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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty** | Faculty of technology |
| **GENERAL INFORMATION** |
| Study program  | **Technological engineering** |
| Study Module (if applicable) |  |
| Course title | Design nonwoven materials |
| Level of study | ☐Bachelor ☐ Master’s ☒ Doctoral |
| Type of course | ☐ Obligatory ☒ Elective |
| Semester  | ☒ Autumn ☒Spring |
| Year of study  | I |
| Number of ECTS allocated | 8 |
| Name of lecturer/lecturers | Nenad Cirkovic |
| Teaching mode | ☒Lectures ☐Group tutorials ☐ Individual tutorials☐Laboratory work ☐ Project work ☐ Seminar☐Distance learning ☐ Blended learning ☒ Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| *Acquiring theoretical and practical knowledge on structural and constructive parameters of non-woven textile products for different purposes.* |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| **1. Characteristics and applications of nonwoven textiles;****2. Mechanical formation of felt with oriented position of fibers; the impact of fiber position on the characteristics of the nonwovens;****3. Cross and the combinedlaying of webs in felt; design of lines and features of felt;****4. Aerodynamic formation of felt; adjust aerodinamic converter with unoriented and longitudinal position of the fiber;****5. Design of felt characteristicswith anisotropic position of fibers;****6. Hydroformers; processes projecting and product characteristics;****7. Projecting the process of forming a felt from polymer melt (Spunbondid, meltblown);****8. Needled nonwovens; processes projecting and product characteristics;****9. Projecting characteristics of products and processes of Malivlies nonwovens;****10. Projecting characteristics of the product and technology Maliwatt Schusspol;****11. Projecting process of the formation of smooth and sampled Tufting flooring;****12. Chemical connecting of fibers in felt, characteristics, ability to filter;****13. Projecting process of finishing nonwovens;****14. Design of separation, diffusion and filtration properties of nonwoven textile materials;****15. Designing specific characteristics of non-woven textile materials intended for functional technical textile products.** |
| **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** | **25** | **Written examination** |  |
| **Practical teaching** |  | **Oral examination** | **25** |
| **Teaching colloquia** | **50** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |