



<b>TITLE OF THE COURSE:</b>	GRAPHICS AND VISUALIZATION
<b>Course code:</b>	INF2008
<b>Course group:</b>	C
<b>Faculty:</b>	Informatics
<b>Study program:</b>	Informatics Systems
<b>Level:</b>	Bachelor's
<b>Semester:</b>	Autumn
<b>ECTS credits:</b>	6
<b>Language of instruction</b>	English, Lithuanian
<b>Course lecturer/s:</b>	dr. Andrius Davidsonas
<b>Short course description:</b>	<p>Course introduces students to computer programming tools for the visualization of information. The course covers various computer graphics techniques and algorithms used to form and manipulate 2D and 3D objects, create visual realism, enhance video quality. During the course, students will learn fundamental algorithms and techniques and gain the knowledge necessary to understand and augment the latest innovations in computer graphics. WebGL graphics library is used through laboratory exercises to provide the students opportunity to gain practical experience in programming graphical applications.</p>
<b>Course content:</b>	<ul style="list-style-type: none"><li>- Introduction to tools and api's for programming graphical applications.</li><li>- Graphics and visualization practical examples.</li><li>- Creating virtual scene and graphical objects.</li><li>- Displaying virtual scene on computer screen.</li><li>- Modelling transformations.</li><li>- Colors. Color models, spaces and profiles.</li><li>- Modelling the light. Light sources in computer graphics.</li><li>- Shading and illumination models.</li><li>- Curves and surfaces.</li><li>- Texture mapping techniques.</li></ul>
<b>Grading and evaluating student work in class and/or</b>	Final assessment sums the assessments of final examination (50%), mid-term examination (20%) and



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<b>at the final exam:</b>	assessment of laboratory works (30%).
<b>Required reading and additional study material</b>	<i>Additional study material:</i> <ul style="list-style-type: none"><li>- Tony Parisi. WebGL: Up and Running, "O'Reilly Media, Inc.", 2012.</li><li>- Isaac Sukin. Game Development with Three.js, Packt Publishing Ltd, 2013.</li><li>- Jos Dirksen. Three.js Essentials, Packt Publishing Ltd, 2014.</li><li>- Jos Dirksen. Learning Three.js – the JavaScript 3D Library for WebGL - Second Edition, Packt Publishing Ltd, 2015.</li><li>- Jos Dirksen. Three.js Cookbook, Packt Publishing Ltd, 2015.</li></ul>
<b>Additional information (if applicable)</b>	