



SUBJECT DATA SHEET AND REQUIREMENTS

last modified: October 2019

CHEMICAL ENGINEERING PRACTICE

(Vegyipari géptan gyakorlat)

| 1 | Code | Semester Nr. or fall/spring | Contact hours/week (lect.+semin. +lab.) | Requirements p / e / s | Credit | Language |
|---|--------------------|--------------------------------|--|---------------------------|----------|----------------|
| | BMEGEVGAV04 | f | 0+1+2 | p | 3 | English |

2. Subject's responsible:

| Name: | Position: | Affiliation (Department): |
|------------------|---------------------|-------------------------------|
| György Paál, PhD | Associate professor | Dept. of Hydrodynamic Systems |

3. Lecturer:

| Name: | Position: | Affiliation (Department): |
|-----------------|---------------------|-------------------------------|
| Csaba Hős, PhD | Associate professor | Dept. of Hydrodynamic Systems |
| Kálmán Klapcsik | contact person | Dept. of Hydrodynamic Systems |

4. Thematic background of the subject:

The course covers the basics of mechanical engineering and prepares students for further engineering courses.

5. Compulsory / recommended prerequisites:

Compulsory: -
Suggested: -

6. Main aims and objectives, learning outcomes of the subject:

Upon finishing the course, the students will be familiar with the basic concepts of physics and engineering needed for latter engineering studies such as linear and angular velocity and acceleration, force, torque, power, energy, efficiency, dimensional conversion, pressure, fluid velocity etc. They will have experience on how to solve and handle engineering problems.

7. Method of education:

lecture: 0 h/w
seminar: 2 h/ 2 w
laboratory: 2 h/ 1 w
homework: measurement report submission

8. Detailed thematic description of the subject (by topic, min. 800 character):

Some definitions for machines. Basic and derived quantities. Transmission of mechanical work. Losses and efficiency. Uniformly accelerated motion of machines. Motion graphs. Absolute and gauge pressure. Bernoulli's equation. Venturi meter. Linear and rotational analogues. Thermal energy. Balance machines. Orifice and volume meter tank. Measuring pressure, fluid velocity.

9. Requirements and grading

a) in term-period

Attending all the six compulsory measurements and submitting the measurement reports.

| Type | Share of the grade |
|-------------------------------------|--------------------|
| Measurement reports (6 x 10 points) | 100 % |
| Sum | 100% |

b) in examination period

-

c) Disciplinary Measures Against the Application of Unauthorized Means at Mid-Terms, Term-End Exams and Homework

According to the Code of Studies (Rector's Order № 7 of 2017 (6 November 2017) with the amendments of Rector's Order № 3 of 2018 (30 August 2018), available: https://gpk.bme.hu/downloads/en/BME_Code_of_Studies.pdf

d) grade

The mid-term grade is based on measurement report points as shown in the table below.

| grade • [ECTS] | points |
|-------------------------------|-----------|
| jéles(5) • Excellent [5] | above 88% |
| jó(4) • Good [4] | 76–88% |
| közepes(3) • Satisfactory [3] | 62–76% |
| elégéséges(2) • Pass [2] | 50–62% |
| elégtelen(1) • Fail [1] | under 50% |

10. Retake and repeat.

Only one measurement can be retaken.

According to the Code of Studies

11. Consulting opportunities:

Consultation hours: by email appointments

12. Reference literature (compulsory, recommended):

- Lecture notes
- Downloadable materials: www.hds.bme.hu

13. Home study required to pass the subject:

| | | |
|--|-----------------|-------------------|
| Contact hours | 42 | h/semester |
| Home study for the courses | 12 | h/semester |
| Home study for the mid-semester checks | 10 x 2 | h/check |
| Preparation of mid-semester homework | 4 | h/homework |
| Home study of the allotted written notes | 12 | h/semester |
| Home study for the exam | 0 | h/semester |
| Totally: | =30×3=90 | h/semester |

14. The data sheet and the requirements are prepared by:

| | | |
|------------------|---------------------|-------------------------------|
| Name: | Title: | Affiliation (Department): |
| György Paál, PhD | Associate professor | Dept. of Hydrodynamic Systems |

15. Contact person for administrative questions:

Kálmán Klapcsik, kklapcsik@hds.bme.hu