Appendix No. 1.5 to the Resolution No. 7/2023

of the Rector of the University of Rzeszów

**SYLLABUS**

**regarding the qualification cycle FROM 2024TO 2025**

**Academic year 2024/2025**

1. Basic Course/Module Information

|  |  |
| --- | --- |
| Course/Module title | *THREE-DIMENSIONAL COMPUTER GRAPHICS* |
| Course/Module code \* |  |
| Faculty (name of the unit offering the field of study) | *FACULTY OF ART* |
| Name of the unit running the course | *Institute of Fine Arts University of Rzeszow* |
| Field of study |  |
| Qualification level | ADVANCED |
| Profile |  |
| Study mode | *FULL-TIME COURSE* |
| Year and semester of studies | *2024/2025* |
| Course type |  |
| Language of instruction | ENGLISH |
| Coordinator | KATARZYNA WOŹNIAK PhD |
| Course instructor | ANNA KAMYCKA, MA |

\* - as agreed at the faculty

1.1.Learning format – number of hours and ECTS credits

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Semester  (n0.) | Lectures | Classes | Laboratories | Seminars | Practical classes | Internships | others | **ECTS credits** |
| 30 HRS |  |  | 30 |  |  |  |  | 2 |

1.2. Course delivery methods

- conducted in a traditional way

- involving distance education methods and techniques

1.3. Course/Module assessment (exam, pass with a grade, pass without a grade)

2. Prerequisites

|  |
| --- |
| Elementary knowledge of COMPUTER techniques, basic understanding of composition principles, and the ability to observe the surrounding reality Elementary knowledge of photographic techniques, basic understanding of composition principles, and the ability to observe the surrounding reality |

3. Objectives, Learning Outcomes, Course Content, and Instructional Methods

3.1. Course/Module objectives

|  |  |
| --- | --- |
| O1 | KNOWLEDGE OF THE PRINCIPLES OF MODELING HIGH POLY OBJECTS WITH HIGH COMPLEXITY OF THE GRID. |
| O2 | ADVANCED ACQUAINTANCE OF COMPUTER GRAPHIC PROGRAM BLENDER. |
| O3 | ABILITIES OF WORK IN PROJECT GROUP, ABILITY OF TAKING UP OF INDEPENDENT DECISION. |

3.2. Course/Module Learning Outcomes (to be completed by the coordinator)

|  |  |  |
| --- | --- | --- |
| Learning Outcome | The description of the learning outcome  defined for the course/module | Relation to the degree programme outcomes |
| LO\_01 | Students will demonstrate a comprehensive understanding of the fundamental principles underlying 3D graphics, including modeling, texturing, lighting, and rendering. |  |
| LO\_02 | Students will develop proficiency in various 3D modeling techniques, including polygonal modeling, sculpting, and procedural modeling, to create both organic and hard-surface objects. |  |
| LO\_03 | Students will be able to effectively apply textures, create materials, and use shading techniques to achieve realistic surfaces and visual effects in 3D scenes. |  |
| LO\_4 | Students will master the concepts of lighting setups, shadowing techniques, and rendering settings to produce high-quality rendered images and animations. |  |

**3.3. Course content (to be completed by the coordinator)**

1. Lectures

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| --- |
| Content outline |
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|  |
|  |
|  |

1. Classes, laboratories, seminars, practical classes

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| --- |
| Content outline |
| Introduction to 3D Graphics: This course provides an overview of the principles, techniques, and tools used in 3D graphics, covering topics such as modeling, texturing, lighting, and rendering.  Fundamentals of 3D Modeling: Explore the fundamentals of creating 3D models using industry-standard software. Learn techniques for sculpting, polygon modeling, and organic and hard-surface modeling. |

3.4. Methods of Instruction

e.g.

*Lecture: a problem-solving lecture/a lecture supported by a multimedia presentation/ distance learning*

*Classes: text analysis and discussion/project work (research project, implementation project, practical project)/ group work (problem solving, case study, discussion)/didactic games/ distance learning*

*Laboratory classes: designing and conducting experiments*

4. Assessment techniques and criteria

4.1 Methods of evaluating learning outcomes

|  |  |  |
| --- | --- | --- |
| Learning outcome | Methods of assessment of learning outcomes (e.g. test, oral exam, written exam, project, report, observation during classes) | Learning format (lectures, classes,…) |
| LO-01 | *Group discussion, critical feedback for individual work* |  |
| LO-o2 | Reviews during and at the end of the semester, consultations, observation during classes. |  |

4.2 Course assessment criteria

|  |
| --- |
| *Student should demonstrate employing during the course. To approach every exercise creatively and to participate in discussion.* |

5. Total student workload needed to achieve the intended learning outcomes

– number of hours and ECTS credits

|  |  |
| --- | --- |
| Activity | Number of hours |
| Course hours | 30 |
| Other contact hours involving the teacher (consultation hours, examinations) | - |
| Non-contact hours - student's own work (preparation for classes or examinations, projects, etc.) | - |
| Total number of hours | 30 |
| Total number of ECTS credits | 2 |

\* One ECTS point corresponds to 25-30 hours of total student workload

6. Internships related to the course/module

|  |  |
| --- | --- |
| Number of hours | *30* |
| Internship regulations and procedures |  |

7. Instructional materials

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| Compulsory literature:  "The Art of 3D Computer Animation and Effects" by Isaac Kerlow  Polygonal Modeling: Basic and Advanced Techniques" by Mario Russo |
| Complementary literature:  "Texturing and Modeling: A Procedural Approach" by David S. Ebert, F. Kenton Musgrave  "Animating with Blender: Creating Short Animations from Start to Finish" by Roland Hess |

Approved by the Head of the Department or an authorised person