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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 Graphics |
| Level of study | ☒Bachelor ☐ Master’s ☐ Doctoral |
| Type of course |  Obligatory X☐ Elective |
| Semester  | ☒ Autumn ☐Spring |
| Year of study  | 4 |
| Number of ECTS allocated | 5 |
| Name of lecturer/lecturers | Dejan D. Rančić |
| Teaching mode | ☒Lectures ☒Group tutorials ☐ Individual tutorials☒Laboratory work ☒ Project work ☐ Seminar☐Distance learning ☐ Blended learning ☐ Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| *Introducing students to the basic principles, techniques, and devices used for computer graphics.Students will gain knowledge of basic principles, techniques, and devices used in computer graphics. They will also learn how to design and implement high-quality computer graphics applications using Microsoft GDI 2D graphical API as well as OpenGL 3D graphical API.* |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| **Introduction to interactive computer graphics and computer graphics systems. Hardware for computer graphics. Raster graphics algorithms for drawing, clipping and filling 2D primitives (lines, circle ellipse). 2D and 3D geometric transformation. Composing transformations. Algorithms for the realistic visualization. Colour models. Light and lighting models. Shading models. Algorithms for generating shadows. Modelling of curves and surfaces (Spline, Bezier and NURBS curves and surfaces). Tools and software for computer graphics. Graphics API (GDI, GDI+, OpenGL). An interactive graphical programming.** |
| **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** | **0** | **Written examination** | **30** |
| **Practical teaching** | **20** | **Oral examination** | **30** |
| **Teaching colloquia** | **20** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |