MS IN COMPUTING:
HUMAN-CENTERED COMPUTING

In human-centered computing (HCC) the design and development of technology is motivated by the needs of people. HCC focuses on understanding how people use technology, creating new and accessible technology that enables novel interactions, and evaluating how technology impacts and supports people in the world. The core methods and techniques in HCC are grounded in computer science, but are also draw on social science and design. Current HCC focus areas in the School of Computing include personal informatics, mobile interaction, visualization, games, and privacy.

A student may pursue an MS with a (1) thesis option, or (2) a project option, or (3) a course-only option. The minimum number of credits for any of the three options is 30 from graduate level classes. A maximum of 6 project hours or 9 thesis hours is allowed to be included in the program of study for students in the project or the thesis option. A minimum of 6 hours of thesis research is required for the thesis option.

TRACK FACULTY
Erik Brunvand, Rogelio E. Cardona-Rivera, Tamara Denning, Alexander Lex, Miriah Meyer, **Jason Wiese (track director),** R. Michael Young

CORE CLASSES: Required courses:	
CS 6540	HCI
CS 6963	Advanced HCI
CS 6630	Visualization for Data Science
ED PS 6010	Introduction to Statistics and Research Design

ELECTIVES: 6 electives in total.
Up to 3 electives can be taken from outside of CS. Courses not on the pre-approved list require approval of the Track Director.

PRE-APPROVED CS ELECTIVES

Data Science

CS 6140	Data Mining
CS 6160	Computational Geometry
CS 6190	Probalistic Modeling
CS 6340	Natural Language Processing
CS 6350	Machine Learning
CS 6530	Database Systems

Visualization

CS 6635	Visualization for Scientific Data
CS 6965	Advanced Data Visualization

Robotics

CS 6300	Artifiial Intelligence
CS 6310	Robotics
CS 6320	Computer Vision

Computer Graphics and Interaction

CS 6360	Virtual Reality
CS 6610	Interactive Computer Graphics

MS IN COMPUTING:
HUMAN-CENTERED COMPUTING

CS 6640	Introduction to Digital Imaging
CS 6955	Science of Game Design
CS 6964	Computational Models of Interactive Narrative

Embedded Systems

CS 6780	Embedded System Design
CS 6785	Advanced Embedded Software

PRE-APPROVED NON-CS ELECTIVES

Courses taught outside of the College of Engineering may require differential tuition.

Design

DES 5320	Typographic Communication
DES 5370	Digital Fabrication
DES 5710	Product Design and Development

Ed Psychology

ED PSY 6030	Introduction to Research Design

Psychology

PSY 6120	Advanced Human Cognition
PSY 6140	Cognitive Neuroscience Approaches to Research
PSY 6420	Methods in Social Psychology
PSY 6700	Neuropsychology

Nursing

NURS 7107*	Principles of Qualitative Inquiry I
NURS 7203	Principles of Qualitative Inquiry II
NURS 7209	Research Interviews and Focus Groups

*This course must be taken as a sequence with NURS 7203.

Sociology

SOC 6110	Methods of Social Research

Entertainment Arts and Engineering

EAE 6900	Games User Research
EAE 6900	A.I. For Games

Mechanical Engineering

ME EN 7240	Haptics for Virtual Reality, Teleoperation, and Physical Human-Robot Interaction

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HUMAN-CENTERED COMPUTING

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Course work listed on the approved Program of Study form must comprise at least 50 hours of graduate coursework and dissertation research. At least 14 semester hours of dissertation research (CS 7970) and 27 hours of graduate coursework must be included. Up to 12 hours of graduate coursework taken elsewhere or counted toward previous degrees can be counted toward the graduate coursework requirement with the approval of the track director.

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CORE CLASSES: Required courses:

CS 6540	HCI
CS 6963	Advanced HCI
CS 6630	Visualization for Data Science
ED PS 6010	Introduction to Statistics and Research Design

ELECTIVES: 5 electives in total
Up to 3 electives can be taken from outside of CS. Courses not on the pre-approved list require approval of the Track Director.

PRE-APPROVED CS ELECTIVES

Data Science

CS 6140	Data Mining
CS 6160	Computational Geometry
CS 6190	Probalistic Modeling
CS 6340	Natural Language Processing
CS 6350	Machine Learning
CS 6530	Database Systems

Visualization

CS 6635	Visualization for Scientific Data
CS 6965	Advanced Data Visualization

Robotics

CS 6300	Artifiial Intelligence
CS 6310	Robotics
CS 6320	Computer Vision

PHD IN COMPUTING:
HUMAN-CENTERED COMPUTING

Computer Graphics

CS 6610	Interactive Computer Graphics
CS 6640	Introduction to Digital Imaging

Embedded Systems

CS 6780	Embedded System Design
CS 6785	Advanced Embedded Software

PRE-APPROVED NON-CS ELECTIVES

Courses taught outside of the College of Engineering may require differential tuition

Design

DES 5320	Typographic Communication
DES 5370	Digital Fabrication
DES 5710	Product Design and Development

Ed Psychology

ED PSY 6030	Introduction to Research Design

Psychology

PSY 6120	Advanced Human Cognition
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NURS 7203	Principles of Qualitative Inquiry II
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