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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | Faculty of Electronic Engineering |
| **GENERAL INFORMATION** |
| Study program  | **Electrical Engineering and Computing** |
| Study Module (if applicable) | Electronics |
| Course title | Computer Vision |
| Level of study | [ ] Bachelor [ ]  Master’s [x]  Doctoral |
| Type of course | [ ]  Obligatory [x]  Elective |
| Semester  |  [ ]  Autumn [ ] Spring |
| Year of study  | 2 |
| Number of ECTS allocated | 10 |
| Name of lecturer/lecturers | Nikolić V. Saša |
| 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)** |
| *Introduce advanced algorithms in the field of digital image processing and machine learning. Practical implementation of state of the art algorithms in the field of digital image processing and machine learning for content based image recognition and classification.* |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| **Extracting image features- global and local features (CLD MPEG-7, EHD, LBP, SIFT, etc.). Image search and classification based on content. Introduction to machine learning methods (k-means, Bayesian methods, SVM). Fast image search techniques using machine learning. Detection and identification of 2D objects in an image. Object tracking in video sequences. Stereovision. Basics of 3D vision.** |
| **LANGUAGE OF INSTRUCTION** |
| [x] Serbian (complete course) [x]  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 teaching** | **50** | **Oral examination** | **50** |
| **Teaching colloquia** |  | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |