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| **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty** | **Faculty of Mechanical Engineering** |
| **GENERAL INFORMATION** |
| Study program  | **Mechanical Engineering** |
| Study Module (if applicable) | - |
| Course title | Dynamics of Machinery |
| Level of study | [ ]  Bachelor [ ]  Master’s [x]  Doctoral |
| Type of course | [ ]  Obligatory [x]  Elective |
| Semester  | [ ]  Autumn [x]  Spring |
| Year of study  | I |
| Number of ECTS allocated | 10 |
| Name of lecturer/lecturers | Nenad D. Pavlović |
| Teaching mode | [x]  Lectures [ ]  Group tutorials [x]  Individual tutorials[ ]  Laboratory work [x]  Project work [ ]  Seminar[ ]  Distance learning [ ]  Blended learning [ ]  Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| The purpose of this course is to gain some basic knowledge for solving dynamic problems of power machines. Students should gain the ability to analyse and solve the given examples of power machines dynamic problems.  |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| * Dynamics of Rigid Machines (Mathematical Modeling, Dynamic Equation of Motion, Coefficient of Speed Fluctuation and Calculating the Required Moments of Inertia of the Fly Wheels).
* Dynamics of Machines with Elastic Links.
* Methods of Mass Balancing: Counterbalancing of Rigid Rotors, Mass Balancing of Planar Mechanisms.
* Machine Foundations and Foundation Vibrations Isolation
* Torsional Oscillations in Drive Systems.
* Bending Oscillations of Rotating Shafts.
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| **LANGUAGE OF INSTRUCTION** |
| [x]  Serbian (complete course) [x]  English (complete course) [x]  German (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 teaching** |  | **Oral examination** | **Max. 50** |
| **2 term papers** | **2x25=50** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |