COURSES OFFERED IN ENGLISH FALL SEMESTER 2019-2020

Winter Semester 2019/2020

συμπεριλαμβάνει περιγραφή του μαθήματος, τις πιστωτικές μονάδες, τη σχετική βιβλιογραφία αν υπάρχει, όνομα διδάκτορα, ηλεκτρονική διεύθυνση όπου είναι δυνατόν ή ότι άλλο κρίνετε εσείς ως απαραίτητη πληροφορία.

**CS426 Computer Graphics**

*Type:* Restricted choice  
*Level:* Undergraduate  
*Credit:* 7,5 ECTS units  
*Instructor:* Y. Chrysanthou / ............

*Objectives:* Introduction to the basic principles of digital image synthesis. Explain how a 3-dimentional virtual world is defined starting from the geometry, the materials, the lights and cameras and how the 2-dimentional resulting image is produced by going through the graphics pipeline. Provision of both the theoretical foundations as well as practical skills through the use of industry standards, such as OpenGL or DirectX.

*Content:* Scene construction, scene hierarchies, camera specification, projections of primitives, clipping, visible surface determination, polygon rasterisation (z-buffer), texture mapping, local and global illumination, shadows, ray tracing, radiosity, real-time acceleration techniques.

*Prerequisites:* CS132

*Bibliography:*

*Teaching methods:* Lectures (3 hours weekly) and Laboratory sessions (2 hours weekly).

*Assessment:* Final exam, midterm exam and homework.

**CS445 Digital Image Processing**

*Type:* Restricted Choice  
*Level:* Undergraduate  
*Semester:* Fall  
*Credit:* 7,5 ECTS units  
*Instructor:* C. Pattichis

*Objectives:* Introduction to the basic principles of Digital Image Processing: Digital Image and Video. Analysis and implementation of image and video processing and analysis algorithms and their

**Prerequisites:** CS132, MAS016

**Bibliography:**


**Teaching methods:** Lectures (3 hours weekly) and Laboratory sessions (2 hours weekly).

**Assessment:** Final exam, midterm exam and homework (laboratory exercises, additional exercises, final project).

[https://www.cs.ucy.ac.cy/docs/prospectus-en.pdf](https://www.cs.ucy.ac.cy/docs/prospectus-en.pdf)