Course Unit Descriptor

Study Programme: Information technology

Course Unit Title: Computer animation

Course Unit Code: OAS105

Name of Lecturer(s): Associate Professor Marjana Pardanjac, PhD

Type and Level of Studies: Bachelor Academic Degree

Course Status (compulsory/elective): Elective

Semester (winter/summer): Winter

Language of instruction: English

Mode of course unit delivery (face-to-face/distance learning): Face-to-face

Number of ECTS Allocated: 6

Prerequisites: None

Course Aims:

Computer animation is today an integral part of every product or production process and is practiced in almost all areas of life such as: engineering, informatics, architecture, construction, traffic, electrical engineering, electronics, geodesy, medicine. Computer animation training aims at acquainting with the concept of computer animation, film animation, animation techniques, application in educational computer software, with emphasis on 3D animation. With the Autodesk 3D Studio MAX, students will learn, among other things, the basic principles of modeling, as work with animation, adjusting the lighting, mapping, and add texture of the selected objects.

Learning Outcomes:

Students acquire basic knowledge of computer animation, 3D modeling, text mapping, light and shading, as well as creating movie files. Students will be trained to independently create a 3D scene with all its attributes.

Syllabus:

Theory

Introduction part, Grids, Pixels and Sprites, Graphic Program Algorithms, Graphic Data Structure, Geometric Image Transformations, 3D Transformations, Views and Projections, Graphic Cutting and Picking, 3D Modeling and Primitives, Graphic Programming Algorithm for Coloring, Illumination and Damping, texture mapping, graphic radiation, animation, animation based on physical movements, animation control.

Practice

Practical classes are realized through exercises in which the student will master the practical knowledge in creating animation using 3D Studio MAX.

Required Reading:

1. A. Beane, 3D Animation Essentials, John Wiley & Sons, USA, 2012.
2. R. L. Derakhshani, D. Derakhshani, Autodesk® 3ds Max® 2014 Essentials, John Wiley & Sons, USA, 2013

Weekly Contact Hours: 4	**Lectures:** 2	**Practical work:** 2

Teaching Methods:

Lectures and students group work

Knowledge Assessment (maximum of 100 points): 100			
Pre-exam obligations	points	**Final exam**	points
Active class participation	10	written exam	30
Seminar(s)	30	oral exam	30