

Technologies of Visualization and Fabrication – Distributional Electives

Description

Architectural design processes and techniques have been dramatically reorganized in response to advances in digital technologies over the past few decades, which have changed everything in the design practice, from data visualization, to project presentation, to building component fabrication and project delivery. The GSD has remained at the forefront of the critical thinking and use of these technologies through their study in core courses, studios, and electives. The distributional elective requirement asks students to investigate these technologies in greater depth by taking one or more selected electives in the 2000 or 6000 curriculum areas. These courses expose students to an ever expanding repertoire of computational media and techniques in the areas of both design visualization and conceptualization, and object fabrication.

Archive of Past Approved Courses

Note: For a course to count towards a requirement, it must be taken in the year that it was listed as valid.

Fall 2024

2121 Architectural Representation I [Module 1]	Iman Fayyad
2122 Architectural Representation II [Module 2]	Carl D'Apolito-Dworkin
2229 Digital Media: Not Magic	Michelle Chang
2368 Interior Residential Planning, Furnishings, and Materials	Benjamin Pardo
2415 Paper or Plastic: Reinventing Shelf Life in the Supermarket Landscape	Teman Evans
2446 Drawing for Designers: Techniques of Expression, Articulation, and Representation	Ewa Harabasz
6338 Introduction to Computational Design	Jose Luis Garcia del Castillo Lopez
6365 Enactive Design: Creative Applications through Concurrent Human-Machine Interaction	Jose Luis Garcia del Castillo Lopez
6387 Digital Production at Scale	Nathan King
6476 Transformable Design Methods	Chuck Hoberman
6492 Quantitative Aesthetics: Introduction to Machine Learning for Design	Panagiotis Michalatos

Spring 2024

2227 Digital Media: Writing Form	George Legendre
2228 Digital Media: Models	Hyojin Kwon
2229 Digital Media: Not Magic	Michelle Chang
2314 Responsive Environments	Allen Sayegh
4516 Computing Fantasy: Imagination, Invention, Radical Pedagogy (Munari / Rodari / Calvino) (at FAS)	Jeffrey Schnapp
6317 Digital Material Systems: Ceramics	Nathan King
6478 Informal Robotics	Chuck Hoberman
6483 Procedural Fields: Functional Design of Discrete Hyperdimensional Spaces	Jose Luis Garcia del Castillo Lopez

Fall 2023

2230 Digital Media: Errors and Omissions	Ian Miley
2231 Digital Media: Power Tools	Lexi Tsien
2458 Ecological Do-Nothing Landforms	Min Yeo
6476 Transformable Design Methods	Chuck Hoberman
6485 Introduction to Generative Artificial Intelligence	Sabrina Osmany

Spring 2023

2224 Digital Media: Neural Bodies	Andrew Witt
2227 Digital Media: Writing Form	George Legendre
2314 Responsive Environments	Allen Sayegh
2348 Representation First (!!!), Then Architecture	Jennifer Bonner
6384 Towards a new Science of Design?	Juan Ugarte
6385 Automation in Practice: Building the future of Architecture(s), Engineering, and Construction	Nathan King
6478 Informal Robotics	Chuck Hoberman
6483 Procedural Fields: Functional Design of Discrete Hyperdimensional Spaces	Jose Luis Garcia del Castillo Lopez
6485 Unsupervised Machine Learning for Designers	Sabrina Osmany

Fall 2022

2228 Digital Media: Models	Hyojin Kwon
2230 Digital Media: Errors and Omissions	Ian Miley
2458 Ecological Do-Nothing Landforms	Min Yeo
6317 Materials Systems: Digital Design and Fabrication	Nathan King, Zachary Seibold
6338 Introduction to Computational Design	Jose Garcia del Castillo Lopez
6476 Transformable Design Methods	Chuck Hoberman

Spring 2022

2224 Digital Media: Neural Bodies	Andrew Witt
2225 Digital Media: Design Systems	Sawako Kaijima
2227 Digital Media: Writing Form	George Legendre
2314 Responsive Environments: Poetics of Space	Allen Sayegh
2361 Discourse and Advocacy in the Spaces of Curation	Mark Pasnik
6368 Pre- and Post-	Hyojin Kwon
6384 Towards a new Science of Design?	Martin Bechthold, Juan Ugarte
6385 Automation in Practice	Nathan King
6478 Informal Robotics/New Paradigms for Design & Construction	Chuck Hoberman
6483 Artifacts as Media: Signals, Data, Information and Technology	Jose Luis Garcia del Castillo Lopez
6484 Data Science for Building Performance Simulation and Architectural Design Optimization	Ellie Han
6485 Introduction to Machine Learning for Designers	Sabrina Osmany

Fall 2021

2228 Digital Media: Models	Hyojin Kwon, Zachary Seibold
2229 Digital Media: Not Magic	Michelle Chang
6317 Materials Systems: Digital Design and Fabrication	Nathan King, Zachary Seibold
6338 Introduction to Computational Design	Jose Garcia del Castillo Lopez
6359 Interface Design: Integrating Material Perceptions	Sawako Kaijima
6476 Transformable Design Methods	Chuck Hoberman

Spring 2021

2225 Digital Media: Design Systems	Sawako Kaijima
2227 Digital Media: Writing Form	George Legendre
2229 Digital Media: Not Magic	Michelle Chang
6365 Enactive Design: Creative Applications through Concurrent Human-Machine Interaction	Jose Garcia del Castillo Lopez
6368 Pre- and Post-	Hyojin Kwon
6478 Informal Robotics/New Paradigms for Design & Construction	Chuck Hoberman

Fall 2020

2223 Digital Media: Telepresence, Empathy, and Spatial Immersion	Allen Sayegh
2228 Digital Media: Artifacts	Hyojin Kwon, Zachary Seibold
2314 Responsive Environments: Episodes in Experiential Futures	Allen Sayegh

2481 Public Projection: Projection as a Tool for Expression and Communication in Public Space
6317 Materials Systems: Digital Design and Fabrication
6338 Introduction to Computational Design
6359 Interface Design: Integrating Material Perceptions
6476 Transformable Design Methods

Krzysztof Wodiczko

Nathan King, Zachary Seibold
Jose Garcia del Castillo Lopez
Sawako Kaijima
Chuck Hoberman

Spring 2020

2223 Digital Media: Ambiance
2227 Digital Media: Writing Form
2314 Responsive Environments: Episodes in Experiential Futures
2349 MAKE/BELIEVE
6365 Enactive Design: Creative Applications through Concurrent Human-Machine Interaction
6368 Pre- and Post-
6478 Informal Robotics/New Paradigms for Design & Construction

Allen Sayegh
George Legendre
Allen Sayegh
Dan Borelli
Jose Garcia del Castillo Lopez,
Zachary Seibold
Hyojin Kwon
Chuck Hoberman

Fall 2019

2228 Digital Media: Manipulations
2229 Digital Media: Composition
2481 Public Projection: Projection as a Tool for Expression and Communication in Public Space
6317 Materials Systems: Digital Design and Fabrication
6338 Introduction to Computational Design
6476 Transformable Design Methods

Hyojin Kwon, Zachary Seibold
Michelle Chang
Krzysztof Wodiczko

Nathan King
Jose Garcia del Castillo Lopez
Chuck Hoberman

Spring 2019

2223 Digital Media: Ambiance
2227 Digital Media: Writing Form
2314 Responsive Environments: Episodes in Experiential Futures
2352 Sections of Every Thing
6359 Interface Design: Integrating Material Perceptions
6432 Computational Design 2: Time/Design as Signal
6459 Mechatronic Optics
6478 Informal Robotics/New Paradigms for Design & Construction

Allen Sayegh
George Legendre
Sayegh / Andreani
Jungyoon Kim
Sawako Kaijima
Panagiotis Michalatos
Andrew Witt
Chuck Hoberman

Fall 2018

2225 Digital Media: Design Systems
2226 Digital Media: Image
2349 MAKE/BELIEVE
2350 Graphic / Volume Conflations
2481 Public Projection: Projection as a Tool for Expression and Communication in Public Space
6317 Material Systems: Digital Design and Fabrication
6338 Introduction to Computational Design
6360 Digital Fabrication and Robotics
6465 Deployable Surfaces: Dynamic Performance Through Multi-Material Architectures

Sawako Kaijima
Zeina Koreitem
Dan Borelli
Viola Ago
Krzysztof Wodiczko

Nathan King
Sawako Kaijima
Stylianios Dritsas
Chuck Hoberman

Spring 2018

2224 Digital Media II
2346 Near Drawing
2453 Graphic Narratives
2483 Projection-Animation
6358 Computational Geometry

Andrew Witt
Volkan Alkanoglu
Michael Rock
Krzysztof Wodiczko
Wu / Legendre

6425 Material Distributions: Digital Immersive Workflows for ...

Panagiotis Michalatos

Fall 2017

2456 Experiments in Computer Graphics

Zeina Koreitem

2481 Public Projection: Projection as a Tool for Expression and Communication...

Krzysztof Wodiczko

6317 Material Systems: Digital Design and Fabrication

Martin Bechthold

6349 Mapping II: Geosimulation

Robert Pietrusko

6338 Introduction to Computational Design

Michalatos / Kajima

6463 Hybrid Formations

Volkan Alkanoglu

6465 Deployable Surfaces: Dynamic Performance Through Multi-Material...

Hoberman / Grinham