Course programme

Course code	COURSE TITLE
IFI7319.DT	2D Graphics for Computer Games

ECTS credits: 4	Amount of contact lessons: 28	Teaching semester: Autumn	Assessment form: Pass or Fail assessment
Course objectives:	The goal of the course is to obtain practical skills and theoretical knowledge in the area of 2D computer game graphics, design concept art and graphical assets for game projects.		
Brief description of course content: (including the description of the independent work)	The scope of the course is covering vector 2D and raster (bitmap) 2D graphics. 3D modeling and animations are not part of this course. Vector Graphics: 1. Introduction to vector graphics, basic tools and shapes. 2. Advanced shapes and lines, basics of the design. 3. Types and texts. 4. Vector graphic effects. 5. Color models, effects and composition. 6. Scales and technical drawings. 7. Tracing - converting bitmap images into vector shapes. Raster Graphics: 1. Introduction to raster graphics, basic tools and operations. 2. Layers and selections. 3. Masks. 4. Color manipulation and layer modes. 5. Raster effects. 6. Web graphics. 7. Combining vector and raster graphics. Independent works: 1. Creating game objects with the help of basic vector shapes. 2. Creating game character sprites with combining shapes and modifying lines.		

	3. Creating game logo.
	4. Creating game flyer with vector effects.
	5. Creating game world background images and adding atmosphere with colors.
	6. Creating the map of the game world.
	7. Tracing game assets (backgrounds or characters).
	8. Creating pixel art characters.
	9. Combining existing characters and creating new ones.
	10. Role-play – author in the game world.
	11. Using raster effects for transferring photos into game backgrounds.
	12. Creating simple animations.
	13. Assembling game scenes (map, backgrounds, characters and objects).
	14. Creating game posters.
Learning outcomes:	In the end of the course student is able to: 1. Design vector graphic images. 2. Manipulate raster graphic photos. 3. Integrate vector and raster graphics. 4. Choose optimal tools based on the task. 5. Have an overview of terminology of computer graphics. 6. Visualize ideas graphically. 7. Portfolio of primary graphical game assets.
Assessment Methods:	Course ends with pass or fail assessment. In order to obtain the positive assessment students are requested to submit all individual homework assignments on time and with the sufficient quality. The schedule of assignment submission is presented in the "Information about the course" section. Grading method is introduced in the "Grading criteria" section.
Lecturer(s):	Martin Sillaots
Course title in Estonian:	Arvutimängu 2D-graafika

Prerequisted course(s):	None
Compulsory literature:	Course materials: http://htk.tlu.ee/icampus/pg/groups/223877/2d-graphics/ Maic Masuch and Niklas Röber - Game Graphics Beyond Realism: Then, Now, and Tomorrow. Ari Feldman - Designing Arcade Computer Game Graphics.
Replacement literature:	Adobe Creative Team. (2012). Adobe Photoshop CS6 Classroom in a Book. San Francisco, CA: Adobe Press. Adobe Creative Team. (2012). Adobe Illustrator CS6 Classroom in a Book. San Francisco, CA: Adobe Press. Bouton, G. D. (2012). CorelDRAW X6 The Official Guide. McGraw-Hill Education. Koers, D. (2013). Picture Yourself Learning Corel PaintShop Pro X5. Boston, MA: Course Technology. Graham, L. (2005). Basics of Design: Layout & Typography for Beginners. Clifton Park, NY: Cengage Learning. Williams, R. (2007). The Non-Designer's Design and Type Books. Berkeley, CA: Peachpit Press.
Participation and exam requirements:	The requirements for the positive assessment are: 1. Submission of all (12) individual home assignments. 2. Attending at least in 70% of workshops (10 out of 14). 3. Collecting at least 70% of points (20 out of 28).
Independent work:	1. Creating game objects with the help of basic vector shapes. 2. Creating game character sprites with combining shapes and modifying lines. 3. Creating game logo. 4. Creating game flyer with vector effects. 5. Creating game world background images and adding atmosphere with colors. 6. Creating the map of the game world. 7. Tracing game assets (backgrounds or characters).

	8. Creating pixel art characters. 9. Combining existing characters and creating new ones. 10. Role-play – author in the game world. 11. Using raster effects for transferring photos into game backgrounds. 12. Creating simple animations. 13. Assembling game scenes (map, backgrounds, characters and objects). 14. Creating game posters.
Grading criteria scale or the minimum level necessary for passing the subject:	Assessment of home assignments is based on following scale: 2 points – required tools and techniques are used in creating the artwork and the image is aesthetically enjoyable 1 point – there is no evidence about required techniques or tools or the image is not aesthetically enjoyable 0 points – work is missing or is delivered after the deadline The final result is calculated as sum of collected points. Maximum is 28 points.
Information about the course: (Topics by contact session, deadlines of independent works and exams/assessments times)	**01) Sept 05 Basics of Vector Graphics** Basic vector graphic tools Basic shapes Assignment: game objects from basic shapes **02) Sept 12 Shapes and nodes** Advanced shapes Line manipulation Design basics Assignment: game characters and sprites **03) Sept 19 Fonts** Types Artistic text Paragraph text Assignment: Game logo **04) Sept 26 Vector Effects** Assignment: Game flyer **05) Oct 03 Colors** Color models Color effects Color composition

	Assignment: Game world backgrounds
	06) Oct 10 Metrics Scales Layers Technical drawings Assignment: Game world map **07) Oct 17 Tracing** Converting bitmaps to vector shapes Assignment: traced game objects **08) Oct 31 Basics of Raster Graphics** Basic tools Drawing Assignment: pixel characters **09) Nov 07 Layers and selections** Layers Selections Assignment: creating concept art from existing sources **10) Nov 14 Masks** Assignment: author as a game character **11) Nov 21 Color manipulation (ALLA!)** Layer modes Assignment: Assemble game scenes **12) Nov 28 Raster Effects** Assignment: Transferring photos to game backgrounds **13) Dec 05 Web graphics** Assignment: Simple animation **14) Dec 12 Vectors i Raster** Paths Assignment: Game poster

Teaching Unit in charge:	School of Digital Technologies
Course programme is	Martin Sillaots

prepared by:	
Date:	15.08.17

The course program is registered in the academic unit:

Date:	17.08.2017
Name of academic coordinator:	Kristi Oikimus