

# Computer Graphics

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## **CG133 Introduction to Animation**

**Cr-3**

This course provides the foundation of traditional animation techniques. These techniques are mastered before moving on to digital animation. Techniques in portfolio projects are used in the second year.

## **CG134 Digital Applications for the Animator**

**Cr-3**

This course introduces digital imaging and digital illustration techniques, and software used by the animator. It explores the aesthetic and technological potential of digital imaging and digital illustration software. The use of digital media and the creation of computer-based imagery are emphasized. It includes advanced technical instruction in the use of software and peripheral devices (scanners, printers, file storage, and other technologies).

## **CG144 Digital Animation 1**

**Cr-3**

This course covers the developmental elements of computer animation. Topics include user interface, various 3D modeling techniques, texture mapping, and timing. The course builds on the basic principles of traditional animation with the techniques of computer animation and production processes. Prerequisites: CG133 Introduction to Animation.

## **CG145 Digital Animation 2**

**Cr-3**

This course further develops digital animation skills and techniques. Topics include character modeling, mapping, materials, animation, and production techniques. Prerequisites: CG144 Digital Animation 1

## **CG146 Storyboarding**

**Cr-3**

This course introduces the principles and techniques used in the creation, practice, and production of storyboards for animation, multimedia, and filmmaking. It covers scriptwriting, along with the fundamental principles of storyboarding through traditional techniques and practice. Drawing skills and composition are applied to set location, cinematography, sound, special effects, and character actions along with fluid storylines in a variety of genres. The results are more proficient visual communicators in industry applications, including animated films, cartoons, commercials, documentaries, live-action feature films, industrial and institutional films, and video gaming. Prerequisite: FA101 General Drawing

## **CG147 Sculptural Procedures for the Animator**

**Cr-3**

This course introduces current sculpting techniques used by the animation industry for character creation and design. Work is done with traditional 3D media, digitized models, and 3D animation software. Earth clays, polymer clays, and foam sculpture are used. Armatures are used to study stop-motion, maquettes, and the digitizing process. Character types range from realistic to imaginary. Prerequisites: FA101 General Drawing.

## **CG213 Graphic Design for the World Wide Web**

**Cr-3**

This course explores design concepts for the World Wide Web (WWW) while developing expertise in web-based typography, image file formats and sizes, hexadecimal color, frames, cascading style sheets, tables, and site interactivity. Emphasis is placed on the understanding of browser constraints, hypertext markup language (HTML), site planning, and site structure. Prerequisite: GD110 Digital Design.

## **CG214 Motion Graphics**

**Cr-3**

This course introduces students to methods of producing motion graphics. Students use problem solving to explore and produce design. Production timeline and graphical requirements of a multimedia project

are demonstrated through the manipulation of digital images in a studio environment. Topics include planning, storyboarding, sequencing, compositioning, and designing still images integrated with the aesthetic issues of 2-D, 3-D, and 4-D design.

## **CG231 Advanced Animation Techniques**

**Cr-3**

This course incorporates full production animation techniques. It expects advanced exploration of storyboarding, set design, cinematography, sound, and finished character development. Contemporary digital recording and editing systems are synthesized with traditional animation techniques. Prerequisites: CG133 Introduction to Animation.

## **CG233 Animation Production Workshop**

**Cr-3**

This course uses a production animation environment in which students are expected to work in groups to produce animations specific to an assigned topic. Projects may include animation for advertising, entertainment, educational, and scientific applications. Corequisite: CG234 Professional Practices for the Animator.

## **CG234 Professional Practices for the Animator**

**Cr-3**

This course emphasizes the completion of a professional demo reel, which demonstrates a student's strength within 3D animation. Students complete a three-minute animation. Prerequisite: CG145 Digital Animation 2. Corequisite: CG233 Animation Production Workshop.

## **CG235 Applied 3D Technologies**

**Cr-3**

This course covers the theory, role, scope, and practice of emerging 3D technologies for digital animation students. Emphasis is placed on creating projects using 3D printing, photogrammetry, virtual reality, and other technologies relevant to 3D content creation. This course investigates approaches to tool and material use, utilization of software, interfacing with 3D printers, and finishing techniques for 3D prints.