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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  |  |
| **GENERAL INFORMATION** |
| Study program  | **General phyics** |
| Study Module (if applicable) |  |
| Course title | Introduction to nonlinear dynamics |
| Level of study | [ ] Bachelor [x]  Master’s [ ]  Doctoral |
| Type of course | [ ]  Obligatory [x]  Elective |
| Semester  |  [x]  Autumn [ ] Spring |
| Year of study  | 2 |
| Number of ECTS allocated | 6 |
| Name of lecturer/lecturers | Ana M. Mančić |
| Teaching mode |  [x] Lectures [ ] Group tutorials [ ]  Individual tutorials [ ] Laboratory work [ ]  Project work [ ]  Seminar [ ] Distance learning [ ]  Blended learning [ ]  Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| *The objective of this course is to develop an understanding of basic concepts and methods of nonlinear dynamics. After finishing this course, the students should be able to apply acquired knowledge in practice and in future education.* |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| **Bifurcation theory. Poincare maps. Routes to chaos. Lyapunov exponents. Analysis of themporal signals. Examples from mechanics, biology etc.** |
| **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** | **30** |
| **Practical teaching** | **20** | **Oral examination** | **20** |
| **Seminars** | **20** |  |  |
| **Teaching colloquia** |  | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |