**CIXD 2090. Narrative Media for Interaction. 3 Credits.**
Explanation of narrative as a method to conceptualize, communicate, and evaluate interactions across design contexts and media; using key aspects of narrative and event structure as a method for framing and analyzing designed interaction. Materials fee. Restricted to interaction design majors. Prerequisite: CFN 1093.

**CIXD 2091. Systems Thinking for Interaction Design. 3 Credits.**
The importance of technological, organizational, and social systems in the practice of interaction design. Materials fee. Restricted to interaction design majors. Prerequisites: CIXD 2090 and CIXD 2111 or permission of the instructor.

**CIXD 2111. Creative Code. 3 Credits.**
Procedures and methods of code-based strategies for realizing creative ideas; fundamental skills in creative coding languages and environments. Materials fee.

**CIXD 3090. Human Centered Design for Social Engagement. 3 Credits.**
Studio-based introduction to participatory design processes and their application for interaction design and social innovation. Materials fee. Prerequisite: CIXD 2091.

**CIXD 3091. Prototyping and Fabrication for Interaction. 3 Credits.**
Investigation of prototyping as a method for testing and communicating initial design assumptions and creating platforms for participatory response; refinement of associated fabrication skills. Materials fee. Prerequisites: CIXD 2091 and CIXD 2111.

**CIXD 3110. Topics in Interaction Design Studio. 3 Credits.**
Issues in contemporary design practice. Topics vary by semester. May be repeated for credit provided topic differs. See department for more details.

**CIXD 3111. Data Visualization and Sonification. 3 Credits.**
Tools and processes for visualizing and sonifying data sets using current web-based tools; critical analysis of data visualization examples; interactive possibilities of creating user experiences around data. Materials fee. Prerequisites: CIXD 2111 or permission of the instructor.

**CIXD 3120. Interaction Design Internship. 0-3 Credits.**
For interaction design majors pursuing an internship directly relevant to program themes and goals. Permission of the major advisor required prior to enrollment. Graded on a Credit/No Credit basis. Restricted to interaction design majors.

**CIXD 3820. Engagement Lab. 3-6 Credits.**
Design lab with a focus on social, environmental, and community impact. Project teams collaborate with a community partner to identify and respond to local challenges that might be addressed through interaction design processes and skills. Materials fee.

**CIXD 3910. Collaborative Design Project. 3 Credits.**
Practical experience in the conceptualization, production, and delivery of a multidisciplinary design project. Materials fee.

**CIXD 4020. Topics in Design Research. 3 Credits.**
Key theoretical and methodological concepts in the field of interaction design connect research in design innovation with qualitative and quantitative research methods, providing insights into user behaviors, attitudes, and expectations. Prerequisites: CGD 2091 or CIXD 2091.

**CIXD 4090. Interaction Design Thesis I. 3 Credits.**
The development of a senior thesis project and accompanying research. Student work evolves in a studio atmosphere that stresses user-oriented research, analysis, and prototyping of digital and physical interactive experiences, services, or products with a focus on social and environmental impacts. Materials fee. Restricted to Interaction Design majors. Prerequisites: CIXD 3090 and CIXD 3091.

**CIXD 4091. Interaction Design Thesis II. 3 Credits.**
Completion of a senior thesis project and accompanying research. Student work evolves in a studio atmosphere that stresses user-oriented research, analysis, and prototyping of digital and physical interactive experiences, services, or products with a focus on social and environmental impacts. Materials fee. Restricted to undergraduate interaction design majors. Prerequisite: CIXD 4090.

**CIXD 4193. Topics in Design Leadership. 3 Credits.**
Experiential study of professional practices of interaction designers and the leadership skills that promote innovative, equitable, and sustainable design solutions. Topics vary by semester. See program for more details. Restricted to undergraduate interaction design majors. Prerequisite: CIXD 3091.
CIXD 6010. Interaction Design for Service. 3 Credits.
Tools and approaches for developing interactive services and experiences. Students work to define and frame problems, generate innovative proposals, and think comprehensively about the social, ethical, and organizational models surrounding the solutions they design. Restricted to graduate students in the interaction design program or with the permission of the instructor.

CIXD 6011. Narrative Media Design for Interaction. 3 Credits.
Exploration of narrative as a method to conceptualize, communicate, and evaluate interactions across design contexts and media; key aspects of narrative and event structure as a method for framing and analyzing designed interaction. Restricted to graduate students in the interaction design program or with the permission of the instructor.

CIXD 6012. Prototyping Interaction. 3 Credits.
Investigation of prototyping as a method for testing and communicating initial design assumptions, establishing feedback processes, creating platforms for participatory response, improving design ideas, and assessing the life-cycle implications of design solutions. Restricted to graduate students in the interaction design program or with the permission of the instructor.

CIXD 6021. Topics in Design Leadership. 3 Credits.
Practice-based investigation of leadership skills that promote innovative, equitable, and sustainable design solutions. Topics vary by semester. See department for more details. Permission of the instructor may be substituted for the prerequisites. Prerequisites: CIXD 6010 and CIXD 6011.

CIXD 6080. Engagement Lab. 3-6 Credits.
Design lab with a focus on social, environmental, and community impact. Project teams collaborate with a community partner to identify and respond to local challenges through interaction design. Restricted to graduate students in the interaction design program or with the permission of the instructor.

CIXD 6090. Topics in Design Research. 3 Credits.
Key theoretical and methodological concepts in the field of interaction design; connecting research in design innovation with research methods that offer insight into users’ behaviors, attitudes, and expectations. Topics vary by semester. See department for more details. Restricted to graduate students in the interaction design program or with the permission of the instructor.

CIXD 6110. Studio Topics in Interaction Design. 3 Credits.
Issues in contemporary design practice. Topics vary by semester. May be repeated for credit provided topic differs. Consult the Schedule of Classes for more details.

CIXD 6111. Creative Code. 3 Credits.
Procedures and methods of code based strategies for realizing creative ideas; fundamental skills in creative coding languages and environments. Restricted to graduate students in the interaction design program or with the permission of the instructor.

CIXD 6112. Data Visualization and Sonification. 3 Credits.
Tools and processes for visualizing and sonifying data sets using current web-based tools; critical analysis of data visualization examples and interactive possibilities of creating user experiences around data. Students are expected to have foundational knowledge of digital design processes prior to enrollment. Restricted to graduate students in the interaction design program or with the permission of the instructor. Recommended background: Prior experience with digital imaging and web-based tools.