

# INSTITUTE OF DESIGN (IDX)

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## 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.

**Credit: Variable**

## 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 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 535**

**Politics of Design**

To design is to perform an ideological and political act that has the power to fundamentally shape societies and systems. And yet, design utilizes methodologies that possess an illusion of neutrality situated outside of a societal or systemic context which inherently reifies discrimination by masking the biases of designers and co-creators. The empathic designer still possesses their own history, politics, and intentions that color the orientation of that empathy. This course will explore the interrelationship of the politics of design across individuals, practices, organizations, institutions, and systems.

**Lecture: 1.5 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 541****Critical Contexts**

The world is in flux. Everything must be re-designed. This course will survey a selection of theories, ideas and concepts that form the basis for understanding ourselves, the category of “the human” and the world that we live in. Currently, many aspects of human experience are being reconsidered through emergent notions of the posthuman and the more-than-human.

**Credit:** Variable

**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:** 9

**IDX 596****Externship**

This course enables students to receive academic credit for externing with a designated supervising design firm or department. Externs integrate and assimilate the skills learned in the classroom with those acquired in a specialized design placement.

**Credit:** Variable

**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. Students may take this class multiple times, non-concurrently, for a maximum of 12 credits towards their degree.

**Credit:** Variable