**Course specification card**

**1. BASIC INFORMATION ON THE COURSE**

|  |  |
| --- | --- |
| Course name | Creating Graphic Asets |
| Beginning year | 2022/2023 |
| Faculty | Applied Information Technology |
| Field of study | Information Technology |
| Education level | First-cycle studies – undergraduate |
| Education profile | Practical |
| Specialty | Game Design and development |

**2. PREREQUISITES** (resulting from the sequence of courses)  
---

**3. LEARNING OUTCOMES AND THE METHOD OF CARRYING OUT  
ACTIVITIES  
3.1 Course learning outcomes - knowledge, skills and social competencies,**

|  |  |  |
| --- | --- | --- |
| **No.** | **Description of the learning outcomes for the course** |  |
| After completing the training, the student has the following **knowledge** | | |
| P\_W01 | Knows mathematics necessary to understand the mathematical basis of the graphical models used in game production |  |
| After completing the training, the student has the following **SKILLS** | | |
| P\_U01 | Able to work individually and in a team communicating using various communication channels in the production of graphic design for games |  |
| P\_U02 | Able to conduct an evaluation of graphics asets in the context of their optimality and usability in a specific computer game |  |
| P\_U03 | Able to correctly and effectively use computer hardware and graphics software used to produce asets for computer games |  |
| P\_U04 | Able to evaluate the suitability of routine methods and graphic tools for the production of game asets, and to select and apply appropriate methods and tools |  |

**3.2. Forms of classes and number of hours and ECTS credits**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Lec** | **Tutorial** | **RC** | **Lab** | **P** | **eL** | **ECTS** |
| - | - | - | 28 | - | - | 3 |

**3.3 Teaching delivery methods**

|  |  |
| --- | --- |
| Forms of classes | Delivery method |
| Laboratory | the classes consist of exercises covering the entire process of preparing objects for the game. In the classes, students use 2D and 3D graphics programs to prepare raw graphic material, which is later transformed with the help of game engine tools into objects that can be used as part of the game world. |

**3.4. Learning content** (separately for each form of classes)

**LABORATORY**

|  |  |
| --- | --- |
| **No.** | **Learning content** |
| Lab1 | Raster graphics in games |
| Lab2 | Vector graphics in games |
| Lab3 | 3D modeling techniques in games |
| Lab4 | Textures |
| Lab5 | Materials |
| Lab6 | Lighting |
| Lab7 | Optimization of graphic resources |

**3.5. Methods of verification of learning outcomes**

|  |  |  |
| --- | --- | --- |
| **Course outcome** | **Assessment method** | **Form of classes within which attaining the outcome is verified** |
| P\_W01 | Practical task | Lab |
| P\_U01 |
| P\_U02 |
| P\_U03 |
| P\_U04 |

**3.6. CRITERIA FOR GRADING THE LEVEL OF ACHIEVEMENT OF COURSE  
OUTCOMES**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Course outcome** | **For grade 2 the student cannot** | **For grade 3 the student can** | **For grade 4 the student can** | **For grade 5 the student can** |
| P\_W01 | Demonstrate the mathematical knowledge necessary to understand the mathematical basis of graphic models used in game production | Demonstrate the basic knowledge of mathematics necessary to understand the mathematical basis of graphic models used in game production | Demonstrate the good knowledge of mathematics necessary to understand the mathematical basis of graphic models used in game production | Demonstrate the very good knowledge of mathematics necessary to understand the mathematical basis of graphic models used in game production |
| P\_U01 | Work individually and as part of a team communicating using various communication channels in the production of graphic design for games | Work individually and in a team communicating using various communication channels in the production of simple graphic designs for games | Work individually and in a team communicating using various communication channels in the production of moderate complex graphic designs for games | Work individually and in a team communicating using various communication channels in the production of more complex graphic designs for games |
| P\_U02 | Carry out an evaluation of graphics asets in the context of their optimality and usability in a specific computer game | Conduct an evaluation of simple graphics asets in the context of their optimality and usability in a specific computer game | Conduct an evaluation of moderate complex graphics asets in the context of their optimality and usability in a specific computer game | Conduct an evaluation of more complex graphics asets in the context of their optimality and usability in a specific computer game |
| P\_U03 | Use computer hardware and graphics software used to produce asets for computer games | Be able to demonstrate basic skills in using computer hardware and graphics software used to produce asets for computer games | Be able to demonstrate good skills in using computer hardware and graphics software used to produce asets for computer games | Be able to demonstrate high skills in using computer hardware and graphics software used to produce asets for computer games |
| P\_U04 | Evaluate the suitability of routine methods and graphic tools for producing game asets, and select and use appropriate methods and tools. | Demonstrate basic skills in assessing the suitability of routine methods and graphic tools for producing game asets, and in selecting and applying appropriate methods and tools. | Demonstrate good skills in assessing the suitability of routine methods and graphic tools for producing game asets, and in selecting and applying appropriate methods and tools. | Demonstrate high skills in assessing the suitability of routine methods and graphic tools for producing game asets, and in selecting and applying appropriate methods and tools. |

**3.8. Literature**

|  |
| --- |
| **Obligatory literature** |
| D. Silber, Pixel Art for Game Developers, Apple Academic Press Inc., Oakville, 2015 |
| K. Andler, Creating Graphics for Game and Animation with Adobe Illustrator CC : Assets, Environments, and Characters, Taylor & Francis Ltd, London, 2021 |
| M. T. Holmes, Designing Creatures and Characters : How to Build an Artist's Portfolio for Video Games, Film, Animation and More, F&W Publications Inc, Ohio, 2016. |

|  |
| --- |
| **Supplementary literature** |
| A. Damarjian, Game Environment Art : A Path to the Games Industry, Taylor & Francis Ltd, London, 2021 |
| R. Cordone, Unreal Engine 4 Game Development Quick Start Guide : Programming professional 3D games with Unreal Engine 4, Packt Publishing Limited, Birmingham, 2019 |