



SUBJECT DATASHEET

I. SUBJECT DESCRIPTION

1. GENERAL DATA

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

Final Project A • Final Project A

1.2. *Neptun code*

BMEGEMTNKDA

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	-	individual

1.5. *Type of assessments (quality evaluation)*

mid-term grade

1.6. *ECTS*

15

1.7. *Subject coordinator*

name: Dr. Katula Levente Tamás
post: adjunct
contact: katula@att.bme.hu

1.8. *Host organization*

Department of Material Science and Engineering (<http://www.att.bme.hu/>)

1.9. *Course homepage*

<http://www.att.bme.hu/oktatas/szakdolgozat-diplomaterv/>

1.10. *Course language*

hungarian, english

1.11. *Primary curriculum type*

mandatory

1.12. *Direct prerequisites*

Strong prerequisite:	-
Weak prerequisite:	-
Parallel prerequisite:	-
Milestone prerequisite:	at least obtained 55 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 energy and energy machines within the framework of the diploma design project, to acquire an independent problem-solving practice. During the diploma design task, he demonstrates his maturity for solving engineering tasks to a high standard by solving and documenting tasks related to various topics. During the diploma planning, he / she performs independent engineering work under the guidance of the supervisor of the department - sometimes his / her plant consultant.

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 dissertation thesis to be written about a chosen segment of the field.
- He gathers the literature with the help of the knowledge acquired during his training.
- With the help of his prior knowledge, he systematizes the new knowledge gained during the reading of the literature.
- He has the knowledge needed to analyze the literature reviewed.
- He / she is aware of the professional knowledge required to perform the tasks in the job description at the appropriate level.
- It identifies challenges that would require a departure from the terms of reference or an extension of the scope of the tasks.
- He has the knowledge to consult effectively with his supervisor.
- He has the knowledge to propose changes to the terms of reference 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 and length of each chapter of the diploma project on the basis of prior knowledge.

B. Ability

- Understands the tasks in the job description correctly.
- Specifies the correct order in which the tasks detailed in the job description are performed.
- It identifies the range of literature that still needs to be reviewed in order to properly prepare your dissertation.
- Describes the relevant knowledge found in the literature in your dissertation.
- Analyzes the literature reviewed in the light of what has been learned previously.
- He applies the professional knowledge acquired during his studies so far during the elaboration of his diploma thesis.
- It adequately addresses emerging challenges that would require deviating from the job description or expanding the tasks.

- In the course of his work, he prepares the results of the literature reviewed or the analysis carried out in order to make the consultations with his / her supervisor effective.
- Proposes to the supervisor to modify the dissertation assignment if the need arises.
- After completing the work, make suggestions for ways forward.

C. Attitude

- He constantly monitors his work, results and conclusions with the help of his supervisor and consultant.
- It expands your knowledge of your chosen field by continuously acquiring knowledge.
- He is open to using information technology tools and acquiring new skills when needed.
- It strives to get to know the error-free and routine use of the tools needed to solve the technical problems that arise.
- Develops your ability to provide accurate and error-free problem solving, engineering precision and accuracy.

D. Independence and responsibility

- Collaborates with your supervisor and consultant, as well as your fellow students as needed, to expand your knowledge.
- During the preparation of the dissertation, 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 diploma thesis.
- With his knowledge, he makes a responsible, well-founded and independent decision based on his analyzes.
- He feels responsible for energy, the problems of energy management and the sustainable use of the environment, as well as 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. He tries to solve the problems that arise during the solution of the task on his own. He uses the help of his supervisor and plant consultant only when making strategic decisions. During the solution of the task, the student comes to the solution of the task with the help of the knowledge and skills acquired during the training.

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

No book or note after 2005 is yet available for the subject at the time of filling in the form.

c) Online materials

http: // There is no online learning support material available for the subject at the time of filling in the form.

2.5. Validity of the course description

Start of validity:	2021. July 1.
End of validity:	2025. December 31.

II. SUBJECT REQUIREMENT

3. ACHIEVEMENT CONTROL AND EVALUATION

3.1 General rules

The evaluation of the performance is determined by the supervisor on the basis of the prepared diploma project. The diploma project is determined on the basis of the elaboration of the topic, the standard of the performed engineering, the quality of the processing of the literature related to the topic, the formal, aesthetic appearance, division and logical structure of the dissertation. The aspects of the scoring must be made on the basis of the evaluation form according to the current Faculty Regulations.

3.2 Assessment methods

A. Detailed description of mid-term assessments

Mid-term assessment

type: formative assessment, project-based, complex

count: 1

purpose, description: The evaluation of the performance is determined by the supervisor on the basis of the prepared diploma project. The diploma project is determined on the basis of the elaboration of the topic, the standard of the performed engineering, the quality of the processing of the literature related to the topic, the formal, aesthetic appearance, division and logical structure of the dissertation. The aspects of the scoring must be made on the basis of the evaluation form according to the current Faculty Regulations.

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
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	186
summary	468

3.9. Validity of subject requirements

Start of validity: 2021. August 1.

End of validity: 2025. 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:

Mechanical engineering

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 comprehensive knowledge of the main properties and applications of structural materials used in engineering.
- Student has the knowledge of metrology and measurement theory in the field of mechanical engineering.
- Student has the detailed knowledge of the rules for the preparation of technical documentation.

b) ability

- Student has the ability to carry out laboratory testing and analysis of materials used in the engineering field, and to evaluate and document test results.
- Student has the ability to use information and communication technologies and methods to solve technical problems.
- Student has the ability to perform managerial tasks after adequate practice.

c) attitude

- Student strives to carry out their work in a complex approach based on a systems and process-oriented thinking.
- Student is open and receptive to learning, embracing and authentically communicating professional, technological development and innovation in engineering.
- Student strives to plan and carry out tasks to a high professional standard, either independently or in a team.

d) independence and responsibility

- Student shares her acquired knowledge and experience through formal, non-formal and informal information transfer with those in her field.
- Student makes professional decisions independently in student's area of activity.
- Student takes initiative in solving technical problems.

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)	no
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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)	no
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