There is a growing demand within industry for workers with expertise in human-computer interaction (HCI), who generally hold titles such as interface designer; usability researcher analyst; usability engineer; user experience specialist; or information architect. HCI specialists bridge the gap in organizations between groups who build the technologies and groups who use the technologies.

The qualifications for these positions generally fall into the following categories:

- Knowledge of human-computer interaction principles and theory.
- Skills in collecting user requirements.
- Skills in developing prototypes, both low-fidelity (e.g., paper) and high-fidelity (e.g., HTML mock-up).
- Skills in evaluation of the impact of technologies on humans.

The department of Business and Information Technology at the Missouri University of Science and Technology (S&T) offers both undergraduate and graduate programs in Human-Computer Interaction. These programs prepare students for positions as HCI specialists, and provide working IT professionals with additional skills to aid in the design and evaluation of usable systems. The department faculty includes some of the leading researchers in the field of HCI, with strong ties to industry usability professionals.

**Admission requirements**

Prospective students may apply at any time by completing the Graduate Application for Admission found online at apply.mst.edu.

The graduate certificate program is open to all individuals holding a bachelor’s, master’s or Ph.D. degree in areas such as business, social sciences, technology, engineering, or related disciplines. Students must also have the required prerequisites for the courses in the program.

In order to receive a Graduate Certificate, the student must have an average graduate cumulative grade point of 3.0 or better on a 4.0 scale in the certificate courses taken. Students admitted only to the certificate program will have non-degree graduate status but will earn graduate credit for the courses they complete. Students will be given three years to complete the certificate as long as a B or better average is maintained in the courses taken.

If a student completes the four graduate certificate courses with a grade of B or better in each of the courses taken, the student will, upon application, be admitted to the Master of Business Administration or to the Master of Science in Information Science and Technology. The certificate courses taken by students admitted to the program will count toward the student’s MBA or M.S. degree.
**REQUIRED CORE COURSES**

**IS&T 5885 Human Computer Interaction and User Experience**
Introduction to the field of Human-Computer Interaction (HCI). Students examine issues and challenges related to the interaction between people and technology. The class explores the social and cognitive characteristics of people who use information systems. Students learn techniques for understanding user needs, interface prototyping & interface evaluation.

**IS&T 5886 Prototyping Human-Computer Interactions**
This course explores novel HCI and UX technologies as well as methods and tools for creating system prototypes, including best practices and guidelines for optimal user experiences. Example concepts include mobile applications, behavioral monitoring, gamification, natural user interfaces, haptics, and computers as social actors.

*Prerequisite: Preceded or accompanied by IS&T 5885.*

**IS&T 5887 Human-Computer Interaction Evaluation**
This course covers research and analysis methods and tools for evaluation of the impact of information technology systems on humans and organizations. The focus will be on practical evaluation with the goal of providing recommendations for improving system functionality and usability.

*Prerequisite: Preceded or accompanied by IS&T 5885.*

**ELECTIVE COURSES (CHOOSE ONE)**

**IS&T 5680 Digital Media Development and Interactive Design**
This course covers advanced techniques and tools for the design and development of digital and interactive media, including text, graphics, animation, audio, and video.

*Prerequisite: A grade of "C" or better in IS&T 1551, IS&T 1561 or Comp Sci 1570*

**IS&T 6887 Research Methods in Business and IS&T**
This course covers quantitative and qualitative research methods for exploring the interaction between people and information technologies. The course covers techniques and tools for carrying out literature reviews, forming research goals, designing research, conducting data analyses; and preparing manuscripts and live presentations. (Co-listed with BUS 6887)

*Curriculum is subject to change. Please contact the department for up-to-date information on courses. Other courses approved by the department may be substituted for any of the above listed courses on a case-by-case basis. The administrative coordinators must approve the substitution prior to enrolling in the course.*