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)

Teamwork Project ● Teamwork Project

1.2. Neptun code

BMEGEÁTNKPR

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	4	individual

1.5. Type of assessments (quality evaluation)

mid-term grade

1.6. ECTS

6

1.7. Subject coordinator

name:	Dr. Szente Viktor Gyula (71958279813)
post:	adjunct
contact:	szente@ara.bme.hu

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/BMEGEATNKPR

1.10. Course language

hungarian, english

1.11. Primary curriculum type

mandatory

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 aim of the course is to acquaint the students with industry-oriented problems requiring special fluid engineering knowledge, with the approach and methodology of the solution, during which the development of tasks are to be performed in group work. The student proves the suitability for group work by the high-level elaboration of the included interdisciplinary, cross-masters topic in the work group formed by several students.

2.2. Learning outcomes

Competences that can be acquired by completing the course:

A. Knowledge

- Familiar with the theories and calculation methods of the natural sciences (mathematical, mechanical, fluidological, thermodynamic and electronic).
- Knows the fundamental theories and contexts of the technical field and the terminology.
- Understands the basic facts and boundaries of the knowledge of the technical field and the expected directions of development.
- Has a comprehensive knowledge of the most important properties and application areas of structural materials used in the technical field.
- Has a knowledge of measurement technology and measurement theory related to the technical field.
- Informed about information and communication technologies related to the technical field.
- Familiar with modern experimental and numerical modeling techniques.
- Aware of the correct modeling of transient processes of machines and mechanical systems, the analysis of the processes.
- Aware of the widely applicable problem-solving techniques required for research or scientific work.
- Has the knowledge covering the organization and management of research and development tasks and communication.

B. Ability

- Able to apply the acquired knowledge in practice, to use problem-solving techniques.
- Able to learn about and apply new scientific findings.
- Able to understand and solve problems, to come up with original ideas.
- Plans the tasks at a professional level independently.
- Develops the ability to cultivate oneself and raise one's own knowledge to a higher level.
- Solves special problems within its field with a multifaceted interdisciplinary approach.
- Apply information and communication technologies and methods to solve technical problems.
- Handles problems and complex tasks flexibly and creatively.
- Integrates his knowledge of mechanics, thermology, fluid science, electronics and computer science in mechanical engineering,
- Solves technical problems in an innovative way, using modern acquisition and data collection methods.

C. Attitude

- Strives to plan and carry out the tasks at a professional level, independently or in a team.
- Seeks to carry out the work in a complex approach based on a systems-based and process-oriented mindset.
- Committed to high quality work and strives to communicate this attitude to the associates.
- Open to the application of new, modern and innovative procedures and methods related to the field.
- Develops skills by applying the acquired knowledge to get to know the observable phenomena as thoroughly as possible, to describe and explain their laws.
- Expands knowledge to learn about the best practices, new professional knowledge and methods used in the field.
- Promotes that self-education in the fields related to the work should be continuous and in line with the professional goals.

D. Independence and responsibility

- Collaborates with the instructor and fellow students to expand knowledge.
- Accepts well-founded professional and other critical remarks.
- Solves professional problems independently and proactively.
- Makes a responsible, well-founded decision based on the analyses, using the acquired knowledge,
- Responsible for the findings and professional decisions expressed in the expert opinion, and for the work processes performed independently or in a team.
- Committed to the principles and methods of systematic thinking and problem solving.

2.3. Teaching methodology

The teaching of the subject takes place in the framework of independent work with a supervisor who publishes the given topic at least on a weekly basis, where a published project work has to be solved in groups, which also develops teamwork skills. The group of students (recommended number of people: 3) develops the task on the basis of a work plan individually agreed with their supervisor. A report on the project work must be prepared at the end of the semester and presented in a presentation.

2.4. Support materials

a) Textbooks

Tamás Lajos: Fundamentals of Fluid Mechanics. (2015) ISBN: 9789631228854

b) Lecture notes

Project task content and form requirements, 2018.

c) Online materials

http://www.ara.bme.hu/oktatas/tantargy/NEPTUN/BMEGEATNGPR

2.5. Validity of the course description

Start of validity:	2020. March 3.
End of validity:	2024. December 31.

II. SUBJECT REQUIREMENT

3. ACHIEVEMENT CONTROL AND EVALUATION

3.1 General rules

Learning outcomes are assessed on the basis of a mid-year written summary performance measurement as well as a partial performance measurement. Summative academic performance assessment is a complex, written way of assessing the knowledge, ability, attitude, and competency elements of the subject in the form of a report on a project task. Partial performance evaluation is primarily a complex way of evaluating the competence elements of the attitude and autonomy and responsibility type, the manifestation of which is the presentation made and presented about the project task.

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: Examines and measures students' learning outcomes determined by knowledge, ability, attitude, autonomy and responsibility type competencies. It is completed in the form of a report on the project task, the deadline for which is the end of the diligence period. Considering the characteristics of the terms of reference, the supervisor's guidelines are authoritative for the scope of the Report, but the usual scope is usually calculated together with figures for approx. 15-25 pages. Only a Report in the format corresponding to the template can be submitted. The cover of the Report, a statement of independent work, copyright, etc. It is forbidden to change the wording of mandatory elements (beyond filling in your own data). Up to 50 points can be obtained in the summary performance evaluation. A minimum of 40% is to be achieved. In the presentation prepared about the project task and presented to the students, up to 50 points can be obtained. A minimum of 40% is to be achieved.

2. Mid-term assessment

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

count: 1

purpose, description: Examines and measures students' learning outcomes determined by knowledge, ability, attitude, autonomy and responsibility type competencies. It is completed in the form of a presentation of the project task, the deadline of which is the end of the week before the last of the diligence period. Considering the characteristics of the terms of reference, the supervisor's guidelines are authoritative for the scope of the presentation, but the usual scope is usually calculated together with figures, approx. 10-15 pages. In the presentation prepared about the project task and presented to the students, up to 50 points can be obtained, of which at least 40% must be achieved.

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	50 %
2 . Mid-term assessment	50 %

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 85%
very good(5) ● Very Good [B]	85% .. 85%
good(4) ● Good [C]	70% .. 85%
satisfactory(3) ● Satisfactory [D]	55% .. 70%
sufficient(2) ● Pass [E]	40% .. 55%
insufficient(1) ● Fail [F]	below 40%

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

3.6 Attendance and participation requirements

At least **85% 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?

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)

Completion of unfinished laboratory exercises:

missed laboratory practices may be performed in the teaching term at pre-arranged appointment, non-mandatory

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

incorrectly performed laboratory practice (e.g. Incomplete/incorrect report) can be corrected upon improved re-submission

3.8 Study work required to complete the course

Activity	**hours / semester**
participation in contact classes	56
preparation for laboratory practices	14
elaboration of a partial assessment task	30
additional time required to complete the subject	80
summary	**180**

3.9. Validity of subject requirements

Start of validity: 2020. March 3.

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

b) ability

c) attitude

d) independence and responsibility

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)	-