

INTEGRATED DIGITAL MEDIA (DM-UY)

DM-UY 492X Independent Study in Design & Media (1-3 Credits)

Typically offered Fall and Spring

An independent study is designed to supplement a student's education when there is no IDM class nor a course in other schools in the University that meet a specific academic need that directly relates to proposed or expected Senior Project work. | Anti-Requisite: DM-UY 4003

Grading: Ugrd Tandon Graded

Repeatable for additional credit: Yes

DM-UY 1113 Audio Foundation Studio (3 Credits)

Typically offered occasionally

This course is an orientation to the essential concepts and practices of digital audio. It is a creative and theoretical foundation studio that combines an orientation to sound and listening with fundamental techniques of digital audio production: recording, editing, and mixing. The course covers topic areas such as microphone and field recording techniques, recording studio best practices, audio editing, DAW (digital multi-track) production, and mixing.

Grading: Ugrd Tandon Graded

Repeatable for additional credit: No

DM-UY 1123 Visual Foundation Studio (3 Credits)

Typically offered occasionally

This course allows students to harness the power of visual language in order to convey messages and meaning. The elements of visual foundation that will be covered include components (color, texture, image and typography), composition, and concept. Although non-digital mediums will be addressed, the understanding and use of industry-standard software is also a primary goal.

Grading: Ugrd Tandon Graded

Repeatable for additional credit: No

DM-UY 1133 Creative Coding (3 Credits)

Typically offered occasionally

This course is an introductory programming class, appropriate for students with no prior programming experience. Traditionally, introductory programming teaches algorithmic problem-solving, where a sequence of instructions describe the steps necessary to achieve a desired result. In this course, students are trained to go beyond this sequential thinking – to think concurrently and modularly. By its end, students are empowered to write and read code for event-driven, object-oriented, graphical user interfaces.

Grading: Ugrd Tandon Graded

Repeatable for additional credit: No

DM-UY 1143 Ideation & Prototyping (3 Credits)

Typically offered occasionally

In this class, the creative process will be investigated in order to generate ideas for art, design, technology, and business endeavors. The course will show how ideation, design research & thinking, and prototyping can inspire, inform, and bring depth to what one ultimately creates. Students will expand their arsenal of design research skills, learn how to think critically about their audience, content, form, and processes, as well as, understand the importance of utilizing more than one research and design strategy.

Grading: Ugrd Tandon Graded

Repeatable for additional credit: No

DM-UY 2113 Sound Design for Media (3 Credits)

Typically offered occasionally

This course explores sound design, primarily within visual contexts. The course will focus on the use of sound within visual and interactive media, including film, video production, interactive user experience, web design, and gaming. Students will create weekly studio assignments in all of these areas, with an emphasis on developing a strong competence in integrating digital audio techniques into other media. Final projects could include novel sound design developed for film, video, web, applications, or games. | Prerequisite(s): DM-UY 1113 or MPATE-UE 1001

Grading: Ugrd Tandon Graded

Repeatable for additional credit: No

Prerequisites: DM-UY 1113 or MPATE-UE 1001.

DM-UY 2123 Narrative Cinema (3 Credits)

Typically offered occasionally

In this course, students complete a coordinated sequence of short projects that add up to a finished, live-motion video project. The course strongly emphasizes the relevance of particular tools and techniques to the specific project. Concepts are introduced through the screening of historical examples, from 1895 to the present. The course format is modeled on professional standards and workflow for preproduction, production and postproduction. | Prerequisites: DM-UY 2263

Grading: Ugrd Tandon Graded

Repeatable for additional credit: No

Prerequisites: DM-UY 2263 or INTM-SHU 120 or IM-UH 1011.

DM-UY 2133 3D Modeling (3 Credits)

Typically offered occasionally

In this studio, students will learn to produce and render high-quality 3D models. Upon completion of this course, students will have a solid understanding of the fundamentals of modeling, texturing, animation and lighting using industry standard software. Students may create content for video games, web, film, or other interfaces.

Grading: Ugrd Tandon Graded

Repeatable for additional credit: No

DM-UY 2143 Interaction Design Studio (3 Credits)

Typically offered occasionally

To design interfaces requires an understanding of how humans interpret visual, tactile and auditory phenomena and how these perceptions inform their actions in the physical world. This course familiarizes students with the relevant principles of cognition and address basic interaction design issues through two solo projects and one group project. | Prerequisite: DM-UY 1133

Grading: Ugrd Tandon Graded

Repeatable for additional credit: No

Prerequisites: DM-UY 1133.

DM-UY 2153 Intro to Game Development (3 Credits)*Typically offered occasionally*

This class introduces the principles of 2D and 3D computer-game design. Students learn the range of game types and understand their conceptual building blocks. Students complete a structured sequence of assignments toward the completion of a new-game design. Students prepare, through a staged sequence of assignments, a fully worked-out design for an original game. Criteria include storyline quality, graphics quality and appropriateness of design to the game concept originality. For games with an educational or instructional purpose, clarity and effectiveness for the target audience is considered. | Prerequisite: DM-UY 1133

Grading: Ugrd Tandon Graded**Repeatable for additional credit:** No**Prerequisites:** DM-UY 1133 or INTM-SHU 101 or INTM-SHU 103 or IM-UH 1010.**DM-UY 2163 MEDIA STUDIES I (3 Credits)**

This is a historical orientation to media from oral culture to the internet. The course is designed as a foundation for both the analysis of historical and contemporary media practices, and to provide vital critical tools for creative professionals in a dynamic culture (which must have come from somewhere and be headed somewhere else).

Grading: Ugrd Tandon Graded**Repeatable for additional credit:** No**DM-UY 2173 Motion Graphics Studio (3 Credits)***Typically offered occasionally*

Motion graphics can be found in a wide range of media: broadcast, web, animation, and film to name a few. This course will allow students to explore the elements of time and space to convey messages and meaning through type, image, and sound for the screen. Individual creativity will be stressed as well as the understanding and use of industry-standard software for developing motion graphics. | Prerequisite: DM-UY 1123

Grading: Ugrd Tandon Graded**Repeatable for additional credit:** No**Prerequisites:** DM-UY 1123 or INTM-SHU 120 or IM-UH 1011.**DM-UY 2183 Contemporary Techniques in Digital Photography and Imaging (3 Credits)***Typically offered occasionally*

This course will cover basic camera use as well as the more sophisticated skills of image editing. Developing sensitivity to the aesthetics of image making through the use of the camera's technical controls and composition are the central goals of the class. The course will provide a background in the history, theory, and contemporary issues of photography through lectures and visits to museums and galleries. By the end of the semester students will have the know-how to make images that convey their aesthetic and conceptual ideas effectively.

Grading: Ugrd Tandon Graded**Repeatable for additional credit:** No**DM-UY 2193 Intro to Web Development (3 Credits)***Typically offered occasionally*

In this course, students focus on client-side programming. Assignments are arranged in sequence to enable the production of a website of professional quality in design and production. This studio stresses interactivity, usability, and the quality and appropriateness of look and feel.

Grading: Ugrd Tandon Graded**Repeatable for additional credit:** No**DM-UY 2213 User Experience Design (UX) (3 Credits)***Typically offered occasionally*

From interacting with the latest device to cogently communicating complex data, user experience design (UX) is a discipline given increased prominence by the inescapable human relationship with technology. We will cover the UX design process as it relates to interactive interfaces found in websites, mobile apps, hardware, and events.

Grading: Ugrd Tandon Graded**Repeatable for additional credit:** No**DM-UY 2263 Still and Moving Images (3 Credits)***Typically offered occasionally*

This course provides an overview of image making and presentation techniques, from still to moving. Students will also be introduced to experimental image making. This course will cover introductory still and video camera use, as well as how to begin integrating image within media. Students will gain practical and analytical skills through workshops, assignments, critiques, technical instruction, readings, screenings, and discussions.

Grading: Ugrd Tandon Graded**Repeatable for additional credit:** No**DM-UY 3113 Contemporary Techniques in Sound Art (3 Credits)***Typically offered occasionally*

This course explores sound as an art form and technical practice in its own right. Topics include contemporary techniques in composition, sound art, and interactive installation. Students will produce sound with narrative elements that evoke social, cultural & critical-thinking. Their final projects can be experimental podcasts, music (performance and/or recordings), multi-channel audio installations, or multimedia projects. | Prerequisite: DM-UY 1113 or MPATE-UE 1001

Prerequisite: DM-UY 1113 or MPATE-UE 1001**Grading:** Ugrd Tandon Graded**Repeatable for additional credit:** No**Prerequisites:** DM-UY 1113 or MPATE-UE 1001.**DM-UY 3123 Documentary Cinema (3 Credits)***Typically offered occasionally*

This course provides an overview of documentary film and video history and theory, centered on hands-on production. The course will include readings, workshops, screenings, discussions, assignments, critiques, and technical instruction around documentary and pseudodocumentary forms. | Prerequisite: DM-UY 2263

Grading: Ugrd Tandon Graded**Repeatable for additional credit:** No**Prerequisites:** DM-UY 2263 or INTM-SHU 120 or IM-UH 1011.**DM-UY 3133 3D Animation (3 Credits)***Typically offered occasionally*

Students will learn advanced techniques of 3D computer animation, along with the theories and principles of motion including motion capture.

Students will become comfortable utilizing cameras, lights, dynamics, motion, and effects in an industry-standard software. Comprehensive critiques will be conducted regularly to encourage good design for time-based animation. | Prerequisites: DM-UY 2133

Grading: Ugrd Tandon Graded**Repeatable for additional credit:** No**Prerequisites:** DM-UY 2133.

DM-UY 3143 INTERACTION DESIGN STUDIO 2 (3 Credits)

On-screen computer interfaces are well established. Anyone who has used a computer in the past 20 years knows how to navigate WIMP (Windows, Icons, Menus, Pointer). This course looks at the foundations of WIMP. Building upon this well-developed model, the course focuses on usability, user testing and user-centered design. The course explores interfaces that move beyond established metaphors to provide new ways of interacting with the computer screen and starts with small assignments to illustrate concepts. The last half of the semester is spent developing a group project.

Grading: Ugrd Tandon Graded

Repeatable for additional credit: No

DM-UY 3153 Media in Game Design and Development (3 Credits)

Typically offered occasionally

This class continues from DM-UY 2153, moving into advanced technological implementations of 2D games. Taking designs from DM-UY 2153 and working in teams, students create a complete game. Students, based on abilities and individual goals, are assigned individually to work in production areas ranging from sprite creation, mapping and level design to engine coding and interaction scripting. Students are responsible for completing their assignments as if they were members of a professional game-development team. | Prerequisite: DM-UY 2153

Grading: Ugrd Tandon Graded

Repeatable for additional credit: No

Prerequisites: DM 2153 or INTM-SHU 247.

DM-UY 3173 VISUALIZATION AND SIMULATION STUDIO (3 Credits)

This course is a design and production studio, geared to completing a professional quality project. Students must have the necessary design/scripting /programming skills to be prepared to make the most of them. Students are strongly encouraged to produce a project relevant to research and teaching initiatives underway in other Polytechnic programs, subject to faculty permission and counsel in the host departments.

Grading: Ugrd Tandon Graded

Repeatable for additional credit: No

DM-UY 3183 Photography and Words (3 Credits)

Typically offered occasionally

This course explores various image editing techniques and outputs, utilizing various styles of text, including fiction and non-fiction. The assignments foreground how text influences viewers' perception of images, and how images can enrich a body of writing. Students will use a range of production skills to create work – using After Effects for animation, HTML/CSS for website creation, book and print design, and archival printing methods. All projects are accompanied by readings that provide historical and theoretical grounding to support the concepts explored through practice. An emphasis on refining technical and aesthetic photography skills are central throughout the semester.

Prerequisites: DM-UY 2183 or DM-UY 2263

Grading: Ugrd Tandon Graded

Repeatable for additional credit: No

DM-UY 3193 Dynamic Web Applications (3 Credits)

Typically offered occasionally

In this course, students focus on client and server side programming, as well as the web design and development process. Students are also introduced to databases for the web. Examples of dynamic web applications include content management systems, registration systems, and social media solutions. | Pre-requisite: DM-UY.2193

Grading: Ugrd Tandon Graded

Repeatable for additional credit: No

Prerequisites: DM-UY 2193 or INTM-SHU 120 or IM-UH 1011.

DM-UY 3213 COMPUTER MUSIC STUDIO (3 Credits)

This composition-studio course aims to have each student generate music using algorithmic procedures. The studio will explore algorithmic thinking in music, dating from the distant past to the present, in pre-compositional and performance situations. Participants listen to a broad repertoire and learn to use a wide variety of algorithmic techniques. | Prerequisites: Completion of first year writing requirements and DM-UY 1113

Grading: Ugrd Tandon Graded

Repeatable for additional credit: No

Prerequisites: DM-UY 1113 with a Minimum Grade of D AND (EN-UY 1013W OR EXPOS-UA 1 OR EXPOS-UA 4) AND (HUSS-UY 1023W OR EXPOS-UA 2 with a Minimum Grade of D OR EXPOS-UA 9).

DM-UY 4003 Senior Project in Digital Media (3 Credits)

Typically offered occasionally

This research/production project is completed in the final term under faculty guidance. Before the project begins, the student, instructor and program director agree on topic, approach and schedule. This studio/seminar is the capstone for DM students. Students conduct a thesis-quality design and production, supervised by a faculty member active in the relevant field. Where appropriate and by special agreement, students may receive supplementary guidance from faculty in another department. | Prerequisite: DM-UY 4173 and Senior Standing

Grading: Ugrd Tandon Graded

Repeatable for additional credit: No

DM-UY 4034 Internship (4 Credits)

Typically offered Fall and Spring

Students may undertake an internship for academic credit with an appropriate private, public, or non-profit agency or firm. The internship is an opportunity to extend learning outside of the classroom into a real world setting, and to explore career options tied to the major. Students complete 140 hours at the internship site and attend occasional class meetings. The course involves completing a learning contract, regular reflections, assignments, and a final presentation. | Prerequisite: IDM/SUE/STS majors only. Permission of instructor required.

Grading: Ugrd Tandon Graded

Repeatable for additional credit: No

DM-UY 4114 SPECIAL TOPICS IN DIGITAL MEDIA (4 Credits)

This course, completed under the DM faculty guidance, may be repeated for credit on a different topic. By special permission of the program director, this course may be offered from time to time in subjects relevant to, but not regularly offered by, the IDM program.

Grading: Ugrd Tandon Graded

Repeatable for additional credit: Yes

DM-UY 4123 Experimental Cinema (3 Credits)*Typically offered occasionally*

This course provides an overview of experimental film and video history and theory, centered on hands-on production. The course will include readings, workshops, screenings, discussions, assignments, critiques, and technical instruction around cinema as a radical practice, and the ways in which computing techniques can be leveraged for new forms of expression in the moving image. Students will study and experiment with cutting-edge techniques in cinematic production such as motion capture, 3D (stereo, depth) filmmaking, and interactive / performative cinema. | Prerequisite: DM-UY 2263

Grading: Ugrd Tandon Graded**Repeatable for additional credit:** No**Prerequisites:** DM-UY 2263 or INTM-SHU 120 or IM-UH 1011.**DM-UY 4133 3D for Interactive Applications (3 Credits)***Typically offered occasionally*

In this course students will build form the skills they learned in 3D Modeling and 3D Animation to produce 3D for Interactive Applications. Projects may be geared to scientific, engineering or entertainment applications according to individual skills and professional aspirations. | Prerequisites: DM-UY 2133

Grading: Ugrd Tandon Graded**Repeatable for additional credit:** No**DM-UY 4143 INTERACTION DESIGN STUDIO 3 (3 Credits)**

People think of human-computer interaction as sitting in front of a monitor and using a mouse and keyboard to manipulate onscreen visual elements. In this unnatural, asymmetric interaction, humans communicate using physical input, while the computer communicates visually. This model greatly restricts the possibilities. In this studio, students develop a project based on other modes of human-computer interaction, individually or within a small group, and regularly present work for class discussion and criticism.

Grading: Ugrd Tandon Graded**Repeatable for additional credit:** No**DM-UY 4153 Experimental Game Narratives (3 Credits)***Typically offered occasionally*

How do games tell stories? How can we move beyond the traditional narrative in games? Is there a more holistic approach that embeds the story deeply into the interaction? In this class, students will begin to answer these questions by analyzing games and developing their own experimental narrative games. | Prerequisite: DM-UY 2153

Grading: Ugrd Tandon Graded**Repeatable for additional credit:** No**Prerequisites:** DM-UY 2153 or INTM-SHU 247.**DM-UY 4173 Professional Practices for Creatives (3 Credits)***Typically offered occasionally*

This course introduces students to the fundamental skills and professional practices vital to pursuing a career within a range of creative fields and industries. Students will explore strategies for effective documentation and presentation of their creative work, the art of self-promotion and exhibiting work publicly in various forms and environments, as well as networking and career preparation. | Prerequisite: Junior or Senior Standing

Grading: Ugrd Tandon Graded**Repeatable for additional credit:** No**Prerequisites:** Junior or Senior Standing.**DM-UY 4193 Mobile Application Development (3 Credits)***Typically offered occasionally*

Today's applications are increasingly mobile. This course teaches students how to build mobile apps for Android or iOS devices, as well as how to deploy them in app stores. The history of mobile computing is also explored. | Prerequisite: DM-UY 2193

Grading: Ugrd Tandon Graded**Repeatable for additional credit:** No**Prerequisites:** DM-UY 2193 or INTM-SHU 120 or IM-UH 1011.**DM-UY 4911 Special Topics in Digital Media (1 Credit)**

This course, completed under the DM faculty guidance, may be repeated for credit on a different topic. By special permission of the program director, this course may be offered from time to time in subjects relevant to, but not regularly offered by, the Digital Media program. To suggest a subject, students must file a course syllabus or proposal with the program office.

Grading: Ugrd Tandon Graded**Repeatable for additional credit:** Yes**DM-UY 4912 Special Topics in Digital Media (2 Credits)***Typically offered occasionally*

This course, completed under the DM faculty guidance, may be repeated for credit on a different topic. By special permission of the program director, this course may be offered from time to time in subjects relevant to, but not regularly offered by, the Digital Media program. To suggest a subject, students must file a course syllabus or proposal with the program office.

Grading: Ugrd Tandon Graded**Repeatable for additional credit:** Yes**DM-UY 4913 Special Topics in Digital Media (3 Credits)***Typically offered occasionally*

This course, completed under the DM faculty guidance, may be repeated for credit on a different topic. By special permission of the program director, this course may be offered from time to time in subjects relevant to, but not regularly offered by, the Digital Media program. To suggest a subject, students must file a course syllabus or proposal with the program office.

Grading: Ugrd Tandon Graded**Repeatable for additional credit:** Yes**DM-UY 6213 NETWORKED MEDIA STUDIO SEMINAR (3 Credits)**

This seminar looks at the power of computer networks and their potential in digital media. Technologies such as network communication, peer-to-peer file transfer, media broadcasting, cluster and parallel computing, database research, multiplayer online environments and online social spaces are explored with the goal of creative applications. Students complete a semester-length research project based on their creative and technical interests.

Grading: Ugrd Tandon Graded**Repeatable for additional credit:** No