|  |
| --- |
| **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty** | Faculty of Mechanical Engineering |
| **GENERAL INFORMATION** |
| Study Program | **Mechanical Engineering** |
| Study Module (if applicable) | - |
| Course Title | Theory of turbomachines |
| Level of Study | ☐Bachelor | ☐ Master’s | ☒ Doctoral |
| Type of Course | ☐ Obligatory | ☒ Elective |
| Semester | ☐ Autumn | ☒ Spring |
| Year of Study | I |
| Number of ECTS Allocated | 10 |
| Name of Lecturer/Lecturers | dr Dragica Milenković |
| Teaching Mode | ☒ Lectures | ☐ Group tutorials | ☐ Individual tutorials |
| ☐ Laboratory work | ☒ Project work | ☒ Seminar |
| ☐ Distance learning | ☐ Blended learning | ☐ Other |
| **Purpose and Overview (max. 5 sentences)** |
| *Students should acquire knowledge in theory of flow in turbomachinery, acquiring skills in design methodology, and determination of the flow characteristics of axial, radial and radial-axial turbomachinery.**The main aim is enabling students to formulate equations of motion of fluid flow through turbomachinery, to model turbomachinery components and determine their performance.* |
| **Syllabus (brief outline and summary of topics, max. 10 sentences)** |
| 1) The equations of motion for liquids and gases. 2) Turbomachinery operating principles. 3) One-dimensional theory. 4) Two-dimensional theory. 5) Three-dimensional flow in turbomachinery. 6) Turbomachinery modeling. 7) Energy losses in turbomachinery. 8) Unsteady fluid flow in turbomachinery. 9) Operating characteristics of axial, radial and radial-axial turbomachinery. 10) Turbomachinery designing methods.  |
| **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** | **Max 40, 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** |