|  |
| --- |
|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty of Technology** |  |
| **GENERAL INFORMATION** |
| Study program  | Postgraduate PhD Study: Technological Engineering |
| Study Module (if applicable) | - |
| Course title | Biorenewable energy sources |
| Level of study | [ ] Bachelor [ ]  Master’s [x]  Doctoral |
| Type of course | [ ]  Obligatory [x]  Elective |
| Semester  | [x]  Autumn [ ] Spring |
| Year of study  | First |
| Number of ECTS allocated | 8 |
| Name of lecturer/lecturers | Prof. Olivera Stamenković |
| Teaching mode |  [x] Lectures [x] Group tutorials [x]  Individual tutorials [ ] Laboratory work [ ]  Project work [x]  Seminar [ ] Distance learning [ ]  Blended learning [ ]  Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| Students gain knowledge of the concept of biorenewable energy sources and opportunities for their production technologies based on chemical and bioprocess engineering principles. Students will understand the process of obtaining energy from renewable sources will be able to independently solve theoretical and practical problems related to the issue of utilization of bioenergy sources. |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| The concept and development of biorenewable energy sources. Biomass and biofuels. Waste biomass. Briquettes and pellets, characteristics and classification. Briquetting technology. Biodiesel. Raw materials and methods for biodiesel production. Industrial methods for biodiesel production. Emerging technologies for biodiesel production. Bioethanol. Raw materials and process for bioethanol production. Anhydrous bioethanol. Industrial processes. Biogas. Production technologies and purification methods of biogas. Industrial processes for biogas production. |
| **LANGUAGE OF INSTRUCTION** |
| [x] 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** | **10** | **Written examination** |  |
| **Practical teaching** |  | **Oral examination** | **30** |
| **Seminar work** | **60** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |