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| **UNIVERSITY OF NIŠ** | | | | | | | | |
| **Course Unit Descriptor** | | | **Faculty** | | Faculty of Mechanical Engineering | | | |
| **GENERAL INFORMATION** | | | | | | | | |
| Study Program | **Mechanical Engineering** | | | | | | | |
| Study Module (if applicable) | - | | | | | | | |
| Course Title | Heat Plants | | | | | | | |
| Level of Study | ☒Bachelor | | | ☐ Master’s | | | | ☐ Doctoral |
| Type of Course | ☐ Obligatory | | | ☒ Elective | | | | |
| Semester | ☒ Autumn | | | ☐ Spring | | | | |
| Year of Study | III | | | | | | | |
| Number of ECTS Allocated | 6 | | | | | | | |
| Name of Lecturer/Lecturers | Mladen Stojiljković, Mirjana Laković-Paunović | | | | | | | |
| Teaching Mode | ☒ Lectures | | | ☐ Group tutorials | | | | ☐ Individual tutorials |
| ☒ Laboratory work | | | ☒ Project work | | | | ☒ Seminar |
| ☐ Distance learning | | | ☐ Blended learning | | | | ☒ Other |
| **Purpose and Overview (max. 5 sentences)** | | | | | | | | |
| *Introduce students to the different types of heat plants - theoretical principles of operation, application and construction of the heat exchangers, central heating systems, closed-cycle cooling systems, thermal power plants, refrigeration systems.* | | | | | | | | |
| **Syllabus (brief outline and summary of topics, max. 10 sentences)** | | | | | | | | |
| 1) Introduction to heat exchangers, 2) Recuperative heat exchangers, 3) Regenerative heat exchangers, 4), Closed-cycle cooling systems – wet natural and mechanical draught cooling towers, 5) Steam thermal power plants, 6) Gas thermal power plants, 7) Combined heat and power plants, binary plants, 8**)** Vapour-compression refrigeration system**, 9**) Heat pumps 10) Absorption and injection refrigeration system, 11) Freezing systems, 12) Central heating – heat losses, 13) Central heating systems: water, air, steam, district, 14) Central heating devices, boilers for central heating, chimney dimensioning, | | | | | | | | |
| **Language of Instruction** | | | | | | | | |
| ☒Serbian (complete course) | | ☐ English (complete course) | | | | | ☐ Other \_\_\_\_\_\_\_\_\_\_\_\_\_ (complete course) | |
| ☐Serbian with English mentoring | | ☐Serbian with other mentoring \_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | |
| **Assessment Methods and Criteria** | | | | | | | | |
| **Pre exam Duties** | | **Points** | **Final Exam** | | | **Points** | | |
| **Activity During Lectures** | | **5** | **Written Examination** | | | **50 (depending on Teaching Colloquia)** | | |
| **Practical Teaching** | | **5** | **Oral Examination** | | | **50** | | |
| **Teaching Colloquia** | | **40** | **Overall Sum** | | | **100** | | |
| **\*Final examination mark is formed in accordance with the Institutional documents** | | | | | | | | |