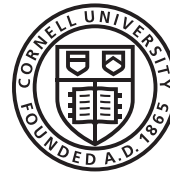# Design + Environmental Analysis

Create innovative, health, and sustainable futures through design

Program highlights: Design Innovation and Strategy | Emerging Technology | Health & Well-being | Sustainable Futures

Overview

Design is about making things happen, not just making things. Design + Environmental Analysis (D+EA) combines innovative design thinking with insightful research to understand how emerging technologies and the physical environments where people live, work, and play impact our daily lives. D+EA is a uniquely multidisciplinary department composed of designers, environmental psychologists, and technologists who study and design evidence-based environments that are aesthetic, compelling, and responsive to the human condition. Program strengths include studio-based training in creative process and innovation, research-based approaches for understanding human-centered design, and intellectual breadth to inform design process, thinking, and decision-making.

Good design requires knowledge and imagination, and responds to human needs. It is a force for change that emanates from a well-rounded education grounded in the social sciences and the design arts. D+EA students learn to tackle problems from a systems perspective by addressing people, process, and place. This is accomplished through multi-disciplinary studies in interactive human-centered design, environmental psychology, ergonomics, emerging technology, sustainability science, facility management, and business.

Core D+EA courses instill a deep understanding of the impact of design interventions and research outcomes on society. Department themes of *Design Innovation and Strategy, Emerging Technology, Health and Well-being*, and *Sustainable Futures* further define the knowledge base and develop robust skill sets and experiences. Students pursue course offerings within Human Ecology and across Cornell to support their individual goals.

The skills D+EA students gain are applicable to a variety of contexts, including educational, residential, healthcare, and workplace settings, and scales. Our graduates are changing the world in the design and technology industries across user experience, healthcare, industrial, and interior.

Sample Courses

Making a Difference by Design (DEA 1110) focuses on how leaders in a variety of fields use design as a social change agent. This course interweaves theories of leadership and creative problem-solving through case study examinations of a wide range of design innovations in technology, communication, business, education, medicine, human development, and ecology. Students learn how design affects their daily lives from the person to the planet. Additional topics include nurturing creativity, visual communications, values-led entrepreneurship, and designing across cultures.

Human Centered Design Methods (DEA 2730) explores the use of design methods to generate ideas and evaluate designed objects, environments, and interfaces. Lectures cultivate an understanding of the various methods, while hands-on activities provide opportunities to apply these methods to the design of artifacts and their interactions with people and things.

Materials for Design & Sustainability (DEA 3030) emphasizes the potential that a sustainable approach to the evaluation and selection of materials and finishes for creating products and places for people has to ensure the future survival of our planet. This course provides an introduction to basic material properties and asks students to morph the materials' sensibilities, understand performance testing, building codes, and formulate a life-cycle cost analysis. There is a focus on "green" methodologies and assessment, including LEED building rating systems.

Enabling Design: The Intersection of Age, Ability, and Design (DEA 3770) examines the ability of the built environment to disable or enable us. The status quo is not benign–we currently design using data for people of the highest sensory and ability levels, forcing all others to adapt. Learn to evaluate and design with respect to all people (Universal Design) in the creation of enabling products, buildings, and communities. This new perspective will shape your work in creating environments which enable all people to thrive.

Research

D+EA faculty use qualitative and quantitative methods and draw on approaches grounded in the social and biological sciences, humanities, and design. They conduct research ranging from creative endeavors, such as sculpture and graphic design, to empirical sociological and psychological investigations. Faculty are engaged in cutting edge technology and experimentation.

Undergraduate participation in research can be organized around independent studies and research assistantships.

Research examples

- A Virtual Brand Experience Evaluation: Customer Perceptions of Biophilic, Experiential Design in Automotive Showrooms
- Breathtaking Experiences: An Exploratory Study on the Causes and Effects of Awe in Human-Product Interactions
- Assessing Evidence-Based Design in Mental and Behavioral Health Facilities

Honors program

The D+EA Honors Program recognizes students who have demonstrated excellence in their academic work and their capacity for independent research. In addition to fulfilling the requirements for the major, students in the honors program prepare an honors thesis based on original research on a topic chosen by the student. Honors students work with a research mentor throughout the process. Students apply to the Honors Program during their junior year.

Experiential Opportunities

Awareness of design as a social art is integral to the mission of D+EA. Multiple courses have engagement and extension components through which students work on real, everyday problems in communities to gain experience creating impact.

Students learn in the classroom, but also through hands-on learning, building, and making. Students have access to excellent studio space, research labs, computer facilities, and fabrication shops including 3-D printing, laser cutters, and student work assembly space.

D+EA students can also take advantage of multiple international exchange study opportunities.

Community engagement and extension examples

Opportunities to support community organizations and individuals in need of design and research services are incorporated through design studio and lecture courses. In past semesters, students have:

- partnered with community and corporate contacts on design and branding projects;
- conducted Health Impact Assessments (HIA) to examine potential effects of locally proposed policies, programs, and buildings on human health;
- engaged with healthcare clients to apply evidence-based design in care settings;
- provided space programs for local non-profits; and
- applied interior design skills to existing, long-vacant historic buildings.

Internship Examples

User Experience Design Intern, ChaseDesign, Honeywell, Tesla
Design Strategy Intern, Perkins and Will, HDR
Workplace Design Intern, Gensler

Professional Pathways

D+EA students and alumni are part designer, psychologist, researcher, and business strategist. The breadth and depth of their unique education coupled with their practical experiences result in careers that span a range of professional opportunities.

Graduates of the program are highly sought after and valued for their intellectual range, their systems approach to problem identification and solving, and their strong analytical skills. They are collaborative and responsive leaders who bring innovation and social responsibility to practice.

Graduate/Professional school

In recent years, graduates have been offered admission to a number of graduate programs including Masters in Architecture programs at Columbia University and Cornell University, as well as a Masters in Professional Studies in Information Sciences.

Sample career paths

Business Analyst, Deloitte
Creative Strategist, IA Interior Architects
Entrepreneur, Theo Kondos and Associates
Ergonomist, Cleveland Clinic, HumanScale
Facility Planner, Urban Green Council
Furniture Designer, StandAndBuild
Interior Designer, Tony Chi + Associates, HOK
Lighting Designer, U.S. Green Building Council
User Experience Designers/Researcher, Google, IDEO, Facebook
Workplace strategist, CBRE, Louis Vuitton, Herman Miller