IMM EU Socrates Erasmus Programme
Master programme
Sylabus
Course proposal

Course Title: Graphics and animation for multimedia
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Purpose	The purpose of this course is to provide the skills and knowledge for building graphic user interfaces for multimedia applications and creating rich graphic content using various graphic tools.
Learning Outcomes	The students should: - understand concepts in visual comunication and graphic user interface design - design, create and test user interfaces for multimedia applications - create 3D digital models and images - create 2D and 3D animations - manipulate and integrate graphic elements in multimedia applications - collaborate with coleagues in planning and creating interface and content for multimedia applications
Course Summary	This course will cover basic concepts in graphic user interface design including an introduction to visual comunication, layout techniques, standards, style guides and usability principles. The course will also cover techniques for creating rich graphic content for multimedia applications, from 3D images to animation and virtual reality. A complete overview of the process of creating 3D graphics will be presented, from modelling and texturing to lightning techniques and rendering algorythms. The third part of the course will cover the basics of creating 2D and 3D animations and solutions for integrating them in multimedia applications.
Course Structure	**Module 1 – Graphic user interface (GUI) design** - basics of visual comunication - concepts in user interface design - layout techniques - interactive elements design - GUI standards and style guides - interface usability **Module 2 - 3D graphics** - object modelling - textures and materials, mapping techniques - lights and cameras - rendering algorythms - postprocessing and special effects

	Module 3 – Animation for multimedia applications
	- basics of computer animation
	- 2D animation techniques in Macromedia Flash
	- 3D animation techniques in 3D Studio Max
	- integrating animations in multimedia applications
	- introduction to virtual reality
Learning Assignments	For each module the students will make an assessment: - For **module 1** the students will present a case study of an existing GUI and a new proposal for it (concept and layout). There will be 2 students assigned for one case study and they will write a paper of 6 to 8 pages in length including screenshots of existing interface and the new proposal. - The **module 2** will end with a small project in which each student will build a 3D model, apply textures, set-up lights and cameras and render the scene from different angles with various rendering settings. - During the **module 3** the students will work on a project in which 2 similar animations will be created – one in 2D and one in 3D. At the end of the module the students will present the 2 animations completed and a comparison between the techniques used in each case, the time need for development and solutions for integrating the 2 animations in a multimedia application.
Tutorials Structure	Three types of tutorials will be used: - Lecture: for presenting new materials and principles - Discussions: when searching for solutions for a particular problem - Group work: for completing a practical task or project
Interactive or Multimedia content	The course materials will include graphics, flash animations, 3D animations and video. Some of them will be used to illustrate basic principles and others will be used as starting point for practical tasks.
Software needed	Adobe Photoshop Macromedia Flash MX 3D Studio Max
References	Mark Silver, *Exploring Interface Design*, Thomson Delmar Learning, 2004 Jakob Nielsen, *Designing Web Usability*, New Riders Publishing, 2000 Jen deHaan, *Animation and Effects with Macromedia Flash MX 2004*, Macromedia Press, 2004 Isaac Victor Kerlow, *The Art of 3-D: Computer Animation and Imaging*, 2nd Edition, John Wiley & Sons, 2000 Ted Boardman, *3ds max 7 Fundamentals*, New Riders Press, 2005