BUDAPEST UNIVERSITY OF TECHNOLOGY AND ECONOMICS
FACULTY OF MECHANICAL ENGINEERING

SUBJECT DATASHEET

I. SUBJECT DESCRIPTION

1. GENERAL DATA

1.1. Subject name (in Hungarian, in English)

Project Work B • Project Work B

1.2. Neptun code

BMEGEVGNXPB

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	-	-
laboratory exercise	2	individual

1.5. Type of assessments (quality evaluation)

mid-term grade

1.6. ECTS

3

1.7. Subject coordinator

name:	Till Sára
post:	teaching assistant
contact:	still@hds.bme.hu

1.8. Host organization

Department of Hydrodynamic Systems (http://www.hds.bme.hu/)

1.9. Course homepage

http://www.hds.bme.hu/oktatas.php?sm=1&xml=BMEGEVGNXPB

1.10. Course language

hungarian, english

1.11. Primary curriculum type

optional

1.12. Direct prerequisites

Strong prerequisite: -

Weak prerequisite: -

Parallel prerequisite: -

Milestone prerequisite: -

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 course aims to develop students' ability to solve problems independently through a complex calculation/measurement/planning task. At the beginning of the semester, the student chooses one of the announced assignments. In the semester, the student works with the supervisor in an informal schedule. At the end of the semester, students will present a summary presentation and a mini-poster about the project, the tasks completed, and the results achieved.

2.2. Learning outcomes

Competences that can be acquired by completing the course:

A. Knowledge

- The student knows the efficient way of work organization and work schedule.
- The student is aware of the steps and tools of task development.
- Informed on how to process the relevant literature.
- Knows the appropriate forms of oral and written communication.
- The student has the IT skills needed to solve the task.
- Knows how to synthesize and use information learned from different subjects.
- The student has a basic knowledge of the process and tools of making a presentation.
- Correctly interprets the results achieved in this topic.
- The student compares the results of his work with the available literature.
- The student has the professional knowledge needed to solve the task.

B. Ability

- Able to organize work efficiently and schedule work.
- Able to formulate tasks, assign tools to achieve each goal.
- Use the literature and resources of the field of the task.
- During the task, the student communicates orally and in writing on both professional and organizational issues.
- Use your existing IT knowledge to solve the problem.
- Apply the most important terminology and theories of the technical field in the well-defined task assigned to him.
- Able to give a presentation on the progress of the task and the results.
- In the summary of the task, the student concludes the usability and importance of the results.
- The student analyzes the differences and similarities between its own results and the results found in the literature.
- The student solves the professional task in the assignment correctly.

C. Attitude

- The student constantly monitors his/her work, results and conclusions.

- Applying the acquired technical knowledge, the student strives to get to know the phenomena and to explain their laws.
- Open to use IT devices.
- Strives to implement the principles of energy efficiency and environmental awareness.
- Improves his/her abilities to solve engineering tasks precisely and error-free.
- Publishes his/her results according to the professional rules.
- Expresses his/her views and opinions without insulting others.

D. Independence and responsibility

- During broadening his/her knowledge the student cooperates with the teaching staff.
- Readily accepts reasonable professional and other criticism.
- In certain situations, as a member of a team, he/she cooperates with his/her fellow students in solving a task.
- In possession of his/her knowledge, on the basis of analysis, the student makes a well-founded, responsible decision.
- The student thinks over the tasks and the problems and solves them independently based on the given sources.
- The student is committed to the methods and principles of systemich thinking and problem-solving.

2.3. Teaching methodology

During the subject, the student works independently on the chosen task under the guidance of the supervisor. This requires effective oral and written communication with your supervisor. Due to the different nature of the tasks, IT tools and techniques are needed for each topic at different depths. At the end of the semester, the student summarizes the most critical steps of the work in a mini-poster. In addition, he gives a 10-minute oral presentation in which the use of modern presentation techniques is essential. As the task schedule is not obligatory, the student, with the help of the supervisor, has to determine the milestones of the work and the internal deadlines that can be attached to them.

2.4. Support materials

a) Textbooks

The subject does not require a textbook that has an ISBN and is newer than the 1995 publication year.

b) Lecture notes

The subject does not require a note that has an ISBN and is newer than the 2005 edition.

c) Online materials

http://www.hds.bme.hu/oktatas.php?sm=1&xml=BMEGEVGNXPB

2.5. Validity of the course description

Start of validity:	2021. September 30.
End of validity:	2026. September 30.

II. SUBJECT REQUIREMENT

3. ACHIEVEMENT CONTROL AND EVALUATION

3.1 General rules

Learning outcomes are assessed on the basis of two mid-year partial performance measurements. First is the presentation, which is the evaluation of the partial performance of the project-type task in the form of a complex, oral assessment of the knowledge, ability and independence and responsibility type competence elements. The presentation must also include a custom-made A3 mini-poster of the completed task. The second sub-performance evaluation is the obligatory prepared appearance at the consultation occasions, which is a simplified way of evaluating the knowledge, ability, attitude, and independence and responsibility type competence elements of the subject.

3.2 Assessment methods

A. Detailed description of mid-term assessments

1. Mid-term assessment

type: formative assessment, project-based, complex

count: 1

purpose, description: Project-type partial performance evaluation examines and assesses the subject's knowledge, ability, and independence and responsibility type competence elements. Students work individually or in groups (depending on the complexity of the topic and task) on the chosen project task under the supervisor's guidance. The supervisor will evaluate the students' knowledge, attitude and readiness on the basis of the work submitted at the consultations, and then on the basis of the work presented at the end of the semester.

2. Mid-term assessment

type: formative assessment, point-in-time personal act

count: 1

purpose, description: Project-type partial performance evaluation examines and assesses the subject's knowledge, ability, and independence and responsibility type competence elements—a complex, oral way of evaluating this, in the form of a student presentation. The presentation is due at the end of the semester (at an agreed time and place); focuses on the tasks performed and the quality of the work; in front of fellow students and teachers. The time available is 10 minutes. The student demonstrates his/her proficiency in the topic by answering the questions in 5 minutes after the presentation. An A3 mini-poster about the work should also be presented here.

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
1 . Mid-term assessment	80 %
2 . Mid-term assessment	20 %

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 90%
very good(5) ● Very Good [B]	85% .. 90%
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% of** laboratory practices (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?

yes

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

out of multiple results, the best one is to be taken into account

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

partial assesment(s) in this group can be improved or repeated once up to the end of the repeat period

Completion of unfinished laboratory exercises:

missed laboratory practices must be performed in the repeat period

Repetition of laboratory exercises that performed incorrectly (eg.: mistake in documentation):

incorrectly performed laboratory practice (e.g. Incomplete/incorrect report) can be corrected by repeating the practice

3.8 Study work required to complete the course

Activity	hours / semester
participation in contact classes	28
preparation for laboratory practices	14
elaboration of a partial assessment task	30
additional time required to complete the subject	18
summary	**90**

3.9. Validity of subject requirements

Start of validity: 2021. September 30.

End of validity: 2026. September 30.

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 broad theoretical and practical knowledge, methodological and practical skills for the design, manufacture, modelling, operation and management of complex engineering systems and processes.
- Student has the detailed knowledge and understanding of the methods of knowledge acquisition, data collection, ethical constraints and problem-solving techniques in the technical field.
- Student has the knowledge of information and communication technologies in the field of engineering.

b) ability

- Student has the ability to apply the theories and related terminology in an innovative way when solving problems in a given field of engineering.
- Student has the ability to use information and communication technologies and methods to solve technical problems.
- Student has the ability to publish, present and negotiate in student's field of specialisation, in student's mother tongue and in at least one foreign language.

c) attitude

- Student is open and receptive to learning, embracing and authentically communicating professional, technological development and innovation in engineering.
- Student is committed to high quality work and sets an example to student's colleagues in this respect.
- Student is dedicated to the advancement of knowledge and scientific achievements in the field of mechanical engineering.

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 acts independently and proactively in solving professional problems.
- Student has the ability to work independently on engineering tasks.

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)	-