Human-centered design combines the cognitive with the technological to create devices, tools and environments that advance efficiencies, knowledge and quality of life. This graduate program leverages Florida Tech’s established expertise in engineering and science with students, faculty and industry experts from interdisciplinary backgrounds to solve complex technological and organizational problems affecting individual and collective interactions with technology.

**Human-Centered Design Institute (HCDi)**

The Human-Centered Design Institute is a transversal organization that works with the Colleges of Engineering, Science, Aeronautics and Business to leverage a cross-disciplinary approach to design thinking, creativity, innovation and socio-technical leadership to tackle the challenges faced by the 21st century. HCDi is an open space for undergraduate and graduate students to create, innovate, design and develop their own ideas. The center brings together thought leaders to share new ideas, best practices and advance the scope of knowledge on human-centered design through research and theoretical application. The Human-Centered Design Institute works with many organizations, including:

- NASA
- Boeing
- Harris Corp.
- Areva
- FAA
- ISU
- SESAR in Europe
- NLET
- University of Valenciennes
- Ecole Polytechnique of Paris

**Degree Overview**

Using creativity, prototyping, cognitive engineering, complexity analysis, modeling and simulation, human-centered designers help create technologies that improve human interaction with socio-technical contemporary systems.

**Program Culture**

Emphasizing innovation, technology and human interaction, human-centered design students develop strong relationships and create a supportive network of like-minded professionals.

**Design Thinking and Cockpit Research Labs**

HCDI advanced interaction media labs facilitate the design of real-world systems, including Airbus 320 and Boeing 737 simulators in the pursuit of advancing situational awareness in life-critical systems.

**CURRICULUM**

Graduate students in human-centered design research and apply many concepts, including:

- Cognitive Engineering
- Advanced Interaction Media
- Complexity Analysis for HCD
- Life-Critical Systems
- Human-Centered Organization Design and Management
- Modeling and Simulation
- Function Analysis
- Usability Engineering
- Creativity and Design Thinking
- Industrial Design
Faculty

Florida Tech’s faculty members are dedicated researchers who are actively involved in supporting their students’ passion for discovery. Guy A. Boy, Ph.D., the director of the Human-Centered Design Institute and program chair for the master’s and doctoral programs, has dedicated the majority of his life to advancing the field, expanding his students’ and faculty’s depth of knowledge and helping public and private organizations create advanced technologies. Boy has held a variety of high-level research positions in committees and institutions all over the world, including NASA, ONERA (the French Aerospace Lab) and the European Institute of Cognitive Sciences and Engineering, where he was both founder and president.

Careers

As the human-centered design approach continues to be adopted by innovators in the marketplace, a greater demand is put on industry professionals who understand how to make technology more accessible, user-friendly and informative. Earning a master’s or doctoral degree in human-centered design helps propel graduate students from diverse backgrounds, including engineering, psychology and science, to become crucial contributors to their organizations’ new technology creation and enhancement. From the systems engineer to the cognitive scientist, human-centered design graduates find themselves in the heart of the design process, creating new technologies like advanced cockpits, control rooms, educational tools, simulators and new living environments—just to name a few.

Research

Due to the interdisciplinary nature of human-centered design, research opportunities can be as varied as the program’s core disciplines and concepts, including:

- Life-critical human-computer interaction
- Situation awareness assistant for human deep space exploration
- Cognitive engineering approach to nuclear power plant control and maintenance
- Improving commercial flight operations within the next generation perspective
- Cognitive ergonomics
- Advanced visualization to support crisis management
- Design of tools and environments to improve education

Research Portal

Want to learn more about the cutting-edge research you can take part in at Florida Tech? Visit our Research Portal and discover something new!

www.fit.edu/research/portal

Contact

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