

SCHOOL	Santa Giulia Academy
ACADEMIC YEAR	THREE-YEAR PROGRAM II - 2025/2026
SUBJECT	1048 Tecniche di animazione digitale I
TYPE OF SUBJECT	Theoretical-Practical
NUMBER OF HOURS PER LESSON	4
NUMBER OF ECTS CREDITS	4
DISTRIBUTION OVER THE ACADEMIC YEAR	II SEMESTER

EDUCATIONAL OBJECTIVES AND EXPECTED RESULTS

The objectives of the course are to develop 3D assets suitable for animation, with the intention of subsequently integrating them into production pipelines for animated videos and game development. The objectives are achieved through the standard production workflow, which encompasses the phases of pre-production (acquisition of references and concept development), modeling (transformation of basic geometries into the final object), and rigging (preparation of the object for animation). The final outcome involves the creation of a character integrated into an environment, and the generation of an image through the rendering process.

Knowledge and understanding	Graduates are required to acquire knowledge and comprehension skills in the field of 3D graphics, specifically for modeling and Rigging of 3D models, and must be at a level that, characterized by the use of advanced texts and videos, also includes knowledge of certain cutting-edge topics in the field of 3D graphics
Applying knowledge and understanding	Graduates must be capable of applying their knowledge and comprehension skills in a manner that They must demonstrate a professional approach to their work and possess the necessary skills to both formulate and support arguments and to resolve issues in the field. of 3D graphics, specifically for the modeling and rigging of 3D models.
Making judgements	Graduates must possess the capability to collect and interpret data. pertaining to the field of 3D graphics, deemed useful for forming independent judgments, including reflections on social, scientific, or ethical issues related thereto.
Communication skills	Graduates must be proficient in communicating information, ideas, problems, and solutions to both specialist and non-specialist audiences.
Learning skills	Graduates must have developed the necessary learning skills to undertake further studies with a high degree of autonomy. Specifically, students will be required to render a 3D scene featuring a setting and a rigged character, which is prepared for animation.

CONTENTS	<p>1. Project Organization Names of objects, groups, workbooks, and hierarchies 2. Solid Drawing and Retopology Definition of volumes and application of a regular topology. 3. Modeling Segmentation, joints, welds, and chamfers 4. Appeal Enhance the character's appeal by incorporating details and personality. 5. Controllers and Constraints Definition of controllers to manage the elements of the model in animation 6. Skeletal Structures of Internal Joints in Models 7. Skinning: Definition of the influence envelopes on the surface of the models models 8. Forward Kinematics and Inverse Kinematics Configuring Forward Kinematics and Inverse Kinematics on the skeletons. 9. Facial Rig: Definition of the rig for the preparation of facial expressions 10. Rendering Lighting, Camera, and Render Settings for a Static Scene</p>
ADOPTED METHODOLOGY	<p>[X] In Person The course is conducted through lectures that illustrate theoretical concepts and their simultaneous practical application using the software provided for the course. Students are engaged in a two-way communication, periodically presented with questions to be resolved based on the knowledge acquired up to that point. At the conclusion of each lesson, students are assigned an exercise to complete prior to the subsequent lesson. Upon completion of the course, a multiple-choice quiz will be administered to assess the knowledge of all topics covered.</p>
ASSESSMENT METHODS	<p>For the examination, the submission of a static render depicting a character within a scene, along with the project files used for its creation, is required. The project is pre-evaluated one week prior, with a provisional grade assigned, and subsequently discussed on the day of the examination, during which the grade may be subject to modification. The evaluation criteria are as follows: Technical accuracy of the project in accordance with the primary topics addressed during the course. The quantity and accuracy of the exercises assigned. - Result of the end-of-course assessment. - The originality of the project.</p>