|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **UNIVERSITY OF NIŠ** | | | | | | | | |
| **Course Unit Descriptor** | | | **Faculty** | | Faculty of Mechanical Engineering | | | |
| **GENERAL INFORMATION** | | | | | | | | |
| Study Program | **Mechanical Engineering** | | | | | | | |
| Study Module (if applicable) | - | | | | | | | |
| Course Title | Thermal Comfort | | | | | | | |
| Level of Study | ☐ Bachelor | | | ☐ Master’s | | | | ☒ Doctoral |
| Type of Course | ☐ Obligatory | | | ☒ Elective | | | | |
| Semester | ☒ Autumn | | | ☐ Spring | | | | |
| Year of Study | II | | | | | | | |
| Number of ECTS Allocated | 10 | | | | | | | |
| Name of Lecturer/Lecturers | Gradimir S. Ilić, Velimir P. Stefanović, Mladen M. Stojiljković, Predrag M. Živković | | | | | | | |
| Teaching Mode | ☒ Lectures | | | ☐ Group tutorials | | | | ☐ Individual tutorials |
| ☐ Laboratory work | | | ☒ Project work | | | | ☐ Seminar |
| ☐ Distance learning | | | ☐ Blended learning | | | | ☐ Other |
| **Purpose and Overview (max. 5 sentences)** | | | | | | | | |
| *Thermal comfort is one of the most influential elements of the condition and quality of living and working space. Therefore it is very important to introduce the candidate to the definition and determination, both experimentally and numerically, of thermal comfort parameters and indicators in order to further train in the field of HVAC technology.* | | | | | | | | |
| **Syllabus (brief outline and summary of topics, max. 10 sentences)** | | | | | | | | |
| 1) **Introduction, basic concepts and definitions of thermal comfort as the condition of thermal environment.** 2) **Human body heat flux – defining all heat losses and gains of human body heat balance.** 3) **Conditions of thermal comfort:** Thermal comfort equation – Fanger equation; Te Diagrams of thermal comfort defining intercorelations of thermal comfort parameters; Thermal comfort indices PMV, PPD and their mutual relations; The impact of other factors on the scope of the thermal comfort equation application (ethnic, geographic, age, sex, body type, diet, asymmetric heating or cooling, hot or cold surface, paint, air pressure); 4) **Practical methods of thermal surroundings evaluation:** Defining PMV - indices; Defining PPD - indices; 5) **Measuring methods of microclimate parameters:** Defining mean radiant temperature; Radiative heat loss from the human body surface; Determination of the angular factor (configuration factor) of the system one-room. 6) **Thermal environment condition analysis in terms of thermal comfort.** | | | | | | | | |
| **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** | | **-** | **Written Examination** | | | **-** | | |
| **Practical Work** | | **70** | **Oral Examination** | | | **Max. 30** | | |
| **Teaching Colloquia or Seminar** | | **-** | **Overall Sum** | | | **100** | | |
| **\*Final examination mark is formed in accordance with the Institutional documents** | | | | | | | | |