INTERACTIVE MEDIA ARTS (INTM-SHU)

INTM-SHU 101 Interaction Lab (4 Credits)
Typically offered Fall and Spring
In this foundation course students will be asked to think beyond the conventional forms of human computer interaction (i.e. the keyboard and mouse) to develop interfaces that consider the entire human body, the body's capacity for gesture, as well as the relationship between the body and its environment. Students will learn the fundamentals of electronics and programming as they build projects using the Arduino microcontroller platform. Arduino is a small computer based on open source hardware and software. When used in conjunction with various sensors and actuators, Arduino is capable of gathering information about and acting upon the physical world. In addition to these physical computing techniques, students will also learn to harness the methods of traditional computation. The fundamentals of programming will be explored using the Processing programming language. Processing has a simplified syntax and an approachable computer graphics programming model, making it an ideal platform for first-time programmers. Students will gain a deeper appreciation of the expressive possibilities of computation as they learn to author their own software and systems and not simply use off-the-shelf solutions. Additional topics will include algorithmic drawing and animation techniques, digital modeling and fabrication, data exchange, manipulation, and presentation, as well as control of images, audio and video, including computer vision techniques. Structured weekly exercises are aimed at building specific skills, however students are free to pursue their own diverse interests in their midterm and final projects. Prerequisite: None. Fulfillment: CORE AT; IMA Major Other Foundation; IMB Major Emerging Media Foundation.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr. NYU Shanghai: Algorithmic Thinking
  • SB Crse Attr. NYU Shanghai: IMA Foundations
  • SB Crse Attr. NYU Shanghai: IMB Emerging Media Foundation Course

INTM-SHU 103 Creative Coding Lab (4 Credits)
Typically offered Fall and Spring
In this foundation course students explore the fundamentals of computer programming and web development through a series of creative projects. The course aims to equip students with the skills to develop web-based applications that use the JavaScript language and the p5.js environment and include a significant computational component. Fundamental concepts, such as variables, functions, control flow, arrays, loops and object-oriented programming, are applied to create generative visuals, interactive experiences, and internet art projects. This course is intended for students with no prior programming experience. Prerequisite: None. Fulfillment: CORE AT; IMA Major Other Foundation; IMB Major Emerging Media Foundation.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr. NYU Shanghai: Algorithmic Thinking
  • SB Crse Attr. NYU Shanghai: IMA Foundations
  • SB Crse Attr. NYU Shanghai: IMB Emerging Media Foundation Course

INTM-SHU 110 Application Lab (4 Credits)
Application Lab is an intensive project-driven course where students explore current challenges and opportunities at the intersections of emerging media and innovation through the lenses of design, prototyping and innovation. The course seeks to help students understand how these high-level concepts intersect with skills to form the basis for new applications of technology and human industrial art. At the end of this course, students will be able to think critically and holistically about not only what makes innovations possible but will also how to utilize emerging media technologies and ideas to bring innovations into the world that respect and acknowledge the values of design, iteration and innovation. Prerequisite: None.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No

INTM-SHU 120 Communications Lab (4 Credits)
Typically offered Fall and Spring
In this foundation course students will explore the possibilities of emerging media by successively producing projects that make use of digital images, graphics, audio, and video. The course is designed to provide students with a framework to effectively communicate and tell stories through digital means. Students learn through hands-on experimentation in a laboratory context and the principles of interpersonal communication, media theory, and human factors will be introduced in readings and investigated through discussion. Adobe Creative Cloud and other relevant software applications will be examined to establish a diverse digital toolkit. Both traditional and experimental outputs will be explored. Weekly assignments, group and independent projects, as well as documentation of projects will be assigned in each of the core areas of study. Prerequisite: None. Fulfillment: IMA Major Other Foundation; IMB Major Emerging Media Foundation.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr. NYU Shanghai: IMA Foundations
  • SB Crse Attr. NYU Shanghai: IMB Emerging Media Foundation Course

INTM-SHU 124 Emerging Technologies & Computational Arts (4 Credits)
Typically offered Fall
Emerging technologies, such as artificial intelligence, blockchain, and immersive media, are rapidly changing the creative industries and society as a whole. Through discussions, debates, critical reflection, research, and hands-on practice, this course will allow students to fully comprehend these emerging technologies. This course will also introduce contemporary methods and approaches, both in theory and practice, on how they can be leveraged to create innovative works within the area of computational arts. Prerequisite: None. Fulfillment: CORE STS; IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr. NYU Shanghai: IMA Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective
  • SB Crse Attr. NYU Shanghai: Science, Technology and Society

INTM-SHU 125 Digital Arts and New Media (4 Credits)
Typically offered occasionally
This course investigates digital art and new media from creative, theoretical, and historical perspectives. We will examine the paradigm shift resulting from the rise of digital art and its expansion as well as explore current ideas, creative strategies, and issues surrounding digital media. The topics of study will include digital image, digital sound, net art, systems, robotics, telematics, data art, and virtual/augmented reality. The course provides students with the means to understand what digital media is, and establish their own vision of what it can become, from both a practical and a theoretical perspective. The course consists of lectures, field trips, and small studio-based practices. Prerequisite: None. Fulfillment: IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
- SB Crse Attr: NYU Shanghai: IMA Elective
- SB Crse Attr: NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 126 Introduction to 3D (2 Credits)
This is a course designed to convey the fundamental concepts and essential skills needed to create 3D graphics using the open-source software Blender. Topics covered in this course include: Blender interface and navigation; basic modeling techniques and related mathematics; physically-based rendering (PBR) workflow, shading and materials in Blender; lighting and environment setup; camera positioning and framing; principles of animation, keyframes and curves; rendering and output. By the end of the course, students will have a solid foundation in 3D modeling, shading, lighting, rendering, and animation, and will be able to create their own 3D graphics with Blender. This course is suitable for beginners with no prior experience in 3D graphics or Blender. However, some experience in video editing or graphic design may help. Prerequisite: None. Fulfillment: IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
- SB Crse Attr: NYU Shanghai: IMA Elective
- SB Crse Attr: NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 129 Industrial Design in Action (4 Credits)
Typically offered Spring term of odd numbered years
Industrial Design in Action is a course that will help you bridge the gap between your ideas and their physical form. From initial research to conception, you will apply different design methodologies that lead to innovative ideas. You will acquire a fundamental understanding of form, function, and design language, all while harnessing the art of sketching and visual storytelling to effectively convey your creative vision. In addition, you will become familiar with Computer-Aided Design (CAD) software, explore a wide range of materials, and experiment with a myriad of fabrication techniques, from basic hand tools to advanced digital fabrication. You will learn to use the right tool for the job. Altogether, these skills will enable you to transform a concept into a polished prototype. Prerequisite: None. Fulfillment: IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
- SB Crse Attr: NYU Shanghai: IMA Elective
- SB Crse Attr: NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 129T Digital Design and Fabrication (4 Credits)
Typically offered Fall of odd numbered years
Digital Design and Fabrication is a course about bridging the gap between your ideas and their physical form. You will become familiar with digital modeling softwares as well as with IMA's fabrication lab equipment, from basic hand tools to advanced digital fabrication technology. You will learn to use the right tool for the job. Pre-req: None. Fulfillment: IMA elective; IMB IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
- SB Crse Attr: NYU Shanghai: IMA Elective
- SB Crse Attr: NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 130 Working with Electrons (4 Credits)
This class focuses on the curiosity behind the greatest discovery of electromagnetism. By replicating experiments both with magnetic and electrical fields, we will explore the major breakthroughs that enabled us to power up devices, connect people, and store information. During the course we will have seminar discussions analyzing texts that contextualize the lab experiments and we will work toward conclusions on the implications of these discoveries. We will analyze different perspectives that led to the development of theories about the electromagnetic field, radio waves transmissions, and the quantum properties of electrons. Students will propose their own creative experiments, linking their personal interests with how electrons behave. As part of their final project report, they will submit an essay describing the technical methodology, critical framework, and the results of their experiment. Throughout the course they will acquire a working knowledge of components like capacitors, lasers, antennae, and circuit prototyping tools. Prerequisites: None Fulfillment: CORE ED; IMA elective; IMB IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
   • SB Crse Attr. NYU Shanghai: Experimental Discovery in the Natural World
   • SB Crse Attr. NYU Shanghai: IMA Elective
   • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 132 Kinetic Light (4 Credits)
Typically offered Spring term of odd numbered years
The practice of using light and motion as artistic media traces its roots back to the architectural design of spiritual structures in ancient cultures and the use of fire and shadow in religious ceremonies. However, not until the invention of electricity, the incandescent bulb, and electric motors did light and motion really become artistic media themselves. The current availability of cheap and abundant sources of motion and light have opened up new possibilities for the creation of sculptural objects which compose structures in light and movement. Drawing upon the combined histories of lumia, kinetic sculpture, and op art, we will be investigating the historical and current developments of kinetic art and light art. Students will create kinetic light sculptures of their own design, building upon and expanding their knowledge of digital fabrication, physical computing, and generative software systems. They will learn how to compose in color, light, rhythm, movement, and space and how to install and present their work in a public setting. Prerequisite: INTM-SHU 101 Interaction Lab. Fulfillment: IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
   • SB Crse Attr. NYU Shanghai: IMA Elective
   • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 134 Movement Practices and Computing (4 Credits)
People use their bodies in the workplace whether they are dancers or athletes, managers or engineers. Physical wellbeing, social teamwork, and cognition may be affected by our movement practices. How do people use physicality and motion to think? What is the interaction between body, motion, place, and goals? We will explore these questions by building physical-computing-based systems that encourage us to bring movement into new times and places in daily life, that coach users and develop learning environments for movement practices, and that test our understanding of ways that we "think with the body". In this course we will bring practices such as fitness, dance, sports, and martial arts into a series of interactive installations, movement learning projects, and workspace modifications built on computing, sensing and actuator technologies. In this course we will also explore these questions through review of existing creative projects in this area, readings, presentations, and knowledge-sharing sessions. Prerequisite:None. Fulfillment: IMA elective; IMB IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
   • SB Crse Attr. NYU Shanghai: IMA Elective
   • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 138 Responsive Environments: Designing Interactive, Sentient, and Intelligent Spaces (4 Credits)
Typically offered occasionally
In this course, students focus on the study and development of responsive environments, framed within a contextual and critical exploration of the architectural space as a cultural, social and technological phenomenon, and also on the application of practical scenarios for interaction, sentience, and intelligence. Through the making of creative media designs and physical prototypes, students aim to demonstrate how our habitats/spaces/architectures can facilitate novel frameworks for experiencing and living. Prereq for INTM-SHU 138 is Creative Coding Lab OR Interaction Lab OR Application Lab OR Media Architecture Fulfillment: IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
   • SB Crse Attr. NYU Shanghai: IMA Elective
   • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 138T Extended Perception (4 Credits)
Typically offered occasionally
Utilizing technological and scientific research / case studies / artifacts, this class introduces students to the topic of enhanced / extended perception and how technological augmentation allow us to sense and perceive alternative layers of our surrounding world, reconfiguring our understanding of what reality really is. Students will be asked to develop their own prototypes that demonstrate a conceptual or functional outcome on how perception can be extended, enhanced, or even hacked. prereq for INTM-SHU 138T is Interaction Lab, Communications Lab, Creative Coding Lab, Application Lab, Media Architecture Fulfillment: IMA elective; IMB IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr: NYU Shanghai: IMA Elective
  • SB Crse Attr: NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 140T-A Open Project Salon (2 Credits)
This course offers students the opportunity to develop a self-initiated project with close mentorship from a faculty member. Projects undertaken can span the areas of conceptual research, business development, creative practice, and media production. The course includes structured weekly workshop and critique times with peers and special guests. It is expected that students will embrace open-source and open-content ideals in their work, be invested in the work of their peers by providing feedback, and consider the feedback they receive during critique. In addition to weekly meeting times, students are expected to also participate in regular one-on-one meetings with faculty, peers, and guests. A formal project proposal, weekly assessments and documentation, a final project presentation, and participation in the IMA End of Semester show are all required. Although students are encouraged to continue work they may have initiated in a prior class, they may not combine or in any way double count work from this class in another class taken in the same semester. Group work is allowed assuming all group members are enrolled in this class. Students may take this course in the first 7 weeks for 2 credits or take INTM-SHU 140T-B in the second 7 week or take both of them across 14 weeks for 4 credits. It is open to anyone in any major assuming they have satisfied the prerequisites. Prerequisites: None Fulfillment: IMA elective; IMB IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr: NYU Shanghai: IMA Elective
  • SB Crse Attr: NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 140T-B Open Project Salon (2 Credits)
This course offers students the opportunity to develop a self-initiated project with close mentorship from a faculty member. Projects undertaken can span the areas of conceptual research, business development, creative practice, and media production. The course includes structured weekly workshop and critique times with peers and special guests. It is expected that students will embrace open-source and open-content ideals in their work, be invested in the work of their peers by providing feedback, and consider the feedback they receive during critique. In addition to weekly meeting times, students are expected to also participate in regular one-on-one meetings with faculty, peers, and guests. A formal project proposal, weekly assessments and documentation, a final project presentation, and participation in the IMA End of Semester show are all required. Although students are encouraged to continue work they may have initiated in a prior class, they may not combine or in any way double count work from this class in another class taken in the same semester. Group work is allowed assuming all group members are enrolled in this class. Students may take INTM-SHU 140T-A in the first 7 weeks for 2 credits or take this course in the second 7 week or take both of them across 14 weeks for 4 credits. It is open to anyone in any major assuming they have satisfied the prerequisites. Prerequisites: None Fulfillment: IMA elective; IMB IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr: NYU Shanghai: IMA Elective
  • SB Crse Attr: NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 141 Art and the Anthropocene: Material-Based Activism (4 Credits)
Typically offered Fall of even numbered years
This course will focus on Eco-Materialism (circular design principles -- reuse, recycle, renew & rethink) and emergent practices based on principles of Gaia theory, symbiosis, and other systems-centered theories in conjunction with some of the origins, influences, theories, processes, and manifestations of art installation. We will read, watch, and discuss perspectives on Eco-Materialism genres and installation art written/created by artists, curators, art historians, and critics and view work by eco artists and installation artists. Students will create their own installations and writing, experiment with diverse biomaterials, and learn and combine craftsmanship and digital techniques to explore and create their own materials. Do-It-Yourself activism and Critical-Making will enable students to participate in new modes of civic engagement. Moreover, the course will motivate them to remain independent from pre-determined structures, assuming active roles in the art making rather than passive consumers. Prerequisite: None. Fulfillment: IMA elective; IMB major IMA/IMB elective, Visual Arts elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr: NYU Shanghai: IMA Elective
  • SB Crse Attr: NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 142 Writing with AI: Philosophy and Practice (2 Credits)
Typically offered Spring
In this class, we will use AI as a writing and editing tool and study the history and philosophy of augmented and automated writing. Through a combination of lectures and hands-on workshops, we will explore the theoretical aspects of AI and writing with case studies and examples, as well as experiment with different AI tools and techniques. Prerequisite: None. Fulfillment: IMA elective; IMB IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
- SB Crse Attr. NYU Shanghai: IMA Elective
- SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 150 Storytelling in Mixed Reality (4 Credits)
Students will explore and build experiences that communicate stories through a combination of art and accessible augmented reality technologies. Topics include the history of storytelling through mediums and modes and technologies of expression, development and design for mixed reality devices, reality reconstruction techniques, applications of computer vision, volumetric video production, motion capture and spatial audio. Prerequisite: None. Fulfillment: IMA elective; IMB IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
- SB Crse Attr. NYU Shanghai: IMA Elective
- SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 151 Learning with Turtles (4 Credits)
Typically offered occasionally
Learning with Turtles explores programming languages, systems, and activities designed to help learners in computational environments. Starting from a constructionist principle that systems designed for beginners must be able to embody the most powerful ideas in computing, we master some of those systems, explore how those have been designed, and engage in contemporary debates. The environments we learn with include Turtle Geometry, Craft Computing withTextiles, Modelling, and other interactive projects using programming and modelling systems such as Snap!, TurtleArt, Turtlestitch and NetLogo. Individual and group projects involve students in advancing their computational knowledge and skills and provide opportunities to design for others, to teach, to study learning and expertise, and present projects in community and public forums. The course is fundamentally about ideas, and how some powerful ideas from computation can empower a learner to be a better creator and problem solver. Writing, presentations, and discussions will emphasize reflection on our own learning within the course. Prerequisite: None. Fulfillment: IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
- SB Crse Attr. NYU Shanghai: IMA Elective
- SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 152T Woodworking for Art and Design (4 Credits)
Typically offered occasionally
Learn woodworking as a form of expression. Wood can be used to create both practical and artistic projects, from sculpture to furniture to musical instruments. Students will use the IMA woodshop to learn hand tools and machine tools and woodworking techniques. They will learn to safely operate woodshop tools. They will learn about wood: its structure, its properties, its use as a material and as a medium. We will learn about tone woods, sound, and music. Projects will include the design and fabrication of practical and artistic woodworking artifacts, and will include a major project in an area that is selected by the student. Woodworking sits at the intersection of design, engineering, and performance of a specific set of motion practices. During the course, we will reflect on the woodworking process, and relate it to other practices such as software design and construction. Prereq: None Fulfillment: IMA elective; IMB IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
- SB Crse Attr. NYU Shanghai: IMA Elective
- SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 166 The Media World of Animation: History and Theory (4 Credits)
Typically offered Fall of odd numbered years
This course adopts both theoretical and historical perspectives through which we collectively look at how the art and technology of animation change the way we experience space-time, motion, and life. The course focuses mainly on the animation products and industries in the U.S and Japan, but students will also be exposed to various works from Europe and China. It is the aim of the course to provide students conceptual tools to explore the prismatic existence of animation and its historical, aesthetic, technological, and philosophical dimensions. Prerequisite: None. Fulfillment: IMA major elective; IMB Major IMA/IMB Elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
- SB Crse Attr. NYU Shanghai: IMA Elective
- SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 185 Interactive Fashion (4 Credits)
Typically offered Fall
In this course, students will research and work with soft electronics and robotics. They will integrate them into textiles to make it possible to add controlled behavior and interactivity with their immediate environment. They will study nature and design wearables, understanding them like a second skin and a soft interface that is able to gather information and transform itself. Students will also explore the complex geometries and designs allowed by digital design and manufacturing. This course will engage with both theory and practice, and introduce students to a specific design sensibility and methodology to design wearables reflecting on religious, social, and political issues. Prerequisite: INTM-SHU 101 Interaction Lab. Fulfillment: IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
- SB Crse Attr. NYU Shanghai: IMA Elective
- SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 187T E-textiles (2 Credits)
Typically offered every year
Electronic Textiles spans the worlds of craft, electronics, and computing. We will build skills in the often surprising world of using soft, stretchy or low tech materials where one might have expected hard, dimensionally stable, or high tech materials and vice versa. Weekly projects will have requirements for craftsmanship and design, and will build skills in integrating electronics and computing with soft items and wearables, making sensors and displays, tailoring and costuming, and creating your own materials. You will gain familiarity with materials and with hand and machine crafting skills. Weekly readings for discussion will be required, and presentations and guest speakers will offer you ideas and critical challenges. Pre-req: None. Fulfillment: IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
- SB Crse Attr. NYU Shanghai: IMA Elective
- SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 194 Global Media Cultures (4 Credits)
Typically offered every year
Since the 1990s, theories of globalization have emphasized two main processes. One is the continuous time-space compression that is now felt in every aspect of human life; the other is the rapid movement and circulation of media, commodities, humans and capital. These previous works raise key questions for media studies: What are the roles of media in various global formations? Where and how do we encounter globalization/global media? This course will examine these questions with the following focuses: The entangled relation with the national, the regional and the local in the mediated imagination of the global; The ways media industries adapt to challenges of the global conditions; how global media practices enact and create different social desires (of mobility) and senses of belonging. Students will create both critical writing and video essays related to their observations of global media. Prerequisite: sophomore standing Fulfillment: IMA elective; IMB major IMA/IMB elective; Humanities Advanced Course/ Humanities Advanced Interdisciplinary Course.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
- SB Crse Attr. NYU Shanghai: Humanities Advanced Course-Interdisciplinary Crse
- SB Crse Attr. NYU Shanghai: Humanities Other Advanced Course
- SB Crse Attr. NYU Shanghai: IMA Elective
- SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 195 After Us: Post-human Media (4 Credits)
Typically offered Spring
What is the place of human creativity, agency and intelligence in complex technical networks? This class aims to build a foundation for studying how automation, artificial intelligence, robotics, digital image production, predictive software, and eco-technologies signal the ascent of a posthuman society. It provides a selection of texts and case studies that introduce basic philosophical and sociological questions about posthuman technologies and support creators, writers and thinkers in conceptualizing the posthuman nature of new media. The class is a combination of lectures and writing workshops. Prerequisite: None. Fulfillment: CORE STS; IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
- SB Crse Attr. NYU Shanghai: IMA Elective
- SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective
- SB Crse Attr. NYU Shanghai: Science, Technology and Society

INTM-SHU 200 Topics in IMA: (4 Credits)
Typically offered Fall and Spring
Topics in Interactive Media Arts courses are courses within the broader field of emerging media, covering a wide range of topics depending on the expertise of the current course instructor. This course will cover a specific emerging media topic from a practical and/or theoretical perspective. Students will learn about the topic from readings, discussions, and writings, as well as through hands-on assignments and projects. Students can enroll in multiple "Topics in IMA" courses simultaneously in one semester and receive full credits for each course. Prerequisite: None. Fulfillment: IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: Yes
  • SB Crse Attr. NYU Shanghai: IMA Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 201 Expanded Web (4 Credits)
Typically offered Spring
This course draws from net art, physical computing, and post-digital / post-internet practices to explore interactions that bridge screen and the physical. Students are led to conceptualize and develop custom interfaces (in the widest sense), in which either aspects of the web "seep out" into the physical world, or – conversely – websites are being engaged with in novel ways that acknowledge the user's physical and bodily existence. A reflection of the medium web, its vernacular, and practical daily use is the starting point of this project. The students' work is additionally being informed by analysis of select examples from art and design, exemplary for ways of re-framing the technical everyday. This course will make use of web technologies (p5.js, Node.js), and physical computing techniques – and introduce students to various ways those can be technically, and conceptually, combined. Students must have previous creative coding experience (ideally using p5.js). Prerequisite: None. Fulfillment: IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr. NYU Shanghai: IMA Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 202 Media Architecture (4 Credits)
Architecture has always been considered as an immediate extension of the human civilization, and its connection with state-of-the-art technologies has always been essential. In our current highly mediated and augmented environments, architecture shifts from static, solid, and predefined, to a fluid, interactive, and ever-changing. Computational, interactive, and media technologies challenge our understanding of what architecture is, redefining our engagement with exterior and interior spaces. The course investigates the area of media architecture from a contextual and critical perspective, examining and implementing in theoretical and practical scenarios current emerging trends. Students are expected to develop a comprehensive understanding of media architecture, to thoroughly investigate its media-scape (including motivations, social implications, technological requirements), and to develop installation work that utilizes contemporary media development practices and demonstrates artistic, technological, and scientific rigor. Prerequisite: None. Fulfillment: IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr. NYU Shanghai: IMA Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 203T Intro to Movement Practices (2 Credits)
Typically offered every year
In this course we combine both analytic and embodied learning about human movement practices. We will learn selected computational and physical movement sensing techniques (webcam-based, wearable-based, and commercial motion capture technologies). We will combine guest and student-led presentations and activities that involve us in movement while learning structures and history of selected movement practices such as dance and circus arts. We will do four sprint projects of approximately one week in length (each semester projects differ, but may include examples such as PoseNet/MoveNet, Creating a Fitness Tracker, Rhythm Game, Non-humanoid MoCap avatars), alternating with work on a class choreographic project and individual research and writing of a paper on a movement practice. Prerequisite: None. Fulfillment: IMA elective; IMB IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr. NYU Shanghai: IMA Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 204 Critical Data and Visualization (4 Credits)
Data is at the heart of the increasing role technology has in our lives. Data collection and algorithmic processing are not only central to recent technical breakthroughs such as in AI and automation but have created new economic paradigms where data equals value and shape political approaches to power and control. Decisions based on algorithms affect society at large whether it's changing the way we transport and distribute goods, or influencing the things we buy, the news we read or even the people we date. The world that algorithms see is data. For the average person, however, data is seldom more than an abstract idea. So what exactly is data? How is value extracted from it? And why should we care? How can we ethically balance the positive uses of data-driven systems with the threats they pose to discriminate and infringe basic human rights? This class seeks to untangle some of these issues practically and theoretically. Prerequisite: Creative Coding Lab. Fulfillment: CORE AT; IMA elective; IMB IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr. NYU Shanghai: Algorithmic Thinking
  • SB Crse Attr. NYU Shanghai: IMA Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 205 What is New Media? (4 Credits)
Typically offered Fall and Spring
This course will explore the fundamentals of new media scholarship. Together, we will review and engage with different theories of emerging media in its social, cultural, political, and historical contexts. Students will be able to research, think and write critically about some of the central debates in media studies, including new media forms and aesthetics, issues of gender, race, and labor, platforms, infrastructure and various emerging paradigms. Classes consist of theoretical readings, media example discussion, and writing workshops. Prerequisite: WAI (or co-requisite). Fulfillment: IMA Major Foundations; IMB Major Emerging Media Foundation.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr. NYU Shanghai: IMA Foundations
  • SB Crse Attr. NYU Shanghai: IMB Emerging Media Foundation Course

INTM-SHU 205T The Artificial: Programming and Planetarity (4 Credits)
This seminar will introduce students to contemporary theories of digital culture. It presents computational media less as a unique kind of device than as pervasive global infrastructure, and considers "programming" not only as software but also as designating how complex systems interact. For example. the Stack model argues that we can understand planetary-scale computation as comprised by modular layers (Earth, Cloud, City, Address, Interface, User) together forming a coherent whole: an accidental megastructure. We will consider the challenge to computational Art and Design through the lens of "the artificial," defined as all the ways that the world might be deliberately composed, including ourselves. Like an astronaut on a space walk, we are in always entangled with tethering prosthetics that make human life possible . The seminar will trace the interwoven history of "artificial intelligence" as both a philosophical thought experiment and as a foundational technology, and will explore alternatives to anthropomorphic models of AI. We will consider existing and potential forms of human-AI interaction design, such as voice and search. We will consider the history and contemporary state of artificial sensing media, such as machine vision. The seminar will also map how modern urban systems may be evolve in relation to pervasive automation and distributed computational interaction. Finally we will consider what the emergence of planetary-scale computation reveals about the limits of the human condition in the Anthropocene. We will consider how it may simultaneously threaten the material ecological substrate on which it (and we) depend and also make possible a necessary composability of our shared planetary perch. This unique course is designed for students with an interest in combining advanced theoretical understanding of contemporary digital culture with applied and speculative design research. It will combine in-person lectures and discussions, online sessions and field research. It will meet for extended seminar and field sessions during the first three weeks of the term (3 Thursday seminar and weekend field research sessions) followed by online sessions and further in-person meetings. Course requirements include assigned readings and discussion, written mid-term exam and final project/ paper based on topics agreed upon in consultation with Professor. Prerequisite: Writing as Inquiry Fulfillment: IMA elective; IMB IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr. NYU Shanghai: IMA Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 206T Topic: Media Past and Future (4 Credits)
An attempt to better understand and participate in the communications revolution we are undergoing through an investigation of the nature and consequences of previous communications revolutions. Using readings ranging from Plato to Sontag to Kundera, the course will look closely at the history of spoken language, images, writing, printing, photography, film, radio and television. How were they understood? How were they initially used or misused? What were their effects upon social patterns, politics and thought? How did innovations occur? What can that tell us about the potential and potential influence of digital communication? Students will be asked to undertake innovative experiments of their own in forms of new media. Fulfillment: IMA elective; IMB IMA/IMB elective. Prerequisites: None
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr. NYU Shanghai: IMA Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 207T Topic: AI and Culture: Paths of Definition, Paths of Development (2 Credits)
As no two cultures define "artificial" the same way, and no two define "intelligence" the same way, so too they will not define and imagine "artificial intelligence" in the same way. As China and the West engage in what is sometimes called a new scientific and technological race, the fundamental terms of a shared conversation across cultures may be missing or contested. As planetary-scale economies shift toward increasing automation, AI moves out of the laboratory and into the fabric of supply-chains, urban infrastructures, and everyday life. This research seminar will allow students to explore different ways that different cultural connotations of "face", "city", and "governance", for example, imply different paths for the development of this fundamental technology. NYU Shanghai will host an international conference in the Spring 2020 that examine these same topics. Prerequisites: None. Fulfillment: IMA elective; IMB IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr. NYU Shanghai: IMA Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 208D Realtime Audiovisual Performance Systems (4 Credits)
Typically offered Fall of even numbered years
Realtime Audiovisual Performance Systems Prerequisite: None. Fulfillment: IMA elective; IMB IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr. NYU Shanghai: IMA Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 214 User Experience Design (4 Credits)
Typically offered Spring
User experience design (UXD, UED, or XD) is the process of enhancing user satisfaction with a product by improving its usability, accessibility, and desirability provided throughout the user's interaction with a product. The class is designed for those who are passionate about creating user-centered experiences with interactive media. Students are encouraged to empathize with users, engaging them to make informed design choices from prototype right through to project completion. Prerequisites: None Fulfillment: IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr. NYU Shanghai: IMA Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 215 Machine Learning for New Interfaces (4 Credits)
Machine Learning for New Interfaces is an introductory course with the goal of teaching machine learning concepts in an approachable way to students with basic coding experience and no prior knowledge of machine learning. Students will explore experimental and diverse methods in Machine Learning such as image classification, pose estimation, k-nearest neighbor algorithm and transfer learning. By the end of the course, students will be able to create their own interfaces or applications for the web. They will be able to apply fundamental concepts of Machine Learning, recognize existing Machine Learning models and make Machine Learning projects applicable to everyday life. Prerequisite: INTM-SHU 103 Creative Coding Lab or CSCI-SHU 11 Introduction to Computer Programming Fulfillment: IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr. NYU Shanghai: IMA Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 217 Make Believe (4 Credits)
Typically offered occasionally
We live in an era of information where the information can be written, accessed, shared, and also eliminated with a single stroke. As a result, the objective "truth" is brought to a question. In the last decade, artists have been experimenting with the fakeness of the truth and the truthfulness of the fake by creating fake documents, staged marriages, an arguably authentic artifact, imaginary advertisements both historical and contemporary. What does it mean to tell the truth in the context of art? How does art cross the boundaries between the real and the fake, truthfulness and misrepresentation? This course will examine social engagement of art and how "truth" is treated, interpreted, and presented. The class will take a field trip to a propaganda museum, have readings and discussions, and analyze artists working with fiction as a medium in art making. Students will work on projects to construct believable reality through object making (3D fabrication) and narrative construction (audiovisual material). Prerequisite: Interaction Lab or Communications Lab Fulfillment: IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
- SB Crse Attr. NYU Shanghai: IMA Elective
- SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 218 Design and Fabrication of Everyday Things (4 Credits)
Typically offered occasionally
This course explores the fundamental processes involved in the design and fabrication of everyday objects. Students are introduced to creative techniques to develop insight into human behavior and explore the idea of human needs. In parallel, they will learn how to make prototypes that begin with rapid paper prototyping techniques and later develops into tangible 3D models of objects using 3D modelling, 3D printing and laser cutting techniques. We will be using Rhino(3D) as our primary CAD software for 3D modelling, Adobe Illustrator to generate laser cutting files and Cura as our primary software to 3D print objects. This class will be partially lecture based and partially studio lead. Prerequisite: None. Fulfillment: IMA elective; IMB IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
- SB Crse Attr. NYU Shanghai: IMA Elective
- SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 222 Introduction to Robotics (4 Credits)
Typically offered occasionally
Since the beginning of civilization people have fantasized about intelligent machines sensing and acting autonomously. In this course we will discover what robots are, learn how to design them, and use simple tools to build them. Students will use open source hardware to explore sensors and electronics, as well as design and build robot bodies and actuators through a variety of digital fabrication technologies. Using a set of community developed tools, students will become familiar with concepts such as mechatronics, inverse kinematics, domotics and machine learning. No previous programming or electronics experience is necessary, however students will be guided through a series of design challenges that their robots should be able to accomplish. With an emphasis on experimentation, peer learning, and teamwork, the objective of this course is to share in the excitement of robotics by enabling students to make their own creations. By the end of the course, students will present a short research paper and documentation about their robotic explorations. Co-requisite or Prerequisite: Interaction Lab or Creative Coding Lab. Fulfillment: CORE ED; IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
- SB Crse Attr. NYU Shanghai: Experimental Discovery in the Natural World
- SB Crse Attr. NYU Shanghai: IMA Elective
- SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 223 Programming Design Systems (4 Credits)
Typically offered occasionally
Programming Design Systems is a course focused on the intersection between graphic design and code. Class time is divided between design topics like form, color, grid systems, and typography, and more computational topics like randomization, repetition, transformation and generative form. The students work to write software that abstract design theories into the code, and show the work in class for design critique. Weekly readings include relevant writings from the history of graphic design, articles from the history of computation, and everything in between. The class aims not only to teach the students how to create designs via code, but also to have something interesting to say about it. The course is based on the Programming Design Systems book, and more background info can be found in the book's introduction. Prerequisite: INTM-SHU 103 Creative Coding Lab. Fulfillment: IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
- SB Crse Attr. NYU Shanghai: IMA Elective
- SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 224 Unconventional Design+Interactions (4 Credits)
This class explores alternative frameworks of thinking to inform the design and making of objects, systems and experiences. The class is meant to provoke conversation around the idea of design and be critical and mindful of its impact. We explore alternative philosophies or frameworks of design which might go beyond making something functional, intuitive or aesthetically pleasing. We unpack the idea of intention behind design and encourage the act of design to be a creative, expressive and reflective process. This class is a studio led class where students will be asked to apply these frameworks in their own work as a response to design problems as well as further develop their own framework or methodology for design. Prerequisite: None. Fulfillment: IMA elective; IMB IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr. NYU Shanghai: IMA Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 226 Artificial Intelligence Arts (4 Credits)
Artificial Intelligence Arts is an intermediate class that broadly explores issues in the applications of AI to arts and creativity. This class looks at generative Machine Learning algorithms for creation of new media, arts and design. In addition to covering the technical advances, the class also addresses the ethical concerns ranging from the use of data set, the necessarily of AI generative capacity to our proper attitudes towards AI aesthetics and creativity. Students will apply a practical and conceptual understanding of AI both as technology and artistic medium to their creative practices. Prerequisite: None. Fulfillment: IMA elective; IMB IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
Prerequisites: Interaction Lab or Communication Lab or Creative Coding Lab.
  • SB Crse Attr. NYU Shanghai: IMA Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 227 ABC Browser Circus (4 Credits)
Typically offered Spring term of even numbered years
Welcome to the ABC Browser Circus (ABC), where acrobats juggle with hyperlinks, dance across scrolling grids, and jump through open server ports. This course introduces the students to the history of the internet, the World Wide Web, and specifically to the browser as a cultural object and its role in (net)art; in parallel, it teaches web development and guides the students to create three web-based projects. Theory and practice-based components are each conducted during one of two 75 minute classes per week. Prerequisite: Creative Coding Lab. Fulfillment: IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr. NYU Shanghai: IMA Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 228 Digital + Sculpture (4 Credits)
Typically offered occasionally
This course investigates and illuminates the concepts and the aesthetic of kinetic sculpture and installation art in various forms from creative and historical perspectives. Students will explore performative sculptures and learn to work with space. This is a studio-oriented class with a strong physical basis in physical computing, woodworking, and readymades. Students will build upon their existing physical computing skills to create moving sculptures and installations. The course will examine kinetic sculpture through slides, artist lectures, videos, readings, a field trip and other materials. Prerequisite: Interaction Lab Fulfillment: IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr. NYU Shanghai: IMA Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 234 Rapid Prototyping (4 Credits)
Typically offered occasionally
Have you ever wanted to build a physical product but didn't know where to start? Have you ever wondered how the objects you use everyday came to exist in the forms that they are? In a world that is becoming increasingly digital humans will also need physical interfaces to interact with these experiences. Rapid prototyping is one of the core tenets for the development of meaningful experiences and usable elements in physical products both for digital experiences and real world experiences. This course will introduce students to hands on development of physical prototyping for product development or for use in creating elements of physical art installation. We will through practical application explore how we might interact with rudimentary materials and how we will use them to address a series of fun challenges through rapid prototyping. Students will gain experience of how to translate these prototypes into CAD models for further refinement. These challenges will provide skills acquisition opportunities and culminate in a final challenge where students will use their learnings to create a physical prototype that solves a real world problem. Prerequisite: None. Fulfillment: IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr. NYU Shanghai: IMA Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 235 Topics in Art & Design - 2pt (2 Credits)
Typically offered Fall
Prerequisite: None. Fulfillment: IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: Yes
  • SB Crse Attr. NYU Shanghai: IMA Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 238 Toy Design and Prototyping (4 Credits)
Toys are not only for kids. Toys are part of our culture and an important medium to develop essential skills like creativity, problem-solving, and socialization. They can also be a great contribution in education, medicine, and business, and can improve the quality of life for children and adults alike. The emphasis in this class is on designing for play and entertainment. Students will be introduced to the underlying essential concepts in designing toys and they will create their own utilizing hand-making craft skills and new technologies. This course will equip the students with a basic knowledge about various design topics including: brainstorming, sketching, graphic design, concept development, basic mechanisms, 3D modeling, rendering, and rapid prototyping. This is a hands-on class and students are required to bring their imagination in addition to a willingness to experiment and explore creative solutions for class assignments. Website: https://wp.nyu.edu/shanghai-toydesignandprototyping/ Prerequisites: Interaction lab / Communication lab Fulfillment: IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
   • SB Crse Attr. NYU Shanghai: IMA Elective
   • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 239 Digital Fabrication (2 Credits)
Typically offered occasionally
Digital Fabrication is the process of using design of modeling software to generate digital files which can then be physically produced through a variety of methods, including laser cutting, 3D printing and computer numeric control (CNC). The ability to fabricate directly from our computers or design files used to be an exotic and expensive option not widely available, but recent changes within this field have brought these capabilities to within our reach. In this class students will learn how to design and model for and to operate fabrication machines. Emphasis will be put on designing functional parts that can fit into a larger project or support other components as well as being successful on a conceptual and aesthetic level. In this class students will discover methods to design and model using computer aided design (CAD) software. We will then utilize computer aided manufacturing (CAM) software to generate instructions that various machines can follow to fabricate our designs. We will also look at methods for 3D scanning, data manipulation and conversion, mold making, as well as printed circuit board (PCB) fabrication. Prerequisite: None. Fulfillment: IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
   • SB Crse Attr. NYU Shanghai: IMA Elective
   • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 241 VFX in the Age of Virtual Production (4 Credits)
Typically offered every year
In the contemporary era of virtual production, time-based media faces new opportunities and challenges in terms of pipelines, workflows, and distribution. Decentralizing, hybridizing, and outsourcing among film studios, production houses, broadcast design, interactive and gaming industry become the major discourses of the academia and the industry. The course focuses on the history/context, present practice, and the emerging trends of the VSFX studies and applications. Through the collaborative research among academia and industry, the course investigates the theory and practice of VSFX studies, and further exams the feasibility of emerging technologies through the entrepreneurship spirit. Prerequisite: Interaction Lab / Creative Coding Lab / Communications Lab Fulfillment: IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
   • SB Crse Attr. NYU Shanghai: IMA Elective
   • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 242 Exhibition: Next (4 Credits)
Typically offered Fall
Exhibition: Next is an exploration and observation of the fields of exhibition design and museum study. This class will explore how emerging and interactive technologies can be applied to a museum to enhance visitors' experiences. The class discusses exhibition design, museum technologies, curatorial practices, art history, and studio art approaches. What is the definition of a museum today and how should it be experienced? What is the role of a museum in contemporary society? What is the social value of a museum nowadays? How does it engage with the audiences of tomorrow? Students will explore various museums, spanning from visiting local museums to browsing online museums. Taking specific questions upon each visit, students will write a trip report to reflect their observation in the museum from a unique and critical perspective. The research component is embedded throughout the semester, so students will propose a research topic at the beginning of the course. Then, they will start collecting materials, building objects, designing experiences, and writing a manifesto for their research project for the final exhibition. If possible, all assignments that serve the research topic can be curated in the final exhibition. After the midterm, the instructor will initiate a collaboration with a local organization to assign students a design challenge working in groups. By the end of the semester, the class will present a group show for students' final project in a gallery space. Prerequisite: Interaction Lab Fulfillment: IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
   • SB Crse Attr. NYU Shanghai: IMA Elective
   • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 243 Introduction to Animation (4 Credits)
Tangible heritage (site, object, and structure) and intangible heritage (motif, icon, character, textile, wardrobe, music, performance, language and ritual) are unseparated parts of the cultural heritage. The narrative and messaging of cultural heritage can be preserved by moving sequences, motion design and animation. The richness of heritage contents can be further disseminated and known by the dynamic media. This course aims to utilize animation and motion media to depict and preserve the richness of cultural heritage contents. 3D animation and motion graphics techniques will be addressed and applied to the storytelling. Students will be guided to research the Asian cultural heritage contents including the tangible and intangible heritage. They will further explore the visual design and production pipeline of animation. Visiting expert of interactive media design and intangible heritage performance will get involved to share the insights to the students. Prerequisite: None. Fulfillment: IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr. NYU Shanghai: IMA Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 244 Bio-Inspired Robot Systems (4 Credits)
Typically offered every year
"How do complex systems work? Can nature help us understand them? In order to explore answers to these questions, we will run a series of experiments that will serve as an introduction to swarm robotics, machine learning, and bionics. The purpose of this course is to see biological phenomena under the lens of new technology. This course has a hands-on approach with focus on building and testing applications. We will create algorithms and mobile robots that replicate responses observed in living organisms, utilizing radio signals and computer vision to model emergent behaviors from groups. The research, process, and results will be documented in a short scientific article." Prereq: None. Fulfillment: CORE ED; IMA elective; IMB IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr. NYU Shanghai: Experimental Discovery in the Natural World
  • SB Crse Attr. NYU Shanghai: IMA Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 247 Creative Game Design and Development (4 Credits)
We have all played and enjoyed games, but how do people actually design and develop them? How to describe a game from a professional standpoint? What are the basic elements and structure in video game development? How do game designers create an interactive experience for the player? What about prototyping and iterating in development? This course explores these questions and others through playing, analyzing and making games over 14 weeks. Students will understand game not only as an entertaining production and business model but a form of interactive media impacting current life and future. Students will be introduced to game design concepts, emphasizing the development: paper and digital prototyping, develop iteration, interactive narratives design and embedment, object-oriented programming, 2D/3D game art design, sound effects composition and user testing. For the course project, students will work in teams and create games in multiple projects, from board game focusing on gameplay prototype to digital playable experience with creative game art designs. This course leverages Unity, a game engine that uses C# based programming language. Basic knowledge of any programming language will come in handy. Prerequisite: Creative Coding Lab or Interaction Lab or Introduction to Computer Programming. Fulfillment: IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr. NYU Shanghai: IMA Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 253 Creating Assistive Technology (4 Credits)
Typically offered occasionally
This interdisciplinary project-based class focuses on the design, development, and use of technology that increases the quality of life of individuals of disabilities. Students will be introduced to various assistive technology and strategies, including no-tech and low-tech as well as software and online-based practices. This class features lectures, discussions, guest lectures, field trips, and project presentations by students. Software programming, physical computing, machine learning, and 3D fabrication will be introduced for developing an assistive device. Field trips of local facilities will be scheduled during the semester. They provide an off-campus real-world learning experience as well as an opportunity for students to interact with users of assistive technology in the local community. Students will participate in a team-based design project that identifies challenges for an individual of disabilities and create an innovative and useful assistive device to meet their needs. Prerequisite: Interaction Lab Fulfillment: IMA elective; IMB IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr. NYU Shanghai: IMA Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 254 Nature of Code (4 Credits)
Typically offered Spring
The Nature of Code is an intermediate course based on Daniel Shiffman's The Nature of Code course at NYU ITP and was adjusted for undergraduate students. This course explores the fundamentals of programming, such as Object-Oriented Programming, and the application of simple principles of mathematics and physics in order to recreate natural behaviors in a digital environment. Prerequisite: INTM-SHU 101 Interaction Lab or INTM-SHU 103 Creative Coding Lab Fulfillment: IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr. NYU Shanghai: IMA Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 255 Topics in Business of Emerging Media (2 Credits)
Typically offered Fall
Prerequisite: INTM-SHU 101 Interaction Lab or INTM-SHU 110 Application Lab or INTM-SHU 120 Communications Lab. Fulfillment: IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: Yes
  • SB Crse Attr. NYU Shanghai: IMA Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 257 Immersive Arts (4 Credits)
Typically offered Spring
This course aims to provide students with the means to understand immersive media experiences, and conduct experiments from both a practical and a theoretical perspective. The course consists of lectures, research, discussion and studio-based practice. Students will learn to produce stereoscopic - 3D images and photogrammetric 3D models, utilize multi-channel video and sound systems, and be introduced to the Unity game engine and VR hardware. For the final project, students produce VR environments in experimental and meaningful ways. Prerequisite: INTM-SHU 120 Communications Lab. Fulfillment: IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr. NYU Shanghai: IMA Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 258 Machine Learning for Artists and Designers (4 Credits)
Typically offered every year
An introductory course to machine learning aimed at students without a mathematics background who are interested in developing an intuitive, and critical understanding of related techniques and their effects. The course uses the JavaScript language, and the ml5.js and p5.js frameworks to introduce the theory and application of machine learning algorithms. In exercises and assignments, students will experiment with building, using and critiquing machine learning models and datasets. Readings and discussions will cover relevant issues and frame the practice. This course builds on an existing practice of computer programming, and is expected to inform the students' future art or design practice. Weekly assignments are required. Prerequisite: INTM-SHU 103 Creative Coding Lab OR CSCI-SHU 11 Intro to Computer Programming Fulfillment: IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr. NYU Shanghai: IMA Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 259 Immersive Design for Video Games (2 Credits)
Typically offered every year
The current design methods and technologies in the field of digital entertainment, from design concepts to design tools, are still based on 2D screens, but the product is often 3D. This contradiction results in the designers not being able to see the final consequences of their work directly. Can existing VR technologies solve this contradiction? Immersive design is a new design method for digital creativities beyond the screen. It usually takes VR, AR, or MR devices as design interfaces to craft 3D models, textures, game environments, and other gaming experiences. Not only game assets creation but also game design concepts can be changed with these new technical inputs. In this course, students will answer the following questions: # Is immersive design more intuitive? # Is immersive design more efficient? # Do immersive design techniques have lower learning costs? # What traditional design lessons and concepts can be applied in an immersive design environment? In view of these questions, students from different disciplines will give answers through discussions, projects, collaboration, documentation, and VR games. Prerequisite: Communications Lab. Fulfillment: IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr. NYU Shanghai: IMA Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 261 Data: Code it, Make it (4 Credits)
Typically offered Spring
Data Physicalization is an emerging research area. It explores new techniques to design and encode data into physical artifacts through geometry or material properties. Recent advances in Computational Design and Fabrication offer novel opportunities to complement traditional screen-based visualizations enhancing people's ability to discover, understand, and communicate data. This course uses a data visualization approach to define new methods of computational design and digital fabrication. Students will create unique, data-driven, everyday objects and sculpt meaning into them. Through the use of platforms such as Rhinoceros: a 3D modeling software, and Grasshopper: a visual programming language, students will be introduced to fundamental computational methods for designing and fabricating, as well as the understanding of digital fabrication strategies for parametrically generated design. Website: https://wp.nyu.edu/shanghai-ima-datacodeitmakeit/ Prerequisite: Interaction Lab or Creative Coding Lab. Fulfillment: IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr: NYU Shanghai: IMA Elective
  • SB Crse Attr: NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 262 Urban Farming: Technology and Community (4 Credits)
Typically offered every year
Urban Farming: Technology and Community is a class that explores the growing role of urban agriculture in big cities. According to the UN, 68% of the world population is projected to live in urban areas by 2050. With this projection in mind, this class aims at exploring alternative uses of urban land as possible solutions to food insecurity, ecological and social concerns. In this course we will focus on digital agricultural innovations, sustainable food ecosystems and the development of an urban farm community. Prerequisite: INTM-SHU 101 Interaction Lab Fulfillment: IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr: NYU Shanghai: IMA Elective
  • SB Crse Attr: NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 265 Topics in Digital Humanities: (4 Credits)
Typically offered occasionally
Prerequisite: None. Fulfillment: IMA elective; IMB IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: Yes
  • SB Crse Attr: NYU Shanghai: IMA Elective
  • SB Crse Attr: NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 266 Digital Heritage (4 Credits)
This course investigates and explores the integration between cultural heritage and virtual conservation, specifically towards the objects, deities, sites, and gardens in China. Through the global perspective, the course raises awareness of heritage conservation and critical heritage studies towards the origins and transformations global-wide in the contemporary era. Academic readings and oral presentations revolving around this theme will enhance students' skills for documentation and restoration through innovative digital techniques. Conservator presentations, field trips, gallery visits, and art projects enable students to communicate with practitioners in the field and examine the values of cultural heritage through a global perspective. Prerequisites: None Fulfillment: IMA elective; IMB major IMA/IMB elective; GCS Chinese Media, Arts, and Literature.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr: NYU Shanghai: GCSE: Chinese Media, Arts, and Literature
  • SB Crse Attr: NYU Shanghai: IMA Elective
  • SB Crse Attr: NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 267 The Cultivated City (4 Credits)
This class examines the idea and practices of 'cultivation' in relation to the challenging environment of the 21st century city. Through field trips, readings and discussions, the class explores the concept of cultivation, and how it can be used as a basis for researching the urban ecology of Shanghai, both as a past and future city. The class incorporates a major project in the digital humanities, in which students use the tools of interactive media (audio, video and cartographic technologies) to research, map and narrativize the ways in which architects, designers, artists and thinkers engage with the traditions of cultivation in order to imagine and recreate the future metropolis. Cultivated City focuses on Chinese cultural history and its changing attitudes to nature and the environment . This term it does so within the context of planting an urban garden at NYU Shanghai's new campus in Qiantian. Students will work on group projects designed to help build community and participate in the creation of an inspiring outdoor landscape for our future home. Fulfillment: CORE HPC or IPC; GCS Chinese History, Society, and Culture; IMA elective; IMB IMA/IMB elective; 18-19 Humanities Digital Approaches. Prerequisite: Writing as Inquiry
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr: NYU Shanghai: GCSE: Chinese History, Society, and Culture
  • SB Crse Attr: NYU Shanghai: Humanistic Perspectives on China/China Arts-HPC/CA
  • SB Crse Attr: NYU Shanghai: IMA Elective
  • SB Crse Attr: NYU Shanghai: IMB Interactive Media Arts/Business Elective
  • SB Crse Attr: NYU Shanghai: Interdisciplinary Perspectives on China

INTM-SHU 268 Acoustic Ethnography of the Yangtze Delta (4 Credits)
We live in a world immersed in sound yet we rarely attend to how sound can reflect our social structure or reveal cultural meaning. This course introduces students to acoustic ethnography, soundscape studies and narrative, non-narrative audio storytelling. We will gather and analyze the acoustic environment of China, using recorded sounds to create ethnography through text and sound. Ethnography (literally, "culture-writing") is both the act of gathering data about culture through observation and interviews as well as the practice of writing analytically about cultural difference. Visual ethnography incorporates the analysis of visual and material aspects of our social environment into creative, multimedia rich projects. With an ethnographic approach to sound, we will document the rich tapestry of sounds around us in the context of the Yangtze River Delta region and think about how this conveys China's culture, society and history. Through lectures, discussion, readings, listening assignments, field studies and projects, we will re-learn how to listen, observe and record the sounds in our environment. We will study Chinese sound art and Chinese cultural productions in music, film, television and multimedia installation. We will contextualize Chinese sound art against major theoretical approaches to sound including archives and preservation, form versus content, and social studies of science. Students will work collaboratively or individually on a final project that combines sound recording and production, to create an ethnographic analysis of an aspect of social and cultural life in the Yangtze River Delta region. Students will gain experience in gathering ethnographic data and they will transform it into an analytical or creative project integrating sound art and text. Prior knowledge of sound editing and Chinese language is not required. Prerequisite: None Fulfillment: GCS Chinese Media, Arts, and Literature; IMA elective; IMB IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
- SB Crse Attr. NYU Shanghai: GCSE: Chinese Media, Arts, and Literature
- SB Crse Attr. NYU Shanghai: IMA Elective
- SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 271 Remade in China (4 Credits)
Typically offered Fall
Re-make: make (something) again or differently. In this class students will investigate why China became the world's largest importer of waste. They will study local communities in China, how they manage their waste, and explore innovative ways to transform discarded materials or products around us into something new and precious in areas such as art, graphic and industrial design, architecture, fashion, textiles, etc,. Through research and development, students will learn how traditional techniques and new technologies among the sustainable design philosophy can be utilized as powerful tools for addressing social and environmental problems. Website: https://wp.nyu.edu/remadeinchina/ Prerequisite: None. Fulfillment: IMA elective; IMB IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
- SB Crse Attr. NYU Shanghai: IMA Elective
- SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 280C VR / AR Fundamentals (4 Credits)
Typically offered Fall and Spring
Virtual Reality and Augmented Reality represent, respectively, visions of "being" somewhere else or augmenting your present environment. These visions are not new, but new technologies have made it possible to produce experiences unlike anything before, particularly through the use of headsets, spatial audio, touch sensors, and custom location-based installations. These new technologies are becoming small, powerful, and inexpensive, and as a result we are witnessing the birth of a powerful new medium, new art form, and new industry - all very quickly. The speed of VR and AR growth has created both opportunity and confusion. "VR / AR Fundamentals" takes a long, deep perspective. We will overview such basic elements as audiovisual resolution and fidelity; spatiality and immersion; other senses such as touch, smell, taste (and even mind); input and interactivity; and live and social. We'll look at distinctions such as cinema versus games, movies versus models, public versus personal, real world versus fantasy worlds, linear versus interactive, and narrative versus ambient. These elements and distinctions will be presented partially as technical but in an understandable way for general liberal arts students, and will rely heavily on experiencing content and keeping up with current events. That's the first half-semester. The second half-semester we'll concentrate on collectively producing a series of timely and relevant projects, all short, entertaining, and useful to others exploring the world of VR / AR. Prerequisites: None Fulfillment: IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
- SB Crse Attr. NYU Shanghai: IMA Elective
- SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 280D Realtime Audiovisual Performance Systems (4 Credits)
Typically offered occasionally
From the history of visual music and abstract film to the contemporary notion of live cinema, this course will be an exploration of the synesthetic relationship between sound and visuals in a real-time performance setting. Dating back as far as the 18th century, systems have been invented to produce images alongside music linking the two through formalized arrangements. Current media technologies make developing such systems both more approachable and more expansive in their scope. Through readings, viewings, and case studies students will gain an understanding of the history and theory of live audiovisuals. During the course students will team up to develop and master a real-time audiovisual system of their own invention. The class will culminate in a show in which they will present their work through a live performance. Prerequisite: Interaction Lab, Communications Lab or Creative Coding Lab Fulfillment: IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
- SB Crse Attr. NYU Shanghai: IMA Elective
- SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 283 Locative Media (4 Credits)
Typically offered occasionally
With the rise of mobile computing platforms such as smart phones and tablets, location has suddenly become a key element in the production and consumption of media. In this online course, designed for NYU Shanghai Interactive Media Arts majors studying abroad, students will be encouraged to simultaneously explore their unique study away site, as well as to consume, research, critique, and create location-based media for mobile devices. Students will be introduced to GPS (Global Positioning System) technologies through activities such as geocaching and GPS drawing. We will next investigate geocoding, geotagging, and geofencing through the application of JavaScript mapping platforms CartoDB and Google Maps. Students will then explore an emerging technology known as Bluetooth Beacons, which can be used to create custom positioning systems and to facilitate location awareness in mobile devices. Students will be asked to then produce, as a final project, a game that engages participants in a location or locations, as well as in locative media in any number of forms. Prerequisite: Registration is limited to IMA/IMB Majors studying at NYU's global sites other than New York or Abu Dhabi. Please email ima@nyu.edu for the permission of department consent. Fulfillment: IMA elective; IMB IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr. NYU Shanghai: IMA Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 284 Digital Sculpting for Facial Animation (4 Credits)
Typically offered occasionally
This course emphasizes on the 3D animation through digital modeling / sculpting techniques, keyframe and blend-shape animation . The course breaks down into 4 stages : 1. basic topology of head model, 2. high-poly sculpting and projection texturing, 3. Keyframe and blend-shapes animation, 4. 3D animation final project. In the final project, students get to choose either lip-sync animation or conceptual piece utilizing the created head models. An overview of digital editing / compositing and sound design will also be introduced to assist with students' final project at the end of the semester. Prerequisite: None. Fulfillment: IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr. NYU Shanghai: IMA Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 286 Theories and Practices of Transmedia Storytelling (4 Credits)
Typically offered every year
This course examines both the practices and the products of adapting narratives from one medium to another. Through case studies of specific adaptations, we will address some of the major formal, industrial, and interpretative questions that transmedia adaptation raises, as creators change characters, stories, settings, and narrative tropes to fit into new stories various, often multiple media: comics, radio, novels, movies, television, games (tabletop and electronic), and more. Theoretical readings will give students concepts and a vocabulary to discuss ways that narrative adaptations use and re-purpose their "source" texts. Students will write prompted response papers, an analytical essay, and an annotated bibliography; in collaboration with classmates, student teams will first propose and then develop transmedia narratives of their own. Prerequisite: Writing as Inquiry Fulfillment: IMA elective; IMB IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr. NYU Shanghai: IMA Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 287 NIME: New Interfaces for Musical Expression (4 Credits)
Typically offered Spring
This course focusses on designing, creating, and performing with self-built electro-acoustic music systems to explore the limits of human musical expression. By listening and reading, students will research examples of contemporary work by creators of musical interfaces and discuss issues facing technology in the performing arts. Through hands-on sessions, students will invent and prototype analog, digital, and hybrid musical systems encompassing musical control, mapping input to sound, and the creation of sound itself. Interaction Lab is a prerequisite; however, prior performing experience is not required. The performance discipline is inherently interdisciplinary and collaborative, so an open mind to working with others is imperative. The class will culminate in a public performance where students will play their instruments live for an audience. Prerequisite: Interaction Lab Fulfillment: IMA elective; IMB IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr. NYU Shanghai: IMA Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 289 Exploring & Creating Sonic Environments (4 Credits)
Typically offered occasionally
Sound is all around us. The way we perceive or experience these sounds are largely dependent upon their environments, whether artificially constructed or naturally present. In this studio-based course, students will learn about the development of sound art through readings and listenings by artists, musicians and designers who investigate our sonic environment through sound sculptures, multi-channel immersive installations, soundscapes, audio tours, podcasts and field recordings. The course will begin with an introduction into the physics of sound with time for deep listening exercises. We will read selected texts and listen to pieces by those working in the field of Acoustic Ecology, an interdisciplinary field that employs ethnographic practices to create sound studies or art. We will look at artists who employ narrative techniques to engage the audience. We will study musicians such as Alvin Lucier and John Cage and the history of experimental music that takes into consideration the physical space its recorded or played in. There will be weekly exercises that will help develop the student's spatial awareness of sound and music. We will take listening and recording trips into the field to understand the acoustic urban environment. We will use different types of microphones such as hydrophones and binaural mics. Students will learn how to build their own contact microphones. Students will have the opportunity to create works for multi-channel speakers. The final project can take on any form within the realm of sound art--multimedia, narrative, non-narrative, music, installation. Prerequisite: Communications Lab or Interaction Lab. Fulfillment: IMA elective; IMB IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
- SB Crse Attr. NYU Shanghai: IMA Elective
- SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 294 History of Human Computer Interaction (4 Credits)
Typically offered Fall and Spring
The development of Human Computer Interaction, and its identification as a field, required scientists, engineers, designers, and artists as well as contributions from several other disciplines. In this course, we will learn how humans could imagine and then create computers worth interacting with, and the growth of the ecology of human computer interaction. The focus of our historical lens will be seminal papers and materials from computing, cognitive science, engineering, design, history of technology, and popular culture. Prerequisite: Sophomore standing or above. Fulfillment: CORE STS; IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
- SB Crse Attr. NYU Shanghai: IMA Elective
- SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective
- SB Crse Attr. NYU Shanghai: Science, Technology and Society

INTM-SHU 296 The Planetary: Computation in the Anthropocene (4 Credits)
This course will examine the relationship between planetary-scale computation and the development of planetarity. We take as starting points that (1) the very notion of climate change is an epistemological accomplishment of planetary-scale sensing, modeling and computation systems and (2) the ecological costs of computation are on an unsustainable trajectory. The seminar will ask: what are alternative futures for computation as human and ecological infrastructure? The primary subject of research is the transition from computation as a digital media object to computation as continental scale infrastructure. The scope and significance of this shift are fundamental for the development of interactive art and design that seeks to explore critical alternatives to extant models for this. What we call planetary-scale computation takes different forms at different scales—from energy and mineral sourcing and subterranean cloud infrastructure to urban software and massive universal addressing systems; from interfaces drawn by the augmentation of the hand and eye to users identified by self—quantification and the arrival of legions of sensors, algorithms, and robots. Each of these may represent a direct harm upon effected ecosystems and/or a means for and informed viable administration of those same systems. The course is primarily geared to advanced IMA students but is open to students from any major who are interested in engaging with contemporary issues of computation, society and ecology. Final projects will combine original written work and speculative design that can draw on diverse student core skill sets. Prerequisite: Sophomore Standing. Fulfillment: IMA elective; IMB major IMA/IMB elective..
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
- SB Crse Attr. NYU Shanghai: IMA Elective
- SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 297T Synthetic Senses and Sensation (2 Credits)
Typically offered every year
This 7-week course will introduce students to (1) discourses of the artificial and the synthetic in contemporary philosophy, (2) diverse artistic and design practices that explore synthetic vision, hearing, touch, and cognition, and (3) allow each student to develop either an original work of speculative art/design and/or an original written work related to synthetic sensing. Course is open to students of any major. Prerequisite: Sophomore standing. Fulfillment: IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
- SB Crse Attr. NYU Shanghai: IMA Elective
- SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 301 Advanced Lab: Open Project (2 Credits)
Typically offered Spring
This course offers students the opportunity to develop a self-initiated project with close mentorship from a faculty member. Projects undertaken can span the areas of conceptual research, business development, creative practice, and media production. The course includes structured weekly workshop and critique times with peers and special guests. It is expected that students will be invested in the work of their peers by providing feedback and carefully consider the feedback they receive during critiques. In addition to weekly meeting times, students are expected to also participate in regular one-on-one meetings with faculty, peers, and guests. A formal project proposal, weekly assignments and documentation, a final project presentation, and participation in the IMA End of Semester show are all required. Although students are encouraged to continue work they may have initiated in a prior class, they may not combine or in any way double count work from this class in another class taken in the same semester. Group work is allowed assuming all group members are enrolled in this class. Students may take this course in either the first or second 7 weeks for 2 credits or repeated across 14 weeks for 4 credits. Prerequisite: Sophomore standing. Fulfilment: IMA elective or Advanced elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: Yes
  • SB Crse Attr. NYU Shanghai: IMA Advanced Elective
  • SB Crse Attr. NYU Shanghai: IMA Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 303 Advanced Lab: Shaders (2 Credits)
Typically offered every other year
Learn how to creatively harness the power of your computer's graphics card by writing your own shaders! Shaders are small programs that run on the GPU (Graphics Processing Unit) and are used for purposes most commonly related to graphic effects, video post-processing, and the generation and manipulation of 3D geometry. They are an incredibly powerful tool for creating hardware accelerated graphics and form the building blocks of the modern graphics pipeline. Writing and experimenting with vertex, fragment, and geometry shaders will be the main focus of the course. The topic will be approached platform-agnostic so that it can be applied to the different implementations in various creative software environments such as WebGL, Processing, Unity, Max, TouchDesigner, etc. This an advanced-level 2-credit course. Prerequisite: INTM-SHU 138 Responsive Environments OR INTM-SHU 204 Critical Data & Visualization OR INTM-SHU 215 Machine Learning for New Interfaces OR INTM-SHU 227 ABC Browser Circus OR INTM-SHU 247 Creative Game Design & Development OR INTM-SHU 254 Nature of Code OR INTM-SHU 258 Machine Learning for Artists & Designers OR INTM-SHU 288 Kinetic Interfaces OR INTM-SHU 304 Web Page to Web Space. Fulfilment: IMA elective or Advanced elective; IMB IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr. NYU Shanghai: IMA Advanced Elective
  • SB Crse Attr. NYU Shanghai: IMA Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 304 Advanced Lab: Web Page to Web Space (4 Credits)
Typically offered every year
Web Page to Web Space is a course that explores virtual interactive experience in the context of Virtual Embodiment, Virtual Space, Telepresence, and Metaverse. Students will investigate new possible ways of using the Web to create new immersive environments in a web platform, by utilizing algorithmic 3D animation and server-side programming. This is an advanced course with technically challenging concepts with three.js and node.js and suitable for students with prior knowledge in visual programming. Prerequisite: Nature of Code or Machine Learning for New Interfaces or Critical Data and Visualization or ABC Browser Circus or Kinetic Interfaces or Machine Learning for Artists and Designers or Expanded Web or Movement Practices and Computing or CSCI-SHU 101 Introduction to Computer and Data Science Fulfillment: IMA elective or Advanced IMA Elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr. NYU Shanghai: IMA Advanced Elective
  • SB Crse Attr. NYU Shanghai: IMA Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 305 Advanced Seminar: Hello Metaverse (2 Credits)
Typically offered every year
The aim of this course is to explore the relationship between the virtual self and environment and to assess both as a space for learning and collaboration using virtual reality. This course takes place entirely in virtual, immersive environments. Students will be provided Oculus Quest 2 virtual reality headsets and specialized software. See the principles above for further details. Prerequisite: IMA Major with junior or senior standing. Fulfillment: IMA elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr. NYU Shanghai: IMA Advanced Elective
  • SB Crse Attr. NYU Shanghai: IMA Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 306 Advanced Lab: Synthetic Media (4 Credits)
Typically offered Fall and Spring
This advanced course investigates emerging trends in machine learning and artificial intelligence for generating media content - images, video, and sound. The course explores the idea of how artists, designers, and creators can use machine learning in their own research, production, and development processes. Students will learn and understand machine-learning techniques and use them to generate creative media content. We will cover a range of different platforms and models and also experiment with implementing the content with platforms for interaction design, such as Unity. Prerequisite: INTM-SHU 120 Communications Lab OR INTM-SHU 205 What's New Media OR INTM-SHU 124 Emerging Technologies & Computational Arts Fulfillment: IMA elective or Advanced elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr. NYU Shanghai: IMA Advanced Elective
  • SB Crse Attr. NYU Shanghai: IMA Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 307 Advanced Lab: ABC Browser Circus on Tour (Mobile) (4 Credits)
Typically offered every year
Hardly any application is as ubiquitous as the browser − pre-installed on every phone and computer. Moreover, the browser, has no on singular purpose, but is merely a shell for our code to run, visuals to be rendered and interactions to take place within. On mobile devices in particular, the browser's access to sensors such as GPS, gyroscope, cameras, and the conception of websites as "applications" offer unique opportunities for creative interventions. This course introduces the students to the history of the internet, the World Wide Web, and to the browser as a cultural object and its role in (net)art; it teaches web development and guides the students to create three web-based projects. ABC puts a particular focus on mobile browsers. In this advanced course, familiarity with web development, fundamental programming concepts and JavaScript are expected. Prerequisite: Sophomore standing or above. Fulfillment: IMA Advanced elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr. NYU Shanghai: IMA Advanced Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 308 Advanced Lab: Mixed Reality and Cultural Heritage (4 Credits)
Typically offered every year
This course offers an experience with the intersection of technology and culture through collaborative teaching offered by faculty from Interactive Media Arts (IMA) and Global China Studies(GCS). Throughout the semester, students will dive into the world of Mixed Reality (MR) design, mastering space scanning technology, documenting historical sites, and conducting in-depth historical research. Students will use Unity, a cross-platform game engine, to craft immersive MR experiences that bring historical narratives to life. What sets this course apart is the real-world testing component, where students will refine their designs at actual historical sites. By the end, students will produce a digital immersive time-travel architecture, creating MR experiences that bring cultural heritage to life for modern audiences. Prerequisite: Sophomore standing or above. Fulfillment: IMA Advanced Elective; IMB major IMA/IMB elective; GCS Elective: Media, Arts, and Literature.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr. NYU Shanghai: GCSE: Chinese Media, Arts, and Literature
  • SB Crse Attr. NYU Shanghai: IMA Advanced Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 350 Advanced Seminar: Media's Material and Environmental Relations (4 Credits)
Typically offered every other year
In response to the popular conception of the "immaterial" Internet, and "datafication" of all aspects of life, how might we rethink the material lives of media and their entanglement with our urban and natural environments? This advanced seminar will introduce students to various theoretical frameworks in media studies including new materialism, media archaeology, studies of media infrastructures and ecologies, cultural geographies, and elemental media. Students will learn to develop research on the material history of media and also generate critical cartography to assess media's material imprints and their socio-political implications. Prerequisite: Junior standing OR What is New Media. Fulfillment: IMA elective or Advanced elective; IMB major IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
  • SB Crse Attr. NYU Shanghai: IMA Advanced Elective
  • SB Crse Attr. NYU Shanghai: IMA Elective
  • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 351 Advanced Seminar: Machine Decision is Not Final (2 Credits)
Typically offered every year
This 7-week course will introduce students to (1) the early history of cybernetics and artificial intelligence in China, (2) contemporary Chinese and Western cultural theory of artificial intelligence and (3) the theme of AI in contemporary Chinese science-fiction. AI is an increasingly important and contentious topic, generating philosophical debates about the nature of intelligence, political debates about the proper role of algorithmic technologies in society, as well as active speculation about the future. Based on the work of the NYU Shanghai Center for AI and Culture, this course will introduce students to the core issues in these areas. Prerequisite: Sophomore status or above. Fulfillment: IMA Advanced elective or elective; IMB IMA/IMB elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
   • SB Crse Attr. NYU Shanghai: IMA Advanced Elective
   • SB Crse Attr. NYU Shanghai: IMA Elective
   • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 352 Advanced Media Theory (4 Credits)
Typically offered Fall
This course provides students with conceptual tools and critical methods for an advanced study in media theory. Each semester, we will focus on a single book or thinker, engaging in slow, thoughtful reading. The course will introduce key concepts, examining their implications for media, technology, art, and expression. Through close reading and discussion students will learn how to approach dense theoretical texts and develop their own ways of engaging with complex ideas. For the final project, students will develop their own research papers or creative projects, which will culminate in a collective project (such as a website or installation) that assembles students' theoretically informed practices born from the semester's conceptual journey. Prerequisite: Sophomore standing or above. Fulfillment: IMA advanced elective; IMB Major IMA/IMB Elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
   • SB Crse Attr. NYU Shanghai: IMA Advanced Elective
   • SB Crse Attr. NYU Shanghai: IMB Interactive Media Arts/Business Elective

INTM-SHU 400 Capstone Studio I (4 Credits)
Typically offered Spring
Capstone is a course that allows students to focus independently on a self-directed project that integrates concepts and technical skills learned in courses offered through the IMA program. In Capstone 1, students are asked to write a research paper as an independent study. Each student is assigned faculty advisors who assist in providing guidance and directions. The main objective is for students to conduct a comprehensive study within their selected area in Interactive Media Arts and participate in class presentations, peer-review sessions, workshops, and discussions. Prerequisite: Seniors with primary major in IMA. Fulfillment: IMA Major Capstone.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
   • SB Crse Attr. NYU Shanghai: IMA Capstone

INTM-SHU 401 Capstone Studio II (4 Credits)
Capstone is a course that allows students to focus independently on a self-directed project that integrates concepts and technical skills learned in courses offered through the IMA program. In Capstone 2, students are asked to develop a practical media project as an independent study. Each student is assigned faculty advisors who assist in providing guidance and directions. The main objective is for students to great comprehensive work within their selected area in Interactive Media Arts and participate in class presentations, peer-review sessions, and a final exhibition. Prerequisite: INTM-SHU 400 Capstone Studio I. Fulfillment: IMA Major Capstone.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: No
   • SB Crse Attr. NYU Shanghai: IMA Capstone

INTM-SHU 997 Independent Study (2-4 Credits)
Prerequisite: permission of the department. Students majoring in IMA are permitted to work on an individual basis under the supervision of a full-time faculty member in the department if they have maintained an overall GPA of 3.0 and have a study proposal that is approved by an IMA professor. Students are expected to spend about ten to twelve hours a week on their project for 4 credits. Fulfillment: general elective.
Grading: Ugrd Shanghai Graded
Repeatable for additional credit: Yes