

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

Academic year 2021-2022

|             |  |          |    |               |   |             |          |                         |   |  |
|-------------|--|----------|----|---------------|---|-------------|----------|-------------------------|---|--|
| Course name | <b>Materials science and engineering (1)</b> |          |    |               |   | Course code | 11SI06DD |                         |   |  |
| Course type | DD   | Category | DI | Year of study | 1 | Semester    | 1        | Number of credit points | 4 |  |

|                |                                   |                                       |    |   |    |   |    |
|----------------|-----------------------------------|---------------------------------------|----|---|----|---|----|
| Faculty        | Materials Science and Engineering | Number of teaching and learning hours |    |   |    |   |    |
| Field          | Industrial Engineering            | Total                                 | L  | T | LB | P | IS |
| Specialization | Industrial safety engineering     | 42                                    | 28 |   | 14 |   | 28 |

|                                    |             |  |
|------------------------------------|-------------|--|
| Pre-requisites from the curriculum | Compulsory  |  |
|                                    | Recommended |  |

|                     |   |
|---------------------|---|
| General objective   | Making calculations, demonstrations and applications for solving industrial engineering specific tasks based on knowledge in the field of materials science and engineering and related to existing correlations between composition, structure, properties and uses of metallic materials. |
| Specific objectives | Recognition of materials using their properties and different methods of investigation.<br>Materials selection depending on the application.<br>Investigation of materials characteristics and properties.<br>Developing skills for elaborating specific reports and scientific articles.   |
| Course description  | Introduction. Atomic and molecular materials structure. Material properties. Methods of structural analysis and nondestructive control of metallic materials. Metallic materials processing.  |

| Assessment                            |  | Schedule         | Percentage in the final grade (minimum grade) |
|---------------------------------------|--|------------------|---|
| A. Final assessment form:<br><br>Exam | Class tests along the semester   | %                | 70% (minimum 5)                               |
|                                       | Home works   | %                |   |
|                                       | Other activities   | %                |   |
|                                       | Examination procedures and conditions:<br>1. Category: theoretical; subject with open questions; conditions: oral; weight in final grade: 20%;<br>2. Category: theoretical; subject with open questions; conditions: oral; weight in final grade: 20%;<br>3. Category: theoretical; solving problem; conditions: oral; weight in final grade: 30%;<br>4. Category: theoretical; solving problem; conditions: oral; weight in final grade: 30%. | 100% (minimum 5) |   |
| B. Seminar                            | Activity during seminar  |                  | % (minimum 5)                                 |
| C. Laboratory                         | Activity during laboratory   |                  | 30% (minimum 5)                               |

|            |                         |               |
|------------|-------------------------|---------------|
| D. Project | Activity during project | % (minimum 5) |
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| Course organizer    | Associate professor PH.D. eng. Ioan RUSU           |  |
| Teaching assistants | Lecturer PH.D. eng. Monica Nicoleta LOHAN          |  |
|                     | Lecturer PH.D. eng. Oana RUSU                      |  |
|                     | Assist. PH.D. eng. Diana Petronela BURDUHOS-NERGIS |  |
|                     | Assist. PH.D. eng. Mihai POPA                      |  |