

EXAMINER GUIDANCE FOR MASTER'S THESES



Universitetet
i Stavanger
FACULTY OF SCIENCE AND TECHNOLOGY

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1. GENERAL INFORMATION

1.1 About the work of an examiner

1.1.1 Appointment

Pursuant to Section 4-2(4) of the **Regulations relating to studies and examinations at the University of Stavanger**, there must be two examiners, at least one of whom must be external, to assess Bachelor's and Master's theses. The Regulations furthermore state that when two or more examiners are used, the external examiner has the final say in the event of disagreement (see (12)).

1.1.2 Deadlines for assessment

From Section 4-4(3) of the *Regulations relating to studies and examinations at the University of Stavanger*:

- Bachelor's theses: six weeks from expiry of the submission deadline* (The submission deadline is normally 15 May.)
*Note that the forwarding deadline for papers for applications for admission to Master's degrees/extension courses at other university colleges/universities is 1 July. We ask that this be taken into consideration in connection with the assessment of Bachelor's theses (this therefore only applies to students applying for courses at institutions other than UiS).
- Master's theses: 12 weeks from expiry of the submission deadline. (The submission deadline is normally 15 June)

1.1.3 Duty of secrecy

We wish to draw your attention to the fact that examiners at the University of Stavanger are subject to a duty of secrecy in accordance with Section 13 of the Norwegian Public Administration Act:

"It is the duty of any person rendering services to, or working for, an administrative agency, to prevent others from gaining access to, or obtaining knowledge of, any matter disclosed to them in the course of their duties concerning:

- 1) An individual's personal affairs, or*
- 2) Technical devices and procedures, as well as operational or business matters which for competition reasons it is important to keep secret in the interests of the person whom the information concerns.*

The duty of secrecy shall continue to apply after the person concerned has terminated his or her service or work."

1.1.4 Confidentiality

Master's theses submitted to UiS are generally publicly available; however, certain theses are confidential (see the Norwegian Freedom of Information Act). This may be because of commercial matters where secrecy is important or other circumstances that may be important for competition reasons. Whether a thesis is open or confidential will be indicated by a) the title page of the thesis will be written in red, and b) a statement on the enclosed examiner form.

1.2 Fees

1.2.1 Salary group

The University of Stavanger calculates salaries for external examiners based on the government's basic collective agreement "C-table". In general, four alternative pay bands are used: Professor, docent/associate professor, senior lecturer/assistant professor, amanuensis/university teacher (see the fees form enclosed with the covering letter for further information on pay bands and rates).

Examiners whose primary place of employment is within the university and university college sector and whose salary group is higher than the pay bands specified in the enclosed fees form may be offered a corresponding pay band at UiS. In such cases, the pay band group must be documented with a copy of a payslip enclosed with the fees form.

Examiners who have not had their skills assessed in relation to a scientific position in the university and university college sector will be the subject of an internal assessment of their level of skill in accordance with the qualification requirements for the position.

1.2.2 Normal time allowance

- Fees are paid for 10 hours per thesis for a Master' thesis worth 30 credits.
- Fees are paid for 15 hours per thesis for a Master' thesis worth 60 credits.

1.2.3 Salary payments

Fees forms and contracts received by the payroll office for the faculty during the first week of the month will normally be paid on the 12th of the following month. Forms and contracts received after this will not be paid before the 12th of the month two months after submission.

1.3 Contact information

If you have questions regarding the information above, please contact us via the email address: tn-post@uis.no or by telephone on (+47) 51 83 17 00.

2. ASSESSMENT OF THESES

2.1 Background

The National Faculty Meeting for Natural Sciences (*Det nasjonale fakultetsmøte for realfag*, NFmR) and the National Council for Technological Education (*Nasjonalt råd for teknologisk utdanning*, NRT)*, established new common grade descriptions for Master's theses in mathematical, natural science and technology subjects (MNT) in 2012. These have been applicable to Master's theses submitted from the spring semester of 2014 onwards. The reasons for the introduction of these descriptions are as follows:

- Statistics prepared by UHR indicated that A and B grades were being used far too frequently.
- Introduction of the qualification framework for higher education in 2012.

* NFmR and NRT are strategic academic units under the Norwegian Association of Higher Education Institutions (UHR).

The grade descriptions are now specific to both education level and subject, e.g. MNT. The relationship between learning goals and grading has been clarified to assist supervisors and examiners.

It is anticipated that these measures will lead to greater use of the entire grading scale.

The grade descriptions are documented with the following text:

1. *Grade description for Master's work/theses.*
2. *The examiner assessment*, which is a document for examiners and programme coordinators and which explains the criteria used in 1.
3. *The supervisor assessment*, which is a document for programme coordinators and supervisors that describes criteria associated with follow-up of a piece of Master's work.
4. *The standardised examiner form*, which may for example serve as a method for the systematising of assessments.

In addition, NFmR and NRT have prepared a report on their work, but this is not enclosed here.

2.2 Grade description for Master's work/theses

Descriptions of the requirements for achieving the various grades are presented in the table below.

In addition, the Faculty of Science and Technology has reached the following decision concerning the use of grade 'A': "Grade 'A' must be accompanied by a brief description from the examiners to the institute manager which gives an account of the originality and publication potential."

	Designation	Description
A	<i>Excellent</i>	- <i>An outstanding thesis which clearly demonstrates a talent for research and/or originality, from a national perspective.</i> - <i>The candidate has very good insight into the scientific theory and methods in his/her field and has demonstrated scientific knowledge at a very high level. The goals of the thesis are well-defined and easy to understand.</i> - <i>The candidate is able to select and apply relevant scientific methods convincingly, has all the technical skills required for the work, can plan and conduct very advanced experiments or computations without help, and works very independently.</i> - <i>The thesis is considered very comprehensive and/or innovative. The analysis and discussion have an extremely good scientific foundation and justification, and are clearly linked to the topic that is addressed. The candidate demonstrates extremely good critical reflection and distinguishes clearly between his/her contributions and the contributions from others.</i> - <i>The form, structure and language in the thesis are at an extremely high level.</i>

B	<i>Very good</i>	- <i>A very good thesis that is clearly and positively distinguishable.</i> - <i>The candidate has very good scientific knowledge and insight into the scientific theory and methods in his/her field. The goals of the thesis are well-defined and easy to understand.</i> - <i>The candidate is able to select and apply relevant scientific methods soundly, has almost all the technical skills required for the work, can plan and conduct advanced experiments or computations without help, and works very independently.</i> - <i>The thesis is considered comprehensive and/or innovative. The analysis and discussion have a very good scientific foundation and justification, and are clearly linked to the topic that is addressed. The candidate demonstrates very good critical reflection and distinguishes clearly between his/her contributions and the contributions from others.</i> - <i>The form, structure and language in the thesis are at a very high level.</i>
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C	<i>Good</i>	- A good thesis. - <i>The candidate has good scientific knowledge and insight into the scientific theory and methods in his/her field. The goals of the thesis are generally well defined, but may contain some inexact formulations.</i> - <i>The candidate uses the relevant scientific methods satisfactorily, has most of the technical skills required for the work, can plan and conduct quite advanced experiments or computations without help, and works independently.</i> - <i>The thesis is considered good with elements that are creative. The analysis and discussion have a good scientific foundation and justification, and are linked to the topic that is addressed. The candidate demonstrates good critical reflection and usually distinguishes clearly between his/her contributions and the contributions from others.</i> - <i>The form, structure and language in the thesis are at a good level.</i>
D	<i>Satisfactory</i>	- A satisfactory thesis - <i>The candidate has fairly good scientific knowledge and insight into the scientific theory and methods in his/her field. The goals of the thesis are defined, but may contain some inexact formulations.</i> - <i>The candidate is generally able to apply relevant scientific methods, has the main technical skills required for the work, and can plan and conduct experiments or computations without help. The candidate works independently to some extent, but needs quite close supervision to achieve satisfactory scientific progress. The candidate may have problems utilising the research group's expertise in his/her own work.</i> - <i>The thesis is considered satisfactory. The analysis and discussion have a satisfactory scientific foundation and justification, and are linked to the topic that is addressed, but there is room for improvement. The candidate demonstrates an ability for critical reflection, but has problems distinguishing clearly between his/her own contributions and the contributions of others.</i> - <i>The form, structure and language in the thesis are at an acceptable level.</i>

E	<i>Adequate</i>	- A thesis that is acceptable and satisfies the minimum criteria. <i>- The candidate has sufficient scientific knowledge and insight into the scientific theory and methods in his/her field. The goals of the thesis are described, but are vague and imprecise.</i> <i>- The candidate is able to apply some relevant scientific methods, has a minimum of technical skills required for the work, and can plan and conduct simple experiments or computations without help. The candidate achieves limited scientific progress without close supervision, and has problems utilising the research group's expertise in his/her own work.</i> <i>The thesis is considered limited and somewhat fragmented. The analysis and discussion have an adequate scientific foundation and justification, but ought to have had a better link to the topic that is discussed. The candidate demonstrates sufficient critical reflection, but may have problems distinguishing between his/her contributions and the contributions from others.</i>
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		- The thesis is mostly acceptable, but has definite shortcomings with respect to form, structure and language.
F	Fail	- A thesis that does not satisfy the minimum requirements. - The candidate does not have sufficient scientific knowledge and insight into the scientific theory and methods in his/her field. The goals of the thesis are not clearly defined or are lacking. - The candidate demonstrates a lack of competence in the use of scientific methods, does not have the required technical skills and independence for the work, and has scarcely utilised the research group's expertise in his/her own work. - The thesis is considered very limited and fragmented. The analysis and discussion do not have an adequate scientific foundation and justification, and are loosely linked to the topic that is discussed. The candidate does not demonstrate sufficient critical reflection, and does not clearly distinguish between his/her contributions and the contributions from others. - The thesis has major shortcomings with respect to form, structure, and language.

2.3 Examiner's assessment

Assess the extent to which the candidate has achieved the goals described for each of the items. The various goals are included in the table in section 2.2, and the text below provides a more detailed description of these.

(All text in italics has been obtained directly from text for NFmR and NRT.

Words and concepts that have been underlined have been obtained from the National Qualifications Framework.)

Technical grounding

Is the theoretical and technical foundation clearly described, enabling the work to be placed in the context of relevant international research?

Theoretical insight

Does the work, in particular the introduction, document that the candidate has advanced knowledge of relevant general theory and methods, and particular in-depth insight into the specific field that is applicable to the thesis?

Goal description

Are the project's goals and/or hypotheses presented in a clear and comprehensible manner?

Level of skill

Does the candidate master relevant methods and use them in the project in an applicable and integrated manner?

Work

Does the work display creativity and/or contribute to original thinking and innovation? Does the work give the impression of being particularly comprehensive? What can be said about the quality and significance of the new knowledge /results generated by the work?

Analysis and discussion

Is the analysis, interpretation/synthesis and discussion technically grounded and supported and clearly linked to the problem/topic of the project? Does the discussion maintain a high academic standard? Is the candidate able to apply his/her knowledge and skills to new fields and place the results in a broader perspective?

Critical reflection

Does the candidate demonstrate a reasonable understanding of the value of the results? Does the candidate approach sources of information in a critical manner? Does the candidate evaluate and discuss elements of uncertainty such as methodological errors, data errors, etc.? Does the candidate analyse relevant ethical questions related to technical, professional and research matters?

Own contribution/achievement of goals

Does the candidate make a clear distinction between his/her own work and contributions from others? Does the written project reach a conclusion where the results are summarised satisfactorily, including a discussion of the extent to which goals have been attained? Does the candidate make and justify a reasonable suggestion for further developments or discuss future potential?

Structure

Does the work demonstrate an organised structure (normally 'IMRaD: Introduction, Methods, Results and Discussion')? Is the work generally clear?

Language

Is the candidate able to present problems and results with the necessary technical/academic precision? Is the work easily comprehended and does the candidate demonstrate a good command of the language used?

Form

Is a consistent style used for references, figures and tables? Is the quality of figures and tables acceptable? Does the candidate have a good command of relevant specialist terminology?

2.4 Standardised assessment form

The programme coordinator and examiner will reach an agreement regarding a plan for assessment. To assist with this, NFmR and NRT have designed an assessment form, which is shown below. This may for example serve as a method for the systematisation of assessments.

Main assessment criteria	Sub-criteria: Comment	E/S*	Max. score	Pre-assessment	Final credits	Comments
Introduction and theory (max. 20 credits)	Technical grounding	E				
	Theoretical insight:	E				
	Goal description:	E				
	Own contribution:	S				
Methods and working practice (max. 25 credits)	Level of skill:	E+S				
	Working methods:	S				
	Effort:	S				
	Degree of independence:	S				
Results and discussion (max. 35 credits)	Project result:	E+S				
	Analysis and discussion:	E				
	Critical reflection	E				
	Own contribution/ achievement of goals	E				
Presentation (max. 15 credits)	Structure:	E				
	Language:	E				
	Form:	E				
Oral examination (max. 5 credits)	Presentation during final examination:	E+S				
		Total	100			

*The assessment is primarily provided by the **Examiner** or **Supervisor**

A maximum number of credits is proposed for the main assessment criteria (which must not exceed 100 in total), whereas no maximum number of credits is suggested for each of the sub-criteria (although they must amount to a total of 100). This is to accommodate different types of projects (theoretical/experimental, 30/60 credits, etc.) that require certain sub-criteria to be weighted differently.

Using the assessment form

Total scores:

The faculty/institute/department must set a maximum number of credits for each criterion such that the total is 100. Similarly, a maximum total score must be decided for each sub-criterion so that the total for all the sub-criteria is 100. The maximum score for a criterion is to be equal to the maximum scores for its associated sub-criteria.

A challenge associated with the assessment form and awarding credits is that if one credit for a criterion is understood to be acceptable and a Master's thesis is assessed as having one credit for all of the criteria, the entire criteria list will have a total of 16 credits. This is in accordance with the grade table in the interval for F (0 – 39) and a fail. Therefore, one credit cannot indicate an 'above list/acceptable' value. If a sub-criterion, such as "Technical grounding", has a maximum score of five credits, the following scale will apply:

5 credits – near perfect

4 credits – very good, only minimal improvement possible

3 credits – good, but clear improvement possible

2 credits – just acceptable for Master's degree standard

1 credit – some value, but insufficient for Master's degree standard

0 credits – negligible value

Assessment:

The examiner and supervisor carry out a pre-assessment and assign credits according to the different criteria (marked E and S). After the oral examination and the assessment meeting, all scores may be adjusted apart from "Presentation" and "Oral examination". Criteria are marked E (Examiner) or S (Supervisor) according to who has overall responsibility for assessment. Three criteria are marked E + S, meaning that the Examiner and Supervisor have joint responsibility for the assignment of credits.

Grade table

Grades	Credit interval
<i>A</i>	<i>90 - 100</i>
<i>B</i>	<i>80 - 89</i>
<i>C</i>	<i>60 - 79</i>
<i>D</i>	<i>50 - 59</i>
<i>E</i>	<i>40 - 49</i>
<i>F</i>	<i>0 - 39</i>

2.5 Supervisor assessment

The supervisor assessment is a document for programme coordinators and supervisors that describes criteria associated with the follow-up of a piece of Master's work. Therefore, these are supplementary criteria that only programme coordinators and possibly supervisors can assess. The supervisor assessment has been included in its entirety for information purposes for external examiners.

Provide an assessment for the criteria below for the extent to which the student has achieved the goals described. (All text in italics has been obtained directly from text for NFmR and NRT. Words and concepts that have been underlined have been obtained from the National Qualifications Framework.)

Theoretical insight

Has the candidate himself/herself generated important elements/problems in the thesis? Has the student used relevant resources (databases, etc.) to acquire current and updated

literature and background knowledge for the work?

Level of skill

Does the candidate master relevant methods and use these in the project in an applicable and integrated manner?

Working methods

Does the candidate demonstrate the ability to work systematically and methodically?

Effort

Does the candidate demonstrate the ability to put in a high level of effort and a sound level of professional dedication?

Independence

Can the candidate work and use relevant methods independently, and perform an independent research or development project under supervision? Has personal initiative been demonstrated? What type of help and guidance has the candidate received during the various phases of the work? Has the candidate demonstrated an ability to benefit from the expertise of the research community in his/her own work?

Work

Does the work display creativity and/or contribute to original thinking and innovation? Does the work give the impression of being particularly comprehensive?

Time

A precondition for the assessment of the work is that it has been submitted within the normal allocated time.