

C O U R S E G U I D E – s h o r t f o r m

Academic year 2024-2025

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|--------------------------|-----------------|-----------------------|----|---------------|---|-------------|-------------|-------------------------|---|
| Course name ¹ | Fluid Mechanics | | | | | Course code | 2.EPI.02.DD | | |
| Course type ² | DID | Category ³ | DI | Year of study | 2 | Semester | 3 | Number of credit points | 3 |

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|----------------|--|--|----|---|----|---|----|
| Faculty | Faculty of Materials Science and Engineering | Number of teaching and learning hours ⁴ | | | | | |
| Field | Mechanical engineering | Total | L | T | LB | P | IS |
| Specialization | Equipment for industrial processes | 75 | 14 | | 14 | - | 47 |

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|---|-------------|----------------------|
| Pre-requisites from the curriculum ⁵ | Compulsory | Physics, Mathematics |
| | Recommended | - |

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|----------------------------------|---|
| General objective ⁶ | Knowledge of methods for the characterization of fluid motion, the mechanical interaction between the fluid and the external systems and the links between them. |
| Specific objectives ⁷ | The aim of course is the qualitative and quantitative study of fluid movement for the "control" current flows encountered in practice: 1. Knowing the movement of fluid characterization processes, the mechanical interaction between the fluid and external systems and links between them. 2. Direct the laws of fluid mechanics applications for the preparation in the engineer specialty of <i>Equipment for industrial processes</i> . 3. Addressing general fluid motion and rest which can be solved by the methods of fluid mechanics (absolute and relative rest, fluid action to stand on solid walls, floating bodies, rolling movements). 4. Detailed study of miscarriages and local distribution. |
| Course description ⁸ | 1. The physical properties of the fluid (2 hours); 2. General equations of fluid mechanics (4 hours); 3. Movement of the effluent (2 hours); 4. Calculation of the pipes (2 hours); 5. Problems solved by methods specific specialty fluid mechanics of <i>Equipment for industrial processes</i> (4 hours). |

| Assessment | | | Schedule ⁹ | Percentage in the final grade(minimum grade) ¹⁰ |
|--|--|-------|-----------------------|--|
| A. Final assessment form ¹¹ : Colloquium | Class tests along the semester | % | | 50 % (minimum 5) |
| | Home works | % | | |
| | Other activities | % | | |
| | Examination procedures and conditions: 1. The first subject: tasks: case solving; working conditions T: weight 50%; 2. Subject 2: Tasks: case solving; working conditions T: weight 25%; 3. Subject 3: Tasks: case solving; working conditions T: weight 25%. | 100 % | Week 13÷14 | |
| C. Laboratory | Activity during laboratory | | | 50 % (minimum 5) |

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| Course organizer | Lecturer PhD. Eng. Eugen-Vlad NĂSTASE | |
| Teaching assistants | Lecturer PhD. Eng. Eugen-Vlad NĂSTASE | |

¹Course name from the curriculum

² DF – fundamental, DID – in the field, DS – specialty, DC – complementary (from the curriculum)

³ DI – imposed, DO – optional, DL – facultative (from the curriculum)

⁴ Points 3.8, 3.5, 3.6a,b,c, 3.7 from the Course guide – extended form (L-lecture, T-tutorial, LB-laboratory works, P-project, IS-individual study)

⁵According to 4.1 –Pre-requisites - from the Course guide – extended form

⁶ According to 7.1 from the Course guide – extended form

⁷ According to 7.2 from the Course guide – extended form

⁸ Short description of the course, according to point 8 from the Course guide – extended form

⁹For continuous assessment: weeks 1 – 14, for final assessment – colloquium: week 14, for final assessment-exam: exam period

¹⁰A minimum grade might be imposed for some assessment stages

¹¹Exam or colloquium