



SUBJECT DATASHEET

I. SUBJECT DESCRIPTION

1. GENERAL DATA

1.1. *Subject name (in Hungarian, in English)*

Master Thesis Project B • Master Thesis Project B

1.2. *Neptun code*

BMEGEÁTNKDB

1.3. *Type*

study unit based on individual work, aided by consultation, without contact hours

1.4. *Course types and number of hours (weekly / semester)*

course type	number of hours (weekly)	nature (connected / stand-alone)
lecture (theory)	-	-
exercise	12	individual
laboratory exercise	-	-

1.5. *Type of assessments (quality evaluation)*

mid-term grade

1.6. *ECTS*

15

1.7. *Subject coordinator*

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post: adjunct
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1.8. *Host organization*

Department of Fluid Mechanics (<http://www.ara.bme.hu/>)

1.9. *Course homepage*

<http://www.ara.bme.hu/oktatas/tantargy/NEPTUN/BMEGEATNKDB>

1.10. *Course language*

hungarian, english

1.11. *Primary curriculum type*

mandatory criteria

1.12. *Direct prerequisites*

Strong prerequisite:	-
Weak prerequisite:	-
Parallel prerequisite:	-
Milestone prerequisite:	at least obtained 80 ECTS
Excluding condition:	-

(the subject cannot be taken if you have previously completed any of the following subjects or groups of subjects)

2. AIMS AND ACHIEVEMENTS

2.1. Aim

The aim of the course is for the student to acquire the techniques used in the engineering practice related to the master's program / specialization within the framework of the thesis project, to acquire an independent problem-solving practice. During the thesis project task, the student demonstrates maturity for solving engineering tasks to a high standard by solving and documenting tasks related to various topics. During the thesis planning, the student performs independent engineering work under the guidance of the supervisor of the department and sometimes under an internal / external consultant. Within the framework of the thesis design, the student completing the given master's program proves his / her suitability for independent engineering work by elaborating the topic included in the official assignment at a high level on an independent, timely basis. Completion of the subject "Master Thesis Project A" together with the "Master Thesis Project B" task provides a suitable basis for the preparation of the MSc thesis project concluding the master's degree, in which the results are summarized in the prescribed format.

2.2. Learning outcomes

Competences that can be acquired by completing the course:

A. Knowledge

- With the help of his / her supervisor, he / she identifies the main content elements of the thesis to be written about a chosen segment of the field.
- The student gathers the relevant literature with the help of the knowledge acquired during the program.
- With the help of the student's prior knowledge, the student systematizes the new knowledge gained during the reading of the literature.
- The student has the knowledge needed to analyze the literature reviewed.
- He / she is aware of the professional knowledge required to perform the tasks in the assignment at the appropriate level.
- The student identifies challenges that would require a departure from the assignment or an extension of the scope of the tasks.
- The student has the knowledge to consult effectively with the supervisor.
- The student has the knowledge to propose changes to the assignment if necessary.
- He / she is aware of the professional knowledge on the basis of which he / she is able to make a proposal for the formulation of the points of the task with the help of his / her supervisor.
- He / she names the content of each chapter of the thesis project, he / she is able to formulate its length on the basis of prior knowledge.

B. Ability

- Understands the tasks in the assignment correctly.
- Specifies the correct order in which the tasks detailed in the assignment are performed.
- The student identifies the range of literature that still needs to be reviewed in order to properly prepare the thesis.

- Describes the relevant knowledge found in the literature in the thesis.
- The student analyzes the literature reviewed in the light of what has been learned previously.
- The student applies the professional knowledge acquired during his/her studies so far during the elaboration of his/her thesis.
- The student adequately addresses emerging challenges that would require deviating from the assignment or expanding the tasks.
- In the course of his/her work, the student prepares the results of the literature reviewed or the analysis carried out in order to make the consultations with his / her supervisor effective.
- He / she proposes to his / her supervisor to modify the assignment of the thesis if the need arises.
- After completing the work, makes suggestions for ways forward.

C. Attitude

- The student constantly monitors his/her work, results and conclusions with the help of his/her supervisor and consultant.
- The student expands his/her knowledge in the chosen field by constantly acquiring knowledge.
- The student is open to using information technology tools and acquiring new skills when needed.
- The student strives to get to know the error-free and routine use of the tool system necessary for solving the technical problems that arise.
- The student develops its ability to provide accurate and error-free problem solving, engineering precision and accuracy.

D. Independence and responsibility

- Collaborates with the supervisor and consultant, as well as fellow students as needed, to expand his/her knowledge.
- During the preparation of the thesis, he / she accepts the well-founded professional and other critical remarks.
- He / she constantly cooperates with his / her supervisor, consultant and, if necessary, fellow students during the elaboration of his / her thesis.
- With his/her knowledge, the student makes a responsible, well-founded and independent decision based on his/her analyzes.
- The student feels responsible for the problems of energy efficiency and the sustainable use of the environment, as well as for present and future generations.

2.3. Teaching methodology

The subject is a unit without contact lessons. The student works independently on a complex task during the semester. The student tries to solve the problems that arise during the solution of the task on its own. He / she will only use the help of his / her supervisor or, if applicable, his / her internal / external consultant when making strategic decisions. During the solution of the task, the student uses the knowledge and skills acquired during the program to solve the task. The essence of the applied educational methodology is independent work. Guidance and assistance is provided by a consultation system with the supervisor, which provides an opportunity for personal consultation. The frequency of this is at least weekly, as recorded / agreed with the supervisor at the beginning of the semester. A student with a formal assignment develops the assignment on the basis of a work plan individually agreed with his / her supervisor. Tasks are often characterized by independent research, independent learning from the literature, and the application of knowledge acquired during the program to solve specific tasks. The results achieved during the elaboration of the thesis project must be presented in the framework of the thesis and presentation submitted by the deadline at the end of the semester. The content of the dissertation or the presentation. formal requirements are determined by the

supervisor, taking into account the general faculty / departmental regulations.

2.4. Support materials

a) Textbooks

Paul Gruba, Justin Zobel: How To Write Your First Thesis, Springer Verlag, 2017, ISBN: 978-3-319-61853-1

b) Lecture notes

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c) Online materials

<http://www.ara.bme.hu/oktatas/tantargy/NEPTUN/BMEGEATNKDB>

2.5. Validity of the course description

Start of validity:

2021. May 31.

End of validity:

2024. December 31.

II. SUBJECT REQUIREMENT

3. ACHIEVEMENT CONTROL AND EVALUATION

3.1 General rules

The supervisor evaluates the performance on the basis of the work done during the semester and the completed thesis. The quality of the semester activity is determined by the elaboration of the topic, the quality of the performed engineering work, the quality of the processing of the literature related to the topic, the formal, aesthetic appearance, division and logical structure of the thesis. The content / formal requirements of the thesis written about the work done within the subject are included in the current regulations of the faculty / department. The evaluation will be carried out by the supervisor, who will seek the opinion of the external / internal consultant, as appropriate.

3.2 Assessment methods

A. Detailed description of mid-term assessments

Mid-term assessment

type: formative assessment, project-based, complex

count: 1

purpose, The supervisor evaluates the performance on the basis of the work done during the semester and the

description: completed thesis. The quality of the semester activity is determined by the elaboration of the topic, the quality of the performed engineering work, the quality of the processing of the literature related to the topic, the formal, aesthetic appearance, division and logical structure of the thesis. The content / formal requirements of the thesis written about the work done within the subject are included in the current regulations of the faculty / department. The evaluation will be carried out by the supervisor, who will seek the opinion of the external / internal consultant, as appropriate. The student whose mid-term work is invaluable is given the entry "failed" - thus invalidating the assignment.

B. Detailed description of assessments performed during the examination period (if relevant)

Elements of the exam:

1. written partial exam

-

2. oral partial exam

-

3. practical partial exam

-

4. inclusion of mid-term results

-

3.3 The weight of mid-term assessments in signing or in final grading

identifier	weight
Mid-term assessment	100 %

3.4 The weight of partial exams in grade (if relevant)

type	weight
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written partial exam	0 %
oral partial exam	0 %
practical partial exam	0 %
inclusion of mid-term results	0 %

3.5 Determination of the grade

grade • [ECTS]	the grade expressed in percents
very good(5) • Excellent [A]	above 92%
very good(5) • Very Good [B]	85% .. 92%
good(4) • Good [C]	72% .. 85%
satisfactory(3) • Satisfactory [D]	65% .. 72%
sufficient(2) • Pass [E]	50% .. 65%
insufficient(1) • Fail [F]	below 50%

The lower limit specified for each grade already belongs to that grade.

3.6 Attendance and participation requirements

At least **70%** the exercises (rounded down) must be actively attended.

3.7 Special rules for improving, retaken and replacement

The special rules for improving, retaken and replacement shall be interpreted and applied in conjunction with the general rules of the CoS (TVSZ).

Can the submitted and accepted partial performance assessments be resubmitted until the end of the replacement period in order to achieve better results?

NO

Taking into account the previous result in case of improvement, retaken-improvement:

new result overrides previous result

The way of retaking or improving a partial assessment for the first time:

partial assesment(s) in this group cannot be improved or repeated, the final result is assessed in accordance with Code of Studied 122. § (6)

3.8 Study work required to complete the course

Activity	hours / semester
participation in contact classes	168
mid-term preparation for practices	84
elaboration of a partial assessment task	30
additional time required to complete the subject	168
summary	450

3.9. Validity of subject requirements

Start of validity: 2020. February 16.

End of validity: 2024. December 31.

4. ADDITIONAL INFORMATION

4.1 Primary course

The primary (main) course of the subject in which it is advertised and to which the competencies are related:

common_on all_MSc_programmes

4.2 Link to the purpose and (special) compensations of the Regulation KKK

This course aims to improve the following competencies defined in the Regulation KKK>

a) knowledge

- Student has the knowledge of the general and specific characteristics, boundaries and main developments of the field, its links with related disciplines.
- Student has the detailed knowledge of the context, theories and terminology of the field.
- Student has the knowledge of the specific research methods (knowledge acquisition and problem solving), abstraction techniques and ways of working out the practical implications of theoretical issues in the field.

b) ability

- Student carries out a detailed analysis of the various concepts that make up the knowledge base of the field, synthesising and synthesising the broad and specific contexts and making an appropriate assessment of them.
- Student identifies specific professional problems using a multifaceted, interdisciplinary approach, and explores and formulates the detailed theoretical and practical background needed to solve them.
- Student applies theories and related terminology in an innovative way to solve problems.

c) attitude

- Student has the broad and specific relationships and professional identity which constitute the specific character of student's field of specialisation and student's personal and community role.
- Student conveys the summary and detailed problems of student's profession in an authentic way.
- Student takes decisions in new, complex and strategic decision-making situations and in unexpected situations, taking full account of legal and ethical standards.

d) independence and responsibility

- Student demonstrates a high degree of autonomy in thinking through and developing broad and specific professional issues on the basis of given resources.
- Student independently represents student's professional opinion in known decision-making situations.
- Student plans and carries out activities independently.

4.3 Prerequisites for completing the course

Knowledge type competencies

(a set of prior knowledge, the existence of which is not obligatory, but greatly facilitates the successful completion of the subject) | -

Ability type competencies

(a set of prior abilities and skills, the existence of which is not obligatory, but greatly contributes to the successful completion of the subject) | -