

# EMERGENT DIGITAL PRACTICES (EDPX)

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

In Making Networked Art, students will develop technical skills for creating interactive works that live online. 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 work with HTML, CSS, and JavaScript to develop 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 4010, 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 4330 Advanced Coding (4 Credits)**

This course is focused on text-based creative coding for multiple purposes. Specific applications change each quarter and can include mobile apps, computer vision, machine learning, generative art, programming reactive spaces, web animation, and other emerging ideas, all driven by creative coding. Prerequisite: EDPX 4010.

**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 4370 Biomedica in Emergent Digital Practices (4 Credits)**

The graduate section of Biomedica is an EDP advanced art-science course that will survey and investigate the interplay between new media, biological systems/ technologies and bioethics as they relate to creative inquiry at the juncture of life sciences, digital media and contemporary technoculture. The course will build upon the basic paradigms and platforms of biosemiotics and biomimetics to expand into a coverage of our framing of corporeality, biological/environmental sensibilities and our perceptions and interconnections with biomaterials and lifeforms that we exist thru and within. Course topics will adapt to significant developments in biological sciences, emergent media and bioethics. The course can be repeated for credit with offering of new course topics. EDPX 4370 Graduate students will lead collaborative group projects. Additional graduate assignments will undertake individual biomedica research projects for adding experimental depth to course topics i.e. development of creative tools for transcoding, modeling or bioethics critique. Tools will be demonstrated and made usable in group projects. Cross Listed with EDPX 3370.

**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 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 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 4710 Critical Game Studies (4 Credits)**

This course is a critical investigation of contemporary ludic cultures. Ludic cultures are environments and practice of play. This course is taught with a hybrid teaching model where games are treated as texts, and outcomes are in the form of discussion and synthetic media responses. We construct and play a hyper-local canon of games, both in and outside of class. We read from the growing body of literature in game studies. We reflect and respond to these texts through shareable media. This course partially satisfies a cultures requirement for emergent digital practices majors and minors. Lab fee.

**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 the sonic turn of emergence in contemporary digital culture. New sound technologies and practices, along with the development of interdisciplinary sound studies, have made avant-garde composition, sound art, film soundtracks, electronic music, turntablism, jazz, and alternative as well as popular musical forms equally essential zones in which we attune to changing technocultural conditions. To situate the course's emphasis on contemporary sonic experience and auditory ways of being in the world, an historical portion of the class establishes the ways in which new sound cultures have appeared since WWII to transform how musicians, artists, scholars, and listeners experience and understand sound. The class facilitates experiences ranging from the pole of auditory realism to that of sonic speculation and futurism. Students will develop a sonic literacy that includes: listening as a creative act; understanding how to work with diverse sonic materials; and appreciating the critical voice as a creative and cultural imperative. Prerequisites: EDPX 4010 and 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 Science Fiction: Digital Culture (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 3780. Prerequisite: EDPX 4020 or permission of the instructor.

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

This course provides an in-depth explorations 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 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 (1-12 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.