



Office of Admissions  
110 Meyerson Hall  
Philadelphia, PA 19104-6311

## **TIME BASED AND INTERACTIVE MEDIA CERTIFICATE PROGRAM**

The Time Based and Interactive Media Certificate Program is suited for graduate students and professionals who wish to develop skills with the moving image, digital technology and interactivity. The curriculum will enable applicants to engage in new technologies and skills that could be incorporated into their practice, or extend their knowledge to improve their career opportunities.

The program track requires 5 CU's (course units) of electives to be completed within six semesters to earn the certificate. All applicants must have a baccalaureate degree to be considered for admission. Applications for spring admission are due on November 1 and for fall admission on January 14. An application and interview are required. Applicants who are not enrolled in PennDesign graduate programs must submit portfolios containing slides, digital images, printed images, books, video, or interactive projects. Digital and video portfolios should follow the guidelines for the MFA portfolios. Video should be limited to excerpts which total less than 10 minutes. All interactive and time-based projects should include synopses or guides for interaction. Web sites and interactive projects must include a list of technical requirements. Portfolios will be returned only if a properly stamped and return-addressed envelope is included. While taking all reasonable care, the school cannot be held responsible for any damage to the work or portfolio.

## **CONTACT**

*Inquiries relating to admission should be directed to:*

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*Prospective applicants wishing to contact the Department of Fine Arts directly, may contact:*

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### **Time Based and Interactive Media Certificate Program Elective Courses**

FNAR 536 Digital Figure Modeling  
FNAR 541 Hand-Drawn Animation  
FNAR 547 Environmental Animation  
FNAR 567 Computer Animation  
FNAR 585 Performance Studio  
FNAR 589 Mixed Media Animation  
FNAR 634 Art of the Web  
FNAR 635 3-D Computer Modeling/Dig. Sculpture  
FNAR 640 Digital Photography  
FNAR 653 Advanced Projects: Animation  
FNAR 661 Film/Video I  
FNAR 663 Documentary Video  
FNAR 665 Cinema Production  
FNAR 667 Advanced Video Projects  
FNAR 668 Cinematography  
FNAR 673 Machine for Seeing: Architecture & the Moving Image  
FNAR 675 Image & Sound Editing  
FNAR 678 Interfacing Cultures  
ARCH 741 Architectural Design Innovation  
ARCH 743 Form and Algorithm  
ARCH 744 Digital Fabrication  
ARCH 745 Nonlinear Systems Biology & Design

### **Approval of Electives and Recommended Sequence**

The selection and sequence of the elective courses must be approved by the Director of the Time-Based and Interactive Media Certificate program.

## ELECTIVE COURSE DESCRIPTIONS

### **FNAR 536 Digital Figure Modeling**

*prerequisite: FNAR 635*

This course introduces methods of modeling, texturing, and rendering human and animal figures. Students will study anatomical bone and muscle structures, and then employ this knowledge as they develop polygonal models for real-time 3D simulations or gaming environments, high-resolution renderings, and rapid prototyping.

### **FNAR 541 Hand-Drawn Computer Animation**

Using software tools designed for hand-drawn animation, students will develop animation skills applicable to all forms of animation. In this course students will learn to draw with a sense of urgency and purposefulness as they represent motion and drama in a series of frames. Through careful study of natural movements, precedents in the history of animation, and through the completion of a series of animation projects students will develop strategies for representing naturalistic movement, inventing meaningful transformations of form, and storytelling.

### **FNAR 547 Environmental Animation**

This studio-based course examines the disciplinary spaces of landscape, art, and architecture through the medium of 3D animation and storytelling. We immerse ourselves in environments that may be as small as a cell or as large as a planet. From the refiguring of images, models, graphic design, or video to visualization or coding the genesis of whole environments, this course will allow for a variety of entry point for students of different disciplines and skill levels. Projects will range in scope from animated GIFs to animated shorts.

### **FNAR 567 Computer Animation**

Through a series of studio projects this course introduces techniques of 2D and 3D computer animation. Emphasis is placed on time-based design and storytelling through animation performance and montage. Students will develop new sensitivities to movement, composition, cinematography, editing, sound, color and lighting.

### **FNAR 585 Performance Studio**

This course supports the individual and collaborative production of performance works. As the medium of performance consists of diverse forms, actions, activities, practices and methodologies, the course allows for an open exploration in terms of material and form. Students are invited to utilize technologies, materials and methodologies from other mediums and/or disciplines such as video, photography, writing and sound. In addition to the production component, the course will examine multiple histories of performance through readings, screenings and directed research.

### **FNAR 589 Mixed Media Animation**

Mixed Media Animation is a contemporary survey of stop-motion animation concepts and techniques. Students use digital SLR cameras, scanners and digital compositing software to produce works in hand-drawn animation, puppet and clay animation, sand animation, and multiplane collage animation. Screenings and discussions in the course introduce key historical examples of animation demonstrating how these techniques have been used in meaningful ways. Students then learn how to composite two or more of these methods with matte painting, computer animation or video.

### **FNAR 634 Web Design I**

Web Design I is a course designed to introduce the student to web presentation, theory, techniques and current software applications. Instruction will include usability, graphic design, web terminology, appropriate file protocoling, information architecture planning, communication strategies and www identity design. Upon completion of this course, students will possess a working knowledge of how to organize and design full web page content for interactive online user interfacing or control-group presentation.

## ELECTIVE COURSE DESCRIPTIONS CONTINUED

### **FNAR 635 3-D Computer Modeling/Dig. Sculpture**

*prerequisite: FNAR 579*

Students will develop a comprehensive knowledge of how virtual worlds are constructed using contemporary computer graphics technique with a fine arts perspective. The course will offer the opportunity to explore the construction, texturing, and rendering of forms, environments, and mechanisms while conforming to modeling specifications required for animation, real-time simulations or gaming environments, and rapid prototyping.

### **FNAR 640 Digital Photography**

This class offers an in-depth technical and conceptual foundation in digital imagery and the opportunity to explore the creative, expressive possibilities of photography. Students will become proficient with the basic use of the camera, techniques of digital capture, color management and color correction. They will also develop competency in scanning, retouching, printing and a variety of manipulation techniques in Photoshop. Through weekly lectures and critiques, students will become familiar with some of the most critical issues of representation, consider examples from photo history, analyze the impact of new technologies and social media. With an emphasis on structured shooting assignments, students are encouraged to experiment, expand their visual vocabulary while refining their technical skills. No previous experience is necessary. Although it is beneficial for students to have their own Digital SLR camera, registered students may reserve and checkout Digital SLR cameras and other high-end equipment from the department.

### **FNAR 653 Advanced Projects in Animation**

*prerequisite: FNAR 567*

Through a series of studio projects, this course will focus on advanced concepts in 3D computer animation and 2D compositing. The courses will cover advanced techniques for rigging animated characters or structures, shading 3D forms, working with dynamic simulations, rendering projects, and compositing complex shots. Topics discussed will include production pipelines, motion-capture, and methods of developing ideas for animation. The schedule of the course will lend itself to allowing members to complete ambitious self-conceived animation projects.

### **FNAR 661 Video I**

This course provides students with the introductory skills and concepts related to producing short works that explore the language of the moving image. Students will learn the basics of cinematography and editing through a series of assignments designed to facilitate the use of the medium for artistic inquiry, cultural expression and narrative storytelling, through both individual and group projects.

### **FNAR 663 Documentary Video**

*prerequisites: FNAR 661*

Documentary Video is an intensive production course involving the exploration of concepts, techniques, concerns, and aesthetics of the short form documentary. Building on camera, sound, and editing skills acquired in Video I, students will produce a portfolio of short videos and one longer project over the course of the semester using advanced level camera and sound equipment. One short presentation on a genre, technique, maker, or contemporary concern selected by the student is required.

### **FNAR 665 Cinema Production**

This course focuses on the practices and theory of producing narrative based cinema. Members of the course will become the film crew and produce a short digital film. Workshops on producing, directing, lighting, camera, sound and editing will build skills necessary for the hands-on production shoots. Visiting lecturers will critically discuss the individual roles of production in the context of the history of film.

### **FNAR 667 Advanced Video Projects**

*prerequisite: FNAR 661*

This course is structured to create a focused environment and support for individual inquiries and projects. Students will present and discuss their work in one on one meetings with the instructor and in group critiques. Readings, screenings, and technical demonstrations will vary depending on students' past history as well as technical, theoretical, and aesthetic interests. Course approval will be based on application prior to the beginning of the semester.

## ELECTIVE COURSE DESCRIPTIONS CONTINUED

### **FNAR 668 Cinematography**

*prerequisite: FNAR 661*

This course will be a technical, practical and aesthetic exploration of the art of cinematography as it pertains to film and digital video. Through screenings, in-class exercises and assignments, students will increase their Video I skills in lighting and cinematography as a form of visual expression. Topics covered include shot composition, camera movement, lenses, filtration and color, exposure, lighting techniques, location shooting and how to use grip equipment. Discussions, demos and lectures will include relevant and illustrative historical motion picture photography, current digital video technology, and examples that explore interactions between film and video.

### **FNAR 673 Machine for Seeing: Architecture & the Moving Image**

Architecture's relationship with cinema was established with the very first motion picture. In *Sortie de l'usine Lumière de Lyon* by Auguste and Louis Lumière we see a didactic presentation of the film's title as workers from the Lumière brothers factory stream forth from its interior at day's end. In many ways the context of the film is its subject as well. The title of the class plays on Le Corbusier's maxim that architecture is machine for living and perhaps cinema is simply a machine for helping us understand the vast construct of our built environment. A device, which allows us to imagine even greater follies or more importantly to think critically about architecture's relationship with and impact on society. Readings, screenings, discussions and critiques make up the curriculum along with studio time. Students will produce their own film and we'll look at films produced by a range of practitioners: From architects speculating on the nature and use of public space and urban development to documentarians researching the pathologies of neo-liberalism and its effect on the privatization of space. We'll also look at the work of artists who engage with the poetics of space and who unpack the conflicted legacies of the built environment.

### **FNAR 675 Image & Sound Editing**

This course presents an in-depth look at the storytelling power of image and sound in both narrative and documentary motion pictures. Students apply a theoretical framework in ongoing workshops, exploring practical approaches to picture editing and sound design. Students edit scenes with a variety of aesthetic approaches, and create story-driven soundtracks with the use of sound FX, dialogue replacement, foleys, music and mixing. Students not only learn critical skills that expand creative possibilities, but also broaden their understanding of the critical relationship between image and sound.

### **FNAR 678 Interfacing Cultures**

This course introduces advanced topics related to contemporary media technologies, ranging from social media to mobile phones applications and urban interfaces. Students learn how to use new methods from interaction design, service design, and social media and work towards prototyping their ideas using new platforms and media. The class will cover a range of topics such as online-gaming, viral communication, interface culture, networked environments, internet of things and discuss their artistic, social, and cultural implications to the public domain.

## ELECTIVE COURSE DESCRIPTIONS CONTINUED

### **ARCH 741 Architectural Design Innovation**

The mastery of techniques, whether in design, production or both, does not necessarily yield great architecture. As we all know, the most advanced techniques can still yield average designs. Architects are becoming increasingly adept at producing complexity and integrating digital design and fabrication techniques into their design process - yet there are few truly elegant projects. Only certain projects that are sophisticated at the level of technique achieve elegance. This seminar explores some of the instances in which designers are able to move beyond technique, by commanding them to such a degree so as to achieve elegant aesthetics within the formal development of projects.

### **ARCH 743 Form and Algorithm**

A course on the philosophy and generative tools of Informal design, which is defined in terms of non-Cartesian, non-linear geometries and borrows algorithmic procedures from models in mathematics and the physical sciences. The course reviews readings on the topic, introductory instruction in scripting and assignments through which students gain familiarity and skill with specific non-linear models. This seminar meets every other week.

### **ARCH 744 Digital Fabrication**

A seminar and design workshop that explores associative and parametric CAD-CAM strategies, to enable an interactive continuity between conception and fabrication. Through parametric 3D constructions, students will explore how to link different aspects of the architectural projects, such as: (1) design intention; (2) control of variation and adaptation; (3) construction constraints; (4) digital fabrication processes. The course emphasizes the cross-fertilization of formal, technical and performative aspects of the design activity.

### **ARCH 745 Nonlinear Systems Biology & Design**

Systems biology examines the nature of nonlinearities, emergent properties and loosely coupled modules that are the hallmarks of 'complexity'. New models for research and design in architecture have grown in response to radical breakthroughs in technology and an increasing interest in the use of algorithmic and generative tools within the design process. Algorithmic imaging and molecular tools found useful in analyzing nonlinear biological systems may therefore prove to be of value to new directions in design within architecture. This course explores the potential of dialogues between architecture and nonlinear systems biology to gain insight into living systems, develop techniques for digital modeling, and create experimental designs with rigor at various length scales, from the microscopic to the human. Part seminar and part workshop, it serves to deepen knowledge of nonlinear biosynthesis, a synthesis of design thinking and tooling through the study of systems biology. Students will develop a series of digital and physical models through the use of a 3D printer and a diverse range of scripting and modeling techniques in parametric and associative software. The final assignment is a design project with accompanying abstract and report.