

INTERDISCIPLINARY MINOR IN ARTS & TECHNOLOGY AT THE UNIVERSITY OF UTAH

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SECTION I The Request

The Interdisciplinary Minor in Arts & Technology is a plan of study designed for the undergraduate student who has a strong interest in interdisciplinary collaboration and a desire to integrate traditional arts with digital technologies (e.g., digital imaging, multimedia presentation, experimental video, web design, 3-D graphics, and computer visualization).

SECTION II

2.1 Program Purpose: Before the nineteenth century, the arts, philosophy and sciences were very much interconnected. In the modern world, not only did these once interconnected pursuits fracture and become discrete disciplines, but scholars working in each discipline forged even more specialized sub-disciplines. In the arts, specializations emerged across genres and mediums (e.g., *drawing* could involve specializations in charcoal, pastels, pen, ink; *painting* in oil, watercolor, acrylic, etc.) In the contemporary world of digital technology, we are now seeing the reintegration of the arts as images, motion, and sounds are translated into the universal language of data. Digital technology has spawned new spaces, processes, and forms that offer exciting possibilities for creative research and outcomes. Through the exploration of these realms, new ways of conceptualizing the creative process have surfaced, expanding potential sites for artistic expression. The purpose of this interdisciplinary program is to develop artists and creative researchers who can frame the guiding questions that unleash the tremendous potential of new technologies.

2.2 Program Description: Students in the proposed Interdisciplinary Minor in Arts & Technology will learn the tools, techniques, and collaborative processes necessary to respond to a rapidly changing field. Curriculum and course projects will model collaboration and interdisciplinarity between and across the arts disciplines. The students will come from the existing departments, schools, and divisions of the College of Fine Arts. A solid theoretical and practical grounding in at least one art form is expected. Initially, courses for the minor will be drawn from current course offerings of the College's departments, divisions, and schools, as well as from the College's Arts Technology Program—with the exception of one new Capstone class. To facilitate student advising, and maintain departmental SCH, courses will be cross-listed.

2.3 Advisement and Governance: Oversight is provided by the Associate Dean of the College with advisement shared by College faculty who teach aspects of arts and technology through courses offered by the Departments of Art & Art History, Ballet, Modern Dance, and Theatre; the School of Music; and, the Division of Film Studies.

2.4 Program Requirements for the Minor:

Objectives: Provide an educational environment that models collaboration and interdisciplinarity that weaves digital technology seamlessly and pervasively throughout the creative process.

TABLE 1: Educational Objectives of the Interdisciplinary Minor in Arts & Technology

Degree	Objective	Knowledge	Targeted students
Interdisciplinary Minor in Arts & Technology	Model collaboration and interdisciplinarity weaving digital technology seamlessly into the creative process	Broad knowledge of collaborative creative processes, diverse computer software and hardware used in the arts	Undergraduate students pursuing a Fine Arts major

Entrance requirements: Acceptance into the Interdisciplinary Minor in Arts & Technology is based on an application process. The student must: a) be an undergraduate Fine Arts major in good standing (or a student with a related major accepted by special permission); b) be at least of sophomore standing in the university; c) create a proposed study plan developed in consultation with an advisor; and d) obtain approval from the home department advisor.

TABLE 2: Overview of Interdisciplinary Minor in Arts & Technology

Degree	Targeted students	General Requirements
Interdisciplinary Minor in Arts & Technology	Undergraduate students pursuing a Fine Arts major	<i>Foundation:</i> 3 hours <i>Exploration:</i> Minimum 9 credit hours <i>Capstone:</i> 4 hours upper division Total: Minimum 16 hours

Program requirements: Students are required to earn a minimum of 16 credit hours of approved College of Fine Arts courses to complete the Minor. Students create a plan of study in consultation with their advisor that includes the *Foundation* course: FA 3000, the *Exploration* courses, and the *Capstone* class: FA 4950.

Exploration is fulfilled by completing at least three courses from the *Exploration* class list (Appendix A) that meet the individual interests of the student. However, at least *two* courses must be completed from outside a student's home department, and *one* course from the College's Arts Technology Program. *Exploration* can include coursework in the disciplines of art, ballet, film studies, modern dance, music, and theatre, as well as from

the areas of digital imaging, web design, multimedia production, digital audio, 3-D graphics, and animation.

Participants are eligible for admission to the *Capstone* class only after completing all the *Foundation* and *Exploration* requirements of the Minor, although departmental advisors will consider concurrent enrollment.

TABLE 3: Summary of Interdisciplinary Minor in Arts & Technology Course Requirements

Course Type	Title	Credit Hours
<i>Foundation</i>	FA 3000 - Designing for the Mind	3
<i>Exploration</i>	Choose 3 courses from the class list: at least 2 must be from courses outside a student's home department and 1 from the ArtsTech Program.	9
<i>Capstone</i>	FA 4950 – Interdisciplinary Capstone Projects	4
Minimum Credit Hours:		16

See [Appendix A](#) for details about the coursework available to the Minor.

SECTION III Need

Currently, careers that integrate arts and new technologies consistently rank among students' top career choices. And, we anticipate that these sorts of careers will likely become even more attractive to students and more important to our culture and society. Computer technology has become a pervasive and integral component of a myriad of arts practices. The Interdisciplinary Minor in Arts & Technology will provide students with a solid base to understand and help define how digital technology can be integrated into the creative process.

Student interest in digital technology is extensive across every arts discipline. For example, in the College's Arts Technology Program, the number of regular credit classes has increased from the original 3 in 1999, to 33 in the 2005-06 academic year. Clearly this area of study is very important to many students of this University.

What the College of Fine Arts lacks is a degree outcome for students who are interested specifically in interdisciplinary collaboration using digital technology in their creative processes. The Interdisciplinary Minor in Arts & Technology will fill this gap. Our graduates will be able to demonstrate their competency in arts-based technology practices alongside the knowledge, skills, and dispositions they have developed as fine arts majors.

SECTION IV Institutional Impact

We anticipate little to no institutional impact with the approval of this proposal. At the outset, The Interdisciplinary Minor in Arts & Technology will rely almost exclusively on classes that already exist in the College of Fine Arts, and have existed for several years. The only new course is the interdisciplinary capstone class, although new sections of existing courses may be offered solely to students of the Minor based on demand. We do anticipate designing and offering new courses as demand for the Minor increases.

SECTION V Budget

The Interdisciplinary Minor in Arts & Technology will be financially self-sufficient and will draw its instructors, coursework, and facilities from existing resources. The budget each year will be based on SCH growth income from the previous year's enrollment.

The faculty, facilities, and software are already in place to serve the existing College of Fine Arts curriculum. We perceive no need for additional resources to start this Program. However, as the Program grows in student enrollment and reputation, we anticipate that additional funding resources will accrue.

Appendix A

Interdisciplinary Minor in Arts & Technology Class List

Courses and Descriptions

Students of the Interdisciplinary Minor fulfill the Minor requirements by choosing from the designated departmental courses and/or these College's Arts Technology courses. This list is subject to change.

Optional Prerequisite to Minor (in consultation with advisor):

FA 2000 - Computing and the Arts (Credits: 3)

The class introduces the basic concepts of the computer as a fine arts tool. Class participants apply digital concepts in creative projects that challenge and engage their understanding of the relationship between the arts and computer technology. No previous computer experience is required.

Foundation Course:

FA 3000 – Designing for the Mind (Credits: 3)

This course addresses the interdisciplinary nature of arts technology and provides the student with an overview of all the arts disciplines—how they approach problems, and how they view technology as part of the creative process. Instruction includes guest lectures by faculty and students of the College of Fine Arts and others.

Capstone Course:

FA 4950 – Interdisciplinary Capstone Projects (Credits: 4)

Open only to students completing the Interdisciplinary Minor in Arts & Technology. Students design and produce collaborative, arts and technology-based works under the supervision of Fine Arts faculty.

A Beginning List of Exploration Courses:

Department-level Courses, College of Fine Arts, University of Utah

Art & Art History

Art 1010: Intro to Visual Arts (3)

Three basic content areas: the creative process, art criticism, and aesthetics, along with a chronological history of art. The content within these three areas is designed to be gender-conscious, cross-cultural, and discipline-correlated--meaning that visual art is introduced to include filmmaking, computer graphics, architecture, sculpture, painting, drawing, graphic design, and photography. The creative process, aesthetics, composition, and history draw upon all of the diverse interests mentioned above.

2300 First Year Studio 3-D (4)

This foundation course is designed to introduce students to fundamental 3-D design issues. Students begin explorations into materials and process, as well as tools and construction methods. Projects will focus on 3-D formal applications of line, plane, form, and space, with investigations of positive/negative, interior/exterior, volume/mass, multiple/repetition, scale, color/surface, texture, etc.

3410 Sculpture Problems I (4)

This course initiates questions of artistic intent and establishes conceptual premises. Students develop basic research skills, draft proposals and statements, and begin to establish an individual artistic vocabulary. It is expected that the students create studio works related to these investigations. Curriculum includes regular seminar discussions and presentations based on assigned readings, local lectures, and visiting researchers. Contemporary issues and ideas in sculpture are a primary focus of these discussions.

3420 Figure Sculpture I (4)

This course focuses on exploring the figure as a three-dimensional form. Students work directly from the model to gain knowledge of figure structure, gesture, scale, proportion and composition, as well as considering how the figure engages with space. A variety of sculpture processes are used to investigate the figure including clay modeling, carving, mold making, and fabrication techniques. Contemporary ideas in figurative sculpture will be explored through readings, lectures, and discussions.

3490 Sculpture Special Topics (4)

This course is commonly co-taught with faculty from diverse disciplines and focuses on one specialized aspect of art making. Specialized techniques, site specific environmental installations, architectural designs, community, and social projects are common directions.

Art 3700 Digital Imaging (4)

An introduction and exploration into the use of the computer as an art making tool and as a medium for visual communication within the arts. This course promotes increased computer literacy while providing a thorough introduction to the use of digital technology. Emphasis is on Adobe Photoshop image editing software as the center of the digital imaging process. Students will learn to scan film and two and three-dimensional artwork for specific output. Output to a variety of printers and other devices is explored providing the student with experience in the complete digital imaging cycle. The research and communication needs of artists in the use of Internet tools such as ftp, email and the world wide web are addressed. Page layout in the production of posters, flyers, exhibition announcements and class handouts are part of the coursework.

4450 Intermedia Digital Imaging and Video (4)

This course emphasizes a variety of media, both traditional and nontraditional. Studio pieces produced in the class are expected to have a three-dimensional orientation, and incorporate technique and process from other media areas. Work formats range from objects to installation, and may incorporate video, photography, computer-generated imagery, painting, printmaking, etc. Emphasis is placed on the cultural associations of process, as well as the aesthetic and communicative effects of media.

4455 Kinetic Sculpture (4)

Starting with basic mechanical and electronic theory, and progressing to include sensing, motion control and computer applications. Students will explore the physical and conceptual aspects of machine making as a sculpture process.

4460 Intermedia Environment and Installation (4)

This studio course explores the making of installations (art works which are environment-based rather than object-oriented). Discussions and slide lectures investigate different variables in installation including the manipulation of space, sound, movement, and light. Through the construction of environments, students explore different approaches including site specific, multimedia, kinetics, architectural interaction, and interdisciplinary use of media and processes.

Ballet

3770 Undergraduate Methods-Multi-Media (3)

This course will offer undergraduate students an opportunity to work with the latest technologies in music, design, computer graphics, animation, video and stage production, as these technologies relate to the balletic process. Projects are encouraged to be diverse and inventive.

4740 (LifeForms)

Description under revision.

Division of Film Studies

3710 Film Production I (4)

Introduction to basic film-making techniques using dramatic and documentary forms. VHS video and digital editing equipment provided.

4500 Beginning Animation (4)

In this introductory production course, students explore various traditional animation techniques, such as line animation, cell animation and claymation.

Modern Dance

1023 Dance Composition for Nonmajors (3)

This course for nonmajors is designed to provide structured learning and experience with group improvisation and dance composition. Fundamental concepts of dance composition and choreography are explored.

(number TBA) Choreography and Diverse Media (3)

This seminar presents the theory and practice of choreography in collaboration with production, music, video, text, and other media. Screenings, lectures, and hands-on experience provide a broad overview that serves the students as a springboard for further exploration.

School of Music

1350 Music Technology I (3)

Practical use of technology in musical applications; waves and acoustics; microphones; principles and practices of location and studio recording; the ear and musical spectra; sound reproduction.

1351 Music Technology II (3)

Introduction to FM synthesis and algorithms; digital communication between musical devices; multitrack recording, editing, and playback of musical performance information under computer control.

3360 Digital Audio Engineering I (3)

Covers terminology, equipment, and techniques developed during the past 10 years by musicians and audio engineers to produce digital audio.

Theatre

4100 Computer-Assisted Design (3)

An introduction to CADD for theatre contexts using a Macintosh platform.

5160 Introduction to 3-D Computer Graphics (4) Overview of three-dimensional computer graphics on a Macintosh platform. Students develop a working knowledge of realistic rendering and three dimensional drawing technology as it applies to design in the arts. Students will finish with a substantial portfolio of computer generated work.

Arts Technology Program Courses, College of Fine Arts, University of Utah

FA 3100 - Intro:net - Designing for the Web (Credits: 4)

This course explores the concepts and practice of creating for the World Wide Web (WWW). Through this project-oriented class, students learn the basics of Hypertext Markup Language (HTML) and site management, and learn to design for this new medium of creative expression. Advanced concepts include using Dynamic HTML, streaming and embedded video/sound, java applets, using plug-ins, and more.

FA 3200 - Experimental Animation, Video, and the Web (Credits: 4)

This course is designed to help students establish an individual aesthetic and evolve a personal form. The spirit of this hands-on course is exploratory; students are offered an introduction into the aesthetic, techniques, and historical evolution of experimental media and are encouraged to sample many stylistic, conceptual, and technical approaches while creating individual projects and group projects with contemporary tools (computers, video cameras, etc).

FA 3300 - Introduction to Computer Music Technology (Credits: 4)

Introduction to music production using computer technology. Related topics include music notation, recording, and software synthesis using contemporary techniques; and, the basics of editing and designing sound using digital audio software. Fundamental operation and interfacing of current digital audio computer hardware is examined. This class is for both musicians and non-musicians.

FA 3400 - Introduction to Media Effects (Credits: 4)

The curriculum of the class will include basic techniques of video editing, compositing, and 2D effects animation for narrative and non-narrative applications. The class toolset is: After Effects, Final Cut Pro, and PhotoShop.

FA 3350 – Introduction to 3-D Computer Graphics (Credits: 4)

This class provides a solid foundation in 3-D computer visual design processes, and it is especially recommended for non-animation majors. Students develop a working knowledge of realistic and non-realistic rendering, polygon modeling, and linear motion as it applies to the arts computing. Students will finish with a substantial portfolio of computer-generated work.

FA 3600 - Writing for New Media (Credits: 3, fulfills University upper division communication writing requirement.)

With the advent of CD ROM, DVD, and the World Wide Web, the role of the writer is changing. Today's writer must be keenly aware of the technological and creative ramifications of this new medium. This course will provide students with a theoretical base to write in various multimedia environments as well as the practical tools necessary to develop interactive, non-linear documents. Like a traditional writing course, Writing for New Media will cover the basics of writing: prewriting, drafting, and revising; however, students will learn how changes in the medium necessitate changes in the traditional model. Topics will include, but are not limited to: History of Hypertext, Hypertext: Theory and Practice, Literary Theory and its impact on New Media, The Non-linear Narrative, Writing for the Gaming Industry, Storyboarding, Web Authoring, Software Selection, Legal Issues for the Digital Writer, and Hypermedia and the Future.

FA 3700 - Multimedia Graphics (Credits: 4)

Looks at Adobe Photoshop as a tool to create rich media for photography, advertising, web pages, and animation. Related software includes Adobe Illustrator and others. Provides a thorough introduction to the use of digital imaging technology.

FA 3730 - Beginning Video Production/ Editing (Credits: 4) Introduction to basic filmmaking, narrative techniques & non-linear video editing using Adobe Premiere and others.**FA 3800 - Special Topics in Arts Technology** (Credits: 1-5)

A variety of topics in arts and technology.

FA 4100 - Interactive Media Design (Credits: 4)

Focuses on concepts of interactive multimedia technology in the context of web design, although the technology can be distributed in many other mediums. Projects combine graphics, sound, animation, text, and video to create interactive digital content. Discussions include defining narrative in the digital age, and design layout and graphics with respect to aesthetic principles.

FA 4200 - Interactive Game Development (Credits: 4)

Students will concentrate on the process of designing and programming fully interactive CD-ROM presentations with 2D and 3D environments, using computer gaming techniques as the primary perspective. The class involves primarily Macromedia Director, Maya, and Flash as authoring tools. Some experience with Photoshop, Illustrator, and 3D modeling is recommended.

FA 4250 - DVD Design & Authoring (Credits: 4)

Students will have a detailed look into DVD authoring. Tools will include Apple's DVD Studio Pro and After Effects. Other tools and options are part of the curriculum including Macromedia Director and Flash integration. Projects will include creating a fully functional DVD interface design. It is recommended that students already have some knowledge of Adobe Photoshop and Illustrator and some experience with basic 3D modeling software before taking this class.

FA 4350 - 3-D Modeling and Rendering (Credits: 4)

Students will study complex computer modeling and rendering techniques in 3D space. Concentrations include such techniques as poly modeling, texturing, character rigging, and specialized rendering techniques. Assignments will be both story and character driven. The class will use Alias Maya extensively. Experience with After Effects and Photoshop is recommended.

FA 4360 - 3-D Dynamics and Motion (Credits: 4)

The class will focus on advanced story and character driven animation, consisting of: character rigging and motion, object animation, dynamics and simulation. The creation of animatics, sound and effects will be

presented as part of creating high quality animations. This class will use Alias Maya extensively. Experience in After Effects and Photoshop is recommended.

FA 4500 - Advanced Motion Graphics (Credit: 4)

Students engage and utilize advanced techniques of digital imaging, video editing, compositing, and 2D & 3D animated visual effects for both non-narrative and narrative project outcomes. The class toolset is: After Effects, Maya, Final Cut Pro, and PhotoShop. The curriculum builds on basic techniques of computer graphics and motion covered by several intro courses in the Arts Technology program.