# Transilvania University of Braşov, Romania

# Study program: Industrial Safety Engineering

Faculty:                      Materials Science and Engineering

Study period:              4 years

Academic year structure:     2 semesters (14 weeks per semester)

Examination sessions (two):    winter session (January/February)

                                          summer session (June/July)

Courses per years (C= course; S = seminar; L = laboratory; P = project)

## 1st Year

| No. crt. | Course | Code | Language of instruction | 1st Semester | | | | | 2nd Semester | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | C | S | L | P | Cred | C | S | L | P | Cred |
| 1 | Mathematical Analysis | SMAMA1 | Romanian | 3 | 1 | | | 4 | | | | | |
| 2 | Computer and Programming languages I | SMPRGO | Romanian | 3 | | 1 | | 4 | | | | | |
| 3 | Materials science and engineering I | SMINM1 | Romanian | 2 | | 1 | | 4 | | | | | |
| 4 | Computer-aided graphics I | SMGDE1 | Romanian | 2 | | 1 | | 4 | | | | | |
| 5 | General chemistry | SMCGB1 | Romanian | 2 | | 1 | | 4 | | | | | |
| 6 | Materials Technology I | SMTHM1 | Romanian | 1 | | 2 | | 3 | | | | | |
| 7 | Mechanics | SMMEC1 | Romanian | 2 | | 1 | | 4 | | | | | |
| 8 | Physics | SMFIZ1 | Romanian | | | | | | 2 | | 1 | | 4 |
| 9 | Materials Technology II | SMTHM2 | Romanian | | | | | | 2 | | 1 | | 3 |
| 10 | Materials science and engineering II | SMINM2 | Romanian | | | | | | 2 | | 1 | | 4 |
| 11 | Linear Algebra, Analytical Geometry, and Differential Geometry | SMALG1 | Romanian | | | | | | 2 | 1 | | | 4 |
| 12 | Computer-aided graphics II | SMDEST | Romanian | | | | | | 1 | | 2 | | 3 |
| 13 | Numerical methods | SMMEN1 | Romanian | | | | | | 2 | | 2 | | 4 |
| 14 | Computer and Programming languages II | SMPDS1 | Romanian | | | | | | 2 | | 1 | | 4 |
| 15 | Ethics and academical integrity | SMACAD | Romanian | | | | | | 1 | | | | 1 |
| 16 | English language | SMLE01/ SMLE02 | English | 1 | 1 | | | 2 | 1 | 1 | | | 2 |
| 17 | Physical education 1/2 | SMEDF01 SMEDF02 | Romanian | | 1 | | | | | | 1 | | 1 |

## 2nd Year

| No. crt. | Course | Code | Language of instruction | 3rd Semester | | | | | 4th Semester | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | C | S | L | P | Cred | C | S | L | P | Cred |
| 1 | Special mathematics | SMMS01 | Romanian | 2 | 1 | | | 4 | | | | | |
| 2 | Strength of Materials I | SMRM01 | Romanian | 2 | 1 | 1 | | 5 | | | | | |
| 3 | Ecology and environmental protection | SMECOL | Romanian | 2 | | 2 | | 4 | | | | | |
| 4 | Basics of occupational engineering | SMBIO | Romanian | 1 | 1 | | | 2 | | | | | |
| 5 | Technical devices | SMDIST | Romanian | 2 | | 1 | | 4 | | | | | |
| 6 | Dimensional control | SMCODI | Romanian | 2 | | 2 | | 4 | | | | | |
| 7 | Electrotechnics | SMETH1 | Romanian | 2 | | 1 | | 4 | | | | | |
| 8 | Machine components | SMOM01 | Romanian | | | | | | 2 | | 1 | | 3 |
| 9 | Technical thermodynamics | SMTERM | Romanian | | | | | | 2 | | 1 | | 3 |

| No. crt. | Course | Code | Language of instruction | C | S | L | P | Cred | C | S | L | P | Cred |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | Bases of Technical Computer Assisted Design I | SMBPTA | Romanian | | | | | | 3 | | 2 | | 4 |
| 11 | Strength of Materials II | SMRM02 | Romanian | | | | | | 2 | 1 | 1 | | 4 |
| 12 | Machine components - project | SMOM02 | Romanian | | | | | | | | | 1 | 2 |
| 13 | Probability Theory and Mathematical Statistics | SMTPSM | Romanian | | | | | | 1 | | 2 | | 3 |
| 14 | Field Practice | SMPR11 | Romanian | | | | | | | | | | 4 |
| 15 | English language | SMLE03/ SMLE04 | English | 1 | 1 | | | 2 | 1 | 1 | | | 2 |
| 16 | Physical education 3/4 | SMEDF03 SMEDF04 | Romanian | | | | | 1 | | | 1 | | 1 |

## 3rd Year

| No. crt. | Course | Code | Language of instruction | 5th Semester | | | | | 6th Semester | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | C | S | L | P | Cred | C | S | L | P | Cred |
| 1 | Elements of Electronics in Industrial Engineering | SMEEII | Romanian | 2 | | 2 | | 4 | | | | | |
| 2 | Mechanical Processing I/II | SMPRM | Romanian | 2 | | 2 | | 5 | 1 | | 1 | | 2 |
| 3 | Basis of industrial engineering | SMBII | Romanian | 2 | 2 | | | 4 | | | | | |
| 4 | Heat treatments | SMTRTE | Romanian | 2 | | 2 | | 5 | | | | | |
| 5 | Finite elements analysis | SMMEFI | Romanian | 2 | | 2 | | 4 | | | | | |
| 6 | Elements of occupational medicine | SMEMM | Romanian | 1 | 1 | | | 3 | | | | | |
| 7 | Ergonomics | SMERGS | Romanian | | | | | | 2 | | 1 | 2 | 5 |
| 8 | Ventilation and Air Conditioning Equipment | SMEVC1 | Romanian | 2 | | 1 | 1 | 5 | | | | | |
| 9 | Waste Processing Technologies | SMTPD | Romanian | | | | | | 1 | | 1 | 1 | 3 |
| 10 | Liquids purification in industry | SMTPLI | Romanian | | | | | | 1 | | 1 | 1 | 3 |
| 11 | Safety Assessment in Industry | SMESI1 | Romanian | | | | | | 2 | | 1 | | 3 |
| 12 | Bases of Technical Computer Assisted Design II | SMRPI1 | Romanian | | | | | | 1 | | 2 | | 3 |
| 13 | Reliability | SMFIAB | Romanian | | | | | | 2 | 1 | | | 3 |
| 14 | Risk Management | SMRIT1 | Romanian | | | | | | 2 | 1 | 1 | | 4 |
| 15 | Practical Activity | SMPR22 | Romanian | | | | | | | | | | 4 |

## 4th Year

| No. crt. | Course | Code | Language of instruction | 7th Semester | | | | | 8th Semester | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | C | S | L | P | Cred | C | S | L | P | Cred |
| 1 | Safety in Primary Sectors | SMSSP1 | Romanian | 1 | | 1 | 2 | 4 | | | | | |
| 2 | Emergency situations management | SMMSU | Romanian | 2 | | 1 | | 4 | | | | | |
| 3 | Safety Systems for Mechanical Industry | SMSSPM | Romanian | 2 | | 1 | | 3 | | | | | |
| 4 | Management and Safety for Industrial Transport | SMMSTI | Romanian | 2 | | 1 | | 4 | | | | | |
| 5 | Safety of Advanced Production Systems | SMSSAP | Romanian | 2 | 1 | | | 4 | | | | | |
| 6 | Quality management | SMMACA | Romanian | | | | | | 2 | | 2 | | 4 |
| 7 | Industrial Emissions | SMNIND | Romanian | 2 | | 1 | 1 | 4 | | | | | |
| 8 | Basis of experimental research | SMBCEX | Romanian | | | | | | 2 | | 2 | | 4 |
| 9 | Electrosecurity | SMELS1 | Romanian | | | | | | 2 | | 1 | 1 | 4 |
| 10 | Initiation and Conduct of Business | SMICAF | Romanian | | | | | | 2 | 2 | | | 4 |

| 11 | Audit and Certification of Safety Engineering in Industry | SMACSI | Romanian |  |  |  |  |  | 2 |  | 2 |  | 4 |
|----|----------------------------------------------------------|--------|----------|--|--|--|--|--|---|--|---|--|---|
| 12 | Practice for the diploma project | SMPRPD | Romanian |  |  |  |  |  |  |  |  |  | 4 |
| 13 | Elaboration of the diploma project | SMEPRD | Romanian |  |  |  |  |  |  |  |  |  | 4 |
| 14 | Radiation Protection in industry | SMMRP | Romanian |  |  |  |  |  | 1 |  | 2 |  | 3 |
| 15 | Occupational Safety in Chemical Industry | SMSDC | Romanian |  |  |  |  |  | 1 |  | 2 |  | 3 |