT).

Coordination of the procedures for promotion to professor in STEM<sup>1</sup> subjects

at

- The Faculty of Information Technology and Electrical Engineering (The Norwegian University of Science and Technology (NTNU))
- The Faculty of Natural Sciences (NTNU)
- The Faculty of Engineering (NTNU)
- The Faculty of Mathematics and Natural Sciences (University of Bergen (UiB))
- The Faculty of Mathematics and Natural Sciences (University of Oslo (UiO))
- The Faculty of Health Sciences (UiT The Arctic University of Norway)
- The Faculty of Biosciences, Fisheries and Economics (UiT)
- The Faculty of Science and Technology (UiT)
- The Faculty of Engineering Science and Technology (UiT)
- The Norwegian University of Life Sciences (NMBU)
- The University Centre in Svalbard (UNIS)

All other departments or faculties with STEM subjects are free to use the scheme. It is a condition for coordination of the procedures and requirements for promotion in the STEM subjects that the plan and requirements are in accordance with the Ministry of Education and Research's Regulations of 23 July 2010, with amendments of 17 August 2015 and 1 September 2019.

*Approved by the National Council for Technical Education (NRT) and the National Faculty Meeting of Sciences on 19 August 2019, revised by UHR-MNT in November 2018 and September 2020.*

**This is an unofficial translation of the Norwegian version of the guidelines and is provided for information purposes only. In the event of any inconsistency, the Norwegian version shall prevail.**

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<sup>1</sup> STEM= Science, Technology, Engineering and Mathematics

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## 1. Introduction

### 1.1 Authority

According to the *Regulations concerning appointment and promotion to teaching and research posts*<sup>2</sup>, the authority to consider promotions to teaching and research posts rests with the institutions under the Act relating to Universities and University Colleges. From 2012, with revisions in 2016, 2018 and 2020, UHR-MNT's predecessors<sup>3</sup> established a joint scheme of national assessment committees and common requirements for promotion for the technology and sciences faculties at the major universities. The scheme can be used by all STEM faculties/departments in the higher education sector. The boards of faculties/departments that choose to apply the coordinated scheme will adopt the guidelines for coordination and requirements, with any additional requirements.

### 1.2. Objectives

The objectives of the coordination and the common requirements are:

- High quality of assessments
- Common levels and criteria for assessments
- To contribute to gender balance and diversity
- To keep the number of committees to a minimum
- Continuity in assessment processes
- Flexibility and quicker case processing
- Uniform case processing
- Uniform fee practice

## 2 Committee structure

The following committee structure has been established (administrative faculty in parenthesis):

- Biology (NTNU/Faculty of Natural Sciences)
- Pharmacy (UiO)
- Physics and astronomy (UiO)
- Geology (UiB)
- Meteorology/Oceanography (UiB)
- Chemistry (UiT)
- Informatics (UiO)
- Pure mathematics (NTNU/Faculty of Information Technology and Electrical Engineering)
- Applied mathematics (UiB)
- Statistics (UiO)
- Civil engineering (NTNU/Faculty of Engineering)
- Electrical Engineering (NTNU/Faculty of Information Technology and Electrical Engineering)
- Mechanical engineering (NTNU/Faculty of Engineering)
- Agricultural and Food Science (NMBU)

As regards subjects such as chemistry, informatics and the natural sciences in the technological programmes, national assessment committees may consider them on the condition that supplementary committee members who have a background and qualifications of relevance to technology are appointed.

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<sup>2</sup> <https://lovdata.no/dokument/SF/forskrift/2006-02-09-129>

<sup>3</sup> The National Faculty Meeting of Sciences and the National Council for Technological Education merged into UHR-MNT in 2018.

For assessments that are difficult to accommodate within the scope of one of the permanent committees, the applicant's faculty shall appoint a committee adapted to the field in question. If possible, one member from a related permanent committee should be a member of such special committees to ensure similar levels of qualification and uniform consideration.

### 3. Roles and responsibilities

#### 3.1 National assessment committees

The members of a national assessment committee are normally proposed by the administrative faculty. All institutions/faculties that want to use the committee for assessments must formally appoint the committee members.

About the appointment of committee members and requirements concerning the committee's composition:

- Members are appointed for a term of four years.
- The committee must comprise at least three members with professor qualifications and must together be sufficiently qualified to assess the applicants' qualifications, with particular emphasis on scientific and educational qualifications.
- According to the Regulations (quote): *'Only one member of the assessment committee may be from the institution where the applicant is employed, and this person shall not chair the committee.'*
- One of the members must represent the administrative faculty, and this person shall also chair the committee.
- The committee shall elect a deputy chair to lead the committee's work when applicants from the administrative faculty are assessed.
- At least one member shall be from a university or research institution abroad.
- Both genders shall be represented if possible.
- A committee member cannot be reappointed if she/he has served as a member for a continuous period of more than seven years at the time of appointment.
- If expedient, the composition of the committee may be discussed with the national discipline bodies for the subject area in question.
- The committee may (see the Regulations) be supplemented by one or more members with supplementary expertise. These supplementary committee members will in such cases be full members of the assessment committee during the assessment of the applications they are appointed to assess.
- Supplementary committee members are appointed by the applicant's institution/faculty. Supplementary committee members are normally required for each applicant.
- For applications from applicants applying for promotion to professor for the second time, at least one new supplementary committee member shall be appointed to replace, if relevant, one of the supplementary committee members who participated in the initial assessment.
- The committee shall be informed of general career development in academia and specifically what impedes and promotes the careers of women and minorities in academia.
- The committee must be informed of any additional qualification requirements adopted by the applicant's institution.

The chair of the committee is responsible for preparing a work plan and schedule for the committee's work and ensuring that they are complied with. The assessment committee's work should normally not take longer than three months.

### 3.2 The administrative faculty

The responsibilities and duties of the administrative faculty are to:

- Ensure, well before the deadline for applications, that the committee(s) is/are operational and propose the composition of the national assessment committee(s) for which the faculty is responsible according to the list in Chapter 2 *Committee structure*
- Submit information about the committee's composition, including any changes made during the period for which it is appointed, to other faculties/institutions that wish to make use of the scheme
- Cover any purely administrative costs relating to the committee in question

### 3.3 Applicant's institution/faculty

Applicants may only apply for promotion to professor at the institution/faculty where they are employed. The responsibilities and duties of the applicant's institution/faculty are to:

- Formally appoint assessment committees to consider applications from the institution's employees based on the proposal from the administrative faculty, and appoint any supplementary members (see above)
- Inform the assessment committee of any additional qualification requirements set by the institution/faculty
- Be responsible for the flow of documents and communication with the assessment committee from the time when the applications from the institution's own employees are submitted to the respective committees
- Have an administrative contact person for the case processing process
- Ensure that the applications from own employees are assessed within the agreed time limits, that the committee's work is efficient and complies with the applicable laws and regulations, and that necessary documentation is available
- Assess whether the committee's work complies with the applicable regulations and then forward the committee's statement to the applicants for comments, if any
- Forward any comments from the applicant to the committee for consideration and ensure that any comments and the committee's response accompany the case
- Process the assessment with any comments and responses in its own decision-making body
- Ensure that the rights of the applicant are safeguarded
- If relevant, appoint a new assessment committee for individual applications if this is deemed necessary in order to safeguard the rights of the applicant
- Pay external committee members' fees in accordance with the applicable rates. Committee members are external when they assess candidates from institutions other than the one in which the committee member is employed. Committee members are internal when they assess candidates from their own institution.

### 3.4 Procedure for applications for promotion

1. The institutions shall set (more or less) concurrent deadlines for applications: at present, normally 15 September.
2. The applicant's institution/faculty has appointed or will appoint the permanent assessment committees (prerequisite for participating in the scheme).
3. The applicant submits his/her application to his/her own faculty/institution.
4. The applicant's faculty/institution considers whether a national committee can consider the application.
5. The applicant's institution/faculty clarifies whether one or more supplementary committee members will be required. It is natural for the head of the applicant's department to

propose supplementary committee members. The committee may also propose one or more supplementary committee members.

6. The supplementary committee members are appointed by the applicant's institution/faculty and are full members of the committee.
7. The applicant's institution/faculty shall forward the application to the committee no later than one week after receipt together with information about any additional requirements stipulated by the institution/faculty, as well as information about the administrative contact person for the process at the applicant's institution/faculty.
8. The committee's total case processing time shall normally not exceed three months.
9. The assessment committee sends its report to the applicant's institution/faculty, which will, as soon as the assessment has been received and quality-assured in accordance with the applicable regulations, forward the statement to the applicant for comments, if any. The applicant's deadline for replying is two weeks. The report is also sent to the applicant's department for its information.
10. The applicant's institution/faculty sends the comments, if any, to the committee for consideration.
11. The body that has been delegated authority in promotion cases at the applicant's institution/faculty shall consider the committee's assessment.
12. The applicant shall be informed of the body's decision as soon as possible.

The Regulations allow institutions to assess promotion applications outside the normal deadlines. The permanent committees are obliged to assess such applications in the same way as other applications.

#### 4. Qualification description

To qualify for promotion, applicants must possess qualifications that in scope and nature (type, quality, breadth, depth) comply with international and national standards for professorships in the STEM disciplines. As far as possible, the qualification requirements shall be the same for all disciplines in the relevant STEM fields, but they shall be applied within the context of the individual discipline. For promotion to be granted, the qualifications must be indisputable.

The Ministry of Education and Research's Regulations stipulate general qualification requirements for educational qualifications but does not provide a more detailed description of 'academic level conforming to established international or national standards'. It must therefore be assumed that a comprehensive discretionary assessment of qualifications will be carried out.

Through the national coordination of promotions to professor, UHR-MNT recommends that the institutions use the qualification description below as a basis for promotion to professor, as it must be deemed to be the closest we have to what is referred to in the Regulations as an established national standard for the STEM subjects.

##### 4.1 Qualification requirements and comprehensive assessment

Scientific and educational qualifications shall be given more weight than qualifications in the other qualification areas described. If the applicant does not meet the qualification requirement at professor level in either the scientific or educational qualification area, particularly strong qualifications in the other area cannot compensate for this shortcoming.

It is emphasised that, in addition to the assessment of the individual requirements, a *comprehensive* assessment shall be carried out of the applicant's qualifications.

Documented experience from research and development work in relevant business and industry, innovation activities, successful patent applications, or documented excellent ability to disseminate

research and education activities can also be positive factors but cannot in itself compensate for inadequate scientific or educational qualifications. A documented ability to change course within one's own field can also be a positive factor in the assessment in cases where such a change is necessary and/or preferable to strengthen the general development of the discipline.

For a candidate to be deemed indisputably eligible for personal promotion to full professor within his/her field of employment, the following requirements are made as regards competence, qualifications and experience:

#### *4.1.1 Scientific qualifications*

The applicant's scientific qualifications must be thoroughly documented, and the committee must find them to be at an international level in the subject area in which promotion is applied. The applicant's scientific competence in the discipline in question must be assessed as good or even better when measured against the international standards for professorships in the relevant field. The applicant's scientific production must demonstrate a deep understanding of his/her own discipline, a broad and good insight into the field and broad insight into adjacent areas. The committee shall assess both generally recognised bibliometric indicators and accepted scientific standards of selected works. Particular emphasis shall be placed on both the quality and scope of the applicant's scientific production during the past six years (excluding statutory leaves of absence). This production must substantiate continued activity at professor level. However, it should also be possible to refer to developments over time and previous work of particularly high quality to substantiate a more long-term career development towards qualification for appointment as a professor. The most important element of the assessment of scientific merits will be peer-reviewed international scientific publications. This could be journal articles, books and book chapters, and in some cases other types of publications. Normally, no significant weight will be attached to scientific work that has not undergone a peer review. In addition to publications, any patents, innovation work, and documented research work forming the basis for processes in business and industry or public administration shall also be given weight. The emphasis on academic competencies vs patents, innovation, etc., will naturally vary between disciplines, but should be based on subject-specific international standards for what constitutes expertise in the field.

#### *4.1.2 Educational qualifications*

The applicant's educational qualifications shall be thoroughly documented through a teaching portfolio, and the committee must deem them to meet the requirements set out in the Regulations as they are specified for the STEM subjects at the national level through these guidelines.

The applicant must have developed and documented educational qualifications that include educational competence at associate professor level<sup>4</sup> and the following *regulatory* additional requirements for professor level:

- *Quality development in own teaching and supervision over time*
- *Broad experience of supervision, preferably at master's degree/PhD level*
- *Participation in work to develop quality of education in the academic community*

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<sup>4</sup> Section 1-4. Criteria for appointment as a 'førsteamanuensis' (associate professor)

(3) Applicants shall be assessed, but not ranked, based on whether they meet the following requirements: Completed a dedicated programme (minimum 200 hours)/relevant course and own teaching experience, and developed basic skills in planning, executing, evaluating and developing teaching and supervision activities (basic competence in teaching and supervision at university and university college level). Skills must be documented in the form of a systematic and comprehensive presentation to be assessed by the institutions. Applicants who do not meet the requirements on appointment shall be required to meet them within two years of their appointment. Pursuant to Section 1-1, the institutions can stipulate more stringent requirements and decide that these requirements shall apply in the assessment and ranking of applicants

Specification for the STEM subjects:

The educational qualifications must be based on the following principles:

- Focus on the student learning
- A scholarly approach
- Cooperation on teaching and development work

Among other things, educational qualifications entail:

- Sound competence and a broad range of skills in relation to planning, execution and evaluation of teaching and learning activities at all educational levels, both individually and in cooperation with colleagues
- Reflecting on one's own role and discussing and giving grounds for one's choices in the planning, execution and development of teaching, learning activities and supervision
- A broad range of skills and significant contributions to systematic development work in relation to education, teaching, learning activities and supervision
- Broad experience of supervision at master's degree and PhD level. The applicant should normally have been an active supervisor for at least two PhD candidates who have completed their doctoral degrees, but more extensive supervision at master's degree level can partly compensate for this. Supervision at PhD and master's degree level from other institutions than where the applicant is employed can be included in the assessment basis.

The educational competence is normally developed through

- a) A dedicated programme or course developed to provide basic teaching qualifications for universities and university colleges corresponding to at least 200 hours **in combination with**
- b) The applicant's own teaching and supervision experience in higher education

In exceptional cases, applicants can be assessed primarily on the basis of their practical experience, if applicable in combination with relevant education, courses and seminars.

Educational qualifications are documented through a teaching portfolio. The documented educational qualifications are expected to be based on the principles described above. For a more detailed description of documentation and the content of the teaching portfolio, see Chapter 5.5.

#### *4.1.3 Academic management experience*

The applicant should be able to document good leadership qualities and particularly have demonstrated that he/she is capable of high-quality research and education management. Emphasis is placed on the ability to initiate and manage research. General experience of initiating and managing research projects, developing and managing research groups, and work to improve the gender balance and focus on equality in research and academic-administrative work is also relevant.

#### *4.1.4 Network and collaboration*

The applicant should be able to demonstrate good networking and collaboration abilities both nationally and internationally. This can also include participation in consortiums and formal institutional networks, and it should be considered a positive factor if the collaboration concerns both research and education.

#### *4.1.5 External funding*

The applicant should be able to document a good ability to attract external funding of research projects (this requirement must be seen in light of the availability of external funding in the field). Participation in joint applications shall be recognised, but the applicant's role in such applications should be described.



#### 4.1.6 International profile

The applicant should be able to document activity in the international research arena and that his/her research has contributed to the field internationally. This can, among other things, be reflected through international research collaboration, participation in and assignments for international scientific forums, work as an expert for journals and institutions, and citations. Other desirable experience includes activity in the international arena for educational competence, a focus on quality and open science contributions, and international activities of importance to science, academia and society at large.

#### 4.1.7 Administrative experience

Applicants should have experience of administrative work in academia, for example as a member and/or chair of units and committees at universities or other knowledge-based institutions.

#### 4.1.8 Dissemination/outreach

Applicants should have experience of disseminating scientific issues and results to forums outside academia. Relevant competence includes dissemination to the general public through popular science activities (publications, lectures, blogs, social media etc.), dissemination through public media (TV, radio, newspapers, journals) and dissemination to users in public management and business and industry.

#### 4.2 Delimitation of subject

According to the Regulations relating to promotion, the applicant can only be assessed (quote) *'within the subject in which the applicant is employed'*. This does not imply that the applicants should only be assessed *in relation to the topic mentioned in the original job description*. Such a strict interpretation could contribute to an unfortunate conservation of subject areas and hamper academic development. On the contrary, a documented ability to change course within one's own discipline/field should, as mentioned above, be considered a positive factor in cases where such a change is academically relevant.

The Regulations specify that *'by subject is here meant the subjects and disciplines that may be included in the degrees that may be awarded by the institutions'*. If the applicant's institution deems the applicant's qualification profile to be within the academic profile of the academic unit where the applicant is employed in relation to a possible promotion, this should be sufficient for the applicant to be considered on his/her own terms.

Reference is otherwise made to the applicable Regulations concerning promotion.

### 5 Guidelines on the contents of applications for promotion

#### 5.1 Background to the guidelines

The purpose of these advisory and detailed guidelines is to help the applicant to include sufficient relevant information in his/her application and to organise it in a manner that makes the assessment process as efficient as possible. It is a matter of including essential information in a clear, informative, balanced, well-documented and concise manner. It is important that all aspects of the applicant's qualifications are clearly described, but that the emphasis is on scientific and educational qualifications.

It is recommended that the application does not exceed 12 pages, including the educational reflection note. The list of publications, the other content of the teaching portfolio and other documentation come in addition to this.

#### 5.2 Language

Applications are written in English, since the committee is required to include one international member, and because experts who cannot be expected to be proficient in Norwegian will often be

used.

### 5.3 Personal details

The following personal details should be included:

- age
- academic degrees (which, when, where)
- current position
- previous academic positions
- other positions relevant to the assessment

If desired, this information can be structured as a brief CV.

### 5.4 Scientific qualifications

The important aspect here is to document scientific depth and breadth within the subject in which the applicant is employed. Start with a brief memo description of the applicant's current research profile, research activities, research collaboration and priorities. A brief historical overview of the applicant's research profile and activity will also be relevant. The focus should be on previous and ongoing research, but any plans for the immediate future can also be mentioned briefly.

The most important basis for the assessment of scientific merits is publications in peer-reviewed international scientific journals and other types of peer-reviewed international publications (e.g. books, book chapters and, in some cases, conference publications). According to the Ministry of Research and Education's Regulations (quote) '*...applicants may submit a maximum of 15 scientific works.*' The Regulations also state that '*The applicant shall in addition submit a complete list of all publications or other documentable activities invoked as a basis for assessment. The list may be supplied with comments.*'

Normally, no significant weight will be attached to publications that have not been peer reviewed or that have been published in national forums. Lists of publications should be prepared with this in mind, so that it is clear what category a publication belongs to and it is easy to obtain an overview of the publication volume (and publications) in each category. Relevant categories include:

- articles in peer-reviewed international scientific journals
- books published by international publishing houses, with peer review
- contributions (chapters) in edited international peer-reviewed books
- other publications with peer review
- international publications without peer-review
- Norwegian/national scientific publications, in English (in journals, reports, books etc.)
- as above, but in the Norwegian language
- popular science publications

### 5.5 Educational qualifications

Educational qualifications are documented by means of a teaching portfolio comprising an overview of the applicant's practical experience and competence, documentation of invoked qualifications, and a brief reflection note on personal teaching experience, view of learning, results achieved, development work and similar. Documented educational qualifications are expected to be based on the principles for educational qualifications described in Chapter 4.1.2.

The teaching portfolio (including the reflection note) should not be too extensive. It is recommended that the teaching portfolio be based on the template, see the appendix.

If the applicant has been awarded status as an Excellent Teaching Practitioner, documentation of this status may be sufficient to substantiate teaching qualifications, in combination with an overview

of supervision experience at master's degree and PhD level, or, if relevant, bachelor's degree level.

#### 5.6 Academic management experience

Examples of relevant information about management experience include:

- establishing/heading a local research group, the nature of the group and the applicant's role in the group
- the research group's – and the researcher's – national and international network, and the applicant's role in establishing them
- the applicant's role in initiating and leading research projects, brief description of relevant projects
- collaboration constellations on projects
- whether the applicant has applied for/received external funding of major (or minor) research projects, including an indication of the size of the funding
- hosting postdoctoral research fellows and guest researchers
- leading roles in major academic activities (organisations/committees/projects) at a national or international level
- other factors that showcase abilities and experience of research management and career development.

#### 5.7 Network and collaboration

Describe activities and roles and describe the concrete results of the activities.

#### 5.8 External funding

Describe activities that concern sources of funding (e.g. the Research Council of Norway, the EU, business and industry, the public sector etc.), including roles in connection with applications and achieved results achieved, with the emphasis being on the past six years.

#### 5.9 International profile

The assessment emphasises international activity. It is therefore important that the applicant is able to clearly describe his/her role as a participant, initiator and leader in international forums. Among other things, this can include:

- international scientific collaboration and the applicant's role, including:
  - international collaboration on research funding/applications
  - international co-authorship and the applicant's role
- international collaboration on educational competence development
- participation at international meetings, role (lecture/poster/other), initiation/organisation of such meetings or parts of meetings
- supervision/hosting international students/postdoctoral research fellows/guest researchers
- invited lectures (meetings, institutions)
- peer review work for journals or foreign funding institutions
- other factors that document international profile and activity

#### 5.10 Administrative experience

Emphasis should be placed on administrative experience. Administrative experience can include:

- management of units at a university/university college or other academic forums
- member/chair of committees/boards
- other information that describe administrative experience and qualifications

This item is not primarily intended for experience of administrating research projects, but rather

academic units and activities of a more general nature.

### 5.11 Dissemination

Describe the applicant's contributions to the dissemination of issues and results from research (the applicant's own and others') to the general public, as well as to relevant users in the public and private sectors ('stakeholders and end users'). Clarify whether the contributions were in national or international media. Examples of relevant information include:

- popular science contributions (lectures, articles in newspapers, magazines, blogs, social media etc.)
- media coverage and contributions to such coverage (interviews etc.) – including TV, radio, internet, newspapers, magazines etc.
- lectures or other dissemination to public and private organisations/institutions/enterprises
- other relevant information that demonstrates a willingness and ability to disseminate research and research-related issues outside academia, as well as experience of such activities.

## 6. Related issues

### 6.1 Competence assessment for researcher 1183

As a result of an increasing proportion of research funds being channelled through external parties (the Research Council of Norway, the EU etc.), the universities have a number of research-only positions. Promotion from researcher 1109 or 1110 is regulated in the *Regulations concerning promotion to researcher 1183 based on qualifications* (in Norwegian only) adopted by the Ministry of Labour and Government Administration, cf. Notice to Personnel ('Personalmelding') no 11/98 of 2 June 1998.

Here, the qualification requirements are described as follows (quote):

*Section 4 Qualification requirements:*

- *International and/or national standards for professor qualifications competence or researcher qualifications at professor level have been established within the different subject areas/research fields. The assessment committee must base its assessment on these standards.*
- *Institutions/enterprises that, on the basis of their distinctive nature, have supplementary rules relating to the requirements for researchers in top academic positions, can take these into account in their consideration of the application.*

It seems natural that such promotions are seen in light of the qualification requirements that apply to personal promotion to professor as they are presented in Chapter 4. Of course, account must be taken of the fact that these are not teaching positions, and the requirements that relate to teaching can/must be applied correspondingly. It would not be unnatural to use the permanent committees to also assess such applications. However, this must be subject to the clear condition that an 1183 promotion does not qualify for a professorship, even if it is assessed by the committee for promotion to professor.

### 6.2 Assessment in connection with appointments to professor positions

Appointments to professor positions are regulated by the *Regulations for Appointment and Promotion to Teaching and Research Posts (FOR 2006-02-09 no 129)*<sup>5</sup>. However, the Regulations are

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<sup>5</sup> The Regulations were amended with effect from 1 September 2019 <https://www.regjeringen.no/no/dokumenter/forskrift-om-endring-i-forskrift-2006-02-09-129-om-ansettelse-og-opprykk-i-undervisnings--og-forskerstillinger/id2611014/>

not very specific as regards qualification requirements for professorships (quote):

*'Criteria for appointment as a professor:*

*(1) Academic level conforming to established international or national standards*

*or*

*(2) Extensive artistic activities at the highest level conforming to international standards and relevant breadth and specialisation at the highest level of the subject or discipline*

*and*

*(3) In addition to the requirement for basic teaching and supervision qualifications at university and university college level that applies to appointments to associate professor posts, the following must be documented:*

- Quality development in own teaching and supervision over time*
- Broad experience of supervision, preferably at master's degree/PhD level*
- Participation in work to develop quality of education in the academic community'*

The qualification requirements set out in Chapter 4 of this memo will serve as specification of these requirements, as they are recommended by UHR-MNT. However, it is advisable to be aware that some of the requirements may seem unreasonable to applicants whose backgrounds are not from ordinary Norwegian university environments. One example would be situations where there is a wish to appoint a person with extensive experience from the industry or business sector. The educational competence requirements may also be problematic to some international applicants and applicants with backgrounds from sectors that do not confer second degrees.

## Appendix: Proposed template for documentation of educational qualifications

Non-exhaustive proposed template for documentation of educational qualifications (cf. Chapter 5.5). Elements, items and contents that can be included in the documentation are mentioned.

### Pedagogical training

(formal education via a course in university pedagogy or equivalent, supervision courses, other types of courses or formal competence relating to teaching and supervision. Include the period and scope, and the institutions organising the courses)

- ....

### Teaching

(teaching at university colleges, universities or in other relevant contexts. State the level of courses or programmes, scope and year (period), the applicant's role and the institution)

- ....

### Supervision at different levels

(PhD candidates (name of candidate, title of thesis, degree-conferring institution, date of completion, supervisor role, scope of supervision for the individual candidate, number of master's degree candidates and, if relevant, bachelor's degree candidates)

- ....

### Education management, educational development work, contributions to the preparation and implementation of new learning methods

(for example work on developing/revising/renewing/digitalising study programmes/courses/other study units, developing good connections between learning outcomes and forms of learning and assessment, experience as an education manager, membership of programme councils and other committees relating to education, course coordination, as well as experience of assessment/evaluation of teaching and education, examiner assignments, mutual peer guidance, participation in evaluation at faculty or university level in national or international contexts)

- ....

### Collaboration on quality of education within and outside the applicant's own field, and with external parties representing society at large, the labour market, schools and the public administration

(for example collegial and interdisciplinary collaboration, implementation of educational activity in close contact with relevant employers/labour market players in cooperation with external players to develop the applicant's own teaching and supervision skills)

- ....

### Learning environments and resources

(for example application of different types of teaching and learning activities, contributions to the development of learning environments, active use of IT in teaching and evaluation, innovative use of digital and physical learning environments and learning resources, responsibility for and/or participation in the development of textbooks, digital teaching materials and other learning resources)

- ....

### Endeavours to improve the gender balance and increase focus on equality in the discipline culture and the content of study programmes

(from a quality and diversity perspective, the STEM subjects need to improve their gender balance. Effort is required at several related levels in order to change the numbers (gender balance), change the culture (gender awareness) and change the courses (gender perspective). Individual people's contribution to and participation in the work to change the culture and content are important to improve the gender balance and the candidates' ability to contribute to an equal society. Examples of things that may be highlighted include participation in the development of an academic culture and gender perspectives in the quality of education in academic communities, choice of textbooks, cases, examples and project assignments, visual presentations and a sustainability perspective on the field)

Publications of relevance to educational issues and experience sharing of teaching and supervision (list of publications including the publication channel, year, volume, DOI, language, presentations from scientific conferences etc., editorial and/or peer review work in subject didactic publication channels).

- ....

#### Reflection note

The teaching portfolio shall include a *reflection note* (maximum three pages) that is based on the applicant's own qualifications and teaching practices, with concrete and relevant examples from his/her teaching experience. The reflection note should be based on the applicant's own teaching experience and describe results achieved, development work and continuous quality development measures. The reflection shall be related to knowledge about students' learning in higher education. The reflection note should contain:

- Examples of how the applicant has developed his /her own teaching and an assessment of what bearing this has had on the students' learning. The reflection should be based on relevant science of education and subject didactic theory.
- Reflection on quality and goal attainment in supervision practice

#### Appendix to the documentation of educational qualifications

- Diplomas, course certificates that document university pedagogy qualifications and supervision qualifications and sources that substantiate experience and qualifications
- Sources that support the content of the reflection note and examples from own teaching
- Sources that support the reflection on supervision practice