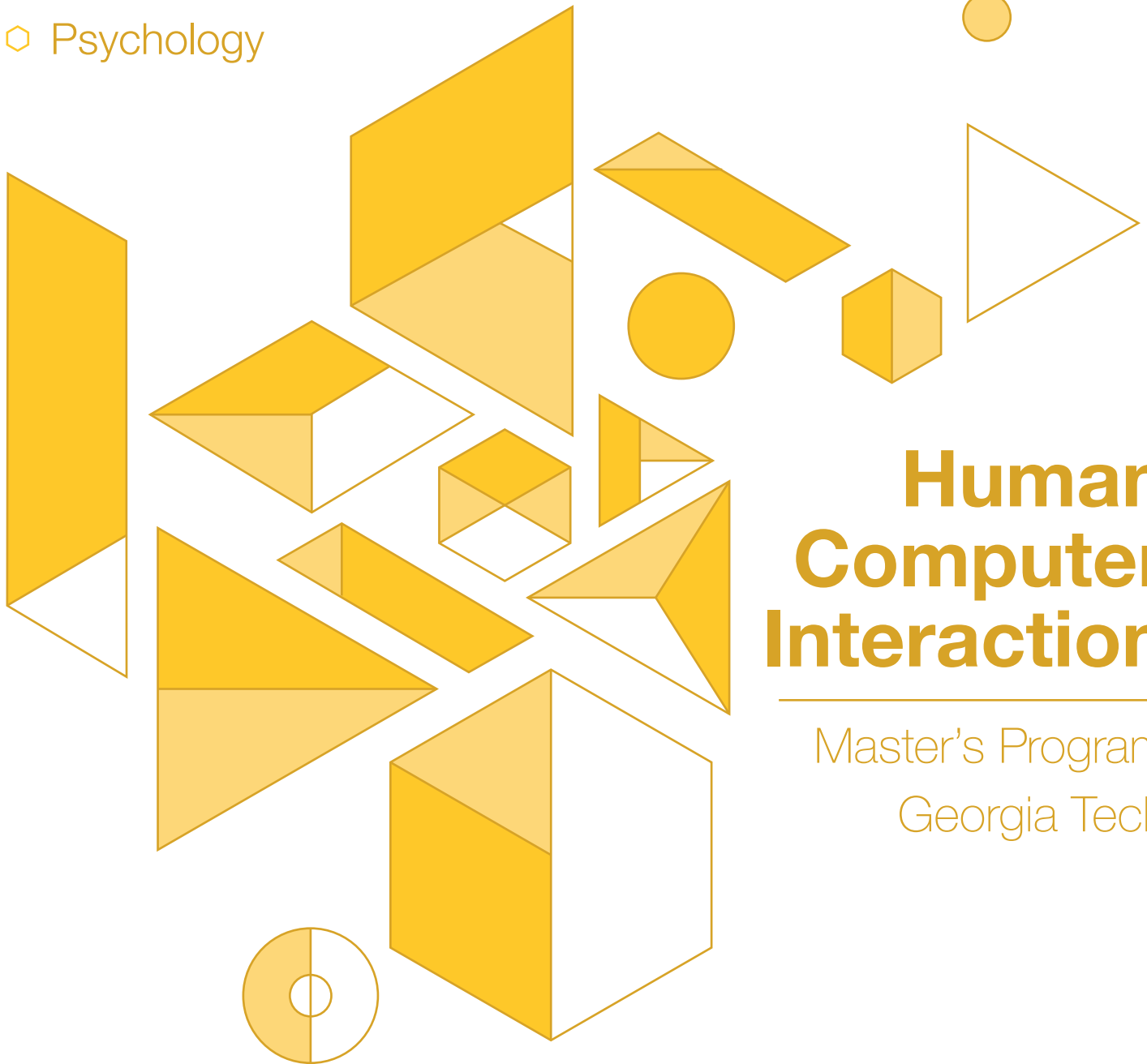


- ◊ Interactive Computing
- ◊ Industrial Design
- ◊ Digital Media
- ◊ Psychology



Human Computer Interaction

Master's Program
Georgia Tech

Fall 2015

Graduate Student Orientation Handbook

Welcome to Georgia Tech!

We are delighted to welcome you as the 20th class to enter the MS-HCI program! You are a very select and special group: in the spring of this year we received almost 350 applications and accepted less than a third of these very strong applicants and you represent our largest entering class. Congratulations to each of you!

Since our first class was admitted in 1997, over 360 students have earned the MS-HCI degree. Our graduates work for the very best companies around the world, around the United States, and right here in Atlanta. Some of our graduates go on to earn a Ph.D. at Georgia Tech or other prestigious universities. In two years, you will join this distinguished group of graduates!

You are all here for different reasons. Whether you have a clear understanding of your goals or plan to explore the many options in the field of HCI, the breadth, depth, and flexibility of Georgia Tech's MS-HCI Program will give you a firm foundation for a fulfilling career. We encourage you to take full advantage of everything your classes, professors, fellow students, research projects, alumni, industry partners, Georgia Tech, and the city of Atlanta have to offer during your time here.

The Program offers many additional resources to enrich your graduate school experience. We challenge you to explore these professional-development resources. The MS-HCI website is a wonderful source of pointers to activities such as the Digital Media Showcase, the GVV Brown Bags and Demo Days, the local iXDA and CHI Chapter meetings, meetups, and many more. And we all look forward to Interactivity@GT that is scheduled for February 9, 2016 – a day devoted to showcasing your work to potential employers from around the country!

The requirements to earn your degree are outlined in this booklet; during orientation we'll review and elaborate on these requirements, and on the procedures you will need to follow for registration. These requirements are slightly changed from prior years; the requirements contained in this booklet will not apply to students who have enrolled prior to Fall 2015. Our program coordinator, Ms. Jessica Celestine, is available to help you with questions about the requirements and procedures. Faculty Coordinators from our four departments are also available to discuss your choice of courses as well as your career goals and opportunities.

We look forward to working with each of you to help you achieve your goals of earning the MS HCI degree and then launching a successful career as an HCI professional.

MS-HCI Program Staff

Prof. Richard L. Henneman
Director
rhenneman@gatech.edu

Dr. Carrie Bruce
Research Project Director
carrie.bruce@coa.gatech.edu

Ms. Jessica E. Celestine
Graduate Program Coordinator
jcelesti@cc.gatech.edu

MS-HCI Faculty Coordinators

Prof. James Foley
School of Interactive Computing
foley@cc.gatech.edu

Prof. James Budd
Chair, School of Industrial Design
Jim.budd@coa.gatech.edu

Prof. Carl DiSalvo
Digital Media Graduate Program
School of Literature, Media and Communication
carl.disalvo@lmc.gatech.edu

Prof. Bruce Walker
School of Psychology
bruce.walker@psych.gatech.edu

M.S. in HCI
Fall Semester 2015
New Students

Interactive Computing (CS)

Digital Media Specialization (LMC)

Agnihotri, Meeshu	Chiang, Chen-Dah
Bennett, Bryan	Huber, Annick
Cheng, Samuel	Malesevic, Miroslav
Cheng, Yunnuo	Navarro, Lorina
Crisp, John	Nguyen, Trinh
Detiege, Emmanuel	Ravindrababu, Lakshmi
Dhar, Aditi	Tiwari, Priyamvada
Feng, Hui	Zhao, Yiwen
Foster, Caroline	
Freed, Benjamin	<u>Industrial Design Specialization (ID)</u>
Ghosh, Sarthak	Chen, Xiaowei
Lambeth, Amelia	Dong, Lu
Lee, Sharon	Hao, Yiwei
Liang, Dong	Kenna, Katherine
Mirdha, Aakanksha	LeRoy, Rachel
Nayak, Sachin Shivarama	Li, Qin
Ordu, Mehmet	Liu, Jing
Pu, Yiming	Liu, Shuli
Ramanan, Tara	Mahajan, Shambhavi
Ryan, Thomas	Salk, Natalie
Shah, Pratik	Zhang, Xiaoye
Singh, Karan Pratap	Zheng, Chendong
Singh, Sahib	
Tener, Felix	<u>Psychology Specialization (Psyc)</u>
Wang, Wesley	Chen, Shao-Yu
Wang, Xiaoxuan	Chu, Yan Ting Mandy
Warrell, Laurel	Garg, Amit
Weiller, Samuel	Geiskkovitch, Denise
Xu, Lei	Johnson, Catherine
	Roberts, Heather
	Silverman, Max
	Upadhyaya, Reema

M.S. in HCI
 Fall 2015 Semester
 Degree Requirements (all courses are 3 credits unless otherwise noted)

Credit hour and grade requirements

Total credit hours: 36

All courses must be taken for a letter grade.

Elective courses: Up to 6 credits may be taken in a course number 4400 or higher; the rest must be at the graduate level.

The following chart summarizes the minimum GPA and grades required to graduate with the MS-HCI.

	Overall	Core Courses	Specialization Courses	Elective Courses	Project Course
GPA Minimum	3.0	3.0	-	-	3.0
Grade Minimum	B	B	B	C	B

Fixed Courses (9 credits)		
<i>Course Number</i>	<i>Course Title</i>	<i>Fall 2015 Offering</i>
FALL		
CS 8803 HCI (CRN# 91462) GS/PSYC 6750	Special Topics: Human-Computer Interaction (must be taken during the first semester)	MWF 1:05 pm-1:55 pm
PSYC 6023	Psychology Research Methods for HCI (4 credits with lab)	T 3:05 pm-5:55 pm TR 1:35 pm-2:55 pm
CS/ID/LMC/PSY 6753	Human-Computer Interaction – Professional Preparation and Practice (must be taken twice; 1 credit Fall of first year and 1 credit Fall of second year)	R 3:05 pm-4:55 pm

INTERACTIVE COMPUTING SPECIALIZATION (9 credits)		
<i>Must have 3 Software credits and 6 Design credits. No more than 3 credits of Special Problems (CS 8903) may count toward the Computing Specialization.</i>		
<i>Course Number</i>	<i>Course Title</i>	<i>Fall 2015 Offering</i>
Software (3 credits):		
CS 6300	Software Development Process	Offered in Spring
CS 6452	Prototyping Interactive Systems	M 9:05 am-11:55 am
CS 6456	Principles of User Interface Software	TR 9:35 am-10:55 am
CS 6457	Video Game Design	M 3:05 pm-4:25 pm R 1:35 pm-2:55 pm
CS 7470	Ubiquitous Computing	Offered in Spring
CS 7497	Virtual Environments	Offered in Spring
CS 8803-MAS	Special Topics: Mobile Apps and Services	MW 4:35 pm-5:55 pm
Design, Evaluation, and Cognitive Modeling (6 credits):		
CS 6150	Computing for Good	MWF 11:05 am-11:55 am
CS 6451	Human-Centered Computing	W 12:05 pm-2:55 pm

CS 6455	User Interface Design and Evaluation	Offered in Spring
CS 6457	Video Game Design	MWF 1:05pm-1:55pm
CS 6460	Education Tech-Foundations	TR 12:05 pm-1:25 pm
CS 6465	Computational Journalism	Offered Every 2 Years
CS 6470	Design of Online Communities	Offered in Spring
CS 6474	Social Computing (formerly CS 8803 SOC)	MW 4:35pm-5:55pm
CS 6763	Design of Interactive Environments	Offered in Spring
CS 6770/LMC 6340	Mixed Reality Design	Offered Every 2 Years (Spring)
CS 7450	Information Visualization	MW 3:05 pm-4:25 pm
CS 7460	Collaborative Computing	Offered in Spring
CS 7465	Education Technology Design & Evaluation	Offered in Spring
CS 7632	Game AI (formerly CS 8803 GAI)	Offered in Spring
CS 7633	Human-Robot Interaction	Offered in Spring
CS/PSY 7790	Cognitive Modeling (4 credits)	Offered in Spring
CS 8803-HEF	Special Topics: Healthcare Design of the Future	TBA
CS 8803-HAR	Special Topics: Handheld Augmented Reality Game Studio	Offered in Spring
CS 8803-DG	Special Topics: Design Games	Offered in Spring
CS 8803-IBI	Special Topics: Introduction to Bio Informatics	Offered in Spring
CS 8803- VDA	Special Topics: Visual Data Analysis	Offered in Spring
CS 8903	Special Problems (variable hours)	TBA

DIGITAL MEDIA SPECIALIZATION (12 credits) LMC Literature, Media & Communication: Required (may be taken up to three times for degree credits- 9 credits of LMC 6650 may be applied toward the specialization)		
<i>Course Number</i>	<i>Course Title</i>	<i>Fall 2015 Offering</i>
LMC 6650	Project Studio (<i>enrollment by permission of instructor</i>)	Fall & Spring
Required: One of the following four courses, preferably taken in the first year of study:		
LMC 6310	The Computer as an Expressive Medium	T 9:35 am-10:55 am R 9:35 am-10:55 am F 9:05 am-10:55 am
LMC 6313	Principles of Interactive Design	MW 10:05 am-11:55 am F 11:05 am-11:55 am
LMC 6399	Discovery and Invention in Digital Media	Offered in Spring
LMC 8903	Special Problems in HCI (3 credits maximum may count toward this specialization)	TBD

INDUSTRIAL DESIGN SPECIALIZATION (12 credits)		
<i>Course Number</i>	<i>Course Title</i>	<i>Fall 2015 Offering</i>
Required ID Courses (9 credits)		
ID 6100	Introduction to ID Grad Studies	TR 12:05pm-1:25pm
ID 6101	Human-Centered Design	Offered in Spring
ID 6401	Visualizing Interaction	Fall & Spring
Required: Choose one of the following ID courses:		
ID 6214	Strategic Design Language	M 5:05pm-7:55pm
ID 6215	Service Design	Offered in Spring
ID 6271	Healthcare Design of the Future	T 6:05pm – 8:55pm
ID 6420	Advanced Sketching	W 5:35 pm-8:25 pm
ID 6509	Computing, Creativity & Design Cognition	Offered in Spring
ID 6510	Design of Interaction	TBA

ID 6515	Interface Prototyping	TR 12:05pm – 1:25pm
ID 6763	Design of Interactive Environments	TR 12:05pm-1:25pm
ID 6800	Universal Design	TR 4:35 pm – 5:55pm
ID 6862	Web Design Accessibility	Offered in Spring
ID 6763	Design of Interactive Environments	TR 12:05pm- 1:25pm
ID 6800	Universal Design	TR 4:35 pm-5:55 pm
ID 6820	Web Design Accessibility	Offered in Spring
ID 8900-INT	Special Problems	TR - TBA

PSYCHOLOGY SPECIALIZATION (11 credits)

<i>Course Number</i>	<i>Course Title</i>	<i>Fall 2015 Offering</i>
Required:		
PSYC 6022	Psychological Statistics for HCI (4 credits including lab, Fall or Spring)	Offered Fall & Spring
PSYC 7101	Engineering Psychology (3 credits)	TR 9:35 am-10:55 am
At least 3 credits from the following courses:		
PSYC 6011	Cognitive Psychology	TR 12:05 pm-1:25 pm
PSYC 6012	Social Psychology	Depend On Department
PSYC 6014	Sensation and Perception	Offered in Spring
PSYC 6041	Topics in Cognitive Aging	Depend On Department

MS-HCI PROJECT (6 credits)

CS/ID/LMC/Psych 6998 – 3 credits	MSHCI Project	Fall & Spring
CS/ID/LMC/Psych 6998 – 3 credits	MSHCI Project	Fall & Spring

MS-HCI PROJECT

Each student completes a 6-credits project, under the supervision of a faculty member, normally during the last two semesters of their program. Students must submit a Project Proposal and Final Report and present their work to the four school faculty coordinators and other MS-HCI students during the semester of graduation <http://mshci.gatech.edu/program/forms>

Elective Courses (12 credits for Interactive Computing Specialization)

(9 credits for Digital Media Specialization)

(9 credits for Industrial Design)

(10 credits for Psychology Specialization)

- **All specialization courses may be taken as part of the Elective Courses.**
- Interactive Computing, Industrial Design & Psychology tracks: at least 9 credits of the electives must be taken outside your specialization.
- Digital Media track (LMC): at least 6 credits of the electives must be taken outside your specialization.
- A maximum of 3 credits of Special Problems in HCI (CS/LMC/PSYC 8903 or ID 8900-INT) may count toward the Elective Courses.

Aerospace Engineering

AE 6551	Cognitive Engineering	Offered every 2 years
AE 6721	Evaluation of Human Integrated Systems	Offered every 2 years

Interactive Computing

CS 6150	Computing for Good (formerly CS 8803-C4-G)	MWF 11:05 am-11:55 pm
CS 6300	Software Development Process	Offered in Spring
CS 6440 (8803)	Health Informatics	MW 4:35pm-5:55pm

CS 6451	Introduction to Human-Centered Computing	W 12:05 pm-2:55 pm
CS 6452	Prototyping Interactive Systems	M 9:05 am-11:55 am
CS 6455	User Interface Design and Evaluation	Offered in Spring
CS 6456	Principles of User Interface Software	TR 9:35 am-10:55 am
CS 6457	Video Game Design	M 3:05 pm-4:25pm
CS 6460	Educational Technology- Foundations	TR 12:05 pm-1:25 pm
CS 6465	Computational Journalism	Offered Every 2 Years (Spring)
CS 6470	Design of Online Communities	Offered in Spring
CS 6474	Social Computing (formerly CS 8803 SOC)	MW 4:35pm-5:55pm
CS 6763	Design of Interactive Environments	Offered in Spring
CS 6770/LMC 6340	Mixed Reality Design	Offered Every 2 Years (Spring)
CS 6795	Introduction to Cognitive Science	Offered in Spring
CS 7450	Information Visualization	MW 3:05 pm-4:25 pm
CS 7460	Collaborative Computing	Rarely Offered
CS 7610	Modeling and Design	Course Offered in Spring
CS 7465	Computational Journalism	Offered Every 2 Years
CS 7633	Human-Robot Interaction	Offered in Spring
CS 7632	Game AI (formerly CS 8803 GAI)	Offered in Spring
CS 7470	Ubiquitous Computing	Offered in Spring
CS 7497	Virtual Environments	Offered in Spring
CS 7790	Cognitive Modeling	Offered in Spring(Rarely)
CS 8803 ANI	Special Topics: Animal Interaction	Offered in Spring
CS 8803 DG	Special Topics: Design Games	Course Offered in Fall
CS 8803 HAR	Special Topics: Handheld Augmented Reality Game Studio	Depend On Department
CS 8803 HRI	Special Topics Human-Robot Interaction	Offered in Spring
CS 8803 IBI	Special Topics: Introduction to Bio Informatics	Offered in Spring
CS 8803 MAS	Special Topics: Mobile Apps and Services	MW 4:35 pm-5:55 pm
CS 8803 VDA	Special Topics: Visual Data Analysis	Offered in Spring
CS 8903	Special Problems in Human-Computer Interaction (variable credits)	Offered in Fall
International Affairs		
INTA 8803	Special Topics: Computers, Communications, and International Development	Offered in Fall
Industrial Design		
ID 6100	Human Centered Design (Intro to ID Grad Studies)	TR 12:05 pm-1:25 pm
ID 6200	Graduate Studio I	Offered in Fall
ID 6214	Strategic Design Language	Offered in Fall
ID 6509	Computing, Creativity & Design Cognition	Offered in Spring
ID 6763	Design Interactive Environments (aka Arch 8903 Design Games, cross listed CS 8803 DG)	TR 12:05 pm-1:25 pm
ID 6271	Healthcare Design of the Future	Offered in Fall
ID 6820	Web Design Accessibility	Offered in Spring
ID 6420	Advanced Sketching	Fall and Spring
ID 6215	Service Design and Organizational Activation	Offered in Spring
ID 6800	Adv. Universal Design: Exploration & Investigation of Real World Applications	TR 4:35 pm-5:55 pm
Industrial and Systems Engineering		
ISyE 6205 / AE 8803	Cognitive Engineering	Discontinued
ISyE 6215	Models in Human-Machine Systems	Discontinued
ISyE 6231	Design of Human-Integrated Systems	Discontinued

ISyE 6413	Design and Analysis of Experiments	Offered in Spring
ISyE 6414	Regression Analysis	Offered in Fall
ISyE 6739	Basic Statistical Methods	Offered in Spring
ISyE 6772	Managing the Resources of Technological Firms (cross-listed with MGT 6772)	TR 9:35 am-10:55 am
ISyE 7210	Real-Time Interactive Simulations	Rarely Offered
Literature, Media, and Communication (Digital Media)		
LMC 6215	Issues in Media Studies	MW 12:05 pm-1:25 pm
LMC 6310	The Computer as an Expressive Medium	TR 9:35 am-10:55 am F 9:05 am-10:55 am
LMC 6311	Visual Culture and Design	Depends on Department
LMC 6312	Design Technology and Representation	Depends on Department
LMC 6313	Principles of Interactive Design	MW 10:05 am-11:55 am F 11:05 am-11:55 am
LMC 6314	Design of Networked Media	Offered in Spring
LMC 6315	Project Production	Rarely Offered
LMC 6317	Interactive Fiction	Depends on Department
LMC 6318	Experimental Media	Depends on Department
LMC 6319	Intellectual Property Policy and Law	TR 12:05pm -1:25pm
LMC 6325	Game Design and Analysis	MW 1:35pm – 2:55pm
LMC 6399	Discovery and Invention in Digital Media	Offered in Spring
LMC 6650	Project Studio	Fall & Spring
LMC 8000	Media Theory	Fall & Spring
LMC 8001	Pro-Seminar in Digital Media Studies	Offered in Spring
LMC 8903	Special Problems in Human-Computer Interaction	Requires Approval from Faculty
Management of Technology (MOT)		
	Electronic Commerce	Depend On Department
MGT 6056	Electronic Commerce	Depend On Department
MGT 6326	Collaborative Product Development	Depend On Department
MGT 6772-K/TSA	Managing Resources of the Technological Firm	Depend On Department
MGT 8803	Software Project Management	Depend On Department
Music		
MUSI 6001	Music Perception and Cognition	MW 3:00 pm-4:30 pm
MUSI 6003	Music Technology History and Repertoire	TR 3:00 pm-4:30 pm
MUSI 6104	Integrating Music in Multimedia	Every Other Fall
MUSI 6301	Music Interface Design	Depend On Department
MUSI 6303	Network Music	Depend On Department
MUSI 7100	Music Technology Research Lab	Varies
Psychology		
PSYC 6011	Cognitive Psychology (3 credits)	TR 12:05 pm-1:25 pm
PSYC 6012	Social Psychology (3 credits)	Depend On Department
PSYC 6014	Sensation and Perception (3 credits)	Offered in Spring
PSYC 6022	Psychological Statistics for HCI (4 credits including lab, Fall or Spring)	TR 9:35 am-10:55 am T 3:05 pm- 5:55 pm
PSYC 6041	Topics in Cognitive Aging (3 credits)	W 12:00 pm-12:55 pm
PSYC 7104	Psychomotor and Cognitive Skills	Depend On Department
PSYC 7790	Cognitive Modeling	Offered in Spring(Rarely)
PSYC 8040	Seminar in Engineering Psychology: Assistive Technologies	Available According to Demand

PSYC 8040	Seminar in Engineering Psychology: The Psychology of HCI	Available According to Demand
PSYC 8903	Special Problems in Human-Computer Interaction	Varies
Public Policy		
PUBP 6111	The Internet and Public Policy	M 3:05 pm- 5:55 pm
PUBP 6401	Science, Technology, and Public Policy	Depend On Department

SEMINAR

The HCI MS professional preparation and practice course aims to prepare students for success in their studies and careers. It includes presentations by leading HCI practitioners concerning career choices and preparation and new developments, visits to corporate HCI labs in the Atlanta area, research presentations, skills tutorials, discussion of potential MS projects and “how to succeed” in graduate school and as a professional.

Students take this seminar in the fall semester of their first and second years of study.

CS 6753/ID 6753/ LMC 6753/Psych 6753 (1 credit) Human-Computer Interaction - Professional Preparation and Practice (may be repeated for credit once)

Updates to Music Technology Electives:

MUSI 6001, Music Perception and Cognition

This course examines how humans process musical sound, including topics such as the auditory system, psychacoustics, music cognition, and psychology.

Requirements met: Elective

MUSI 6003, Music Technology History and Repertoire

Overview of the history, aesthetics, and technology of electronic and computer music over the past century through selected readings, musical analysis, and individual research projects. Requirements met: Elective

MUSI 6103 - Music Recording & Mixing - 3 Credit Hours

Overview of concepts, techniques, hardware, and software used in audio production as well as aesthetic concerns and considerations.

MUSI 6203 - Project Studio in Music Technology - 3 Credit Hours

Discussion, design and development of computer music applications and performance controllers.

MUSI 7100- Music Technology Research Lab

Advisor guided research and creative work in music technology. Investigation of novel technological and artistic concepts. Design and develop new hardware, software, and musical artifacts. Requirements met: Elective

Industrial Design Electives - MS-HCI-ID Program

- ID 6100 Intro to Grad Studies
- ID 6101 Human Centered Design
- ID 6200 Graduate Studio II
- *ID 6214 Strategic Design Language*
- *ID 6215 Service Design*
- *ID 6271 Healthcare Design of the Future*
- *ID 6401 Visualizing Interaction*
- *ID 6420 Advanced Sketching*
- *ID 6510 Design for Interaction*
- *ID 6515 Interface Prototyping*
- *ID 6763 Design of Interactive Environments*
- *ID 6800, Universal Design: Exploration and Investigation of Real World Applications*
- *ID 6820 Web Design Usability and Accessibility*
- *ID 6800, Universal Design: Exploration and Investigation of Real World Applications*
- *ID 8903 Special Problems in Human-Computer Interaction*

Course Descriptions

All classes are 3 credits unless otherwise indicated

INTERACTIVE COMPUTING

CS 6010, Principles of Design

Requirements met: Interactive Computing Specialization

CS 6150 (Formerly CS 8803-C4G, Special Topics): Computing for Good

How can computing help make the world a better place? Can we avoid wars, alleviate homelessness and improve global health using computers? What are the technical challenges that arise and what humanistic issues have to be taken into account and understood in the process? In this second, expanded edition of the course, we continue to explore problems faced by developing countries and underserved populations from a computing perspective. The course will be project-centered with teams of students choosing project topics early in the semester and working towards a solution by the end of the semester.

Requirements met: Interactive Computing Specialization (Design/Evaluation)

CS 6300, Software Development Process

The process of developing software systems. Includes development and assessment of processes, their instantiation in actual product development, and techniques ensuring quality of developed products.

Requirements met: Interactive Computing Specialization (Software)

CS 6451, Introduction to Human-Centered Computing

Introduction to the range of issues across the HCC disciplines, including design and research methodologies: cognitive, social, and cultural theories; assessment and evaluation: ethical issues.

Requirements met: Interactive Computing Specialization (Design/Evaluation)

CS 6452, Prototyping Interactive Systems

Introduction to design, prototyping and implementation of systems for human-centered computing. Focuses on core concepts in computer science and implications for interactive systems.

Requirements met: Interactive Computing Specialization (Software)

CS 6455, User Interface Design and Evaluation

Examines usability in the software development process with an emphasis on usability, requirements, methodology, design, and evaluation.

Requirements met: Interactive Computing Specialization (Design/Evaluation)

CS 6456, Principles of User Interface Software

Considers the architectural and algorithmic principles behind the implementation of interactive software systems and the tools that support them.

Requirements met: Interactive Computing Specialization (Software)

CS 6457, Video Game Design

Techniques for electronic game design and programming, including graphics, game engines, animation, behavioral control for autonomous characters, interaction, social and interface issues of multi-user play. Credit not allowed for both CS 6457 and CS 4455.

Requirements met: Interactive Computing Specialization (Design/Evaluation)

CS 6460, Educational Technology: Conceptual Foundations

Introduction to educational technology, with an emphasis on theoretical foundations. Introduces basic philosophies, approaches, and technologies. Analyzes issues surrounding technology's impact on education.

Requirements met: Interactive Computing Specialization (Design/Evaluation)

CS 6465, Computational Journalism

Technology is rapidly affecting how news information is gathered, reported, visualized, aggregated, summarized, distributed, and consumed. This class studies the computational technologies that impact journalism.

Requirements met: Interactive Computing Specialization (Design/Evaluation)

CS 6470, Design of Online Communities

Introduction to the design of online communities. Students study an existing community in depth, and then develop a new community design. *Requirements met: Interactive Computing Specialization (Design/Evaluation)*

CS 6474 – Social Computing (formerly 8803 SOC)

Requirements met: Interactive Computing Specialization (Design/Evaluation)

CS 8803 HCI ~~CS 6750~~, Human-Computer Interaction (cross-listed with PSYC 6750)

Describes the characteristics of interaction between humans and computers and demonstrates techniques for the evaluation of user-centered systems. ~~Cross-listed with PSYC 6750.~~

Requirements met: Fixed Core

CS 6753, Human-Computer Interaction – Professional Preparation and Practice (formerly CS 8801, *Special Topics HCI*). Preparation for a professional career in HCI. Speakers- Atlanta-area lab visits. Career trajectories; Project presentations. Technical, resume writing and interviewing skills, Atlanta-area HCI resources.

Requirements met: Fixed Core

CS 6770/ LMC 6340, Mixed Reality Design

Introduction to the design of Mixed Reality experiences. Focuses on informal design, integration of media theory, HCI and technology issues. Significant group design projects.

Requirements met: Interactive Computing Specialization (Design/Evaluation)

CS 6795, Introduction to Cognitive Science (cross-listed with PSYC 6795)

Multidisciplinary perspectives on cognitive science. Interdisciplinary approaches to issues in cognition, including memory, language, problem solving, learning, perception, and action.

Requirements met: Interactive Computing Specialization

CS 6998, MS-HCI Master's Project (repeatable; six credits)

Each student completes this requirement, under the supervision of a faculty member, normally during the last two semesters of their program. Students must submit a project proposal and final report <http://mshci.gatech.edu/program/forms> and present their work to the four school faculty coordinators and other MS-HCI students late during the semester of graduation.

CS 7450, Information Visualization

Study of computer visualization principles, techniques, and tools used for explaining and understanding symbolic, structured, and/or hierarchical information. Includes data and software visualization.

Requirements met: Interactive Computing Specialization (Design/Evaluation)

CS 7460, Collaborative Computing

Introduction to computer-supported collaborative work, workflow automation, and meeting augmentation. The course deals with models, enabling technology, systems, and applications.

Requirements met: Elective

CS 7465, Education Technology Design & Evaluation

Requirements met: Interactive Computing Specialization (Design/ Evaluation)

CS 7470, Ubiquitous Computing

Investigates the infrastructure required to develop mobile and ubiquitous computing applications and establishes major research themes and experimental practices.

Requirements met: Interactive Computing Specialization (Software)

CS 7497, Virtual Environments

An introduction to virtual reality and virtual environments. Issues covered will include VR technology, software design, 3D human-computer interaction, and applications for VR.

Requirements met: Interactive Computing Specialization

CS 7610, Modeling and Design

Information-processing theories of modeling and design; topics include design decision making, problem solving and learning, and knowledge-based modeling and design.

Requirements met: Elective

CS 7632, Game AI (formerly 8803 GAI)

Treatment of new developments in various areas of computing.

Requirements met: Interactive Computing Specialization (Design/Evaluation)

CS 7633, Human-Robot Interaction

Survey of the state of the art in HRI research, introduction to statistical methods for HRI research, research project studio.

Requirements met: Interactive Computing Specialization (Design/Evaluation)

CS 7790, Cognitive Modeling (4 credits)

Requirements met: Interactive Computing Specialization (Design/Evaluation)

CS 6763 (Formerly CS 8803-DG, Special Topics: Design Games) (cross-listed with COA 8843-ED) An interdisciplinary class to explore, research and design physical and virtual games that challenge and stimulate our intellectual and physical conditions, enhance skill building, social interactions, decision making and designing. *Requirements met: Interactive Computing Specialization (Design/Evaluation)*

CS 8803-ANI, Special Topics: Animal Interaction

Special topics of current interest. Treatment of new developments in various areas of computing.

Requirement met: Elective

CS 8803-DG, Special Topics: Design Games

Special topics of current interest. Treatment of new developments in various areas of computing.

Requirements met: Interactive Computing Specialization (Design/Evaluation)

CS 8803-HAR, Special Topics: Handheld Augmented Reality Game Studio

Augmented Reality (AR) promises to be a key technology for the next generation of mobile phones; AR games combine 3D graphics with the player's view of the real world, typically overlaying the graphics on the video from the camera on the device. *Requirements met: Interactive Computing Specialization*

CS 8803-HEF, Special Topics: Healthcare Informatics (cross-listed with COA 8823-ED)

An interdisciplinary class to research and design for quality care and experience for patients, families, and care givers in healthcare settings. *Requirements met: Interactive Computing Specialization*

(Design/Evaluation)

CS 8803-HRI, Special Topics: Human-Robot Interaction

This course will focus on the emerging field of Human-Robot Interaction (HRI). This multidisciplinary research area draws from: Robotics, AI, Human-Computer Interaction, and Cognitive Psychology. The main goal of HRI is to enable robots to successfully interact with humans. As robots increasingly make their way into functional roles in everyday human environments (like homes, schools, and hospitals), we need them to be able to interact with everyday people. Moreover, a person working with a robot shouldn't be required to learn a new form of interaction. Thus, we need to develop computational models of social intelligence for these robots that will allow them to have interactions that are natural and intuitive for a human partner. *Requirements met: Elective*

CS 8803-IBI, Special Topics: Introduction to Bio Informatics (cross-listed with HS 6300)

Requirements met: Interactive Computing Specialization (Design/Evaluation)

CS 8803-MAS, Special Topics: Mobile Apps and Services

Special topics of current interest. Treatment of new developments in various areas of computing.

Requirements met: Interactive Computing Specialization

CS 8803-VG, Special Topics: Video Game Design

Techniques for electronic game design and programming, including graphics game engines, motion generation, behavioral control for autonomous characters, interaction structure, social and interface issues of multi-user play, and the business aspects of game development. *Requirements met: Elective*

CS 8803 VDA – Special topics: Visual Data Analysis

Special topics of current interest. Treatment of new developments in various areas of computing.

Requirements met: Interactive Computing Specialization

CS 8903, Special Problems (variable credits) *Many sections offered*

Small-group or individual investigation of advanced topics in computing guided study and research.

Requirements met: Elective

INDUSTRIAL DESIGN

ID 6100, Human Centered Design (Intro to ID Grad Studies)

Introduction to the theory and practice of graduate studies in Industrial Design in relation to behavior research and consumer products. *Requirement met: Industrial Design Specialization*

ID 6101, Human-Centered Design

This course examines design artifacts in relation to the human body, aging, disabilities, and environments. *Requirements met: Industrial Design Specialization*

ID 6200, Graduate Studio I

Graduate application of the design process to advanced multidisciplinary design problems. Experience in solving real design problems for consumer products. *Requirements met: Elective*

ID 6214, Strategic Design Language

Introduction to techniques to help designers clarify and support design ideas in a strategic business context by exploring methods to better leverage visual design skills. *Requirements met: Industrial Design Specialization*

ID 6215, Service Design and Organizational Activation

Requirements met: Industrial Design Specialization

ID 6271, Healthcare Design of the Future

The course is mainly intended for the students to 1. Experience and learn techniques for successful interdisciplinary design 2. Be exposed to the unique challenges of healthcare design 3. Learn the importance of environment in the healing process 4. Understand the roles and skills of multiple disciplines in the design process. *Requirements met: Industrial Design Specialization*

ID 6401, Visualizing Interaction

Requirements met: Industrial Design Specialization

ID 6420, Advanced Sketching

Special problems in industrial design. *Requirements met: Industrial Design Specialization*

ID 6509, Computing, Creativity & Design Cognition

This course investigates computational methods, models, tools that support design creativity and cognition. Credit not allowed for both ID 6509 and ARCH 6509. *Requirements met: Industrial Design Specialization*

ID 6510, Design of Interaction

Requirements met: Industrial Design Specialization

ID 6515, Interface Prototyping

Requirements met: Industrial Design Specialization

ID 6753, Human-Computer Interaction – Professional Preparation and Practice (formerly CS 8801,

Special Topics HCI). Preparation for a professional career in HCI. Speakers- Atlanta-area lab visits.

Career trajectories; Project presentations. Technical, resume writing and interviewing skills, Atlanta-area

HCI resources. *Requirements met: Fixed Core*

ID 6763, Design Interactive Environments (aka Arch 8903 Design Games, cross listed CS 8803 DG)

Investigate and design ambient, intelligent, interactive interfaces and computational applications in tangible and physical environment to support health, wellness and quality of life. Credit not allowed for both ID 6763 and COA 6763 or CS 6763. *Requirements met: Industrial Design Specialization*

ID 6800, Universal Design: Exploration & Investigation of Real World Applications

This course provides an advanced level to universal design focusing on the implications of ability on the usability of places, products, and systems for all individuals. *Requirements met: Industrial Design Specialization*

ID 6820, Web Design Accessibility

This course will teach students the fundamentals of web design and usability issues in online environments, with an emphasis on universal design principles and accessibility. *Requirements met: Industrial Design Specialization*

ID 6998, MS-HCI Master's Project (repeatable; six credits)

Each student completes this requirement, under the supervision of a faculty member, normally during the last two semesters of their program. Students must submit a project proposal and final report <http://mshci.gatech.edu/program/forms> and present their work to the four school faculty coordinators and other MS-HCI students late during the semester of graduation.

INTERNATIONAL AFFAIRS**INTA 8803, Special Topics: Computers, Communications, and International Development**

Requirements met: Elective

INDUSTRIAL AND SYSTEMS ENGINEERING**ISyE 6205/ AE 8803, Cognitive Engineering**

Application of cognitive science concepts to system design, and the development of concepts appropriate for understanding and aiding cognition in naturally or technologically complex environments.

Requirements met: Elective

ISyE 6215, Models in Human-Machine Systems

The development and use of mathematical models of human behavior are considered. Approaches from estimation theory, control theory, queuing theory, and fuzzy set theory are considered.

Requirements met: Elective

ISyE 6231, Design of Human-Integrated Systems

Analysis and design of complex work domains in technological environments. *Requirements met: Elective*

ISyE 6413, Design and Analysis of Experiments

Analysis of variance, full and fractional factorial designs at two and three levels, orthogonal arrays, response surface methodology, robust parameter design for production/process improvement.

Requirements met: Elective

ISyE 6414, Regression Analysis

Simple and multiple linear regression, inferences and diagnostics, stepwise regression and model selection, advanced regression methods, basic design and analysis of experiments, factorial analysis.

Requirements met: Elective

ISyE 6739, Basic Statistical Methods

Overview of basic tools used in statistical analysis and modeling.

Requirements met: Elective

ISyE 6772, Managing the Resources of Technological Firms (cross-listed with MGT 6772)

This course explores the competitive advantage manufacturing and service firms derive from the effective management of their technology, workforce, materials, and information resources. *Requirements met: Elective*

Elective

ISyE 7210, Real-time Interactive Simulations

Principles and laboratory experience in design and implementation of interactive simulations of complex dynamic systems. *Requirements met: Elective*

LITERATURE, MEDIA, AND COMMUNICATION**LMC 6215, Media Studies**

This course focuses on the study of mass media from historical, theoretical, and cultural perspectives.

Requirements met: Elective

LMC 6310, The Computer as an Expressive Medium

Explores the development of the representational power of the computer and the interplay between digital technology and culture. *Requirements met: Digital Media Specialization*

LMC 6311, Visual Culture and Design

Explores visual media through a mutually instructive and integrated interplay between critical analyses and the creation of digital artifacts. *Requirements met: Elective*

LMC 6312, Design Technology and Representation

Explores historical, cultural, and theoretical issues raised by technologies of representation through critical analyses and the creation of digital artifacts. *Requirements met: Elective*

LMC 6313, Principle of Interactive Design

Design principles of exploiting the affordances of the digital medium, including large information spaces and procedural environments. *Requirements met: Digital Media Specialization*

LMC 6314, Design of Networked Media

Issues in hypertextual and multimedia design in networked environments, including the World Wide Web, interactive television, and wireless applications. *Requirements met: Elective*

LMC 6315, Project Production

Focuses on defining user and client needs, analysis of competing products, budgeting, scheduling and management of the production process, and the design of the testing process. *Requirements met: Elective*

LMC 6317, Interactive Fiction

Students create interactive fictions in a variety of formats including intersecting story worlds, interactive characters, simulations, and replay worlds. *Requirements met: Elective*

LMC 6318, Experimental Media

Students will develop the critical, intellectual, and creative tools necessary to understand, work with, and re-imagine design at the developmental stages of emerging technologies. *Requirements met: Elective*

LMC 6319, Intellectual Property Policy and Law

Students examine constitutionally informed policy and pragmatic legal issues in intellectual property law, focusing on the effects of power structures and information digitization. *Requirements met: Elective*

LMC 6325, Game Design and Analysis

Focused topics in the theory and practice of game design, theory, and analysis, including issues of creation, and reception, such as a single sub-genre, procedural technique, or media tradition. *Requirements met: Elective*

LMC 6399, Discovery & Invention in Digital Media

This course provides students with a survey of applied research methods or digital media design, emphasizing how to develop innovative computational products and services. *Requirements met: Digital Media Specialization*

LMC 6650-A, Project Studio: Synaesthetic Media Lab

This course offers students the opportunity to work on focused research within existing long-term projects of the New Media Center (NMC). *Requirements met: Digital Media Specialization*

LMC 6650-BM, Project Studio: Adaptive Media Lab

This course offers students the opportunity to work on focused research within existing long-term projects of the New Media Center (NMC). *Requirements met: Digital Media Specialization*

LMC 6650-CL, Project Studio: Participatory Publics Lab

This course offers students the opportunity to work on focused research within existing long-term projects of the New Media Center (NMC). *Requirements met: Digital Media Specialization*

LMC 6650-CP, Project Studio: Emergent Game Group

This course offers students the opportunity to work on focused research within existing long-term projects of the New Media Center (NMC). *Requirements met: Digital Media Specialization*

LMC 6650-D, Project Studio: Food, Civic Media, and Interaction Design

This course offers students the opportunity to work on focused research within existing long-term projects

of the New Media Center (NMC). *Requirements met: Digital Media Specialization*

LMC 6650-G, Project Studio

This course offers students the opportunity to work on focused research within existing long-term projects of the New Media Center (NMC). *Requirements met: Digital Media Specialization*

LMC 6650-J2, Project Studio: eTV

This course offers students the opportunity to work on focused research within existing long-term projects of the New Media Center (NMC). *Requirements met: Digital Media Specialization*

LMC 6650-MN, Project Studio: Digital World & Image Group

This course offers students the opportunity to work on focused research within existing long-term projects of the New Media Center (NMC). *Requirements met: Digital Media Specialization*

LMC 6753, Human-Computer Interaction – Professional Preparation and Practice (formerly CS 8801, *Special Topics HCI*). Preparation for a professional career in HCI. Speakers- Atlanta-area lab visits. Career trajectories; Project presentations. Technical, resume writing and interviewing skills, Atlanta-area HCI resources. *Requirements met: Fixed Core*

LMC 6998, MS-HCI Master's Project (repeatable; six credits)

Each student completes this requirement, under the supervision of a faculty member, normally during the last two semesters of their program. Students must submit a project proposal and final report <http://mshci.gatech.edu/program/forms> and present their work to the four school faculty coordinators and other MS-HCI students late during the semester of graduation.

LMC 8000, Pro Seminar in Media Theory

Key traditions of media theory that contribute to the study of Digital Media.
Requirements met: Elective

LMC 8001, Pro-Seminar in Digital Media Studies

Advanced work in production and critique of new media forms. *Requirements met: Elective*

LMC 8903, Special Problems in Human- Computer Interaction (variable credit hours)

Small-group or individual investigation of advanced topics in digital media guided study and research.
Requirements met: Digital Media Specialization

MANAGEMENT OF TECHNOLOGY (MOT)

MGT 6056, Electronic Commerce

This course examines the business and technical issues related to electronic commerce applications, such as the Internet, WWW, EDI, and electronic linkages between trading partners.
Requirements met: Elective

MGT 6326, Collaborative Product Development

Examines issues inherent in product development and product management. These include product strategy, idea generation, market development, product positioning, test marketing, and launched brand management. *Requirements met: Elective*

MGT 6772-K/TSA, Managing Resources of the Technological Firm (cross-listed with ISyE 6772)

This course explores the competitive advantage manufacturing and service firms derive from effective management of their technology, workforce, materials, and information resources.
Requirements met: Elective

MGT 8803, Software Project management

This course explores special topics and current interest in the field of Management. .
Requirements met: Elective

MUSIC

MUSI 6001, Music Perception and Cognition

This course examines how humans process musical sound, including topics such as the auditory system, psychacoustics, music cognition, and psychology.
Requirements met: Elective

MUSI 6003, Music Technology History and Repertoire

Overview of the history, aesthetics, and technology of electronic and computer music over the past century through selected readings, musical analysis, and individual research projects.

Requirements met: Elective

MUSI 6104, Integrating Music in Multimedia

To familiarize students with the tools and techniques for effectively utilizing music and audio in the context of digital multimedia and the internet.

Requirements met: Elective

MUSI 6301, Music Interface Design

Requirements met: Elective

MUSI 6303, Network Music

Exploration of distributed music systems over local-area networks and Internet, including discussion of existing technologies, works, literature, and hands-on experimentation with tools and techniques.

Requirements met: Elective

MUSI 7100, Music Technology Research Lab

Advisor guided research and creative work in music technology. Investigation of novel technological and artistic concepts. Design and develop new hardware, software, and musical artifacts.

Requirements met: Elective

PSYCHOLOGY**PSYC 6011, Cognitive Psychology**

Survey course on human cognition including pattern recognition, attention, memory, categorization, problem solving, consciousness, decision making, intention, and the relation between mind and brain.

Requirements met: Psychology Specialization

PSYC 6012, Social Psychology

Fundamental theory and research in social behavior including social perception/cognition, attitude formation and change, social influences, and group processes.

Requirements met: Psychology Specialization

PSYC 6014, Sensation and Perception

This course examines how sensations and perceptions of the outside world are processed by humans, including physiological, psychophysical, ecological, and computational perspectives.

Requirements met: Psychology Specialization

PSYC 6022, Psychological Statistics for HCI (4 credits)

Introduction to statistical methods as applied to psychological data within the HCI domain.

Requirements met: Psychology Specialization

PSYC 6023, Psychology Research Methods for HCI (4 credits, replaces PSYC 6018)

Requirements met: Fixed Core

PSYC 6753, Human-Computer Interaction – Professional Preparation and Practice (formerly CS 8801, Special Topics HCI)

Preparation for a Professional career in HCI. Speakers- Atlanta-area lab visits. Career trajectories; Project presentations. Technical, resume writing and interviewing skills, Atlanta-area HCI resources. *Requirements met: Fixed Core*

PSYC 6998, MS-HCI Master's Project (repeatable; six credits)

Each student completes this requirement, under the supervision of a faculty member, normally during the last two semesters of their program. Students must submit a project proposal and final report

<http://mshci.gatech.edu/program/forms> and present their work to the four school faculty coordinators and other MS-HCI students late during the semester of graduation.

PSYC 7101, Engineering Psychology

Basic methods used to study human-machine systems including both system analysis and human performance evaluation techniques. These methods will be applied to specific systems.

Requirements met: Psychology Specialization

PSYC 7104, Psychomotor and Cognitive Skills

Human capabilities and limitations for learning and performing psychomotor and cognitive skills are studied. *Requirements met: Elective*

PSYC 7790, Cognitive Modeling (4 hours) - *Requirements met: Elective*

PSYC 8040, Seminar in Engineering Psychology: Assistive Technologies

Requirements met: Elective

PSYC 8040, Seminar in Engineering Psychology: The Psychology of HCI

Not offered Fall Requirements met: Elective

PSYC 8903, Special Problems in HCI (variable credit hours)

Small-group or individual investigation of advanced topics in psychology guided study and research.

Requirements met: Elective

PUBLIC POLICY**PUBP 6111, The Internet and Public Policy**

Analyzes policy implications of Internet architecture (Internet protocols, domain name system, packet switching, peer-to-peer) and surveys policy issues about content, privacy, intellectual property, and governance. *Requirements met: Elective*

PUBP 6401, Science, Technology, and Public Policy

Examination of the relationships between science, technology, and government, including policies for support, control, and application of science and technology. *Requirements met: Elective*

SEMINARS

These seminars may be used to fill out your schedule if you are required to carry a full course load (12 credits), but they cannot be used for credit toward a degree. All are 1 credit.

Aware Home Seminar

CS 8001-AHS, Seminar

GVU Brown Bag

CS 8001-GVU, Seminar

Information Security

CS 8001-INF, Seminar

Robotics and Intelligent Machines

CS 8001-RIM, Seminar

Center for Experimental Research in Computing Systems Seminar

CS 8001-SYS, Seminar

MS-HCI Project Requirements

Overview

Students in the MS-HCI program complete a 6-credit project. This project typically (but not necessarily) is to design, implement and test an operational user interface – be it web-based, smart phone app, desktop app, physical device with embedded computation, or any other artifact that embodies human-computer interaction. This project should represent the variety of skills that you brought to and acquired during the program. It is your responsibility to identify a project and faculty project advisor, and you are encouraged to begin exploring ideas during your first semester. Projects are typically completed during the second year of the program and are graded based on a final written report and an oral presentation.

Details

- You will develop a project proposal in the Spring semester of your first year, in consultation with an HCI faculty project advisor working in an area of interest to you. By the end of the 15th week of classes, you are required to turn in the following to the Graduate Program Coordinator (Jessica Celestine):
 - a hard copy of the proposal approved by your advisor
 - the signed project proposal approval form

You must also upload an electronic version of your proposal to the T-Square site. You will not be able to register for CS/ID/LMC/PSYC 6998 (project course) credits without completing the proposal process.

- You will turn in a progress report during your third semester. This report should include any changes to your original proposal and a review of your project timeline.
- Actual project work is typically performed during the third and fourth semesters of study, but can start earlier, including during the summer of your internship.
- In your third and fourth semesters, you register for an aggregate total of 6 credits of CS/ID/LMC/PSYC 6998 – whichever school your faculty project advisor is in (or for your home school if the advisor is not in one of these four). Your course grade is assigned by the faculty project advisor in consultation with your School's MS-HCI faculty coordinator.

Most projects will need at least one approved Institutional Review Board (IRB) protocol to perform human subjects research. IRB protocols should be developed as early as possible with your advisor as the Principal Investigator. *You cannot perform research with human subjects without an approved IRB protocol.* You should also consult with the MS-HCI research Project Director (Carrie Bruce) and include her as research personnel when you submit the protocol.

- During your final semester, you are required to present a poster of your work at Interactivity (February) and the GVV Spring Showcase (mid-April), or the GVV Fall Research Showcase (end-October).
- In order to graduate, you will turn in a high-quality final report document and present your work to the program (i.e., the director, four MS-HCI faculty coordinators, MS-HCI research project director, fellow MS-HCI students, and other interested faculty members). These are graded and must be completed to a level deemed satisfactory by your advisor, the MS-HCI program director, faculty coordinators, and research project director.
- The signed project completion form is due by the last day of finals in the semester you expect to graduate. It is signed only after all project deliverables have been submitted.

Project Advisor

Your School's MS-HCI faculty coordinator is likely not your faculty project advisor, however you may consult with him or her to identify potential HCI faculty project advisors whose research best aligns with your interests and project. You should also consult with the MS-HCI research project director. A listing of possible HCI faculty project advisors is listed on the MS-HCI website.

In some cases you may have a "Project Supervisor" – typically an expert in the domain of your project, but not an HCI faculty member – in addition to an HCI faculty advisor. Your faculty project advisor need not be in your home school, but must be a faculty member. If you want to work with a faculty project advisor not listed on the MS-HCI website, speak with your School's MS-HCI faculty coordinator.

If you change your faculty advisor, you must notify the Graduate Program Coordinator (Jessica Celestine) and MS-HCI Research Project Director (Carrie Bruce). You will be required to register for 6 research credits (CS/ID/LCC/PSYC 6998) with the new advisor, regardless of the number of credits you have already completed with the previous advisor. You are also required to submit a new proposal document and signed proposal approval form.

DELIVERABLES

Project Proposal (Due by the end of the 15th week of classes in your 2nd semester)

Your project proposal is a 5-10-page document in which you address the following:

1. Introduction/Background: Statement of user problem this project will address, why it is a problem, intended user characteristics. Describe the general application domain: what else has been done, what is the context of thinking and making things in which your work is situated? How do users currently go about addressing this problem?
2. Potential Solution: What is the general nature of the solution? What is the general functionality? The platform?
3. Expected Methods: What will you do in each stage of the project (many of the steps listed in the schedule will be discussed in this section. How will you understand your users and their needs? How will you test the prototype? The functional system?)
4. Expected Resources: Description of computing/testing resources you will need, and how you will obtain them.
5. Schedule: Including but not limited to:
 - Understanding the users and their needs

- Defining functionality
- Defining final user testing processes
- Submission to IRB (Institutional Review Board)
- Rough prototype
- User testing of rough prototype
- Poster (e.g., Interactivity, GVU Showcase)
- Implementation of a functional system
- User testing of functional system
- First draft final report submitted to advisor and your school's MS-HCI faculty coordinator
- Final report and other deliverables
- Presentation to MS-HCI faculty advisors and students

This list of milestones is suggestive, not definitive. You may adapt it, in consultation with your advisor, based on the specific characteristics of your work.

If you will be doing this project as part of a paid job (summer internship, research assistantship, etc.), a clear discussion of what elements of the project you are being paid to do, and what elements you are doing for academic credit (the two are mutually exclusive), is required. As a general guideline, one credit hour translates into 60 hours of work (four hours a week over 15 weeks). *This translates to 240 hours for a 4-credit project and 360 hours for a 6-credit project.* The most common scenario is that you are being paid to implement your system.

If your status with respect to item 5 of the proposal changes after your proposal is approved, you are expected to submit (or re-submit) item 5. You also must submit

You must turn in your signed project proposal approval form and proposal document to the graduate program coordinator (Jessica Celestine) and upload an electronic version of proposal to the T-Square site.

Project Poster (Must present during your final semester)

There will be at least one opportunity for students to present their work using a poster display. These opportunities include GVU Showcases, Interactivity, and conferences. All students should take advantage of these opportunities and are REQUIRED to present a poster during the GVU showcase of their final semester. You are also required as part of the program to submit a poster for Interactivity (during the Spring semester) that represents your broader range of work.

Final Project Components

These deliverables will be archived on the MS-HCI T-Square web site, and form a valuable part of your portfolio.

1. **Report:** This is an expanded and updated version of your project proposal, typically 30-50 pages, including screen shots and appendices containing things like questionnaires/results used in your requirements gathering and/or usability evaluations. A typical outline is:
 - a. **Introduction:** Statement of problem, why it is a problem, intended user characteristics, general capabilities of your solution.

- b. Background: Previous work, theoretical foundations. Literature review. Describe the general application domain; what else has been done, what is the context of thinking and making things in which your work is situated.
- c. User Requirements: How you studied user characteristics and task needs, and what you concluded. Include personas and critical use cases. What metrics did you use to assess whether or not your solution is an improvement over current solutions to this user problem?
 - i. Description of users: methods for identifying who, demographics and other characteristics
 - ii. Description of tasks/context of use: methods for identifying tasks/contexts, characteristics
 - iii. Competitive analysis or other analysis of related solutions
 - iv. Development of design requirements: mapping to identified needs, specific criteria/features/attributes, and their purpose, use cases
- d. User Interface
 - i. Early design work: How created your rough prototype, how you tested the rough prototype, and what you learned (include a few sketches or screen shots).
 - ii. Design implementation: How you implemented your system – discussion about the technologies involved (include screen shots), resources required, information architecture, design principles used. Also discuss any iterative processes or activities including feedback from experts or users.
- e. User Evaluation:
 - i. Methods: Details about the testing of your final version (describe with whom, what, where, and how). Discuss the study design (e.g., between or within subjects, pre/post, comparison). Describe subject characteristics, metrics, tools, tasks, procedures, and testing location. Testing tools, such as scripts and questionnaires, should be in an appendix.
 - ii. Results: Reporting or presentation of your data-- NOT an interpretation of what the data mean (that comes in the Discussion section).
- f. Discussion and Conclusions: What does your data tell you, what does it mean? How does your data relate to other work? Is this solution an improvement over existing solutions? What could be the next steps? What did you learn as a future professional in doing this project?

Sections C (User Requirements) and E (User Evaluation) will be the longest AND required for satisfactory completion. This outline is suggestive, not definitive. You may adapt it, in consultation with your faculty project advisor, based on the specific characteristics of your work.

If you are writing a full-length conference (extended abstracts do NOT count) or journal paper about your work, that paper might be acceptable as your final report. The paper may be co-authored with your advisor and others; you must be the first author and do a substantial amount of writing. Consult with the research project director about this option.

As per your project proposal milestones, you **must** have a draft final report for your faculty project advisor prior to the due date (last day of exams) for the completion form

to be signed. Confer with your advisor to determine how far in advance of the due date the draft is expected to be ready for review.

2. **Presentation:** You will prepare and give a 15-20 minute PowerPoint or similar style presentation during final exam week. Your presentation will be graded according to the following elements:
 - a. Presentation of Information:
 - i. Story of work: statement of goals/purpose, framing/context of work, structure/flow
 - ii. Appeal/appearance: graphics, text balance/quantity, quality of multimedia (not blurry or hard to hear), quality of results charts and graphs
 - iii. Speaker skill: loudness level, speaking rate, eye contact, confidence, enthusiasm/interest
 - b. Discussion of User Requirements:
 - i. Description of users: methods for identifying who, demographics and other characteristics
 - ii. Description of tasks/context of use: methods for identifying tasks/contexts, characteristics
 - iii. Review of competitive analysis or other analysis of related solutions
 - iv. Description of design requirements: mapping to identified needs, specific criteria/features/attributes, and their purpose, use cases
 - c. Discussion of User Interface:
 - i. Description of implementation of user requirements: show the connection between identified requirements and features included in the design, steps or stages for implementing (including outside help, specific resource needs)
 - ii. Implementation quality: clarity of approach, accessibility of design (are certain users excluded?), information architecture, integration of and conformance with effective design principles, quality of UI demo (video/audio, real-time, screenshots)
 - d. Discussion of User Evaluation:
 - i. Description of study methods: study design (e.g., between or within subjects, pre/post, comparison), subject characteristics, metrics, tools, tasks, procedures, location
 - ii. Description of results: adequate mention of analysis methods, appropriate amount and type of data relevant to the “story”, clarity of data presentation (e.g., charts, tables, text are helpful and understandable).
 - iii. Presentation of conclusions: packaging/discussion of the meaningful findings, effective “wrap up” (e.g., what happens next with research/product?)
3. **Video:** A three to five minute narrated demonstration of your project for YouTube or other public dissemination (including the MS-HCI website).

If there are any identifiable research subjects in your video, you must have permission from them to collect video/photos/audio during research activities **and** to share this information through websites or non-research presentation. Permission to collect video/photos/audio for research purposes will be included on your IRB consent form. However, if you use video/photos/audio that you collected during your research for

inclusion in your project video, you must have permission from your subjects. Typically, this requires that subjects sign a separate media release form.

When the deliverables have been turned in via T-Square, you are ready to have your project completion form signed by your faculty advisor. This form should be turned in to the Graduate Program Coordinator (Jessica Celestine). This **must** be turned in before the last day of finals.

