Assessment Guidelines for BSc and MSc Theses

General introduction

These guidelines support the consistent assessment of BSc and MSc theses, with expectations adjusted to the level of training. The attached assessment form evaluates the treatment of the literature, the consistency of references and formal elements, the structure and professional standard of the thesis, and the evaluation of the results, while also recording that the level of the programme - BSc or MSc - must be taken into account during the assessment.

The purpose of the assessment is not merely to check formal compliance. The reviewer should judge whether the student has completed the task with the degree of independence, professional grounding and engineering judgement expected at the relevant level of training, and whether the subtasks specified in the assignment have been solved. Under the BME Code of Studies and Examinations (TVSZ), the BSc or MSc thesis must be reviewed by a professionally competent reviewer who holds at least the degree to be awarded (BSc or MSc). The reviewer proposes a grade for the thesis, while the final grade is determined by the Final Examination Board on the basis of the reviewer's recommendation, the supervisor's evaluation and the student's performance at the defence.

Accordingly, the same general assessment criteria should be applied, but with different levels of expectation. In the case of a BSc thesis, the primary expectation is the correct, independent application and documentation of the engineering knowledge acquired during the programme, also taking into account that the BSc level prepares students for operational and simpler design tasks. In the case of an MSc thesis, a deeper treatment of the literature, more complex methodological reasoning, a more critical evaluation of results and a higher degree of professional independence are required, since this level of training prepares students for design engineering tasks.

Assessment criteria for BSc theses

At BSc level, the thesis should demonstrate that the student is able to work independently on a clearly defined engineering task, apply the fundamental knowledge acquired during their studies, form an independent professional opinion appropriate to the topic, and document the completed work in a technically sound manner. According to the KJK BSc programme, the student should be able to:

- perform basic analysis in the relevant engineering field,
- apply the main theories and methods of the field,
- identify routine professional problems and solve them using standard procedures,
- use the literature relevant to the fields of transportation engineering and vehicle engineering.

For a BSc thesis, it is acceptable if the student reviews the basic literature, standards, technical documentation and relevant professional sources directly related to the topic; presents the selected method clearly; documents the calculations, models, measurements or design steps in a traceable manner; and draws basic professional conclusions from the results. A comprehensive scientific state-of-the-art analysis or the development of a novel method is not necessarily required. However, the thesis is expected not to be merely descriptive, but to include independent engineering work, interpretation, professional judgement and conclusions, as well as proposals for further development, application or improvement.

A high BSc assessment is justified if the thesis is clearly structured and professionally reliable, the methods are applied correctly, the interpretation of the results is proportionate to the depth of the task, and the student's independent problem-solving ability is evident from the work. A lower assessment is justified if the literature background is incidental, the methodology is not sufficiently substantiated, the evaluation of the results is incomplete, or the thesis only partly demonstrates independent engineering performance. Similarly, a high BSc assessment is justified if the task addresses a complex or novel problem area and the candidate handles it well; a lower assessment is justified if the task is simple, even if the candidate solves it adequately.

Although the treatment of the literature is also expected in a BSc thesis, a review of general Hungarian-language literature may be acceptable depending on the nature of the task.

Assessment criteria for MSc theses

At MSc level, the thesis should demonstrate that the student is able to work independently on a more complex engineering, development or research and development problem, to apply the selected methods consciously and with justification, and to evaluate the results critically. Among other expectations, the KJK MSc programme requires the global design of complex systems, the application and further development of procedures, models and information technologies, and the independent management of complex research and development project tasks.

For an MSc thesis, the treatment of the literature must be deeper and more critical than at BSc level. The student is expected to review the international literature, including research results, and not merely describe the relevant sources, but also position their own task within the context of existing methods, industrial practices or research results. In the methodological section, the selected procedures must be justified, their limitations should be discussed, and, where relevant, the results should be compared with alternative solutions, measurement or simulation results, literature data or industrial requirements.

A high MSc assessment is justified if the thesis has substantial professional depth, the methodology is applied consciously, the literature background is meaningful and critical, the evaluation of the results is well-founded, and the student's independent engineering judgement is clearly visible from the work. It is particularly valuable if the work includes validation, comparison, sensitivity analysis, a new or further developed model, algorithm, measurement procedure or design method, or conclusions that are relevant from an industrial or research

perspective. A lower assessment is justified if the thesis is essentially limited to BSc-level problem solving, the treatment of the literature is superficial, the methodological decisions are not justified, or the evaluation of the results is insufficiently critical.

Providing the reviewer's assessment

The reviewer's assessment should be provided on the assessment form by completing the main assessment fields of the form (e.g. summary assessment, detailed comments, review questions and proposed grade). Please provide a detailed assessment so that the student can respond substantively to the reviewer's comments during the defence, including by justifying the correctness of their own approach where appropriate. We would, of course, be very pleased if the reviewer could also attend the defence and take part in the professional discussion of the thesis.

Formulating review questions

The purpose of the review questions is to clarify specific professional points of the thesis and to assess the student's independent thinking. At BSc level, questions should primarily address the understanding of the selected solution, the assumptions made, the interpretation of the results and the basic possibilities for verification. At MSc level, it is advisable to formulate questions concerning methodological alternatives, the limitations of the model or measurement, validation, generalisability and the independent professional contribution of the thesis.

Brief summary

When assessing a BSc thesis, the reviewer should examine whether the student is able to solve a given engineering task independently, professionally and in a traceable manner. When assessing an MSc thesis, the reviewer should also examine whether the student is able to interpret a more complex professional problem independently, select methods critically, treat the literature in greater depth and evaluate the results at a well-founded engineering level.