Specification for the book of courses

Study program			Electrical Engineering and Computer Science	
Module			Computing and Informatics	
Type and level of studies			Undergraduate Academic Studies	
The name of the course			Computer Graphics	
Lecturer (for lectures)			Rančić D. Dejan, Milosavljević Lj. Aleksandar	
Lecturer/associate (for exercises)			Dimitrijević M. Aleksandar, Mihajlović T. Vladan, Antolović D. Igor	
Lecturer/associate (for OFE)			Dimitrijević M. Aleksandar, Mihajlović T. Vladan, Antolović D. Igor, Frtunić-Gligorijević B. Milena	
Number of ECTS	5		**Course status (obligatory/elective)**	Obligatory
Prerequisites				
Course objectives	Introducing students to the basic principles, techniques, and algorithms used for computer graphics.			
Course outcomes	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			
Course outline				
Theoretical teaching	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. Color models. Light and lighting models. Shading models. Algorithms for generating shadows. Modeling 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.			
Practical teaching (exercises, OFE, study and research	Auditive exercises and laboratory exercises. Practical work on programming graphical applications using Visual C / C++ and GDI and OpenGL graphics API.			
Textbooks/references				
1	Foley, J., van Dam, A., Feiner, S., Hughes, J., Computer Graphics - Principles and Practice, second edition in C, Addison-Wesley Publishing Company, 1996.			
2	Ed Angel, Interactive Computer Graphics, A Top-down Approach with OpenGL (Third Edition), Addison-Wesley Publishing Company, 2003.			
3	Hill, F. S., Computer Graphics - using OpenGL, Prentice Hall Publishing Company, 2001.			
4	Shirley, P., Fundamentals of Computer Graphics, A K Peters Publishing Company, 2002.			
5				
Number of classes of active education per week during semester/trimester/year				
Lectures	**Exercises**	**OFE**	**Study and research work**	**Other classes**
2	2	1	0	0
Teaching methods	Lectures, exercises, laboratory excercises, individual student homeworks and projects.			
Grade (maximum number of points 100)				
Pre-exam duties		**Points**	**Final exam**	**Points**
Activity during lectures			**Written exam**	30
Exercises		20	**Oral exam**	30
Colloquia		20		
Projects				