INSTITUTE OF DESIGN (IDX)

IDX 502
New Product Definition
This course introduces students to the professional and theoretical aspects of the product definition process. It covers the process of creating a new product definition in detail, the characteristics of new product definition documents, aspects of organizational structure and dynamics as they relate to developing new product definitions, and sources of innovation.
Lecture: 0 **Lab:** 3 **Credits:** 3

IDX 503
Design Connoisseurship
Design Connoisseurship introduces design as a profession in context with history and contemporary practice. Multiple perspectives including the human-centered design process, the role of the senses, an appreciation of craftsmanship, and importance of stakeholders will be introduced with methods to assess and solve complex problems. Emphasis will be placed on learning how to articulate issues and define success or failure.
Lecture: 1.5 **Lab:** 0 **Credits:** 1.5

IDX 504
Prototyping Methods
Prototyping is a key method that designers use to navigate the design development process. Although prototyping is often thought of as coming at the end of the process to verify a design solution, our approach maintains that prototyping needs to happen throughout the process from initial research to storytelling to concept generation and lastly to refine and improve the selected direction.
Lecture: 3 **Lab:** 0 **Credits:** 1.5

IDX 505
Critique Methods
Explore the various types of critique and their usefulness at different stages of the design process.
Lecture: 3 **Lab:** 0 **Credits:** 1.5

IDX 506
Fundamentals of Product Design
In this course students will examine what, how, and why product form happens. Topics include the relationship between a product's form and corporate identity, visual trends, new materials, manufacturing techniques, semantics, product architecture, and ergonomics.
Lecture: 3 **Lab:** 0 **Credits:** 1.5

IDX 508
Modes of Human Experience
Analysis of issues involved in a design project with a human factors perspective is an important step during user research and the design development process. Knowing the basic concepts and principles of human factors will enable students to be user centered in their approach.
Lecture: 3 **Lab:** 0 **Credits:** 1.5

IDX 509
Data Literacy
Introduction to the methods, tools, and techniques for working with "quant" data in the design process.
Lecture: 3 **Lab:** 0 **Credits:** 1.5

IDX 510
Design Development and Implementation
An introduction to the common methods used to produce or manufacture products. Alternative processes, materials and finishing methods, relative costs, and applicability to design of products will be explored.
Lecture: 3 **Lab:** 0 **Credits:** 1.5

IDX 512
Product Design Workshop
This course is an opportunity for students to exercise their design muscles throughout an entire product development experience from framing through ideation to final concepts. Students may take this class multiple times, non-concurrently, for a maximum of 12 credits towards their degree.
Lecture: 0 **Lab:** 3 **Credits:** 3

IDX 513
Generative Design
Explores a variety of digital fabrication tools alongside the language, limitations, and capabilities of contemporary and near-future digital manufacturing.
Lecture: 0 **Lab:** 3 **Credits:** 3

IDX 514
Product/Service Architecture and Platforms
This course introduces the concept of product architecture and platform to explore their possible applications to different types of products from different viewpoints.
Lecture: 3 **Lab:** 0 **Credits:** 1.5

IDX 518
Interaction Design Methods
This course introduces methods for effectively describing the dynamic nature of interaction and applies them to different types of design cases.
Lecture: 3 **Lab:** 0 **Credits:** 1.5

IDX 519
Fundamentals of Web Development
Prepares students to confidently build projects with front-end web development tools.
Lecture: 0 **Lab:** 3 **Credits:** 1.5

IDX 520
History of Interaction Design
This course examines thought leaders in interaction design, their innovations, and the technology and business contexts that shaped the environment for their work. Students will review designs to better understand the elements that led to significant design breakthroughs.
Lecture: 3 **Lab:** 0 **Credits:** 1.5

IDX 522

Persuasive Interaction Design

This course examines interactive media and focuses on design methods and techniques for improved engagement between the entity providing the offering (e.g., product or service provider) and the entity consuming the offering (e.g., users, stakeholders, and purchasers).
Lecture: 3 **Lab:** 0 **Credits:** 1.5

IDX 524

Interaction Design Workshop

This workshop offers students the opportunity to practice methods for design research, concept development, interaction design, and rapid prototyping.
Lecture: 0 **Lab:** 3 **Credits:** 3

IDX 526

Physical + Digital Development

This course introduces different tools and platforms for the development of interactive systems. Students will employ the different platforms to translate from concept to prototypes for evaluation and communication. Students may take this class multiple times, non-concurrently, for a maximum of 12 credits towards their degree.
Lecture: 0 **Lab:** 3 **Credits:** 3

IDX 528

Prototyping Interactions

This course introduces different methods and tools for the prototyping of interactive systems. Students will employ the different methods to translate a concept from ideation to installation through multiple layers of sketches, prototypes, and interactive peripherals.
Lecture: 0 **Lab:** 3 **Credits:** 1.5,3

IDX 529

Applied Tech Frontiers

Explorations of technology applications and opportunities for contemporary societal issues.
Credit: Variable

IDX 530

Interaction Design for Immersive Systems

This course explores issues in design for interactions that are enabled by affordances available in ubiquitous computing, mixed reality, and virtual reality environments.
Lecture: 3 **Lab:** 0 **Credits:** 1.5

IDX 532

Interaction Design for Embedded Systems

This course explores interaction design principles, opportunities, and issues for embedded systems. It includes evaluating and creating product concepts for vertical markets and various levels of computing performance, modalities, affordances, and constraints.
Lecture: 3 **Lab:** 0 **Credits:** 1.5

IDX 533

Engaging Stakeholders in Innovation

This course focuses on the social dynamics of design as an agent of change and innovation introducing students to simple frameworks to help them get ideas off the ground and gain support within their organizations. The course will explore cognitive models and simple methods to engage key stakeholders and facilitate organizational buy-in.
Lecture: 1.5 **Lab:** 0 **Credits:** 1.5

IDX 534

Interactive Space

This seminar will look at different variations of interactive and reactive spaces. The seminar will concentrate on the theory and construction of, identities and characteristics of actors embedded in, and the technology employed in the design of such spaces.
Lecture: 3 **Lab:** 0 **Credits:** 1.5

IDX 536

Extensions of Media and Technology

This seminar is designed to engage students in a critical discussion about contemporary media and technology and the socio-cultural contexts in which they are situated. Theoretical notions as well as contemporary critique of media, technology, and their appropriations will be explored through lecture and discussion sessions.
Lecture: 3 **Lab:** 0 **Credits:** 1.5

IDX 537

Designing Futures

This course overviews a wide range of methodologies and approaches that have been used to engage in narratives about these futures including backcasting & histories of the future, predictive analytics and big data, forecasting and trend analysis, visioning & "visioneering", scenario planning, anticipatory design, speculative and critical design, science fiction, design fiction, speculative fabulation and feminist futures, Afrofuturism and decolonizing design.
Lecture: 3 **Lab:** 0 **Credits:** 3

IDX 538

Networked Cities

This course will explore the relationship between technologies -- new media, urban screens, mobile and wireless technology, and ubiquitous computing -- and cities and urban public spaces.
Lecture: 0 **Lab:** 3 **Credits:** 3

IDX 540

Networked Objects

This workshop will explore the relationship between digital technologies -- new media, urban screens, sensors and radio-frequency identification chips (RFID), mobile and wireless technology, and ubiquitous computing -- as they are embedded into physical products/artifacts, spaces, and environments as well as architecture and buildings, which is commonly referred to as the "internet of things."
Lecture: 0 **Lab:** 3 **Credits:** 3

IDX 542
Analysis + Synthesis in Design
This course is an overview of methods to analyze data and synthesize solutions that will likely be encountered as part of a design effort.
Lecture: 3 **Lab:** 0 **Credits:** 3

IDX 548
Innovation Methods
The course will present an overview of some of the key principles that drive design innovation followed by a broad look at the design innovation process, various methods, and frameworks.
Lecture: 3 **Lab:** 0 **Credits:** 1.5,3

IDX 550
Building and Understanding Context
This course will improve critical thinking skills when wrestling with the wide variety of input and insight that often accompanies design initiatives. The course will include basic overviews of argumentation, secondary research, and group-based discussion methods.
Lecture: 0 **Lab:** 3 **Credits:** 3

IDX 551
Facilitation Methods
Explores the methods and techniques to guide teams to desired outcomes in ways that build alignment, engagement, and momentum.
Lecture: 0 **Lab:** 3 **Credits:** 1.5

IDX 552
Managing Interdisciplinary Teams
This class will teach methods and tools that focus a team's creativity and analysis on the right deliverables and explore how the basic functional methods of the business world (such as schedules, budgets, emails, and meetings) can be informed by design thinking to be more effective for teams composed of multiple disciplines.
Lecture: 0 **Lab:** 3 **Credits:** 3

IDX 553
Engaging Stakeholders
This course focuses on the social dynamics of design as an agent of change and innovation, introducing students to simple frameworks to help them get ideas off the ground and gain support within their organizations.
Lecture: 1.5 **Lab:** 0 **Credits:** 1.5

IDX 554
Agile Culture
Understanding key principles, values, culture/behaviors, and practices of Agile methodology in design practice.
Lecture: 3 **Lab:** 0 **Credits:** 1.5

IDX 560
Introduction to Design Thinking
An introduction to the techniques and process of problem definition and solution generation as used in the field of design.
Lecture: 3 **Lab:** 0 **Credits:** 3

IDX 561
Introduction to Design Concepts
An introductory course into the methods and techniques of the field of design. Students will learn creative problem solving including how to manage ambiguous problems and work across disciplines.
Lecture: 3 **Lab:** 0 **Credits:** 3

IDX 562
Multidisciplinary Prototyping
Prototyping for non-designers.
Lecture: 3 **Lab:** 0 **Credits:** 3

IDX 594
Faculty Research
Classes, workshops, and seminars revolving around faculty specific research. Instructor permit only. Instructor will define requirements for enrollment. Students may take this class multiple times for a maximum of 24 credits toward their degree.
Credit: Variable

IDX 595
Internship
Supervision of participation in curricular practical training (CPT).
Lecture: 0 **Lab:** 0 **Credits:** 0

IDX 597
Special Topics
Classes that cover special and contemporary topics in design. Students may take this class multiple times for a total of 24 credits toward their degree.
Credit: Variable

IDX 598
Independent Study
Student-driven course to explore contemporary issues in the field of design.
Credit: Variable