**3rd Degree Study Postgraduate Study Programme Leading to Doktorat znanosti (PhD)**

**Energy Technology**

**Course specifications**

**Legend:**

TC – type of course

All – total student work

L – lectures

S – seminar/project

AE – auditorial exercises

I.W.L. – individual work with lecturer

**1st Year**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **WINTER** | **Course** | **Lecturer** | **TC** | **ECTS** | **All** | **Ind.**  **work** | **Cont.**  **Hours** | **L** | **A.E.** | **S** | **L.E.** | **I.W.L** |
| Selective course 1\* |  | IP | 10 | 300 | 270 | 30 | 20 |  |  |  | 10 |
| Selective course 2\* |  | IP | 10 | 300 | 270 | 30 | 20 |  |  |  | 10 |
| Selective course 3\* |  | IP | 10 | 300 | 270 | 30 | 20 |  |  |  | 10 |
| **Total** | |  | **30** | **900** | **810** | **90** | **60** |  |  |  | **30** |
| \* student pick three of the selective courses | | | | | | | | | | | |
|  | | | | | | | | | | | | |
| **SUMMER** | METHODS OF SCIENTIFIC RESEARCH WORK | Hren | OP | 5 | 150 | 120 | 30 | 20 |  |  |  | 10 |
| Project | mentor | OP | 10 | 300 | 270 | 30 |  |  |  |  | 30 |
| INDIVIDUAL RESEARCH  WORK I | mentor | IRD | 15 | 450 | 430 | 20 |  |  |  |  | 20 |
| **Total** | |  | **30** | **900** | **820** | **80** | **20** |  |  |  | **60** |

**2nd Year**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **WINTER** | **Course** | **Lecturer** | **TC** | **ECTS** | **All** | **Ind.**  **work** | **Cont.**  **Hours** | **L** | **A.E.** | **S** | **L.E.** | **I.W.L** |
| Selective course 4\* | - | IP | 10 | 300 | 270 | 30 | 20 |  |  |  | 10 |
| Selective course 5\* | - | IP | 10 | 300 | 270 | 30 | 20 |  |  |  | 10 |
| INDIVIDUAL RESEARCH WORK II | mentor | IRD | 10 | 300 | 270 | 30 |  |  |  |  | 30 |
| **Total** | |  | **30** | **900** | **810** | **90** | **40** |  |  |  | **50** |
| \* student pick two more of the selective courses | | | | | | | | | | | | |
|  | | | | | | | | | | | | | |
| **SUMMER** | INDIVIDUAL RESEARCH WORK III | mentor | IRD | 30 | 900 | 870 | 30 |  |  |  |  | 30 |
| **Total** | |  | **30** | **900** | **870** | **30** |  |  |  |  | **30** |

**3rd Year**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **WINTER** | **Course** | **Lecturer** | **TC** | **ECTS** | **All** | **Ind.**  **work** | **Cont.**  **Hours** | **L** | **A.E.** | **S** | **L.E.** | **I.W.L** |
| INDIVIDUAL RESEARCH WORK IV | mentor | IRD | 30 | 900 | 870 | 30 |  |  |  |  | 30 |
| **Total** | |  | **30** | **900** | **870** | **30** |  |  |  |  | **30** |
|  | | | | | | | | | | | | | |
| **SUMMER** | PhD thesis | mentor | IRD | 30 | 900 | 870 | 30 |  |  |  |  | 30 |
| **Total** | |  | **30** | **900** | **870** | **30** |  |  |  |  | **30** |

**List of Selective courses:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Course** | **L** | **I.W.L** | **Ind. work** | **ECTS** | **Lecturer** |
|  | | | | | | |
|  | **HYDROGEN ENERGETIC TECHNOLOGIES** | 20 | 10 | 270 | 10 | Avsec |
|  | **AERO- AND HYDRO- ENERGETIC SYSTEMS** | 20 | 10 | 270 | 10 | Predin |
|  | **ALTERNATIVE THERMOENERGETIC SYSTEMS** | 20 | 10 | 270 | 10 | Marčič |
|  | **ENERGY SYSTEMS WITH RENEWABLE COURCES OF ENERGY** | 20 | 10 | 270 | 10 | Avsec |
|  | **ADVANCED WATER MACHINES AND APPARATUS** | 20 | 10 | 270 | 10 | Predin |
|  | **ELECTRIC MACHINES-SELECTED TOPICS** | 20 | 10 | 270 | 10 | Štumberger B. |
|  | **SELECTED TOPICS FROM PROTECTION AND CONTROL SYSTEMS** | 20 | 10 | 270 | 10 | Grčar |
|  | **HIGH VOLTAGE TECHNIQUE** | 20 | 10 | 270 | 10 | Pihler |
|  | **SELECTED TOPICS ON REACTOR PHYSICS AND THEORY** | 20 | 10 | 270 | 10 | Cvikl |
|  | **NUCLEAR REACTOR CORE** | 20 | 10 | 270 | 10 | Trkov |
|  | **ADVANCED NUCLEAR FUEL CYCLES** | 20 | 10 | 270 | 10 | Žagar T. |
|  | **NEW POWER TRANSMISSION TECHNOLOGIES AND POWER QUALITY** | 20 | 10 | 270 | 10 | Štumberger G. |
|  | **ECONOMICS OF ENERGETIC SISTEMS** | 20 | 10 | 270 | 10 | Festić |
|  | **LAW REGULATION IN ENERGY TECHNOLOGY** | 20 | 10 | 270 | 10 | Bratina |
|  | **PROBABILISTIC ANALYSIS OF SAFETY, RELIABILITY AND RISK** | 20 | 10 | 270 | 10 | Kodeli |
|  | **FISIBILITY STUDIES IN ET** | 20 | 10 | 270 | 10 | Festić |
|  | **INTERNAL COMBUSTION ENGINE POWER PLANT** | 20 | 10 | 270 | 10 | Marčič |
|  | **ENERGY TRANSFORMATIONS AND ENVIRONMENT** | 20 | 10 | 270 | 10 | Krope |
|  | **COMBUSTION SYSTEMS AND PROCESSES IN THERMOENERGETICS** | 20 | 10 | 270 | 10 | Avsec |
|  | **SELECTED TOPICS FROM THE POWER SYSTEM CONTROL** | 20 | 10 | 270 | 10 | Dolinar |
|  | **ENERGY CONVERSION AND ENERGY STORAGE** | 20 | 10 | 270 | 10 | Štumberger G. |
|  | **SELECTED CHAPTERS ON AUTOMATIC CONTROL SYSTEMS** | 20 | 10 | 270 | 10 | Tovornik |
|  | **SENSOR SYSTEMS IN ENERGY TECHNOLOGY** | 20 | 10 | 270 | 10 | Đonlagić |
|  | **COGERATION SYSTEMS** | 20 | 10 | 270 | 10 | Marčič |
|  | **GAS/STEAM TURBINE SYSTEMS** | 20 | 10 | 270 | 10 | Marčič |
|  | **RADIATION PROTECTION** | 20 | 10 | 270 | 10 | Glumac |
|  | **RADIO-ECOLOGY** | 20 | 10 | 270 | 10 | Smodiš |
|  | **SAFETY CONSIDERATIONS IN NUCLEAR INSTALLATIONS** | 20 | 10 | 270 | 10 | Žagar T |
|  | **DECOMMISSIONING ON NUCLEAR FACILITIES AND DISPOSAL OF RADIOACTIVE WASTE** | 20 | 10 | 270 | 10 | Žagar T. |
|  | **MODELING AND SIMULATIONS OF NUCLEAR ENERGY SYSTEMS** | 20 | 10 | 270 | 10 | Žagar T. |
|  | **GEOLOGICAL THERMO-ENERGETIC SYSTEMS** | 20 | 10 | 270 | 10 | Veselič |
|  | **NANO-ENERGETIC SYSTEMS** | 20 | 10 | 270 | 10 | Avsec |
|  | **EFFICIENT USE OF ENERGY** | 20 | 10 | 270 | 10 | Krope |
|  | **BUILDING ENERGY SYSTEMS** | 20 | 10 | 270 | 10 | Krope |
|  | **THE OPTIMIZATION OF HEAT AND MASS EXCHANGERS** | 20 | 10 | 270 | 10 | Avsec |
|  | **FRACTURE MECHANICS OF ENERGY COMPONENTS** | 20 | 10 | 270 | 10 | Praunseis |
|  | **SELECTED TOPICS FROM THE PHOTOVOLTAIC SYSTEMS** | 20 | 10 | 270 | 10 | Seme |
|  | **PHOTOVOLTAIC TRACKING SYSTEMS** | 20 | 10 | 270 | 10 | Seme |
|  | **SELECTED CHAPTERS FROM THE ROBUST CONTROL THEORY** | 20 | 10 | 270 | 10 | Chowdhury |
|  | **MODELLING AND NUMERICAL SIMULATIONS** | 20 | 10 | 270 | 10 | Hren |
|  | **SELECTED TOPICS FROM MATHEMATICS** | 20 | 10 | 270 | 10 | Usenik |
|  | **FUZZY LINEAR PROGRAMMING** | 20 | 10 | 270 | 10 | Usenik |
|  | **MODELLING OF ELECTRICAL DEVICES** | 20 | 10 | 270 | 10 | Hadžiselimović |
|  | **DESIGN OF INDUCTION MACHINES** | 20 | 10 | 270 | 10 | Hadžiselimović |
|  | **DESIGN OF ELECTRICAL MACHINES** | 20 | 10 | 270 | 10 | Virtič |

Specific course will be performed, if it'selected by at least 10 students.

If specific course is selected by 2-9 students, the course will be performed in the in abridged form

If specific course is selected by less then 2 students, the courses will not be performed or it will be performed in the form of individual consultations