

IMM 110/Introduction to Digital Media

1 course unit

(fall)

An introduction to digital media for interactive multimedia through the study of state-of-the-art methods of creating digital media: painting programs, digital image editing, and time-based authoring programs. Computer graphics and digital media combine to make building images and editing graphics easy and effective. Digital media have led to new methods of communications that affect how we work, play and see ourselves and our environment. Through studio and seminar sessions, students will explore ways of constructing types of digital media and consider the aesthetic, technical, and social effects of this work. Critiques of student work, readings, and discussion will examine the evolving formal criteria and social implications of this work.

(Core/Core)

IMM 120/Introduction to Interactive Computing

1 course unit

Same as CSC 101

(fall)

A first course in computing languages for interactive multimedia. Students are introduced to the art of programming through state-of-art multimedia technologies (e.g. *Processing*) Through intensive laboratory experience students learn the programming fundamentals (e.g., variables, functions, control structures and logic, persistent storage and networking). Problems related to interactivity are emphasized. Students will understand the distinction between mark-up languages, scripting languages and general purpose programming languages and develop proficiency in the first two. Efficiency, data structure organization and objects are introduced within the context of interactive computing problem solving. (Core/Core)

IMM 130/Design Fundamentals for the Web

1 course unit

(spring)

This course allows students to develop and practice specific, foundational skills in web production, while simultaneously developing an understanding of and strategies for effective visual communication in general. Students will develop an understanding of when and how to use tools such as HTML, CSS and Javascript. Through readings, lectures and demonstrations, students will also develop an appreciation for fundamental issues of graphical communication, including color, typography and composition. Throughout the course we will compare and contrast traditional approaches to design with similar approaches on the web, examining the differing constraints and additional considerations of designing for a digital and interactive medium. (Core/Core)

IMM 140/Writing for Interactive Media

1 course unit

(spring)

An overview of and practice in writing for business, technology, institutions, trade, professional associations, and journals. (Core/Core)

IMM 210/Computer Animation I

1 course unit

(fall)

Surveys traditional and computer animation history, techniques, and terminology. Students will learn basic concepts and skills of 3D digital imaging, animation, rendering, and principles of motion and continuity. The student will produce three-dimensional animation.

(Intermediate/Digital Media)

IMM 220/Principles of Interactivity

1 course unit

(spring)

Prerequisites: IMM 120 and IMM 270.

This intermediate-level course explores the computational aspects of interactivity. The evolution and history of user interaction, with an emphasis on effective communication is explored.

Topics include but are not limited to: simple question/answering; teletype, and text-based computer communication; dialog and turn taking; cursor driven menus; graphical user interfaces and events; hypermedia; integration of multimedia and streaming. Modern techniques will be

mastered using HTML, javascript, and Flash Actionscript providing students with practical skills to support the conceptual framework of the course. Projects will require students to apply design skills to integrate textual and graphical media in order to achieve a range of communicative goals. (Intermediate/Interactive Computing)

IMM 240/Feature Writing

1 course unit

Same as JPW 251

(annually)

Prerequisites: IMM 140 and IMM 270

This course develops proficiency in reporting and writing short features for print, broadcast or online media. Beginning with a foundation in hard news reporting (the classic inverted pyramid), students will learn to analyze, produce and edit news analysis pieces, opinion articles, profiles, and other common kinds of feature stories. (Intermediate/Professional Writing)

IMM 270/Design Perspectives in Interactive Multimedia

1 course unit

(every semester)

Prerequisites: Two of the following: IMM 110, 120, 140

This class is interdisciplinary, bringing together the various bodies of knowledge that inform the field of interactive multimedia, such as storytelling, interaction design, interface design, project management and user testing. The class provides an overview of concepts necessary both to create and evaluate interactive multimedia projects. Students apply these ideas to a series of individual writing and production assignments, and ultimately to a collaborative project that spans most of the semester. This writing-intensive course is one of four basic introductory courses for the Interactive Multimedia major taken by first and second year students. (Core/Core)

IMM 310/Computer Animation II

1 course unit

(spring)

Prerequisite: IMM 210 and IMM 270, or ADA 210

This course builds on the foundation in 3D computer animation begun in IMM210. It develops the student's basic animation skills with additional emphasis on 3D object creation and animation techniques (model building, rendering, animating). Creative and conceptual development are emphasized throughout the course and students will develop individual or group animation projects. (Advanced/Digital Media)

IMM 312/Interactive Media

1 course unit

(occasionally)

Prerequisites: IMM 110 and IMM 270

Digital media have led to new methods of communication that affect how we work, play and see ourselves and our environment. When digital media combine with interactivity, and new means of distribution such as CD, DVD, and the Internet, the result is interactive media. This course develops the student's understanding of interactive media and its relationship to digital media and storytelling. It explores the basis of interactivity, its design, and production, as well as interactive media delivery formats and digital distribution systems. Students develop a project in their chosen area. This is a studio/seminar course, combining lectures, presentations, demonstrations, discussions, critiques and studio work. Uses critiques of individual student work, readings, and discussion to examine the evolving formal criteria and social implications of this work.

IMM 320/Information Retrieval

1 course unit

Same as CSC 320

(annually)

Prerequisites: CSC 230 or CSC 250 or IMM 120 and IMM 270

This course will discuss theory and practice of searching and retrieval of text and bibliographic information. Topics covered include automated indexing, statistical and linguistic models, text classification, Boolean and probabilistic approaches to indexing, query formulation and output ranking, information routing and filtering, topic detection and tracking, as well as measures of

retrieval effectiveness, including relevance, utility, miss/false-alarm. Techniques for enhancing retrieval effectiveness including relevance feedback, query reformulation, thesauri, concept extraction, and automated summarization. Experimental retrieval approaches from relevant state-of-the-art conferences as well as modern Internet search engines are discussed in detail. (Intermediate/Interactive Computing)

IMM 340/Technical Writing **1 course unit**
(occasionally)

Prerequisites: IMM 140 and IMM 270

This course teaches students the writing, scripting and document design skills needed to create training materials, technical reports, and technical or business proposals in print, online or interactive formats. (Intermediate/Professional Writing)

IMM 345/Introduction to Electronic Music and Lit **1 course unit**
(same as ADA 345 and MUS 345)
(every semester)

Prerequisite: IMM 110 and IMM 270

Acquaints both music majors and non-majors with all the fascinating facets of electronic music through two different means: 1) learning its history by listening to important electronic works by various seminal 20th-century composers; and 2) elementary composing of electronic pieces via basic training on the software sequencing program in the Department of Music's computer laboratory. Previous music experience is not a requirement.

IMM 365/ Games I: Design and Architecture **1 course unit**
(same as CSC 365)
(fall)

Prerequisite: Permission of instructor or CSC 340 or IMM 270

This is a multidisciplinary course that invites students from a variety of disciplines to participate in the development of a game design while learning about the underlying architecture of a game engine. Students will customize a broad set of learning goals to their own needs, ranging from the purely artistic to the purely technical. Lecture and workshops will provide a full range of exposure to game development including game engine design, story telling, interactivity, networking for multi-user, 3-D pipeline for games, sound, music and dialog. Each semester will focus on a particular type of game, including but not limited to 'role playing,' first person shooter,' 'immersive learning, 'real world simulation.' Students will also address issues of gender and racial equity in the games industry as well as social, ethical and health concerns. (Intermediate/Any With Prior Approval)

IMM 370/Topics in Interactive Multimedia **1 course unit**
(every semester)

Prerequisite: IMM 270 or permission of coordinator

Focuses on current or specialized topics in interactive multimedia. May be repeated for different topics. May fulfill intermediate or advanced requirements, with permission of coordinator. (Varies by section)

IMM 380/Projects in Interactive Multimedia: Artisan **1 course unit**
(fall)

Prerequisite: IMM 270

The first of two courses in the IMM "Projects" sequence, to be followed by IMM 498. This course requires students to conduct rigorous research into an area of interest within Interactive Multimedia, and to devise a project that demonstrates that research. Students implement a series of proofs-of-concept and ultimately write a thorough proposal for the project they will execute in the second semester of the IMM sequence, IMM 498. (Projects)

IMM 386/Video Art I: Single Channel **1 course unit**
(same as ADA 386)
(occasionally)

Prerequisites: Permission of instructor and IMM 270

Video Art I builds on time-based knowledge and skills learned in ADA 285/Digital Arts: Time-Based. It advances student's technical and conceptual understanding of video with an emphasis on editing and building a personal vocabulary. Students will focus on production skills (using different sound sources, lighting, and advanced framing) and post-production skills (codex, complex editing, and compositing) while further developing a conceptual approach to this medium. This course will look at the digital medium of the QuickTime movie as a turning point of video/film in an art context; works by innovators in the field of single-channel video artists are studied. Required reading and writing assignments will investigate video art history and current theories and practices with the medium. The course will be taught by demonstration, lecture, presentations, and critiques. (Intermediate/Digital Media).

IMM 387/ Video Art II: Install/Perform

1 course unit

(same as ADA 387)

(occasionally)

Prerequisites: Permission of instructor and IMM 386

An exploration of the advanced aesthetic, conceptual, and technical aspects of digital video in relation to performance and installation art. This course focuses on themes such as gesture, movement, space, and body; site-specific work; architecture and definitions of space; uses of light and material; and the formation of an event or situation. Gallery and museum field trips, as well as attendance at artist lectures, required. (Advanced/Digital Media)

IMM 388/Web Design II: Dynamic Web Design

1 course unit

(same as ADA 388)

(occasionally)

Prerequisites: IMM 120 and IMM 270

This course focuses on creating dynamic or database-driven websites and the production of streaming media, extending the student's technical and creative skills beyond design to the construction of web applications. Students learn to integrate front-end design with multimedia content and dynamic data. The course includes instruction in a diverse set of scripting languages and applications. The course is oriented toward technical students with creative aspirations as the use of the internet as an expressive social medium is explored.

IMM 391/Independent Study in Interactive Multimedia

variable course units

(every semester)

Prerequisites: IMM 270 and permission of coordinator

Individual, in-depth study of an area in interactive multimedia developed in consultation with a faculty mentor. May be repeated for different topics. (Varies, by prior approval)

IMM 399/Internship in Media

variable course units

(every semester)

Prerequisites: IMM 270 and permission of coordinator

An opportunity to work with interactive multimedia professionals in consultation with a faculty mentor.

IMM 412/Time Media: VFX

1 course unit

(annually)

Prerequisites: IMM 110 or ADA 285 and one IMM or ADA video or animation course.

Time Media: VFX is an advanced course in digital media that combines 2D and 3D still and motion image creation with video editing, compositing, and sound in order to produce dynamic media. It explores the way that images, sound, and narrative elements combine to produce significant and meaningful visual effects extending through time. The class looks at the history, aesthetics, and current practice of time-based media. Students will design, produce, and present advanced media projects based on appropriate computer and digital media technologies.

Students will use high-end desktop software integrating digital paint, tracking, masking, keying, particles with 2D and 3D composition and special effects. Students will cover the structure,

interface, workflow, and techniques used to create sophisticated and complex shots, scenes, and graphic sequences. (Advanced/Digital Media)

IMM 440/Interactive Storytelling

1 course unit

(occasionally)

Prerequisites: IMM 240

This course will explore existing and experimental methods for telling interactive stories. Interactive stories are defined as stories that allow the audience, listener, or reader to participate in the shaping of the narrative. Students will be able to articulate the differences between linear, non-linear, multilinear and meta-linear narratives. Students will analyze stories, they will create their own interactive stories using multimedia technologies, and they will hypothesize about the potential usefulness and social utility of new storytelling technologies under development. (Advanced/Professional Writing)

IMM 441/Computer-Assisted Reporting

1 course unit

(occasionally)

Prerequisites: IMM 140 and IMM 270

The course teaches basic skills associated with investigative reporting. Students will learn to mine and interpret official data, to use technology commonly employed in computer-assisted reporting, and to formulate and test a journalistic research hypothesis. Particular attention will be given to issues of ethics, privacy and freedom of information. (Advanced/Professional Writing)

IMM 465/ Games II: Implementation and Project Management

1 course unit

(same as CSC 465)

(spring)

Prerequisites: IMM 365 or permission of instructor

This is a multidisciplinary course that invites students from a variety of disciplines to participate in the implementation of a robust demonstration video game. Programmers, software engineers, digital artists, sound specialists and musicians work collaboratively to create a single game (designed in Games I). Each student defines a personal role in the process so that no two students will complete the same set of course requirements. All students, however, participate in learning about and implementing a project management structure to plan and execute the sequence of activities that must take place to complete the game. Each semester will focus on a particular type of game, including but not limited to 'role playing', 'first person shooter', 'immersive learning', 'real world simulation'. Students will also address issues of gender and racial equity in the games industry as well as social, ethical and health concerns. (Advanced/Any With Instructor's Approval)

IMM 498/Projects in Interactive Multimedia: Master

1 course unit

(spring)

Prerequisite: IMM 380

The second of two courses in the IMM "Projects" sequence, preceded by IMM 380 In this capstone course, students work closely with faculty to implement, test and refine the project they devised in the earlier semester. This course is writing-intensive, requiring students to extensively document their research, their process and their results. (Projects)