

Guidelines for the Master's Thesis at the Faculty of Medicine and Health Science

Approved by the Faculty of Medicine and Health Sciences on 3 April 2019. Updated on 22 June 2020. The guidelines are applicable from the academic year 2019/2020.

1. Purpose of the master's thesis

The purpose of the master's thesis is to provide the student with the ability to conduct an independent, delimited research project under supervision and in line with applicable norms of research ethics.

The master's thesis should normally be an individual work. However, each master's programme may open for two students to write a master's thesis together. If so, this should be stated in the course description.

2. Supervision

Appointment of supervisor(s)

The management of the study programme determines how supervisor(s) are appointed. The supervisory relationship is formalized in a master's agreement that is completed by the student and signed by the student, the supervisor(s) and a representative of the department.

Who can be a supervisor?

The student must have a supervisor who is employed in an academic position at NTNU during the entire period of the master's project. This supervisor is responsible for ensuring that the project and the supervision are in line with NTNU's regulations. Supervisors employed at NTNU must have a PhD or senior lectureship competence, but exceptions can be made in consultation with the head of department. The student may have several supervisors, including from external environments. If the student has several supervisors, the master's agreement must state who is the main supervisor. The supervision must include academic, scientific and practical aspects of the completion of the master's thesis.

Content and scope

The student is entitled to supervision in accordance with the size of the master's thesis (1 hour per credit):

- 30 hours on a thesis at 30 ECTS credits
- 45 hours on a thesis at 45 ECTS credits
- 52.5 hours on a thesis at 52.5 ECTS credits
- 60 hours on a thesis at 60 ECTS credits

This includes all pre- and post-work for supervisor(s) and not just guidance meetings between the student and supervisor(s). The number of supervision hours applies per thesis, even when two students write together. In such cases, the supervisor's department may grant a higher number of hours upon application.

The master's thesis should be an independent work in which the student takes responsibility for its form and content. The supervision is a joint responsibility, and the graduate student must be an active party. The supervision should mainly be on a general level and to a smaller extent on a detailed level. The supervisor(s) are not to be considered as co-author(s) of any part of the master's thesis, and should avoid putting their own mark on the thesis.

What happens if the supervisory relationship is problematic?

If either party does not satisfactorily comply with their obligations (as described in the guidelines and the master's agreement) or if the supervisory relationship becomes problematic, the other party may request to be relieved of the supervisory agreement. The student may then request the department to have a new supervisor appointed. If the supervisor is absent for an extended period due to a research sabbatical, illness, travel or the like, the department must appoint a new supervisor if the student wishes to do so.

3. Topic, research problem and project description

The student must choose a topic and research problem for the master's thesis that are relevant to the subject area, and in line with the course description for the master's thesis. The topic and the research problem are prepared in consultation with the supervisor(s).

The drawing up of a project description is an important part of the work of the master's thesis. The purpose is for the student to create a plan for the completion of the master's project.

The project description must consist of a maximum of 10 pages (including references), be clearly formulated and include the following:

- Title of the master's project
- Introduction/background
- Purpose (aim) and research questions
- Methodology
- Research ethics (any plans for obtaining approvals REK/NSD, etc.)
- Risk assessment of the project
- Time-frame
- Budget (if applicable)
- Reference list
- Attachments (forms, approvals, etc.)

Approval of project description

The topic, research problem and project description for the master's thesis should be approved by the head of the study programme prior to working on the thesis.

4. Form, content, and scope of the master's thesis

Within the framework described here, the study programs may have additional specifications for the form, content and scope of the master's thesis. The study programmes must, in that case, have a written description of these specifications and make it known to the students.

The master's thesis must have a length of maximum 25,000 words. The word count does not include the title page, table of contents, reference list, summary, and any appendices.

The master's thesis must be structured systematically, for example, according to the IMRaD format, and include the following:

- Title page
- Contents
- Summary
- Introduction/background/possibly theoretical discussion
- Research problem
- Methodology (including considerations concerning research ethics)
- Results
- Discussion on results and methodology
- Conclusion
- References
- Any attachments

Results and discussion of results can be written as a common chapter.

The master's thesis can be formatted as an academic article. In this case, the student chooses a scientific, peer-reviewed journal (nationally or internationally), and the article must follow the article guidelines of the selected journal. The study programme decides whether the scientific article should be followed by a comprehensive text (so-called «kappe», or summary/thesis synthesis), and what content and scope this text should have. A systematic review structured according to the IMRaD model may also be approved.

Language of the master's thesis

Students who are admitted to a Norwegian language master's programme must write the master's thesis in Norwegian, another Scandinavian language or English. The master's thesis must contain a brief summary in both English and Norwegian/another Scandinavian language.

Students who are admitted to an International master's programme must write the master's thesis in English. The master's thesis must contain a brief summary in both English and Norwegian/another Scandinavian language. Students who are not proficient in Norwegian or another Scandinavian language may write the summary in English only.

5. Ethics

All master's projects must adhere to national and international principles of research ethics (cf. The Norwegian National Committees for Research Ethics, Declaration of Helsinki), applicable law and internal guidelines at NTNU.

Research ethical problems must be described in the project description. The main supervisor is responsible for relevant applications and that the necessary approvals are given before the project begins. Necessary approvals for the master's project (REK, NSD, etc.) must be present before the data collection starts. If students process personal data in the master's project, the legal basis for the

processing must be clarified. Risk assessment and any Data Protection Impact Assessment (DPIA) must exist. The main supervisor is responsible for the compliance of NTNU's current guidelines on personal data. For projects involving animals, guidelines and legislation for animal testing must be complied with. Clinical trials must be registered in publicly available registers before the first participant is included in the study.

Special guidelines may be relevant to comply with depending on where the data collection is being conducted and what data it relates to. This is especially true in collaborative projects with external institutions such as health trusts and municipalities. If the master's project involves the use of already collected data, it may still be necessary to seek approval for the new research problem.

The students' access to and handling of confidential information must be in accordance with the restrictions imposed by applicable laws and regulations. All personally identifiable data must be processed in a de-identified form and presented in such a way that the anonymity of the informant is safeguarded. This means that research data and identifying elements (scrambling key) must be stored separately. Active research data may be stored provided there is an approval from REC. The main supervisor must carry out a risk assessment of the master project, and possibly take steps to ensure that the processing of the data material is in accordance with applicable laws and guidelines. All assessments and measures must be documented. The head of department must ensure that there are procedures that assure that data material is stored in accordance with relevant approvals, both after the master's project has been completed, and if the master's project is interrupted.

According to current guidelines at NTNU, the head of department is the research director of the master's project. In instances where several departments are involved, it is the head of department at the main supervisor's department who is the research director. In clinical projects involving patients, the research director of the external institution must also be stated.

Roles and responsibilities in health research projects are described at Innsida (in Norwegian):

<https://innsida.ntnu.no/wiki/-/wiki/Norsk/Ansvar+og+plikter+i+helseforskning>

Please also see guidelines for processing personal data:

<https://innsida.ntnu.no/wiki/-/wiki/English/Collection+of+personal+data+for+research+projects>

6. Submission of the master's thesis

The master's thesis is delivered in PDF format via Inpera Assessment. More information about submitting the thesis can be found at

<https://innsida.ntnu.no/wiki/-/wiki/English/Forms+and+Guidelines+for+the+Master+Thesis+-+mh>

The master's thesis is considered to be delivered when the PDF file is delivered via Inpera Assessment. The student must register the exam in the course code for the master's thesis in StudentWeb during the semester in which the thesis is to be submitted.

Deadline for submission of the thesis

The deadline for submitting the master's thesis is 15 May for students who finish the master's degree in the spring semester and 1 December for students who finish the master's degree in the autumn semester. If the date for submission falls on a Saturday, Sunday or other public holidays, the deadline will then be the first following working day. If the master's thesis is not delivered within the deadline,

without this being agreed and approved by the department in advance, the thesis will be registered as “failed to appear”.

Leave of absence and deferred deadline for submission of the thesis

In the event of sickness, childbirth or conscription, the student may apply for a leave of absence. The deadline for submission of the thesis will then be extended corresponding to the period of the leave of absence granted. The application for the leave of absence is sent to the department.

For other compelling reasons, such as problems with data collection or illness of a shorter duration, the student may apply at the department for a deferred deadline for submission of the thesis of up to three months. Application for deferment must be delivered as early as possible and no later than two weeks prior to the original deadline for submission of the thesis. If the student is not finished by the new deadline, it is possible to apply for an additional three months of deferment. It is not possible to apply for deferments more than twice. Deferred submission does not entail supervision beyond the extent described in Section 2.

7. Assessment and examination

Examiners

The master’s thesis will be assessed by two examiners, of which at least one should be external. External examiner should not have had any employment at NTNU in the past year. The student’s supervisor(s) cannot be the examiner(s). The examiner must as a minimum have competency equivalent to the master's degree. At least one of the examiners must have senior lectureship competence.

The head of department appoints the examiners and assesses the competence in accordance with Chapter II of the Public Administration Act. The student will be notified as to who the examiners will be prior to the final oral examination.

Assessment of the master’s thesis

The master’s thesis is evaluated on the written work and on an oral exam, in which the student and both the examiners participate. If two students have written the master's thesis together, there should be an individual oral examination for each student. If the supervisor(s) are present at the examination, they shall not participate in the oral exam.

The department must ensure that the master’s thesis is submitted for assessment and that the assessment deadline is met. The assessment and oral exam should normally take place within three months from the delivery of the master’s thesis.

The examiners give a preliminary grade to the master's thesis prior to the oral exam. The oral exam can be used to adjust the grade of the written work by one grade up or down. The grading should be a joint decision in which the assessments of both examiners are included. In the event of a disagreement, the external examiner is given the greatest weight. The final grade must be released immediately after the oral exam is held. The student is only made aware of the final grade.

Description of grades

For the assessment of the master's thesis, NTNU’s current grading scale and accompanying descriptions of the grades are used:

<https://innsida.ntnu.no/wiki/-/wiki/English/Description+of+grades+for+master+thesis>

A “not passed” master’s thesis

If the written work is assessed to a grade F (not passed), an oral exam will not be held.

In the event of a grade F (not passed), a new or revised thesis with significant changes may be submitted for assessment one more time. The course coordinator for the master's thesis, in consultation with the student and the supervisor(s), schedule a new deadline for submission within six months. The head of department decides how much supervision the student is entitled to when revising the work (approximately 10 hours).

When the student has received a passing grade on the master's thesis, it is not possible to have a new thesis assessed within the same study programme.

8. Delayed publishing and publication of the master’s thesis

Research must be open and accessible to the public. If the thesis (full text) should be available on the Internet, the student must consent. All master’s theses are automatically archived in NTNU Open. If required due to special considerations, the master's thesis may be withheld from the public for a limited period. Delayed publishing must be clarified with the supervisor(s) prior to the submission of the thesis.

There is no prerequisite that the thesis must be sent to a periodical for publication purposes, but publishing is encouraged where appropriate. Any submission of a manuscript must take place upon written agreement between the student and the supervisor(s). The publication must comply with the usual rules of authorship (cf. the Vancouver Convention). When publishing, the student’s department and faculty at NTNU must be used as the author’s address.