COURSE DESCRIPTION CARD – SPECIMEN

Faculty of Electrical Engineering									
Field of study	**Electrical and Electronics Engineering**							**Degree level and programme type**	**bachelor's degree**
Specialization/ diploma path	**-**							**Study profile**	
Course name	3D – Modelling and Computer Animation							**Course code**	**IS-FEE-10068S**
								Course type	**elective**
Forms and number of hours of tuition	**L**	**C**	**LC**	**P**	**SW**	**FW**	**S**	**Semester**	**summer**
				30				**No. of ECTS credits**	**3**
Entry requirements	**Introduction to Information Technology**								
Course objectives	To provide the students with knowledge of 3D modelling and computer animation (CGI - Computer Graphics Imaging). The student will learn how to use Anim8or program to create 3D animations. The practical skills will allow for self-realization of computer animation for didactic and technical purposes.								
Course content	Principles of computer animation. Modelling objects and elements of a scene using curves, surfaces and solid elements. Sequence of motion. The relationship between bones and skeleton. Generation of the trajectory of an animated object. Scene settings (lights, cameras, shadows, materials). Morfing, warping, particle systems. Rendering.								
Teaching methods	Project: work in groups, homework assignments Self-study under supervision: tutorial sessions with worked examples								
Assessment method	Elaboration of project + observation of work during classes								
Symbol of learning outcome	**Learning outcomes**								**Reference to the learning outcomes for the field of study**
LO1	Student: is able to classify and characterize basic of computer animation								
LO2	describes fundamental principles of computer animation								
LO3	is able to create a 3D model and sequence of motion in Anim8or program								
LO4	is able to modeling a 3D animated object with materials, lights, shadows, cameras								
LO5	is able to modeling a 3D animated object with morfing, warping and particle systems								
LO6									

Symbol of learning outcome	Methods of assessing the learning outcomes	Type of tuition during which the outcome is assessed
LO1	Elaboration of project + observation of work during classes	P
LO2	Elaboration of project + observation of work during classes	P
LO3	Elaboration of project + observation of work during classes	P
LO4	Elaboration of project + observation of work during classes	P
LO5	Elaboration of project + observation of work during classes	P
LO6		

Student workload (in hours)		No. of hours
Calculation	participation in project	30
	preparation for projects	25
	working on individual project task	20
	participation in student-teacher sessions related to project	2
	TOTAL:	77

Quantitative indicators	HOURS	No. of ECTS credits
Student workload – activities that require direct teacher participation	30	1
Student workload – practical activities	77	3

Basic references	1. Blundel B.G. (2008), An Introduction to Computer Graphics and Creative 3-D Environments, SPRINGER 2. Kipphan H. (2001), Handbook of Print Media, SPRINGER 3. Byrne M.T. (1999) Animation. The art of Layout and Storyboarding, Leixlip, Co. Kildare, Ireland 4. Parent R. (2012) Computer Animation: Algorithms and Techniques, Newnes
Supplementary references	1. Kiciak P. (2000) Basis of modeling curves and planes, using in computer graphics, WNT, Warsaw (in Polish) 2. Thomas F., Johnson O. (1981) Disney animation - the illusion of life, Walt Disney Production 3. Internet, http://wikipedia.org

Organisational unit conducting the course	Department of Automatic Control and Robotics	Date of issuing the programme
Author of the programme	Ph.D., Eng. Roman Trochimczuk	18-02-2020

L – lecture, C – classes, LC – laboratory classes, P – project, SW – specialization workshop, FW - field work,

S – seminar