

# EMERGENT DIGITAL PRACTICES (EDPX)

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## Courses

### EDPX 4000 Digital Design Concepts (4 Credits)

An introductory course requiring conceptual, perceptual and manual skills to meet rigorous studio research into the history of mark-making, letter forms and layout designs as reflective of cultural, social, political and psychological contexts of interpretation. This class also emphasizes 2-D principles of design, including form, structure, conceptual understanding, visual aesthetics, semiotics, organizational systems, relationships of typography and imagery. Lab fee.

### EDPX 4010 Emergent Digital Tools (4 Credits)

This course serves as a primer on the tools essential to expression, sharing, and creation in digital mediums. This includes knowledge of web technologies, creative coding, video, audio, and the basic historical and theoretical contexts of each. Lab fee.

### EDPX 4020 Emergent Digital Cultures (4 Credits)

This course familiarizes students with current crucial approaches to understanding digital media and the impacts these media have in personal, community, cultural, social, institutional and international life. The course pays particular attention to cultural constructions of emergent digital media and practices. This course introduces graduate students to a variety of disciplinary lenses and conceptual practices, with readings and research ranging from media theory and studies, philosophy of technology, media archaeology and history, to science fiction studies as approaches to digital media and cultures.

### EDPX 4100 Programming for Play (4 Credits)

This course offers an introduction to the creation of games and playful interactive objects. Students explore the space of socially conscious and humane games as well as investigate the creation of compelling interfaces and interactive opportunities. Cross listed with EDPX 3100. Prerequisites: EDPX 4000 and EDPX 4010, or permission of the instructor.

### EDPX 4110 Rapid Game Design and Prototypes (4 Credits)

This course is a rigorous investigation into games, rules, systems, interaction, and the iterative design methodology through the rapid creation of paper-based and physical game prototypes. The ambition is for each student to create one new game per week in response to varying material and conceptual constraints. Participants create and constructively critique games created by classmates. Participants are expected to become reflective in their play. Class time is devoted to play-testing and discussion. Lab fee. Cross listed with EDPX 3110.

### EDPX 4112 Rapid Physical Game Design & Prototyping (4 Credits)

This course is a rigorous investigation into games, rules, systems, interaction, collaboration, and the iterative design methodology through the rapid creation of large, human scale, "Big Games." The ambition is for students, working in changing collaborative groupings, to rapidly create games in response to varying material and conceptual constraints. Participants will both create and constructively critique games created by classmates. Participants are expected to become reflective in their play. Class time will be devoted to play-testing and discussion. Prerequisite: EDPX 4000. Lab fee.

### EDPX 4115 Game Design: Paper to Digital (4 Credits)

This rigorous game design and development course analytically considers formal game design elements through game design and simple 2D game creation exercises, game design text readings, the creation of paper-based game prototypes, digital game-mechanic prototypes, and the followed by the creation of a complete 2D digital game. Class time is devoted to reading discussions, design exercises, play-testing, and some workshopping time. Lab fee. Prerequisite: EDPX 4100 or permission of the instructor.

### EDPX 4120 Making Critical Games (4 Credits)

This course is a time intensive practicum offered once a year and may be available in Summer terms. Students are challenged to create games (board, physical, video-, and hybrid games) that respond to social conditions in a critical manner while still maintaining an essential ludic quality. Public Good and Civic Engagement projects are welcomed. The course may be repeated for credit with permission of the instructor and when projects vary. Lab fee. Prerequisites: EDPX 4100 and EDPX 4110 or permission of the instructor. Cross listed with EDPX 3120.

### EDPX 4130 Making Educational Games (4 Credits)

This course is a time intensive practicum offered once a year and may be available in summer terms. Students are challenged to create games (board, physical, video-, and hybrid games) that deliver K-12 educational content while still maintaining an essential ludic quality. Course may be repeated for credit with permission of the instructor and when projects vary. Lab fee. Prerequisites: EDPX 4100 and EDPX 4110 or EDPX 4115, or permission of the instructor.

### EDPX 4200 Data Visualization (4 Credits)

This course explores the creation of informational graphics for visual unpacking of relationships within and among data sets. Students learn to visualize large data sets as a means of revealing and exploring patterns of information. Creating interactive visualizations is also covered, allowing for deep and participatory engagement with information. The resulting mediums include print and web. Lab fee. Cross listed with EDPX 3200. Prerequisites: EDPX 4000 and EDPX 4010 or permission of the instructor.

**EDPX 4210 Typographic Landscapes (4 Credits)**

This class is a rigorous investigation of the expressive potential of typography as a crucial element of visual expression and electronic media. This class presumes no background in typography. Students are guided through project-based explorations that range from hand-rendered inter-letter spatial relationships to the typesetting of modest sets of pages for paper and e-books. Lab fee. Prerequisite: EDPX 4000 or permission of the instructor.

**EDPX 4250 Making Networks (4 Credits)**

This course provides students with the skills necessary to establish network presence across a range of platforms and technologies. Current web technologies and standards are covered but an emphasis is placed on identifying emerging platforms and developing innovative methodologies for critical engagement with emergent digital practices. Technologies studied may include content management and delivery systems, web APIs, big data, digital mapping platforms, data visualization, augmented reality and locative media. Prerequisite: EDPX 4010 or instructor permission. Lab fee. Crosslisted with EDPX 3250.

**EDPX 4270 Making Networked Art (4 Credits)**

In this course networked art is understood in the broadest sense from art that natively exists on digital networks to art that critiques and engages with the concept of the network in contemporary society. This course aims to develop a critical understanding of and response to the social, cultural, aesthetic and technical contexts of network culture, building on a deep understanding of contemporary and historical networked art practices. Students will engage with network architectures and platforms developing experimental approaches to user interface and interaction, deploying a range of digital materials from data to rich multimedia content to create work that produces new understandings of the role of the network in a post digital age. Prerequisite: EDPX 4250, or permission of the instructor. Lab fee. Crosslisted with EDPX 3270.

**EDPX 4310 Tangible Interactivity (4 Credits)**

Explores methods and devices for human-computer interaction beyond the mouse and keyboard. Students learn to create and hack electronic input and output devices and explore multi-touch augmented reality, and other forms of sensor-based technologies. Lab fee. Prerequisite: EDPX 4010 or permission of the instructor.

**EDPX 4320 Interactive Art (4 Credits)**

This course expands the concepts, aesthetics, and techniques critical to the exploration and authoring of interactive art. It explores human computer interactions; user/audience interface design/development; interactive logic, author-audience dialogue; meta-data/multimedia asset acquisition and authoring environments. While utilizing students' skills in numerous media forms, the class focuses on sensing, interactive scripting techniques, and emerging forms of digital narrative. Emphasis is on the development of interactive media deployment and distributions ranging from screen media to physical environments. Lab fee. Cross listed with EDPX 3320. Prerequisites EDPX 4310 or EDPX 4450.

**EDPX 4340 Designing Social Good (4 Credits)**

This course focuses on interdisciplinary approaches to artistic, scholarly and cultural methods for creating change in contemporary societal mindsets for a more sustainable and equitable future. Our objectives are to understand how current practices are reinforced and to then make experiences that encourage new ideas in the personal and global sphere. Lab fee. Cross listed with EDPX 3340. Prerequisites: EDPX 4000 and EDPX 4010.

**EDPX 4350 Sustainable Design (4 Credits)**

This course reviews and implements advanced sustainable design strategies as a praxis intersecting the domains of digital media design, dissemination, community organization and networking. The course builds upon the basic paradigms that have coalesced in the organizational and critical platforms of the sustainable design movement including ecology/environment, economy/employment, equity/equality and education/pedagogy/dissemination. The class reviews a wide spectrum of sustainable design strategies including: mapping of consumptive origin-thru-fate, green materials usage, creative commons, open source software/hardware movements, collaborative design, predictive complexity modeling, biomimicry, evolutionary design methods, and greening infrastructure, among others. Lab fee. Prerequisite: EDPX 4000 and EDPX 4010 or permission of the instructor.

**EDPX 4400 Video Art (4 Credits)**

This course continues the investigation of theories and practice of electronic media and expands into an exploration of video art, providing the basic principles of video technology and independent video production through a cooperative, hands-on approach utilizing various video formats. The course may be repeated for credit with permission of the instructor and when projects vary. Lab fee. Prerequisite: EDPX 4010 or permission of the instructor. Cross listed with EDPX 3400.

**EDPX 4410 Advanced Video Art (4 Credits)**

This course continues the investigation of theories and practices of electronic media and expands into an individual exploration of video art focusing on "off-screen" time-based media through conceptual and technological experimentation. Projects explore creating digital video for projection into spaces, onto buildings, and in the form of installations, to name a few formats. Projects are used as a platform for creative expression focusing on the critical skills necessary for the conception and completion of ideas. Lab fee. Prerequisite: EDPX 4400 or permission of instructor.

**EDPX 4430 2.5D Motion (4 Credits)**

This course provides students an opportunity to create multi-dimensionally active poetic orchestrations of text, video and audio using the post-production processing and animation tool, After Effects. Lab fee. Prerequisite: EDPX 4010. Cross listed with EDPX 3430.

**EDPX 4440 Site-Specific Installation (4 Credits)**

This class produces projects investigating physical space, virtual space and site-specific public installations. Lab fee. Cross listed with EDPX 3440. Prerequisites: EDPX 4000 and EDPX 4010.

**EDPX 4450 Visual Programming (4 Credits)**

This course introduces intuitive visual "programming" that allows rapid building of personalized tools for data, video, image, and sound manipulation. These tools can be used in real-time editing or performance, complex effects processing, or to bridge between multiple pieces of software. Lab fee. Cross listed with EDPX 3450. Prerequisite: EDPX 4010 or permission of the instructor.

**EDPX 4460 Visual Programming II (4 Credits)**

This class uses advanced visual programming concepts (as provided by Max/MSP and Jitter) to explore visualization and sonification techniques in an artistic context. Areas of exploration include OpenGL modeling and animation, virtual physics emulation, audio synthesis techniques, and external data manipulation. Students use these concepts to create art installation and performance projects. Lab fee. Cross listed with EDPX 3460. Prerequisite: EDPX 4450.

**EDPX 4490 Expanded Cinema (4 Credits)**

This course introduces several forms of expanded cinema, such as video remixes and mashups; live cinema and audiovisual performance; VJing; sonic visualization; visual music; and ambient video. The class extends the student's multitrack video and audio mixing skills to an emphasis on both performance and generative approaches to audiovisual media. It introduces software and hardware sets including VJ tools and visual programming for generating as well as manipulating video files and real-time source streams. Lab fee. Cross listed with EDPX 3490. Prerequisite: EDPX 4010 or permission of the instructor.

**EDPX 4500 Sonic Arts (4 Credits)**

This class introduces the tools and techniques of the sonic arts, including field recording; sampling and synthesis; sound editing and effects processing; and mixing. Students survey a variety of sonic arts, historical and contemporary, to understand techniques and strategies for developing and distributing sonic artifacts. Lab fee. Cross listed with EDPX 3500. Prerequisite: EDPX 4010 or permission of the instructor.

**EDPX 4510 Sonic Arts II (4 Credits)**

This class extends and applies the techniques and theories of the sonic arts to include loop-based composition, generative creation and modular processing. Students learn to add richness and complexity to audio work based on a combination of modern and classic techniques for audio production and the sonic arts. Class assignments include creation of audio for video and games, live performance and installations. Lab fee. Prerequisite: EDPX 4500 or permission of the instructor.

**EDPX 4520 Voice and Sonic Environments (4 Credits)**

This course covers environmental sound design with an emphasis on the human voice and acoustic ecologies. Studying and exploring a range of documentary, narrative and experimental approaches to sound design and the spoken word, students write and produce several short audio pieces. The final consists of a podcast, voice-oriented performance and/or sonic installation. Lab fee. Prerequisite: EDPX 4500 or permission of the instructor. Cross listed with EDPX 3520.

**EDPX 4600 3D Modeling (4 Credits)**

This course serves as an introduction to 3D modeling, texturing, and lighting on the computer. Students complete a series of projects in which the processes of preparing and producing a 3D piece are explored. Various strategies and techniques for creating detailed models to be used in animation and games are examined. Additional attention is spent on virtual camera techniques as well as the use of compositing in creating final pieces. Current trends in the field are addressed through the analysis and discussion of current and historical examples. Lab fee. Cross listed with EDPX 3600, MFJS 3600. Prerequisite: EDPX 4000 or permission of the instructor.

**EDPX 4610 3D Animation (4 Credits)**

This course examines animation within virtual 3D environments. Starting with basic concepts, the course develops timing and spacing principles in animation to support good mechanics. They also serve as the basis for the more advanced principles in character animation as the class progresses. Lab fee. Cross listed with EDPX 3610. Prerequisite: EDPX 4600.

**EDPX 4620 3D Spaces (4 Credits)**

An exploration of 3D digital space and the possibilities found in games, narratives and visualizations in these spaces. A real-time engine is used by students to examine the opportunities of virtual 3D worlds. Lab fee. Prerequisites: EDPX 4010 and EDPX 4600, or permission of the instructor.

**EDPX 4700 Topics in Digital Cultures (4 Credits)**

This course provides an in-depth exploration of the emergent digital practices of a particular culture and unique area of advanced study (for example, art and science studies; activism; youth culture; critical game studies; the philosophy of technology; or social networking). Students learn the social/historical context of the particular culture and observe and document the interplay between cultural practices and particular technologies. Prerequisite: varies with topic.

**EDPX 4701 Topics in Emergent Digital Practices (1-4 Credits)**

Topics in Emergent Digital Practices.

**EDPX 4725 Activist Media (4 Credits)**

Today's alternative cultures use Internet and mobile technologies to access and circulate mainstream information, but also to rapidly exchange information that exists outside mainstream media channels. Activist movements today with access to digital tools and networks are no longer dependent on newspapers and broadcast networks to represent them and to disseminate their messages. We are, however, just beginning to see how the proliferation of alternative networks of communication, and the content, practices, and identities they facilitate, interact with traditional political and business organizations, as well as with traditional media products and practices. This course focuses on media activism over the past half-century tied to various social movements with an emphasis on contemporary protest movements and their use of new and old media tools and strategies. Cross listed with EDPX 3725, MFJS 3150.

**EDPX 4730 21st Century Digital Art (4 Credits)**

An exploration of Digital Art and surrounding culture from the last 15 years. Topics will include machinima, demoscenes, MMO performances, interactive installations, VR, animation, video shorts, and much more. Students will actively search for, share and critically review much of the creative work for the class.

**EDPX 4740 Performance Cultures (4 Credits)**

This course explores the history and current state of technology and performance. Topics covered include expanded cinema, live cinema, VJing, performance art, and the intersections of audiovisual media and technologies with dance, theater, and more. This course incorporates reading and discussion of critical texts and documentation of theory, process and practices, and the class includes screening and discussion of examples of both historical and emerging forms of media-enriched performance. Students produce written media on a variety of performance-related issues, artifacts, and practitioners, culminating in a written document or interactive publication. Lab Fee. Prerequisites: EDPX 4010 and EDPX 4020, or permission of the instructor.

**EDPX 4750 Sound Cultures (4 Credits)**

This course explores some of the cultures of artists, producers, and listeners that have formed around sound technologies. The class combines reading of critical texts and guided listening to study several genres of music, sound art and noise, ranging from post-WWII electronic music, field recordings and sound art, to hip-hop, dub, techno, jam bands, and more. Interdisciplinary in critical approach, this class encourages students to listen to these sonic forms as intersections of technological, social, ideological and imaginative forces. Students produce written media on a variety of sound-related issues, artifacts, and practitioners, culminating in a podcast or interactive publication. Lab fee. Cross listed with EDPX 3750.

Prerequisites: EDPX 4010 and EDPX 4020.

**EDPX 4770 Cybercultures (4 Credits)**

This course encompasses a variety of lenses through which to view, evaluate and critique ideas of 'community' and communities in cyberspace (cyber culture). The course covers such issues as: identity and race in cyberspace (including 'identity and racial tourism'); communication technologies and social control; digital censorship; and utopian and dystopian representations of digital technology. The course also engages with social theories involving issues of technological determinism and the popular representation of technology. It explores the views of a diverse set of critics to ask whether digital things are 'good' for you and your communities. Cross listed with EDPX 3770. Prerequisite: EDPX 4020.

**EDPX 4780 Speculative Cultures (4 Credits)**

This course explores the intersections of emergent digital practices and cultures with the extrapolative thought experiments, technical speculations, and social criticisms of science fiction. Students read, discuss, write and otherwise respond to primary texts by the likes of William Gibson, Bruce Sterling, Cory Doctorow, Philip K. Dick, and Hiroshi Yamamoto. Science fiction studies may also include sub-genres (steampunk, hard science fiction, ecological) and regional categories (Japanese sci-fi), as well as consider science fiction in other media formats (sound recordings, film, games). Students produce written materials in a variety of formats, culminating in a formal essay or interactive publication. Cross listed with EDPX 4780. Prerequisite: EDPX 4020 or permission of the instructor.

**EDPX 4800 Topics in Digital Making (4 Credits)**

This course provides an in-depth exploration of the emergent digital practices of a technology or method for making (for example, wearables; interactive projections; augmented reality; immersive multi-channel soundscapes). Students learn the social/historical context of the particular method and consider the role and function their creations serve when it becomes public. Lab Fee. Prerequisite: varies with topic.

**EDPX 4980 Internship (0-8 Credits)**

Instructor approval required.

**EDPX 4991 Independent Study (1-8 Credits)**

Independent Study form required.

**EDPX 4992 Directed Study (1-4 Credits)**

Independent study form required.

**EDPX 4995 Independent Research (1-10 Credits)**

**EDPX 5000 Graduate Seminar (4 Credits)**

Topics vary. Reading and discussion of critical theory. May include project(s) related to the topic. Course may be repeated up to six times.

**EDPX 5100 Graduate Critique (4 Credits)**

The course focuses on student's creative production. Critiques are moderated by a different faculty member each quarter. Conceptual, methodological and theoretical concerns are stressed. Critiques are designed to assist in the experimentation, preparation and construction of individual art projects. Time is also spent on preparing students for a professional practice in the Arts. Course may be repeated up to six times.

**EDPX 5700 Research & Theoretical Methods (4 Credits)**

This course provides graduate students with the strategies and techniques of research in the area of digital media studies.

**EDPX 5800 M.A. Thesis (4-8 Credits)**

Independent work toward completion of the MA Thesis. May only be taken with the permission of the Graduate Director. May be taken for up to 8 credit hours.

**EDPX 5850 M.A. Project (1-4 Credits)**

Independent work toward completion of the MA Project. May only be taken with the permission of the Graduate Director. May be taken for up to 8 credit hours.

**EDPX 5900 MFA Exhibition (1-6 Credits)**

Independent work toward completion of the MFA Thesis Exhibition. May only be taken with the permission of the Graduate Director. May be taken for up to 12 credit hours.