

# HUMAN-CENTERED DESIGN (PHD)

The Ph.D. in Human-Centered Design prepares students to become interdisciplinary scholars who can apply a variety of methodological approaches at the intersection of technology, human behavior, and design. Students will be able to explore the use of technologies in the context of complex problems through empirical studies and apply results to the design of innovative technologies, strategies, and practices. By working with faculty, students will be trained to advance the field of human-centered design through participation in research relevant to both academic and practitioner communities. Students will be prepared for careers in academic institutions, industry research labs, and government and civic organizations.

Program Requirements	Quarter Hours
Degree Requirements	60
<b>Total hours required</b>	<b>60</b>

## Learning Outcomes

Students will be able to:

- Design and conduct research studies including determining the appropriate research methodology for the context and implementing research protocols, and analyzing data.
- Engage in academic research discussions, including, but not limited to, conducting literature reviews and engaging in academic writing.
- Translate research findings into principles to design human-centered experiences.
- Create design-based artifacts and experiences in a chosen disciplinary area.

## Degree Requirements

The PhD in Human-Centered Design prepares students to advance the field of digital technology and media design by taking a transdisciplinary and collaborative approach that blends theory with practice. The program embraces a broad diversity of scholarly traditions and creative practices that include design, learning sciences, computer science, human-computer interaction, game design and development, and psychology.

### Overview

#### The Foundation Phase

Students entering the program will begin by completing the necessary foundation courses and participating in small-scale research projects led by their faculty advisors. The purpose of the foundation phase is to ensure that students have the appropriate breadth and depth of knowledge necessary to formulate relevant research questions as well as develop skills for conducting research.

Course	Title	Quarter Hours
HCD 421	DESIGN AND HUMAN EXPERIENCE	4
HCD 450	THEORIES AND METHODS IN HUMAN-CENTERED DESIGN	4
HCD 510	RESEARCH METHODS AND PRACTICE OF SCHOLARSHIP	4
Select two (2) of the following core studio courses:		8

HCD 440	DESIGNING PLAYFUL EXPERIENCES (FORMERLY EXP 440)	
HCD 441	DESIGNING LEARNING EXPERIENCES (FORMERLY EXP 441)	
HCD 442	DESIGNING INTERFACES FOR EMERGING TECHNOLOGIES (FORMERLY EXP 442)	
Select one (1) of the following additional research methods courses:		4
CMNS 582	QUANTITATIVE RESEARCH METHODS	
HCI 445	USER RESEARCH METHODS	
PSY 420	QUANTITATIVE RESEARCH DESIGN (with instructor approval)	

Students can waive out of any course (except methods courses which can only be substituted) for which they can prove equivalent course experience. Waivers are defined as when students do not take the course (up to 12 hours; all other courses must be substituted); substitutions are the replacement of one (1) course for another. To request a waiver or substitution, students should present evidence of the equivalent course taken (with a minimum of B-) to their faculty advisor, who will then request approval from the HCD Committee. In rare cases, students may request a waiver due to extensive work experience. To request a waiver, students must present evidence (e.g., work portfolio) to their faculty advisor, who will then make the request to the HCD Committee. In both cases, the HCD Committee will make the final decision on whether a course can be waived or substituted because of course equivalency or work experience.

#### Design and Production Phase

During this phase, there is one (1) required course and students will work with their advisors to select at least eight (8) specialized courses to develop their design and production skills. Additional electives not listed below may be selected after students receive written approval from both their faculty advisor and the HCD Committee.

Course	Title	Quarter Hours
CMNS 545	COMMUNICATION AND TECHNOLOGY	4
Select at least eight (8) of the following:		32
CSC 500	RESEARCH COLLOQUIUM	
CMNS 570	INTRODUCTION TO DIGITAL CMN	
DMA 415	AUDIO WORKSHOP	
DMA 425	STILL IMAGE WORKSHOP	
DMA 475	MOVING IMAGE WORKSHOP	
DMA 480	WEB/MEDIA DELIVERY WORKSHOP	
GAM 424	GAME DESIGN WORKSHOP	
HCI 430	PROTOTYPING AND IMPLEMENTATION	
HCI 440	INTRODUCTION TO USER-CENTERED DESIGN	
HCI 450	FOUNDATIONS OF HUMAN-COMPUTER INTERACTION	
HCI 460	USABILITY EVALUATION METHODS	
HCI 470	DIGITAL DESIGN	
HCI 511	ACCESSIBILITY CONSIDERATIONS IN HCI	
HCI 515	DESIGN ETHNOGRAPHY	
HCI 520	LEARNER-CENTERED DESIGN	
HCI 530	MOBILE DESIGN	
HCI 553	SOCIAL INTERACTION DESIGN	

HIT 421	INTRODUCTION TO HEALTH INFORMATICS
IS 511	SOCIAL ISSUES OF COMPUTING
JOUR 504	ADVANCED MULTIMEDIA JOURNALISM
JOUR 520	DATA JOURNALISM
JOUR 529	ONLINE NEWSROOM
MPOP 530	NEW MEDIA AND CULTURE
MPOP 575	DIGITAL MEDIA ETHICS
PSY 404	PERCEPTION AND COGNITION
PSY 430	SOCIAL PSYCHOLOGY OF THE SELF
PSY 567	SPECIAL TOPICS IN COMMUNITY PSYCHOLOGY
SOC 463	SOCIAL PSYCHOLOGY
SOC 464	SOCIAL INEQUALITY AND STRATIFICATION

### Research Phase

During the research phase, students will focus on completing their qualifying examinations, candidacy, and dissertation.

- **Breadth Examination:** By the end of the second year in the program, students will take the breadth examination to assess their knowledge of core concepts and principles.
- **Depth Examination:** Under the supervision of their faculty advisor and assisted by two additional faculty members, students will lead a small research project from inception to publication of the results in one of the following areas: human-centered design, learning sciences, game design and development, or interactive media.
- **Candidacy Phase:** This phase begins with successful defense of the dissertation proposal based on a focused research project. Students will enroll in HCD 699 until complete.
- **Dissertation Phase:** All students must complete a dissertation that provides a significant contribution to the student's intended area of expertise. Students will enroll in HCD 701 until complete. The doctoral dissertation must demonstrate the student's ability to engage in significant research that is recognized by an academic community as exhibited by:
  - Relevant and significant research question(s) to a technology-based field
  - In-depth literature review of relevant research
  - A conceptual framework that serves as the foundation for the research
  - Significant research findings and contribution

The designated courses for the research phase are:

Course	Title	Quarter Hours
HCD 599	INDEPENDENT STUDY	
HCD 699	RESEARCH	
HCD 701	CANDIDACY DISSERTATION RESEARCH	

### Course Requirements

PhD students are expected to complete at least 60 credits of graduate-level courses. The length of time students spend in the program will vary depending on the student's background. We anticipate that students will finish on average in 4-5 years.