IMM 110/Introduction to Digital Media **1 course unit**
(every semester)
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
(every semester)
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., Macromedia) 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 (e.g., through assignments based on HTML and Flash coding). Students will understand the distinction between mark up languages, scripting languages and general purpose programming languages and develop proficiency in the first two. Persistent storage and networking concepts are introduced through high-level applications (e.g., Macromedia Studio). Efficiency, data structure organization and objects are introduced within the context of interactive computing problem solving. (Core/Core)

IMM 140/Introduction to Professional Writing **1 course unit**
(every semester)
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)
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 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**
(fall)
Prerequisites: IMM 120 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
An interdisciplinary class, bringing together the various disciplines that inform the field of interactive multimedia, and providing a conceptual and practical overview of the design, theory, and processes of interactive multimedia. Students will apply these concepts, theory and processes to the creation and evaluation of media artifacts, and work together collaboratively to produce a media project. This is one of four basic introductory courses for the Interactive Multimedia major taken by first and second year students. (Core/Core)

IMM 280/Project Interaction Multimedia: Apprentice **1 course unit**
(every semester)
Prerequisites: IMM 270
A project may pursue a single unifying goal with an expected artifact or research result or it may support a number of small projects or independent student work projects. Students working on a project support each other through contributions of technical expertise in their respective areas and as mentors in the process of developing expertise in project development, design, implementation, management and reporting. The apprentice will develop skills in the designated area up to the "artisan" stage. At the apprentice stage, the student is taught to become highly reflective about the nature of the creative process in interactive multimedia.

IMM 284/Project: Apprentice Professional Writing **1 course unit**
(occasionally)
Prerequisites: IMM 270

IMM 310/Computer Animation II **1 course unit**
(spring)
Prerequisite: IMM 210 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**
(annually)
Prerequisite: 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**
(fall)
Prerequisites: CSC 220 and CSC 230 and IMM 120
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**
(annually)
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)
(occasionally)
Prerequisite: IMM 140, 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)
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**
(every semester)
Prerequisite: IMM 270
A project may pursue a single unifying goal with an expected artifact or research result, or it may support a number of small projects or independent student work projects. Students working on a project support each other through contributions of technical expertise in their respective areas and as mentors in the process of developing expertise in project development, design, implementation, management and reporting. An artisan is a student who has sufficient expertise to manage a component of a large project,

or independently define a small individual project. The student will develop skills in the designated area up to the "master" stage. Students at the artisan level are expected to provide mentoring to students at the apprentice level. (Intermediate/Projects)

IMM 386/Video Art I: Single Channel   1 course unit
(same as ADA 386)
(fall)
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)
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)
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
(fall)
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 421/Game Design Architect and Theory   **1 course unit**
(occasionally)
 Prerequisites: IMM 220, CSC 220 and permission of instructor is required

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 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 Prior Approval)

IMM 498/Project Interactive Multimedia: Master   **1 course unit**
 (every semester)
Prerequisite: IMM 380
A project may pursue a single unifying goal with an expected artifact or research result or it may support a number of small projects or independent student work projects. Students working on a project support each other through contributions of technical expertise in their respective areas and as mentors in the process of developing expertise in project development, design, implementation, management and reporting. A master is a student who has sufficient expertise to manage a large group project with faculty supervision, or independently define a medium-sized independent project. The student will develop skills in the area of the project work that reach a level of expertise acceptable to industry standards. (Advanced/Projects)