

INSTITUTE OF DESIGN (IDN)

IDN 461

Advanced Reading and Writing for Design I

Understanding key concepts in design requires proficiency in critical reading of design literature as well as fluid and descriptive written expression. This course will introduce international students to strategies for reading, analyzing, and responding to core texts in the field of design as well as expressing ideas in a variety of writing tasks with clarity and cohesion. Students will engage in critical reading, identify arguments and themes in design-related articles, and convey analysis in written assignments that align with the cultural and academic conventions required in graduate study. Placement in this course is based on exam results and/or departmental approval.

Lecture: 3 Lab: 0 Credits: 3

IDN 462

Advanced Listening and Presentation in Design I

Communicating with team members and design professionals requires an advanced level of spoken fluency and proficiency in language. This course will introduce communication strategies necessary for international students to achieve their goals in academic and professional environments. Students will develop increased real-time fluency and clarity in extended discussions of design-related material. The course will also enable students to develop skills in presenting their own designs and design processes. Strategies for effective listening and clear American English pronunciation will also be covered.

Lecture: 3 Lab: 0 Credits: 3

IDN 463

Cross-Cultural Communication I

An understanding of language and culture is crucial for design students and professionals. This course will give international students exposure to cultural norms in the U.S., a forum to reflect on experiences, and confidence in speaking and interacting with others. Students will reflect on key cultural topics as they apply to work in design and life in Chicago. Students will refine their communication skills in social and academic interactions and apply their language skills through excursions to culturally significant places of interest in and around Chicago.

Lecture: 3 Lab: 0 Credits: 3

IDN 464

Cross-Cultural Communication I Laboratory

Cross-Cultural Communication I Lab will introduce students to Chicago through excursions to culturally significant places and events. The lab will serve as a platform for students to apply the language developed in Cross-Cultural Communication I (IDN 463). Placement in this course is based on exam results and enrollment in the co-requisite course IDN 463.

Lecture: 0 Lab: 3 Credits: 1

IDN 466

Advanced Reading and Writing in Design II

This course will build on previously learned skills to teach international students language related to the professional practice of design. Students will learn to read design-related texts more critically by uncovering a writer's assumptions and evaluating an article's validity. Students will also develop different aspects of writing for design, including research and synthesis in response and essay writing, among others. Placement in this course is based on exam results and/or successful completion of IDN 461 Advanced Reading and Writing for Design I.

Prerequisite(s): IDN 461

Lecture: 3 Lab: 0 Credits: 3

IDN 467

Advanced Listening and Presentation in Design II

This course will teach advanced communication strategies necessary for design students to interact in academic and professional contexts. Students will develop their critical listening and discussion skills with extended discourse on design topics. Students will also develop greater fluency, accuracy, and clarity through a semester-length project. This course will enable students to build confidence in presentation, discussion, and project work. Placement in this course is based on placement exam results and/or the successful completion of IDN 462 Advanced listening and Presentation in Design I.

Prerequisite(s): IDN 462

Lecture: 3 Lab: 0 Credits: 3

IDN 468

Culture and Communication in Design II

This course will expose international students to more complex cultural norms and to advanced topics in culture as they relate to design practice. Students will develop language to navigate interactions in academic and professional contexts with cultural competency as well reflect on their own cultural profile. Students will apply their language skills through excursions and project work. Placement in this course is based on placement exam results and/or the successful completion of IDN 463 Culture and Communication in Design I.

Corequisite(s): IDN 469

Prerequisite(s): IDN 463

Lecture: 3 Lab: 0 Credits: 3

IDN 469

Cross-Cultural Communication II Laboratory

Cross-Cultural Communication II Lab will provide students with the opportunity to apply their language skills in research and professional contexts through excursions to events and places at Illinois Tech and in Chicago. Students will explore cultural differences and their application to design through a final presentation. The lab will serve as a platform for students to apply the language developed in Cross-Cultural Communication II (IDN 468). Placement in this course is based on successful completion of the prerequisite course and enrollment in the co-requisite course IDN 468.

Corequisite(s): IDN 468

Lecture: 0 Lab: 3 Credits: 1

IDN 481

Introduction to Design Practice

An accelerated course in design history, theory, and the makeup of contemporary professional practice.

Credit: Variable

IDN 482

Introduction to Design II

Instills familiarity with the professional practice of design in its main forms, disciplines, and applications including product design, communication design, design planning, design research, interaction design, service design, and design education. Covers required skills, activities, challenges, common tools, and leading players in these areas of practice. Also covers design industry employment skills and basic drawing and visualization.

Lecture: 4 **Lab:** 0 **Credits:** 3

IDN 483

Introduction to Visual Communication

Provides a sound understanding of two-dimensional form, introduces basic concepts of graphic design including factors of visual perception and syntax, principles of creating order and meaning, compositional techniques, aesthetic properties of visual form, and information processing, and covers the environmental, cultural, and personal context of the viewer. Considerable emphasis is placed on typography.

Lecture: 0 **Lab:** 6 **Credits:** 4

IDN 484

Communication Systems

Explores the techniques of planning and designing communications systems in print, web, and three-dimensional exhibition form from concept generation to visualization. Relevant perceptual, cognitive, and systems principles are investigated and prototyped.

Lecture: 0 **Lab:** 6 **Credits:** 4

IDN 485

Introduction to Objects & Artifacts

Teaches the fundamental principles and processes of product design through simple projects and skill building exercises, and about the study of more advanced projects and case studies. Skills taught include diagramming, orthographic sketching rendering, basic three-dimensional model building, and documenting intent for presentation.

Lecture: 0 **Lab:** 6 **Credits:** 4

IDN 486

Embodied Design

At the end of this course, students should be able to explore, create, and communicate design directions for simple products and environments taking into account design principles, human factors, technology, and business issues.

Lecture: 0 **Lab:** 6 **Credits:** 4

IDN 487

Introduction to Photography

Acquaints design students with the field of photographic image making, how images are constructed, and the ways they are used to communicate. Students learn the fundamental principles of image making, color theory, lighting, and digital image processing through the practice of creating images. All work is performed using digital cameras and software.

Lecture: 0 **Lab:** 4 **Credits:** 1.5,4

IDN 488

Digital Media

Surveys the basic media types used in interactive software. Includes a culminating project that demonstrates basic principles of screen design and computer-human interaction using a variety of media. Projects require use of common software applications for creating and editing six data types – text, bitmap, geometry, sound, animation, and video.

Lecture: 3 **Lab:** 1 **Credits:** 3,4

IDN 489

Introduction to Interaction

Explores the basic concepts of interaction design through short exercises and reviews of fundamental theory.

Lecture: 0 **Lab:** 6 **Credits:** 4

IDN 497

Special Topics

This course covering emerging topics in the field of design for undergraduate students.

Credit: Variable

IDN 501

Communication Systems

Explores the techniques of planning and designing communications systems in print, web, and three-dimensional exhibition form from concept generation to visualization. Relevant perceptual, cognitive, and systems principles are investigated and prototyped.

Credit: Variable

IDN 502

Making the User-Centered Case

Covers the rhetoric of design case making using verbal, quantitative, visual, and spatial modes of persuasion. Includes a survey of document and presentation types useful in the product development process.

Lecture: 3 **Lab:** 0 **Credits:** 1.5

IDN 503

Embodied Design

At the end of this course, students should be able to explore, create, and communicate design directions for simple products and environments taking into account design principles, human factors, technology, and business issues.

Credit: Variable

IDN 504

Introduction to Observing Users

This class will introduce students to theory and methods of behavioral observation, description, and analysis.

Lecture: 0 **Lab:** 3 **Credits:** 3

IDN 505**Digital Media**

Surveys the basic media types used in interactive software. Includes a culminating project that demonstrates basic principles of screen design and computer-human interaction using a variety of media. Projects require use of common software applications for creating and editing six data types – text, bitmap, geometry, sound, animation, and video.

Credit: Variable

IDN 506**Research Planning and Execution**

This course examines research methods used throughout the design and development process from process, financial, and results standpoints with a focus on planning research activities.

Lecture: 3 **Lab:** 0 **Credits:** 1.5

IDN 508**Principles and Methods of User Research**

This course is a survey of the research methods commonly used in design research and gives an overview of distinctions between primary and secondary research, quantitative and qualitative research, and online and in-person research in order to prepare students for research-intensive projects.

Lecture: 0 **Lab:** 3 **Credits:** 3

IDN 510**Research Photography**

This course aims to give design researchers the knowledge and tools to consistently make the right decisions when capturing and selecting photographs to use in storytelling.

Lecture: 3 **Lab:** 0 **Credits:** 1.5

IDN 512**Interview Methods**

The focus of this course is to gain familiarity with an underlying set of the principles and practices of ethnographic interviewing.

Lecture: 3 **Lab:** 0 **Credits:** 1.5

IDN 514**Experience Modeling**

This course is intended to familiarize students with the methods and practice of experience modeling. It entails a deep understanding of people in naturalistic, everyday settings and interpretive methods of analysis to create representations of the organization of everyday life.

Lecture: 3 **Lab:** 0 **Credits:** 1.5,3

IDN 516**Cultural Probes**

This course examines methods that aim to understand the cultural meaning that artifacts have to people.

Lecture: 3 **Lab:** 0 **Credits:** 1.5

IDN 517**Stimulus in Design Research**

This course will introduce students to the whens and hows of creating and using stimulus effectively in their practice of design research.

Lecture: 1.5 **Lab:** 0 **Credits:** 1.5

IDN 518**Survey Methods**

This class aims to familiarize designers with the tools and techniques that are commonly used by quantitative researchers such as surveys and statistical analysis. Students will learn how to design, understand, and evaluate surveys and other quantitative research tools and techniques as well as how to use online survey tools in their own work.

Lecture: 3 **Lab:** 0 **Credits:** 1.5

IDN 519**Evidence-based Design**

Introduction to the use of analytics measure the success of design solutions.

Credit: Variable

IDN 520**Co-Design + Social Interventions**

This course will introduce students to co-design methods including when to use co-design methods, what are the advantages and disadvantages of co-design methods, and how to create engaging co-design workshops. Students may take this class multiple times, non-concurrently, for a maximum of 12 credits towards their degree.

Lecture: 3 **Lab:** 0 **Credits:** 3

IDN 522**Research Synthesis**

This course will allow students to gain rigorous training in how to develop coding schemes, code qualitative data, and gain a deeper analysis of users based on field research.

Prerequisite(s): IDN 504 with min. grade of C

Lecture: 1.5 **Lab:** 0 **Credits:** 1.5

IDN 526**Online Research Methods**

This class covers methods and tools used in online research with a focus on the design of research objectives, implementation of their study protocol, and moderation of study participants.

Lecture: 3 **Lab:** 0 **Credits:** 1.5

IDN 530**Innovation Frontiers**

Introduces students to the broad context of strategic planning. It includes a discussion of the general forces acting upon an organization (competition, technological developments, channels of information, and product distribution) and ways to understand the people who use design.

Credit: Variable

IDN 531**Adaptive Leadership**

Explore different established and emerging change management models and their application to design.

Lecture: 3 **Lab:** 0 **Credits:** 1.5

IDN 532

Business Frameworks and Strategy

A descriptive course in business strategy for designers covering new venture strategy, competitive strategy, marketing strategy and tactics, decision sciences, entrepreneurship, private equity, business plan writing, innovation, introductory finance, and self-discovery. This course will build a series of non-mathematical models of success and failure in both entrepreneurial and corporate settings.

Lecture: 3 Lab: 0 Credits: 1.5

IDN 533

Innovation Ecosystems

This course is for students who are interested in leading and facilitating multi-disciplinary collaborative projects using design as know-how to innovate. Students will learn design tactics and strategies for knowledge brokering through tutorials, examples, practical activities and simulations.

Lecture: 1.5 Lab: 0 Credits: 1.5

IDN 534

Business Models and Value Webs

This course will consider the relationship between theories and practice in the two very different realms of economics and design.

Lecture: 3 Lab: 0 Credits: 1.5

IDN 535

Organizational Models of Innovation

This course will examine traditional and emerging models for how large organizations and other corporate entities engage to develop innovative offerings. Readings will cover recent developments in cooperative and open-sourced forms of innovation development.

Lecture: 1.5 Lab: 0 Credits: 1.5

IDN 536

Introduction to Portfolio Planning

This course is an introduction to the techniques and processes involved in portfolio planning. We will explore the role of portfolio planning in typical organizations and how it relates to other processes like strategy and specific product development.

Lecture: 3 Lab: 0 Credits: 1.5

IDN 537

New Venture Design

New Venture Design will teach aspiring entrepreneurs how to build design-led start-ups and new ventures, making this course ideal for students with new business ideas that they have been itching to design and launch. This exploration will happen across the four critical elements of a new venture: brand / value proposition; user experience; business model; and organization. Students will walk away with an understanding of how to architect new ventures using a combination of user empathy, market data, and intuition.

Lecture: 3 Lab: 0 Credits: 1.5,3

IDN 538

Strategic Design Workshop

This course covers the application of design planning methods and theory to real-world challenges. With a team-based, hands-on approach, students will tackle all stages of problem solving from initial framing to final solution proposals. Students may take this class multiple times, non-concurrently, for a maximum of 12 credits towards their degree.

Lecture: 0 Lab: 3 Credits: 3

IDN 539

Social and Economic Context of Design

This course examines the broader issues and forces that affect the conditions of how design can be effective within typical organizations. Through exercises and application of frameworks to examine these forces, students learn to recognize and adapt design plans to changing contexts.

Lecture: 3 Lab: 0 Credits: 1.5,3

IDN 540

Innovation Implementation

Introduces frameworks and methods for effectively implementing change in organizations. Using cases, students will identify principles, actions, and measures that mitigate risk, improve implementation success, and inform stronger designs.

Lecture: 1.5 Lab: 0 Credits: 1.5

IDN 541

Civic Design

Covers the emerging practice of applying design to areas of civic-oriented challenges.

Lecture: 1.5 Lab: 0 Credits: 1.5

IDN 542

Behavioral Design

This course will introduce how concepts from the field of behavioral economics can be thought of as another kind of "human factor" and ways in which they can help inform the process of design thinking.

Credit: Variable

IDN 543

Communication Strategies

This class introduces students to key concepts and methods to communicate design work. This includes a conceptual shift from communication as transmission of content to collaborative construction to better engage and align stakeholders in design work.

Lecture: 3 Lab: 0 Credits: 1.5

IDN 544

Diagram Development

Explores the language of diagrams as a communication means to represent different types of abstract, relational information. Students will be introduced to design principles of developing effective diagrams and multiple types of diagrams.

Lecture: 3 Lab: 0 Credits: 1.5

IDN 546**Metaphor and Analogy in Design**

This class explores metaphor for its utility as a powerful thinking and communication tool drawing from research in academic fields such as cognitive linguistics and visual communications. Students will consider metaphors and analogies (as well as similes, allegories, metonymies, and other visual/verbal devices) for their power open up new thinking, frame change and suggest action – all critical communication milestones in design planning.

Lecture: 3 Lab: 0 Credits: 1.5

IDN 548**Advanced Diagramming**

This class focuses on the study and development of visualizations to expand information presentation by using dynamic, interactive properties. Explorations to include data narratives, data visualization, time-based visualizations, analyzing motion, narration, transitions, and other visual properties that can enhance comprehension.

Prerequisite(s): IDN 544* with min. grade of C, An asterisk (*) designates a course which may be taken concurrently.

Lecture: 3 Lab: 0 Credits: 1.5

IDN 550**Communication Design Workshop**

A project-oriented workshop focusing on applying design principles to link theoretical methods to practice in the area of human-centered communication design. Students may take this class multiple times, non-concurrently, for a maximum of 12 credits towards their degree.

Lecture: 0 Lab: 3 Credits: 3

IDN 552**Fundamentals of Visual Communication**

Discusses pictures, abstract symbols, text, numbers, diagrams, three-dimensional form, and other sign systems in the context of communicating a designed offering. Additional teachings include the basics of visual communication principles to aid in developing effective communications.

Lecture: 3 Lab: 0 Credits: 1.5

IDN 554**Theories of Communication**

This class introduces students to theories of communication from other academic fields for application in design. It explores broadly the conception of communication to include relevant perspectives from education, social psychology, phenomenology and knowledge management.

Lecture: 3 Lab: 0 Credits: 1.5

IDN 556**Strategic Communication**

This class teaches students how to use communication as a design method to accelerate synthesis and give tangible form to valuable information throughout the development process. Students are introduced to relevant theories of language, visual perception, visual representation, and communication.

Lecture: 1.5 Lab: 0 Credits: 1.5

IDN 558**Innovation Narratives**

In both professional and academic careers, there is an increased need for storytelling skills and self awareness. Creating passion-filled, compelling, and effective stories is a critical part of leadership.

Lecture: 1.5 Lab: 0 Credits: 1.5

IDN 562**Modeling Complexity**

How does one visually capture and represent complex systems, topics, and activities that are too large to conceptualize using memory and cognition alone? Modeling complexity is a visual approach to large-scale problem definition that seeks to represent the full picture of a system by applying theories of visual perception and known techniques for representing relationships in data.

Prerequisite(s): IDN 544* with min. grade of C, An asterisk (*) designates a course which may be taken concurrently.

Lecture: 3 Lab: 0 Credits: 1.5

IDN 564**Bias + Sensemaking**

The class introduces the basic principles and methods for structuring complex information for effective understanding, identifying problems, and guiding solution development.

Lecture: 1.5 Lab: 0 Credits: 1.5

IDN 566**Systems Approach to Design**

The primary goal of the course is to understand systems thinking and approaches in design. The course reviews historical development of systems approaches and introduces systems concepts and approach to design. Particular emphasis goes to system modeling methods that facilitate designers to observe, describe, analyze, predict/envision, design, prototype, and evaluate behavior and performance of complex systems from different viewpoints.

Lecture: 3 Lab: 0 Credits: 1.5

IDN 568**Service Systems Workshop**

This workshop introduces concepts of services, design principles, and methods that are needed for the design of service systems. Topics include the nature of services, customer acquisition and retention, value propositions in service business, service prototyping and pilot testing, stakeholder management, infrastructure, and operational and implementation issues. Students may take this class multiple times, non-concurrently, for a maximum of 12 credits towards their degree.

Lecture: 0 Lab: 3 Credits: 3

IDN 570**Structured Planning Workshop**

Introduces structured planning methodology and applies it to complex design problems at the system level. Team techniques are emphasized, and formatted information handling and computer-supported structuring processes are used through the design process from project definition to information development, structuring, concept development, 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

IDN 571**Introduction to Systems Theory**

The course investigates principles and methods for representing and understanding structure and behavior of different types of systems. Various forms of theoretical and philosophical frameworks and methodologies are introduced to model and understand fundamental characteristics of domains of concern from different perspectives. Class topics include general systems theory, system modeling, causality, and formalisms. The class will also explore example applications of system concepts and modeling methods in design research.

Lecture: 1.5 Lab: 0 Credits: 1.5

IDN 572**Platform-Based Design Strategy**

Platform is an innovation strategy that provides a common set of standards to enable a variety of offerings to be built on top of it, creating higher value for all stakeholders involved. This course explores how platforms provide a base to accommodate many options that can support diverse contexts and user needs.

Lecture: 3 Lab: 0 Credits: 1.5

IDN 573**Sustainable Solutions Workshop**

In this course students will learn how to apply design methods and strategic thinking through open innovation practices for leveraging the interconnectivity of markets, technology, finance, and social networks in order to envision sustainable solutions with impact in the local lives and well-being of communities.

Credit: Variable

IDN 574**Design Process and Knowledge**

Introduces basics of design methodologies concerning design process models and knowledge representation and management. It discusses multiple viewpoints and aspects of design in order to address complexity of information required to implement human-centered approaches and interdisciplinary collaboration as well as developing and managing effective design processes, methods, and organizations for enabling innovative design.

Lecture: 3 Lab: 0 Credits: 1.5

IDN 575**Re-Thinking Systems**

In this course, students will learn key principles and concepts on complex adaptive systems in relation to human-centered design for understanding how product and service innovation can shape sustainable value webs and marketplaces.

Lecture: 3 Lab: 0 Credits: 3

IDN 576**Systems Modeling and Prototyping**

This workshop class introduces system modeling methods for representing different types and aspects of systems including continuous models, discrete models, probabilistic models, and structural models. System modeling and simulation software packages are used to understand and predict the system behavior. Various forms of physical prototyping are also applied as complementary methods to understand, analyze, explore, and evaluate systems through the development process.

Lecture: 0 Lab: 3 Credits: 3

IDN 578**Human System Integration**

This course teaches students the principles of socio-technical system design. Today's complex systems need to be designed as a whole system rather than piece-meal components. Hence, this course introduces students to the perspectives and principles that can be used when designing complex systems with people and technical subsystems.

Lecture: 3 Lab: 0 Credits: 3

IDN 685**Ph. D. Principles and Methods of Design Research**

Introduces the basic principles and methods for assembling, developing, and analyzing information in the tasks of design research. Techniques for collecting data, testing hypotheses, and presenting conclusions are learned in the context of conducting a pilot research project.

Lecture: 0 Lab: 3 Credits: 1.5

IDN 687**Ph. D. Philosophical Context of Design Research**

Explores the philosophical framework for conducting research and building knowledge in the field of design. Topics include concepts from epistemology, phenomenology, and structuralism. Comparisons are made between design research and research in other fields.

Lecture: 0 Lab: 3 Credits: 1.5

IDN 689**Ph.D. Research Seminar**

Investigation and discussion by faculty and students of topics of interest from different perspectives such as building a design research discourse (reading research papers critically, selecting among publication venues); investigating alternative philosophical bases for design research (comparing empirical, pragmatic, and phenomenological approaches); or exploring methodological and theoretical conflicts in design research.

Lecture: 3 Lab: 0 Credits: 3

IDN 691**Ph. D. Research and Thesis**

Research and thesis writing for Ph. D. degree.

Credit: Variable

IDN 999**General Elective Placeholder**

Credit: Variable