

3-D Animation

Course Length: 52 weeks

Occupational Requirements: Numeracy, Oral communication, Working with others, Problem solving, Decision making, Critical thinking, Job task planning and organizing, Significant use of memory, Computer use, Continuous learning,

OGC 110 IMAGE MANIPULATION WITH PHOTOSHOP 2 WEEKS

Adobe PhotoShop is an industry-standard tool in graphics, animation, video, and new media production. Students learn how the program relates to the production of today's animation and new media applications. Students develop basic image manipulation skills using Photoshop. Topics include the fundamentals of color management, scanning, photo retouching, imaging, special effects, and filters and masks. Skills acquired in Photoshop will be used to create materials and textures in the following course.

OGA 121 INTRODUCTION TO 3D ANIMATION 4 WEEKS

The tremendous growth of the film and game industry has resulted in a high demand for specialized 3D skills. This course examines the unique problems of creating 3D graphics for film and game and effective production techniques for addressing these issues. Topics include limited color palettes, file size, file formats, surface restrictions, cyclical animation, and levels of detail. Students are introduced to the basics of animating an individual 3D object. Students will learn the different methods of animating motion including key framing, and curve editing. From there, students are exposed to semi-automated methods for generating motion through various procedural techniques. Students will create animations that blend different techniques as needed and apply these to mechanical models.

OGA 142 CHARACTER DESIGN & STORYBOARDING 3 WEEKS

Storyboarding is the process of planning a video project that includes drawing a simple sketch of the desired shot, planning the accompanying audio, and estimating the duration of each element of the program. Students will study movies and their directors to understand the importance of structuring a storyline from initial ideas to final proposals incorporating camera shots, camera angles and staging. Projects will include creating animated flipbooks, character design, panel design and finally a completed storyboard, which will be presented for review to the class.

OGB 120 3D CHARACTER MODELING 5 WEEKS

This module introduces the concepts needed to model organic shapes and characters. Students will learn how to build the various parts that make up a humanoid character. Attention is paid to the details that allow those parts to be easily animated

OGC 121 CHARACTER SKINNING, TEXTURES AND MATERIALS MAPPING 4 WEEKS

This course introduces students to assigning material attributes to their models and shows them how these can be manipulated to create real world materials such as wood, metals, glass, etc. Topics include the creation of game textures that reflect the nature of military, fantasy, medieval, and sci-fi video games including the creation of decals like bullet holes, blast marks, and signs; and sprites such as lightning, fires, and explosions. Students produce their own custom textures from existing photos and from scratch for use in games. Included are techniques for creating seamless tiles, environment maps, character skins as well as special maps used for creating bumps, displacements, reflections and transparency on selected parts of a 3-D model. Maps are then applied to existing 3-D objects, characters and environments of an existing game in order to create a unique appearance.

OGB 131 MODELING: CHARACTER RIGGING 4 WEEKS

Before animation can begin, a model must be properly prepared. This module introduces the concepts of character rigging and the importance it plays in sharing animation data. This module shows how to read a model for animation by creating an internal skeletal structure. Students learn how to apply bone weighting.

The college reserves the right to modify course content and/or software applications used during training to better meet the demands of the industry
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OGB 140 CHARACTER ANIMATION

4 WEEKS

From simple mechanical animations the students will now begin to work on the more complicated process of character animation. Students will utilize constraints with Forward and Inverse Kinematics to pose and manipulate a rigged character model.

OGC 132 LIGHTING – BASIC AND ADVANCED

3 WEEKS

The models are built, the motion has been added, so now it is time to shine light on the result. This module deals with lighting models from basic lighting to more advanced topics such as mental ray, and image based lighting using HDRI (High Dynamic Range Images). Students will learn how to set up a scene and adjust lighting properties to create desired effects, generate realistic shadows, cast volumetric beams, and simulate light reflections. With an emphasis on real-world solutions, students will learn how to efficiently organize and schedule their renders, work with multiple rendering layers, and what options exist to network the rendering load. Class time will be divided between demonstration and hands-on practice and students set up and render their own sequences in this and the following courses.

OGB 150 ADVANCED CHARACTER ANIMATION (FACIAL)

4 WEEKS

This module picks up where Character Animation left off, moving from the body to the character's head and face. In this module, art is merged with technique as students are shown the secrets of bringing animations to life with personality and character. Secondary motion, overlap, moving holds, exaggeration of movement, and anticipation are added to the animation repertoire. Also, the subtleties of facial animation to express emotion and personality will be examined.

OGB 111 ARCHITECTURAL AND MECHANICAL MODELING

4 WEEKS

This course introduces students to basic modeling of man-made objects, environments and machines. Students will build 3D objects: props, buildings, and other objects essential to creating a fully-realized scene. Students learn the basics of working with polygonal objects, working in consistent scale, and understanding how to manipulate faces, points, and edges. The module starts with simple objects and progresses through more complex forms.

OGA 170 DIGITAL VIDEO EDITING

2 WEEKS

In this course students will produce digital video and work with digital audio soundtracks. Topics include special effects, titling, controlling motion, capturing and storing footage, previewing and editing, using still images, preparing footage for transfer and distribution.

OGC 152 DEMO REEL

9 WEEKS

Students combine all that they have learned and made, revising and improving their initial efforts, with the goal to create a 15 to 30 second animated sequence. Class effort will be focused on individual projects with the instructor providing additional guidance and advice as needed. As students approach graduation, they must compile their best work in a clear and concise package to communicate their creative and technical abilities. This course will focus on helping each student prepare a commercially marketable portfolio and demo reel. Topics include portfolio development, editing, special effects, audio and job preparation.

WE 194 INTERNSHIP

4 WEEKS

An individual who knows her/his skills and abilities and who develops and nurtures her/his career can generally find a job and knows how to keep a job and receive promotions. Prior to going on an industry internship, students will be given the tools they need for an effective job search. Topics include: writing a C.V. and cover letter, the interview process, role-playing, job search techniques. Afterwards, students will use the skills and knowledge acquired in program to do a work internship in a company. Students will reinforce competencies acquired through the program, learn new skills and work methods, learn time management, build a professional and positive attitude, learn to work independently as well as in a team, and build rapport with colleagues and customers. Students will be expected to document their work and submit it to the college for evaluation.