Assesment criteria of Master's thesis. Department of Biological and Environmental Science. Valid from September 1st 2017.

This is clarification of the assessment matrix approved by the Faculty of Mathematics and Science, University of Jyväskylä. The assessment points approved by the faculty are coverd in this matrix in the following way: Logic and clarity (criteria 1 and 7), Connections to theoretical and conceptual background (2), Understanding the literature (6), Understanding the methods and/or experiments (3 and 4), Interpretation of results and conclusions (5), Student's independence and initiative (9), Final quality and language usage (1 and 8). In those cases when the Abstract is evaluated a maturity exam, its scientific content and style have to reach at least the grade "Good (3)".

NOTE: During grading of the thesis, please use the table from right to left.

	Excellent(5)	Very Good (4)	Good(3)	Satisfactory(2)	Sufficient(1)	Fail
1 ABSTRACT	The Abstracts in Finnish and in English are both good scientific language, complete, and do not have errors	The Abstract describes background, aims, methods, results, discussion and conclusions in a balanced way. Either Finnish or English Abstract requires some editing.	The Abstract describes the content of the work. The Abstract describes background, aims, methods, results, discussion and conclusions but these parts are not in balance. The Finnish and English abstracts correspond to each others, but either of these has linguistic problems.	The Abstract mostly describes the content of the work. Some major part is missing from the Abstract. Finnish and English Abstracts do not completely correspond to each others or one of them is clearly a bad translations of the other.	The Abstract only vaguely describes the work. OR Several major parts are missing from the Abstract. OR The Finnish and English Abstracts do not correspond to each others.	Abstract does not describe the content of the thesis. OR Either the English or the Finnish Abstract cannot be understood.
2 INTRODUCTION (Connections to theoretical or conceptual background or practical problems to be studied)	The thesis takes a novel theoretical or conceptual approach.	The study justifies the aims of the research both in respect of theory and practical questions Central concepts and phenomena related to the research are well described. Hypotheses or predictions are well described.	The importance of the study is justified either in respect to theory or practical questions. The main concepts or phenomena related to the study are defined, but they are not well justified. The relations between concepts are understood. Even though the study question is explicit, hypothesis or predictions are missing.	The importance of the study is justified only indirectly. Key concepts have been mentioned, but not well defined. The relations between concerts are mainly understood, but narrowly explained. The study question is too general.	The importance of the work is not justified either theoretically or practically. The main concepts can be found in the test, but their relations are not defined at all. OR The main concepts and their relations are not understood and they do not link to the study questions. The study question is only vaguely defined.	The study has not been linked to conceptual or theoretical background or to a practical problem. OR The study question has not been defined.
3 Understanding the methods and/or experiments	In addition to what is required for very good, the author demonstrates excellent methodological or experimental skills OR has successfully developed new methods.	The use of methods has been clearly justified and the assumptions, limitations, alternatives are mentioned. Statistical or numerical or chemical analyses are valid and correct. The methods have been described so that all	The methods and experiments are valid related to the research question, but their choise has not been clearly justified. There is a clear link between methods and research questions. Statistical or numerical or chemical analysis is mostly valid. The research has been described so well that it can be mostly reproduced.	The methods can mostly provide answers to the research questions even though the choose of methods is not perfect. There are minor missing parts in the description of the methods. Statistical or numerical or chemical analysis is insufficient.	There are clear methodological problems in the most important methods used in the study and thus the methods cannot reliably answer the central research questions. Some essential methods are not adequately described. Statistical/numerical or chemical analysis is missing even though that would have been possible and important for the research questions.,	The methods used are not suitable for the research aims OR Central methods or data collection have been so poorly documented that the research cannot be reproduced based on the description

	essential parts can be reproduced.					
4 Presentation of the results	The results have been presented in a creative and flawless way. The statistical analyses are versatile and complete . For instance the effect size is taken in account when appropriate. The presentation of results is exceptionally clear, logical and complete without any errors.	The results have been presented clearly and in a logical order. The presentation of results is does not contain errors and it is clear that the student has understood the analyses.	The results have been presented in an explicit way but there are minor problems in the logic, repetition or order (=everything needed is said, but in a bit rough way). Presentation of statistical/numerical/chemical analysis complies to scientific standards in the field. There is some minor repetition between figures, tables and text.	The results correspond to the experiments/measurements done. The results are mostly described explicitly, but there are some claims that are not supported by the data presented. Reporting of statistical/mathematical/chemical analysis mostly complies to scientific standards in the field. There is unnecessary repetition between the figures, tables and text.	The results reported only poorly correspond to the experiments and measurements. The results have been reported unclearly or in an unnecessary complicated way. Reporting of statistical/mathematical/chemical analysis does not comply to scientific standards in the field.	The results reported do not correspond to actual measurements of analysis. Some results have been left out without a valid reason.
5 Discussion and conclusions	The discussion is clear and logical. There is a good balance between discussion of results and literature. The conclusions show independent and conceptual thinking,	The discussion is clear and not only a repeat of the results section. The results are linked to literature and to general concepts and theories. The reliability and limitations of results is covered in a balanced way. The conclusions are well justified and contain no over- or under-emphasis of the results.	The discussion contains new points and does not only repeat the results. The results are related to the literature, but poorly to general concepts or theories. The reliability and limitations of the results have been discussed, but not comprehensively (or the discussion mainly comprises of this). The conclusions are presented, but they are not fully justified . The conclusions may over-estimate or under-estimate the results.	The discussion unnecessary repeats the results. As a whole, the discussion remains incomplete. For instance references that support or contradict current results are not cited. Some part of the results is not discussed at al. The reliability and limitations of results has not been discussed at all. The conclusions partly repeat the discussion or they do not link to results obtained in the current study.	The discussion mainly repeats and lists the results and contains hardly any comparisons to literature. The conclusions largely repeat the discussion or they do not link to results obtained in the current study.	The results have not been discussed in relation to published literature. OR No conclusions have been presented.
6 Understanding of the literature and use of references	Literature citations are used to support argumentation in clear and lucid way. The study uses literature critically and discusses its strengths and limitations.	Most references are original literature and contain both classics in the field and recent publications. Literature citations are used tu support argumentation.	Most of references used are original literature, and only few unreliable sources are cited. All claims presented are properly referenced. Literature citations are partly used to support argumentation, although sometimes literature is presented just as list of results.	Most of references used are original literature, but also many unreliable sources are cited. The study contains some claims without proper references. The citations are not used to support argumentation, but are given as a list of results.	Original research has been cited, but most of the references are non-peer reviewed reports, text books , web links or oral communications, that could be considered unreliable. The study contains some central claims without proper references. There are several error in citations.	Original literature has not bee cited, even though it exists OR The study contains many central claims without proper references.
7 Logic and clarity of the thesis	The different parts of the thesis are in balance and form a coherent and logical presentation. Choices in the order of presentation clarify the message.	The different parts of the thesis are in balance and form a coherent and logical presentation.	The different part of the thesis are in balance. There are no major problems in the order of presentation. The chapters are mostly written logically.	The different parts of the thesis are mostly in balance, and there are no main errors in the order of presentation. Some parts are too short, too general or do not make sense.	The overall structure of the thesis is acceptable, but some important parts are located wrongly. The different parts of the thesis are not in balance or do not fit together.	The thesis is not structured according to the instructions or according to commonly used standards for scientific reports

8 Final quality of the thesis and language usage	The language of the thesis is clear, grammatically correct, fluent, and easy to read.	The language of the thesis is clear and fluent. Figures and tables are made according to the instructions. They are clear and contain all the information needed. The figures and tables can be understood independently of the main text.	The language of the thesis is mainly clear and fluent, but there can occasionally be some problems. Figures and tables are made according to the instructions, but they could be improved. The layout is tidy. All references are listed in the reference list and all items of the list are cited in the text. The reference list is formatted according to the instructions.	The text either contains many grammatical errors or is difficult to read. Figures and tables are formatted mostly according to the instructions, but they are not clear. The layout is suboptimal There are some references that are not listed in the reference lists, or some that are in the lists but not cited. There are some errors in the reference list.	There are many grammatical and typing errors in the text. The language is not fluent and it is in some parts difficult to understand. Formatting of figures and tables is not uniform and some of them are difficult to understand. The layout is messy. Many references are not listed in the reference list or there are many references in the lists that are not cited. Format of the reference list is not uniform.	The language of the thesis does not fulfill minimal requirements for scientific text.
9. Student's independence and initiative (to be evaluated by the supervisor(s).	The student has shown own initiative in all steps of the thesis project. The student has constantly presented her/his own ideas and interacted well with the supervisors.	The student has shown own initiative during the work and has often presented her/his own ideas. The student has participated in the decision-making regarding the thesis.	The students has shown some interests and initiative in the planning of all parts of the thesis. The student has sufficiently interacted with the supervisors.	The student has partly contributed to the planning of the thesis, but mainly the work has proceeded based on the decisions and advice of the supervisors.	The student's contribution to research planning, selection of alternative approaches or discussion of the conclusions has been minor. The work has mostly proceeded based on the decisions and initiatives of the supervisors.	
10. Time management (to be evaluated by the supervisor)	The thesis project was done according the schedule agreed with the supervisor	The final form of the thesis is less that 1 month late from the agreed schedule.	The final thesis is less than 6 months late from the the agreed schedule.	The final thesis is 6 months - 1 year late from what was agreed	The schedule of the work has failed because of the student (more than 1 year late)	