

| Subjects of the First Study Cycle |   |                |         |                            |               |            |      |
|-----------------------------------|---|----------------|---------|----------------------------|---------------|------------|------|
| Subject code                      | Subject                                       | Subject status | Faculty | Department/section         | Year/semester | Fund hours | ECTS |
| 02K05-001                         | Analytical chemistry i                        | Compulsory     | FENS    | EM, EM-mm, EM-nm, EEP      | II/III        | 2+3        | 6    |
| 02K05-002                         | Analytical chemistry i                        | Compulsory     | FENS    | ChE                        | II/III        | 2+4        | 6    |
| 02K05-003                         | Analytical chemistry ii                       | Compulsory     | FENS    | ChE, EEP                   | II/IV         | 3+3        | 7    |
| 02K05-004                         | Electrochemistry                              | Compulsory     | FENS    | ChE                        | II/IV         | 2+2        | 4    |
| 02K05-005                         | Physic  | Compulsory     | MF      | ME                         | I/I           | 2+2        | 5    |
| 02K05-005                         | Electrochemical engineering                   | Obligatory     | FENS    | ChE                        | III/VI        | 2+2        | 4    |
| 02K05-006                         | Physic i                                      | Compulsory     | FENS    | EM, EM-mm, EM-nm, ChE, EEP | I/I           | 3+3        | 7    |
| 02K05-007                         | Physic ii                                     | Compulsory     | FENS    | EM, EM-mm, EM-nm, ChE, EEP | I/II          | 3+3        | 7    |
| 02K05-008                         | Physical chemistry                            | Compulsory     | FENS    | M, EM-mm, EM-nm, ChE, EEP  | II/III        | 3+4        | 7    |
| 02K05-009                         | Physical chemistry of processes in metallurgy | Compulsory     | FENS    | EM, EM-mm                  | II/IV         | 3+2        | 6    |
| 02K05-010                         | Physical harm                                 | Compulsory     | FENS    | SWFP                       | II/III        | 2+2        | 6    |
| 02K05-011                         | Physic  | Compulsory     | FENS    | SWFP                       | I/I           | 3+2        | 6    |
| 02K05-012                         | Fuels and combustion                          | Obligatory     | FENS    | EM, EM-nm, ChE, EEP        | III/V; IV/VII | 2+2        | 4    |
| 02K05-013                         | Environmental chemistry                       | Obligatory     | FENS    | EEP                        | III/V         | 2+2        | 5    |
| 02K05-013                         | Environmental chemistry                       | Obligatory     | FENS    | ChE                        | IV/VII        | 2+2        | 4    |
| 02K05-014                         | Chemical engineering thermodynamics           | Compulsory     | FENS    | ChE, EEP                   | II/IV         | 3+3        | 7    |
| 02K05-015                         | Chemical reactors                             | Obligatory     | FENS    | ChE                        | IV/VII        | 3+2        | 5    |
| 02K05-016                         | Instrumental test methods                     | Compulsory     | FENS    | EM, EM-mm, EM-nm, ChE      | II/III        | 3+2        | 6    |
| 02K05-017                         | Catalysis and catalysts                       | Obligatory     | FENS    | ChE                        | IV/VIII       | 2+2        | 4    |
| 02K05-018                         | Product quality control                       | Obligatory     | FENS    | ChE                        | IV/VII        | 2+1        | 3    |
| 02K05-019                         | Corrosion and protection                      | Compulsory     | FENS    | ChE                        | III/V         | 3+2        | 6    |
| 02K05-020                         | Corrosion and protection of metals            | Obligatory     | FENS    | EM-mm                      | III/VI        | 3+2        | 6    |
| 02K05-021                         | Corrosion and protection of non-metals        | Obligatory     | FENS    | EM-nm                      | IV/VIII       | 2+2        | 5    |
| 02K05-022                         | Crystallography                               | Compulsory     | FENS    | EM, EM-mm, EM-nm, ChE      | I/I           | 2+1        | 3    |
| 02K05-023                         | Material and energy balances                  | Obligatory     | FENS    | ChE                        | III/VI        | 3+3        | 6    |
| 02K05-024                         | Inorganic chemistry                           | Compulsory     | FENS    | EM, EM-mm, EM-nm, ChE, EEP | I/II          | 3+4        | 7    |
| 02K05-025                         | Inorganic technology i                        | Obligatory     | FENS    | ChE                        | III/V         | 3+3        | 7    |
| 02K05-026                         | Inorganic technology ii                       | Obligatory     | FENS    | ChE                        | III/VI        | 3+3        | 6    |

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| 02K05-027                         | General chemistry   | Compulsory     | FENS    | EM, EM-mm, EM-nm, ChE, EEP, SWFP | I/I           | 3+2        | 6    |
| 02K05-028                         | Organic chemistry   | Compulsory     | FENS    | ChE, EEP                         | II/IV         | 3+5        | 8    |
| 02K05-029                         | Organic technology  | Obligatory     | FENS    | ChE                              | III/VI        | 3+2        | 6    |
| 02K05-030                         | Projektovanje u hemijskoj industriji                      | Obligatory     | FENS    | ChE                              | IV/VII        | 2+2        | 4    |
| 02K05-031                         | Thermal process engineering                               | Obligatory     | FENS    | ChE                              | III/VI        | 3+3        | 7    |
| 02K05-032                         | Hydromechanical engineering                               | Compulsory     | FENS    | ChE                              | III/V         | 2+2        | 5    |
| 02K05-033                         | Basics of chemical engineering thermodynamics             | Compulsory     | FENS    | EM-nm                            | II/IV         | 2+2        | 4    |
| 02K05-034                         | Basics of organic chemistry                               | Compulsory     | FENS    | EM-nm                            | II/IV         | 2+2        | 4    |
| 02K05-036                         | Pulp and paper technology                                 | Elective       | FENS    | EM-nm                            | IV/VII-VIII   | 2+2        | 5    |
| 02K05-037                         | Chemical and biological harms                             | Compulsory     | FENS    | SWFP                             | II/III        | 3+2        | 5    |
| 02K05-037                         | Chemical and biological harms                             | Obligatory     | FENS    | EEP                              | III/V         | 3+2        | 6    |
| 02K05-038                         | Instrumental methods in environmental protection          | Compulsory     | FENS    | EEP                              | II/III        | 3+2        | 6    |
| 02K05-039                         | Engineering measurements                                  | Elective       | FENS    | SWFP                             | IV/VII-VIII   | 2+2        | 5    |
| 02K05-040                         | Corrosion and the environment                             | Elective       | FENS    | EEP                              | IV/VII-VIII   | 2+2        | 5    |
| 02K05-041                         | Material and energy balancing in environmental protection | Obligatory     | FENS    | EEP                              | III/V         | 3+3        | 6    |
| 02K05-042                         | Mechanical and thermal process engineering                | Obligatory     | FENS    | EEP                              | III/V         | 3+3        | 7    |
| 02K05-043                         | Radiation hazards   | Elective       | FENS    | SWFP                             | IV/VII-VIII   | 2+2        | 5    |
| 02K05-044                         | General chemical technology                               | Obligatory     | FENS    | EEP                              | III/VI        | 3+3        | 6    |
| 02K05-046                         | Basics of organic chemistry                               | Compulsory     | FENS    | SWFP                             | I/I           | 2+1        | 3    |
| 02K05-047                         | Basics of wastewater treatment technology                 | Obligatory     | FENS    | EEP                              | IV/VII        | 3+2        | 5    |
| 02K05-048                         | Purification systems and devices                          | Compulsory     | FENS    | SWFP                             | III/V         | 2+2        | 5    |
| 02K05-049                         | Toxicology  | Elective       | FENS    | SWFP                             | IV/VII-VIII   | 2+2        | 5    |
| 02K05-076                         | Physic  | Compulsory     | MF      | ME                               | I/I           | 2+2        | 5    |
| 02K05-094                         | Construction physics                                      | Compulsory     | PTF     | CE                               | I/II          | 2+2        | 4    |

FENS – Faculty of Engineering and Natural Sciences, MF – Mechanical faculty, PTF – Polytechnic faculty, EM – Engineering of Metallurgy, EM-mm- Engineering of Materials metallic materials, EM-nm – Engineering of Materials – nonmetallic materials; EEP – Engineering of Environmet Protection, ChE – Chemical Engineering, SWFP – Safety at Work and Fire Protection, ME – Mecahnical Engineering, MB – Manufacturing Bussines, CE – Civil Engineering

| Subjects of the Second Study Cycle |   |                |         |                    |               |            |      |
|------------------------------------|---|----------------|---------|--------------------|---------------|------------|------|
| Subject code                       | Subject   | Subject status | Faculty | Department/section | Year/semester | Fund hours | ECTS |
| 02K05-035                          | Selected chapters on corrosion and protection           | Elective       | FENS    | ChE                | I/I           | 3+2        | 6    |
| 02K05-079                          | Analysis of heavy metals in water, soil and plants      | Elective       | FENS    | ChE                | I/I           | 3+2        | 6    |
| 02K05-081                          | Selected electroanalytical methods of chemical analysis | Elective       | FENS    | ChE                | I/I           | 3+2        | 6    |
| 02K05-084                          | Water technology  | Elective       | FENS    | ChE                | I/I           | 3+2        | 6    |
| 02K05-089                          | Phase equilibria in multicomponent systems              | Elective       | FENS    | ChE                | I/I           | 3+2        | 6    |
| 02K05-090                          | Integration of mass and heat in technological processes | Obligatory     | FENS    | ChE                | I/I           | 3+2        | 6    |
| 02K05-091                          | Pulp and paper technology                               | Elective       | FENS    | ChE                | I/I           | 3+2        | 6    |

| Subjects of the Third Study Cycle (Joint study of technical faculties)     |                |          |            |      |  |
|--|----------------|----------|------------|------|--|
| Subject  | Subject status | Semester | Fund hours | ECTS |  |
| Selected chapters from organic technology                                  | Elective       | I/II/III | 20         | 5    |  |
| Application of separation processes in chemical industry                   | Elective       | I/II/III | 20         | 5    |  |
| Selected chapters of chemical-process engineering                          | Elective       | I/II/III | 20         | 5    |  |
| Selected chapters of organic chemistry                                     | Elective       | I/II/III | 20         | 5    |  |
| Selected electrochemical dc methods of testing the rate of metal corrosion | Elective       | I/II/III | 20         | 5    |  |
| Selected chapters of building materials technology                         | Elective       | I/II/III | 20         | 5    |  |
| Natural products as antioxidants   | Elective       | I/II/III | 20         | 5    |  |
| Hydration kinetics of cement binders                                       | Elective       | I/II/III | 20         | 5    |  |
| Kinetics of electrode reactions  | Elective       | I/II/III | 20         | 5    |  |