#### card of course

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| Subject name | Digital drawing |

1. The placement of the subject in the study system

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| 1.1. Field of study | Computer science |
| 1.2. Form and path of study | Full-time/Part-time |
| 1.3. Level of education | First-cycle studies |
| 1.4. Study profile | Practical |

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| 1. 5. Specialty | Computer graphics and game design |
| 1.6. Subject Coordinator | Mgr inż. Michał Brogowski |

2. General characteristics of the subject

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| 2.1. Belonging to a subject group | Optional/practical |
| 2.2. Number of ECTS | 5 |
| 2.3. Language of lectures | Polish |
| 2.4. Semesters in which the subject is taught | III |
| 2.5.Criteria for selecting course participants | For specializations: Computer graphics and game design |

1. Learning outcomes and course delivery
   1. Subject Objectives

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| No. | Subject Objectives |
|
| C1 | Learning tools (graphic tablets + software) in digital graphic creation. |
| C2 | Learning to create concepts of characters, scenes, locations for computer games using digital drawing and photomanipulation methods. |
| C3 | Learn the basics of 3D Sculpting to create three-dimensional objects and texturize them. |

* 1. Subject-specific learning outcomes, divided into knowledge , skills and competences , with reference to the directional learning outcomes

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| --- | --- | --- | --- | --- | --- | --- |
| No. | Description of subject  learning outcomes | Reference to  directional effects  learning (symbols) | Method of implementation (mark "X") | | | |
| ST | | NST | |
| Classes at the University | Activities on  the platform | Classes at the University | Activities on  the platform |
| After passing the course, the student knows and understands **the knowledge** | | | | | | |
| W1 | What is digital drawing / painting / sculpting and what does it involve? | INF\_W09 |  | X |  | X |
| W2 | What are the tools for drawing, painting and digital sculpting (tablets, software, brushes and other tools) |  | X |  | X |
| W3 | What are the techniques for using brushes, creating your own brushes and using them in the process of drawing, painting and sculpting |  | X |  | X |
| W4 | What are the digital drawing techniques for creating textures for 3D graphics? |  | X |  | X |
| W5 | What are the photomontage and photomanipulation techniques using digital drawing tools? |  | X |  | X |
| After passing the course, the student is **able** to: | | | | | | |
| U1 | Apply digital drawing tools and techniques to create graphic concepts, | INF\_U12 | X |  | X |  |
| U2 | Create your own texture brushes to use with your digital drawing/painting/sculpting tools | X |  | X |  |
| U3 | Paint your own textures for 3D models | X |  | X |  |
| U4 | Create graphics based on image manipulation using photos and drawings | X |  | X |  |
| U5 | Combine drawings, photos and 3D models to create concept art illustrations – e.g. character designs and environments for games | X |  | X |  |
| After completing the course, the student is ready to take part in **social competences.** | | | | | | |
| K1 | Tailoring designs to end-user requirements and project specifications. | INF\_K03 | X |  | X |  |
| K2 | Taking care of the quality and aesthetics of the work performed, accepting constructive comments | X |  | X |  |

3.3. Forms of teaching and their number of hours - Full-time studies (ST), Part-time studies (NST)

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Path | Lecture | Exercises | Design | Workshop | Laboratory | Seminar | Lecturer | Classes conducted using distance learning methods and techniques in the form of a lecture. | Other | **ECTS points** |
| **ST** |  |  |  |  | 30 |  |  | 20 |  | 5 |
| **NST** |  |  |  |  | 15 |  |  | 10 |  | 5 |

3.4. Content of education (separately for each form of classes: (W, ĆW, PROJ, WAR, LAB, LEK, OTHER). It should be marked (X) how the given content will be implemented (classes at the university or classes on the e-learning platform conducted using distance learning methods and techniques)

TYPE OF CLASS: LECTURE

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| --- | --- | --- | --- | --- | --- | --- |
| No. | Content of the course | Reference to subject-specific learning outcomes | Method of implementation (mark "X") | | | |
| ST | | NST | |
| **Classes at the University** | **Activities on  the platform** | **Classes at the University** | **Activities on  the platform** |
| 1. | General presentation of the subject drawing / painting / 3D sculpting | W1 |  | X |  | X |
| 2. | Description of tools and techniques used in drawing / painting / digital sculpting | W2 |  | X |  | X |
| 3. | Advanced work with tools, creating your own tools | W3 |  | X |  | X |
| 4. | Techniques for creating and applying textures to 3d models | W4 |  | X |  | X |
| 5. | Photomontage and photomanipulation techniques in creating concept art | W5 |  | X |  | X |
| 6. | Summary of classes and discussion of grades. |  |  | X |  | X |

TYPE OF CLASS: LABORATORY

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| No. | Content of the course | Reference to subject-specific learning outcomes | Method of implementation (mark "X") | | | |
| ST | | NST | |
| **Classes at the University** | **Activities on  the platform** | **Classes at the University** | **Activities on  the platform** |
| 1. | General exercises in learning drawing/painting/sculpting tools | U1, K1 | X |  | X |  |
| 2. | Applying drawing/painting/sculpting techniques to the project | U2, K1 | X |  | X |  |
| 3. | Creating and using your own tools/brushes in your design process | U3, K1 | X |  | X |  |
| 4. | Creating 3D textures and applying them to models | U4, K1 | X |  | X |  |
| 5. | Combining drawings/photos/3D graphics to create concept art | U5, K1 | X |  | X |  |
| 6. | Presentation and defense of the project. Summary of classes and discussion of grades. | K2 | X |  | X |  |

3.5. Methods of verifying learning outcomes (indication and description of methods of conducting classes and verification of achievement of learning outcomes and method of documentation)

LECTURE – The lecture is an informative introduction to the student's own work in the laboratory. The laboratories and lectures are thematically linked so that the student can use the knowledge from the lecture in creating a semester project.

Assessment of lectures in the form of a 10-question test, single choice, each question worth 2 points.

Grade 3 (sufficient): 11 – 12 points

Grade 3.5 (sufficient plus): 13 – 14 points

Rating 4 (good): 15 – 16 points

Rating 4.5 (good plus) 17 – 18 points

Rating 5 (very good): 19 – 20 points

LABORATORY – The lab starts with general exercises related to navigating Photoshop and Blender and learning individual functions. Then, work begins on the semester project, which must be defended at the last meeting. The project is to create concept art using techniques shown during lectures. The student must present how he built the work, show the techniques, tools and post-production used.

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| **Subject Effects** | **Teaching methods** | **Methods of verifying learning outcomes** | **Documentation methods** |
| **KNOWLEDGE** | | | |
| **W1-W5** | Lectures – detailed description of work techniques in the form of lectures | Passing the exam in the form of a test | Rated test |
| **SKILLS** | | | |
| **U1-U5** | Working on your own project, practical assignments | Your skills will be tested during the development of your own project and its defense during the last class (described above) | Works posted on the platform |
| **SOCIAL COMPETENCES** | | | |
| **K1-K2** | Working on your own project, practical assignments, group work | Competencies will be tested during the development of an independent project and its defense during the last classes (described above) | Works posted on the platform |

3.6. Assessment criteria for the achieved learning outcomes

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| Learning effect | For a grade of 3 or "pass."  the student knows and understands/is able to/is ready to | For a grade of 3.5, the student knows and understands/is able to/is ready to | For a grade of 4, the student knows and understands/is able to/is ready to | For a grade of 4.5, the student knows and understands/is able to/is ready to | For a grade of 5, the student knows and understands/is able to/is ready to |
| W | 51-60% of knowledge indicated in learning outcomes | 61-70% of knowledge indicated in learning outcomes | 71-80% of knowledge indicated in learning outcomes | 81-90% of knowledge indicated in learning outcomes | 91-100% of knowledge indicated in learning outcomes |
| U | 51-60% of skills indicated in learning outcomes | 61-70% of skills indicated in learning outcomes | 71-80% of skills indicated in learning outcomes | 81-90% of skills indicated in learning outcomes | 91-100% of skills indicated in learning outcomes |
| K | 51-60% of skills indicated in learning outcomes | 61-70% of skills indicated in learning outcomes | 71-80% of skills indicated in learning outcomes | 81-90% of skills indicated in learning outcomes | 91-100% of skills indicated in learning outcomes |

3.7. Literature

**Basic**

Podręcznik Photohopa: [**https://helpx.adobe.com/pl/photoshop/user-guide.html**](https://helpx.adobe.com/pl/photoshop/user-guide.html)

Podręcznik Illustratora: [**https://helpx.adobe.com/pl/illustrator/user-guide.html**](https://helpx.adobe.com/pl/illustrator/user-guide.html)

Dokumentacja Blendera: [**https://docs.blender.org**](https://docs.blender.org)

4. Student workload - ECTS points balance

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| **Types of student activity** | **Student Load** | |
| **ST** | **NST** |
| **Classes requiring direct contact between the student and the academic teacher at the university premises** | **50** | **25** |
| Classes included in the study plan | 50 | 25 |
| **Student's own work** | **75** | **100** |
| Ongoing preparation for classes, preparation of project work/presentations/etc. | 40 | 50 |
| Preparation for passing classes | 35 | 50 |
| **TOTAL STUDENT HOURLY LOAD** | **125** | **125** |
| **Number of ECTS points** | **5** | **5** |

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| Last change date | 30/09/2024 |
| The changes were introduced | INF Education Quality Team |
| The changes were approved | Arkadiusz Gwarda, M.A. |