Interactive Multimedia (BA)

Faculty: Sanders, *Coordinator;* Ault, Pearson, Wolz

Interactive multimedia involves digital storytelling in all of its aspects, visual innovation, and computational creativity. Using an exploratory and creative approach, students work closely with each other and faculty in creating and organizing content, information architecture, interface design, static and time based digital media, interactivity, structuring and accessing data, and modeling and augmenting human cognition, perception, and communication.

At the heart of the interactive multimedia major is an innovative transdisciplinary core curriculum which emphasizes concepts for understanding and skills for creating contemporary digital media. Students learn computing, design, and communications principles. Throughout the program, students create media products individually and in groups, such as Web sites, digital video, interactive and informational projects, education and entertainment industry projects, interactive tutorials, video games and animation, information visualization, and effects for movies and advertising.

Students specialize in one of three areas: digital media, interactive computing, or professional writing. As they progress through the program, they also participate in an innovative program of Projects classes, in which students work together to design and implement real world and experimental projects within their areas of interest.

Program Entrance, Retention, and Exit Standards

Every major program at the College has set standards for allowing students to remain in that program, to transfer within the College from one program to another, and to graduate from a program. The following are the standards for Interactive Multimedia. Minimum grades are noted in parentheses.

- Entrance into the program from another program within the College is based on the following performance standards in any two of these "critical content" courses: IMM 110, IMM 120, IMM 140 (C–).

- Retention in the program is based upon the following performance standards in this "foundation" course: IMM 270 (C).

- Graduation requires a GPA of 2.0 in courses for the program.

Curriculum

The program offers three complementary areas of study: digital media, interactive computing, and professional writing options. The curriculum has four components all students are required to take:

- Four core courses that include one course in each of the three areas as well as a design course that explores how the three areas interrelate in the design and production of interactive multimedia.

- Four intermediate courses for which the core is prerequisite, two in the area of concentration, one in each of the other areas.

- Two advanced courses for which a course at the intermediate level is prerequisite: one in the area of concentration, the other in any of the three areas.

- Three project courses: students complete work at three levels of expertise in their area (apprentice, artisan, master) in an environment that strongly supports collaboration with students at many levels of expertise across all three areas.

A. Core Courses: (four course units)
IMM   110/Introduction to Digital Media
IMM   120/Introduction to Interactive Computing
IMM   140/Introduction to Professional Writing
IMM   270/Design Perspectives for Interactive Multimedia

All students take four core courses, one in each area and a design course common to all areas. The design course is an introduction to principles of media creation common to all areas of specialization. Students begin the sequence of core courses with the course that is in their area.

B. Intermediate Courses (four course units)
These courses build upon the core, providing a greater in-depth coverage of topics essential to each area. Students take two intermediate courses in their area, and one from each of the other areas.

C. Advanced Courses (two course units)
Students take one advanced course in their area and one in any of the three areas.

D. Projects (three course units)
Through their course of study, students are expected to register for three progressively more advanced levels of project within their area: Apprentice, Artisan, Master. These designations provide a set of expectations for level of skill development, concept mastery, managerial responsibility and tutoring level.

Total   **13 course units**

Suggested First-Year Course of Study
FSP	First Seminar	1 course unit
IMM	110/Introduction to Digital Media	1 course unit
IMM	120/Introduction to Interactive Computing	1 course unit
IMM	140/Introduction to Professional Writing	1 course unit
IMM	270/Design Perspectives in Interactive Multimedia	1 course unit
WRI	102/Academic Writing (if not exempted)*	1 course unit
	Liberal Learning	2 course units

It is recommended that students exempted from this course take another liberal learning course.

Interactive Multimedia Minor

Interactive Multimedia is a discipline that investigates and develops the convergence of digital media, interactive computing, and professional writing.

The minor in Interactive Multimedia is designed to enable students from a wide range of disciplines to participate in the transdisciplinary field of Interactive Multimedia. It introduces students to a theoretical and practical understanding of interactive multimedia

through a series of courses that look at the practice, critical theory, and history of interactive multimedia. Students work closely with a faculty mentor to develop a course of study that takes full advantage of the Interactive Multimedia minor.

Students begin their investigation of this dynamic and converging field by taking two courses that introduce core concepts and techniques in interactive multimedia—digital media, interactive computing, and professional writing. In these courses students learn by demonstrations, critiques, readings, discussions, and by creating a series of projects. The Design Perspectives in Interactive Multimedia course, team taught by faculty from the three areas of digital media, interactive computing, and professional writing, has students work in teams to design and produce semester long interactive multimedia projects. Students then choose an intermediate or advanced interactive multimedia course in their area of interest in consultation with their advisor. The minor culminates with participation in the Projects in Interactive Multimedia course, where students design and develop real world projects with Interactive Multimedia students who are both majors and minors from the three component areas of the Interactive Multimedia major.

Interactive Multimedia Minor Program of Study

There are five courses total:

> Two of the three introductory courses:
>> IMM 110/Introduction to Digital Media
>> IMM 120/Introduction to Interactive Computing
>> IMM 140/Introduction to Professional Writing
>
> IMM 270/Design Perspectives in Interactive Multimedia
>
> Any intermediate or advanced IMM course (student's choice with permission of coordinator)
>
> IMM 280/Projects in Interactive Multimedia: Apprentice (intermediate or advanced level is possible based on experience and portfolio)

COURSES

IMM 110/Introduction to Digital Media   **1 course unit**
(every semester)
An introduction to digital media for interactive multimedia majors through the study of state-of-the-art methods of creating digital media: painting programs, digital image editing, time-based, and interactive authoring programs. Computers make creating and editing still and time-based media easy and effective. Through studio sessions, students construct various types of digital media. Seminar sessions include critiques of student work, readings, and discussion that examine the evolving aesthetic, technical, and social implications of this work.

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. 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. Efficiency, data structure organization and objects are introduced within the context of interactive computing problem solving.

IMM 140/Introduction to Professional Writing   **1 course unit**
(3 class hours)
(every semester)
Previously: ENGL 250
An overview of and practice in writing for business, technology, institutions, trade, professional associations, and journals.

IMM 210/Computer Animation I   **1 course unit**
(every semester)
Prerequisite: IMM 110 or permission of instructor
The course surveys traditional and computer animation history, techniques, and terminology. The student 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.

IMM 220/Principles of Interactivity   **1 course unit**
(annually)
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, providing students with practical skills to support the conceptual framework of the course. Projects require students to apply design skills to integrate textual and graphical media in order to achieve a range of communicative goals.

IMM 240/Feature Writing   **1 course unit**
(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.

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.

IMM 280/Projects in Interactive Multimedia: Apprentice   **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 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 310/Computer Animation II   **1 course unit**
(annually)
Prerequisite: IMM 210 or ADA 210
This course builds on the foundation in 3D computer animation begun in IMM 210. 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 develop individual animation projects.

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 multimedia. This course develops the student's understanding of interactive media and its relationship to digital media. It explores interactivity, its design, and production, including delivery formats and digital distribution systems. Students develop a project in their chosen area. This course 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**
(annually)
Prerequisites: 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, and miss/false-alarm. Techniques for enhancing retrieval effectiveness including relevance feedback, query reformulation, thesauri, concept extraction, and automated summarization. Experimental retrieval approaches from Text Retrieval Conferences (TREC); modern Internet search engines (Google, AltaVista, etc).

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.

IMM 345/Introduction to Electronic Music and Lit   1 course unit
(same as ADA 345 and MUS 345)
Prerequisite: 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 370/Topics in Interactive Multimedia   1 course unit
(occasionally)
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.

IMM 380/Projects in Interactive Multimedia: Artisan   1 course unit
(every semester)
Prerequisite: IMM 280
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 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.

IMM 386/Video Art I: Single Channel   1 course unit
(same as ADA 386)
(annually-fall)
Prerequisite: IMM 270, permission of coordinator and instructor
Video Art I builds on time-based knowledge and skills learned in IMM 110/Introduction to Digital Media. It advances students' 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.

IMM 391/Independent Study in Interactive Multimedia   1 course unit
(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.

IMM 440/Interactive Storytelling   **1 course unit**
(annually)
Prerequisites: IMM 140 and IMM 270
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.

IMM 441/Computer Assisted Research   **1 course unit**
(annually)
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.

IMM 497/Internship in Interactive Multimedia   **1 course unit**
(every semester)
Prerequisites: IMM 270 and permission of coordinator
An opportunity to work with interactive multimedia professionals in consultation with a faculty mentor.

IMM 498/Projects in Interactive Multimedia: Master Capstone   **1 course unit**
(every semester)
Prerequisite: IMM 380, 381, 382, or 384
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 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. Students at this level are expected to provide mentoring to students at the apprentice and artisan levels.