

# Human Computer Interaction

## Interdepartmental Graduate Program



Master of Human Computer Interaction  
and Certificate in HCI

Graduate Student Handbook

2020

**IOWA STATE UNIVERSITY**

# **Welcome to the Human Computer Interaction (HCI) Interdepartmental Graduate Program at Iowa State University**

This student handbook is provided to give you general guidance about important issues related to your graduate career. Because the Human Computer Interaction Interdepartmental Graduate Program continually seeks to improve, some changes may occur between the annual distribution of this handbook. You should stay in close communication with your academic advisor regarding important curriculum and policy issues. We also encourage you to bring questions and comments to the Director, Program Coordinator and members of the HCI Supervisory Committee at any time.

## **HCI Director of Graduate Education (DOGE)**

Stephen Gilbert  
1620 Howe Hall  
515-294-6782  
[gilbert@iastate.edu](mailto:gilbert@iastate.edu)

## **HCI Graduate Program Coordinator/ Academic Advisor for M.HCI/MHC Students**

Tiffany Kayser  
1620 Howe Hall  
515-294-2089  
[tkayser@iastate.edu](mailto:tkayser@iastate.edu)

## **HCI Graduate Program Website**

<http://www.vrac.iastate.edu/hci/>

# Administration and Contact Information

The Director of Graduate Education, Supervisory Committee, and Program Coordinator oversee Human Computer Interaction Interdepartmental Graduate Program activities. Please contact the HCI Graduate Program Coordinator if you have any questions about the program.

<b>Department Administrators</b>	
Stephen Gilbert	HCI Director of Graduate Education (DOGE)   1620 Howe Hall   515-294-6782   <a href="mailto:gilbert@iastate.edu">gilbert@iastate.edu</a>
Tiffany Kayser	HCI Graduate Program Coordinator   1620 Howe Hall   515-294-2089   <a href="mailto:tkayser@iastate.edu">tkayser@iastate.edu</a>
<b>Supervisory Committee</b>	
Stephen Gilbert	HCI DOGE   <a href="mailto:gilbert@iastate.edu">gilbert@iastate.edu</a>
Bernard Canniffe	Graphic Design   <a href="mailto:canniffe@iastate.edu">canniffe@iastate.edu</a>
Jared Danielson	Veterinary Pathology   <a href="mailto:jadaniel@iastate.edu">jadaniel@iastate.edu</a>
Sunghyun Kang	Graphic Design   <a href="mailto:shrkan@iastate.edu">shrkan@iastate.edu</a>
Jonathan Kelly	Psychology   <a href="mailto:jonkelly@iastate.edu">jonkelly@iastate.edu</a>
Gary Mirka	Engineering Administration   <a href="mailto:mirka@iastate.edu">mirka@iastate.edu</a>
Alexander Stoytchev	Electrical And Computer Engineering   <a href="mailto:alexs@iastate.edu">alexs@iastate.edu</a>
Jack Miler	President of HCI Student Group   <a href="mailto:jackm@iastate.edu">jackm@iastate.edu</a>

# Table of Contents

Introduction	5
General Information, ISU Email and Medical Conditions or Learning Disabilities	6
Upon Admission to Iowa State University	7
ISU and Graduate College Policies	9
Admissions Information	9
Academic Leave/Re-entry	10
Home Department and Major Professor	10
Requirements for the Online Master of Human Computer Interaction	11
Online Graduate Certificate Course Requirements	13
Course Policies	15
Probation and Academic Standing	
Courses Used in the Program of Study	
Graduate Courses Taken as an ISU Undergraduate	
Graduate Courses Taken as an ISU Nondegree Graduate Student	
Undergraduate Courses on Program of Study	
Expired Courses	
Transfer Courses	
Specific Policies and Laws of Interest to Graduate Students	18

# Introduction

The Interdepartmental Graduate Program in Human Computer Interaction (HCI) is an interdisciplinary academic program created to foster research excellence in HCI at Iowa State University. It offers outstanding opportunities for graduate study in a wide range of disciplines. The program welcomes students from a diverse collection of technical and creative fields whose unifying characteristic is the desire to develop new ways to bridge the gap between human and machine.

HCI Graduate Program Learning Goals — Every HCI student should be able to:

- Design and evaluate systems with a user-centered design lens
- Participate in a multidisciplinary product development team
- Choose and apply an appropriate user-centered design approach
- Identify key players and organizations in HCI
- Use theories and models in the HCI field
- Describe emerging technology trends

The HCI program involves over 80 nationally and internationally known faculty who participate in a wide range of collaborative projects with other faculty and industry partners. These faculty members are a diverse group of highly dynamic researchers who are enthusiastic about the challenges and opportunities presented by this rapidly changing field. All of these faculty members share a common interest in the invention, application and evaluation of next generation computer interfaces. The HCI program currently includes (but is not restricted to) interdisciplinary research within 32 academic areas of focus:

Aerospace Engineering and Engineering Mechanics	Geological and Atmospheric Sciences
Agricultural and Biosystems Engineering	Gerontology
Apparel, Educational Studies & Hospitality Management	Greenlee School of Journalism and Communication
Architecture	Human Development and Family Studies
Art and Design	Industrial Design
Biomedical Sciences	Industrial and Manufacturing Systems Engineering
Chemistry	Kinesiology
Civil, Construction, and Environmental Engineering	Logistics, Operations, and Management Information Systems
Computer Science	Materials Science and Engineering
Curriculum and Instruction	Mathematics
Ecology, Evolution and Organismal Biology	Mechanical Engineering
Economics	Music
Educational Leadership & Policy Studies	Psychology
Electrical and Computer Engineering	Statistics
English	Veterinary Microbiology & Preventative Medicine
Genetics, Development & Cell Biology	Veterinary Pathology

# General Information

HCI Graduate Program Coordinator  
1620 Howe Hall  
Phone: 515-294-2089  
Email: [hci@iastate.edu](mailto:hci@iastate.edu)  
Website: <http://www.vrac.iastate.edu/hci/>

*The HCI Graduate Program Coordinator keeps records of your progress to degree.* It is especially important to notify the Graduate Program Coordinator of any changes that should be noted for our records in the department and regularly update your information in AccessPlus for the Registrar's Office records.

The Graduate Program Coordinator is who you submit **nearly all** graduate program POS and graduation forms for approval and signature from the Director of Graduate Education (DOGE). Most forms are available online or can otherwise be obtained from the Graduate Program Coordinator.

## ISU Email

All current students are eligible for a university Net-ID and email account (register by going to [http://www.it.iastate.edu/howtos/register\\_net-id](http://www.it.iastate.edu/howtos/register_net-id) and follow the instructions). The graduate program staff sends many vitally important messages by email regarding impending deadlines and clarifications of policy. If you have any questions about your Net-ID or email address, contact the Solution Center, [solution@iastate.edu](mailto:solution@iastate.edu), (515) 294-4000.

## Medical Conditions or Learning Disabilities

<https://sas.dso.iastate.edu/>

1076 Student Services Building; (515) 294-7220; TTY (515) 294-6635

Staff members in Disability Resources coordinate support services that students may need in order to reach their fullest academic potential. The DR staff members provide accommodations and serve as a resource within the university community concerning students who have physical or learning disabilities. DR provides assistance, information, support, counseling, education, referral, and promotes disability awareness in students, faculty, staff, the Ames community, and the state of Iowa. **Students with medical or learning disabilities need to identify themselves and to arrange for accommodation through Disability Resources before they can receive departmental accommodation for existing conditions.**

# Upon Admission to Iowa State University

To help in the orientation process, new students should:

- Read this handbook. E-mail is the HCI program's primary means of communication, so students should register for e-mail as soon as possible. Detailed information about e-mail registration can be found at <https://www.it.iastate.edu/services/cymail>. Please notify the HCI Graduate Program Coordinator, [hci@iastate.edu](mailto:hci@iastate.edu), of your Iowa State e-mail address once you receive it.
- Review the following references and examine them carefully. They contain information about University regulations and policy, including requirements for graduation.

## ***Graduate College Handbook***

<http://www.grad-college.iastate.edu/common/handbook/>

***Iowa State Graduate College forms*** are available online at:

[http://www.grad-college.iastate.edu/common/forms/student\\_forms.php](http://www.grad-college.iastate.edu/common/forms/student_forms.php)

Other useful references include:

## ***ISU General Catalog***

<http://catalog.iastate.edu/>

## ***Schedule of Classes***

<http://classes.iastate.edu/>

## ***Academic Calendars***

<http://registrar.iastate.edu/calendar/>

## ***Accessplus***



<https://accessplus.iastate.edu/frontdoor/login.jsp>

Iowa State University's AccessPlus is a personalized, secure, university information resource that provides on-demand accessibility to your confidential information. Menu options for students include:

- Address Change
- Current Student Information
- Dining Services
- Financial Aid Information
- Grades and Transcripts
- Long Distance Code
- Course Registration
- Residence Hall Information
- Tax Information
- University Bill
- Class Schedule
- Web-based Training

### ***Iowa State University Phone/E-mail Directory***

<https://www.info.iastate.edu/>

### ***The Iowa State University Homepage***

<http://www.iastate.edu/>

### ***Graduate College Homepage***

<https://www.grad-college.iastate.edu/>



# ISU and Graduate College Policies

No part of this manual supersedes policies or requirements of either the Iowa State University Graduate College or Iowa State University. Students are responsible for knowing and complying with all policies in the [Graduate College Handbook](#) and [Graduation deadlines](#).

## Admissions Information

Please follow [this link](#) for complete application instructions and requirements.

### Admission for M.HCI/MHC Program

The online M.HCI/MHC program is most appropriate for individuals with a bachelor's degree in a scientific, engineering, business, or artistic discipline, who are pursuing a professional career, and who already have a strong base of information technology skills.

The program requires that admitted students have undergraduate degrees from an accredited university and have graduated with a GPA that places them in the upper half of their graduating class. Demonstrable programming skills will be required. A minimum TOFEL score of 95(iBT) will be required of all non-native English-speaking students. Candidates may be considered for admission by the HCI supervisory committee if they do not meet all these requirements but otherwise show outstanding potential. However, all students must meet the university's minimum requirements for admission.

Other admission requirements for the Online HCI program include the following:

- Transcripts, test scores and other indicators that the student applicant can be successful at the graduate level.
- 3.0 GPA.
- TOEFL score of 95 iBT or greater or IELTS of 7.0 or greater for nonnative English speakers.
- Demonstrated ability to write software competently. This requirement can be met during your course of study in the program.

### Admission to the HCI Graduate Certificate

These requirements are based on the same requirements as an M.HCI applicant. Students may take up to nine credits before admission into a degree or certificate program.

Admission into the certificate program does not guarantee admission into the masters or doctoral programs. If a student who receives a certificate wishes to obtain admission into the masters or doctoral programs, the student will need to gain acceptance into the programs by meeting the admission requirements. Credits earned towards the certificate may be counted towards the masters and doctoral degree requirements if approved by the student's program of study committee.

## Academic Leave/Re-entry

Reentering graduate students with active status do not need to complete a reentry application, but they should contact HCI Graduate Program Coordinator. Two consecutive calendar years of non-registration puts students on “inactive” status and requires submission of a [Reinstatement to Active Status form](#) with the approval of the graduate program and the Graduate College to obtain “active” status and resume coursework.

## Home Department and Major Professor

For administrative purposes, all online M.HCI students should have filed their [home department e-form](#) within first semester after starting the program; the HCI Graduate Program Coordinator can assist with any questions when completing this form.

- a. You will be requesting admission to the department of: *Industrial & Manufacturing Systems Engineering (IMSE)*
- b. Your major professor is the director of the HCI Graduate Program: *Stephen Gilbert*
- c. Your major and degree sought: *MHC*

# Requirements for the Online Master of Human Computer Interaction

## Online M.HCI/MHC Course Requirements

The Human Computer Interaction Graduate Program is pleased to announce the addition of an Online HCI master's degree program, M.HCI, effective with the fall 2017 term. This degree program was created from the growing demand from business and industry for a graduate degree program that provides education in the field of Human Computer Interaction.

Students in this program will be required to take four courses, one each from the Design, Implementation, Phenomena and Evaluation categories. However, M.HCI students must take two additional courses of their choice from the list of core courses or the list of recommended electives. M.HCI students will therefore be required to take a total of six courses (18 credits) from those listed below and the remaining four courses (12 credits) would be electives of your choosing. A total of 30 credits are required to graduate.

## Core Courses

### Design

- HCI 521 — Cognitive Psychology of HCI
- HCI 595 – Visual Design for HCI
- IE 572 – Design and Evaluation of Human Computer Interaction

### Implementation

- HCI 575 – Computational Perception
- HCI 580 – Virtual Worlds and Applications
- CprE/ME 557 – Computer Graphics and Geometric Modeling

### Phenomena

- HCI 655 – Organizational and Social Implications of HCI
- HCI 589 – Design and Ethics
- JLMC / T SC 574 – Communication Technologies and Social Change
- ME/WLC 584 – Technology, Globalization and Culture

### Evaluation

- HCI 504 – Evaluating Digital Learning Environments
- HCI 522 – Scientific Methods in HCI

Note: A grade of 'B' (3.0 GPA) or better is required for each of the core HCI courses.

## Recommended Electives

- HCI 510X – Foundations of Game-Based Learning
- HCI/ME 525 – Optimization Methods for Complex Designs

- HCI 558 – Introduction to the 3D Visualization of Scientific Data
- HCI 574 – Computational Implementation and Prototyping
- HCI 585 – Developmental Robotics
- HCI 587 – Models and Theories in Human Computer Interaction
- HCI 596 – Emerging Practices in Human Computer Interaction
- HCI 603 – Advanced Learning Environments Design
- HCI 681 – Cognitive Engineering
- IE 577 – Human Factors

### M.HCI Program Timeline

2. Graduate College Student Forms can be found at [this link](#).
3. ISU Graduate College requirements are summarized in the Graduate College Handbook available at [this link](#).
4. File your home department by the end of your first semester. The eform can be found [here](#).
  - a. You will be requesting admission to the Department of: *Industrial & Manufacturing Systems Engineering (IMSE)*; Your major professor is the director of the HCI Graduate Program: *Stephen Gilbert*; Your major and degree sought: *MHC in Human Computer Interaction*
5. Submit Program of Study and Committee Form
  - a. By the end of the second month of the second academic semester
  - b. Some tips in filling out your POSC
    - i. Modify Degree Program > Options > Choose “Coursework Only”
    - ii. Committee > M.HCI students do not have a POS committee. Your major professor is the DOGE of the HCI Graduate Program: Stephen Gilbert
6. Submit Application for Graduation
  - a. Typically, within three weeks of the start of the semester of graduation. (see [ISU Graduation Deadlines](#))
  - b. “Graduation” tab in [AccessPlus](#)
7. Coursework Only Final Check
  - a. Typically, within three weeks of the start of the semester of graduation. (see [ISU Graduation Deadlines](#))
  - b. Complete the [eForm](#). Must be fully approved by deadline.
8. Additional Graduate College graduation information:
  - a. For coursework-only students at this [link](#).

# Online Graduate Certificate Course Requirements

The program consists of a sequence of four three-credit graduate courses in Human Computer Interaction, which includes three core courses and one elective, for a total of 12 credits.

HCI 521 — Cognitive Psychology of Human Computer Interaction

HCI 655 — Organizational and Social Implications of HCI

*or*

HCI 589 — Design and Ethics

*or*

ME/WLC 584 — Technology, Globalization and Culture

HCI 575 — Computational Perception

*or*

CprE/ME 557 — Computer Graphics and Geometric Modeling

*or*

HCI 580 — Virtual Worlds and Applications

One Elective Course. Suggested electives include, but are not limited to:

- CI 503 – Theories of Designing Effective Learning and Teaching Environments
- CI/HCI 504 – Evaluating Digital Learning Environments
- CI 511 – Technology Diffusion Leadership and Change
- HCI 520 – Computational Analysis of English
- HCI 522 – Scientific Methods in HCI
- HCI/ME 525 – Optimization Methods for Complex Designs
- HCI 558 – Introduction to the 3D Visualization of Scientific Data
- HCI 574 — Computational Implementation and Prototyping
- HCI 585 – Developmental Robotics
- HCI 587X – Models and Theories in Human Computer Interaction
- HCI 594 – Organizational Applications of Collaborative Technologies and Social Media
- HCI 595 – Visual Design for HCI
- HCI 596 – Emerging Practices in Human Computer Interaction
- HCI 603 – Advanced Learning Environments Design
- HCI 681 – Cognitive Engineering
- IE 577 – Human Factors

## Academic Procedures

A Certificate Program of Study (POS) form can be filed electronically or by paper.

- [Online Certificate Program Of Study \(POS\)](#) – The online form can be filed after a grade has been posted for the fourth course in the final term.
- [Paper Certificate Program Of Study \(POS\)](#) – Please send the paper form to the HCI Graduate

Program, by email, to [hci@iastate.edu](mailto:hci@iastate.edu) during the first month of the final term. The HCI Graduate Program will get the required faculty signature on the form for you and send it to the Graduate College for approval.

Certificate students do not have a POS committee, but do have a supervising professor. The supervising professor for the HCI Certificate program is Stephen Gilbert.

The regular Graduate College course rules apply to certificates: a student must have a graduate GPA of 3.0 or better, no course with less than a C may be applied to the POS, all courses on the POS must be graduate courses.

Once you have completed all requirements, send a Certification Completion form, which can be found on the [Graduate College's forms site](#), to [hci@iastate.edu](mailto:hci@iastate.edu). The form will be signed by the DOCS and forwarded it to the Graduate College. The Graduate College will then certify that all requirements have been completed satisfactorily and inform the Registrar and the Graduation Office.

The Registrar will add a notation to the permanent record (transcript) indicating that a Graduate Certificate in HCI was granted on a specified dated and issue a printed ISU graduate certificate.

# Course Policies

## Probation and Academic Standing

If a graduate student does not maintain a cumulative 3.00 grade point average on all course work taken, exclusive of research credit, he or she may be placed on academic probation by the Dean of the Graduate College. Grades earned by graduate students in undergraduate courses are included in the calculation of the grade point average. Academic probation judgments are made on the basis of grades in course work only.

New, first-term, degree-seeking graduate students who fall below a 3.00 GPA at the end of their first semester at Iowa State University will be given a one term grace period to bring their grades back to a 3.00 GPA. These students will receive a warning letter from the Graduate College.

Students on probation:

- will have a hold placed on future registrations,
- will not be admitted to candidacy for a degree if they are a doctoral student,
- will be required before registration each term to undergo a review of their record and have the program recommend in writing if the Graduate College should permit further registration, and
- must, before graduation is approved, complete all courses listed on the program of study with a minimum grade of C and have achieved a 3.00 GPA or greater.

While on academic probation, you are *not eligible* to hold an assistantship or receive tuition scholarships. However, if you are placed on academic probation, you should contact the DOGE immediately for a waiver that would allow you to keep your assistantship for one semester giving you a chance to remedy this situation.

## Courses Used in the Program of Study

Courses that bear graduate credit (500- or 600-level at ISU) are used to meet graduate program of student (POS) requirements. Some undergraduate courses (300- or 400-level at ISU) and graduate courses taken as an ISU undergraduate or nondegree graduate student may be used in the POS if they meet certain requirements.

The minimum grade acceptable for courses to be used on the POS is a C. Students cannot graduate with F's or I's (incompletes) on their records unless the POS committee determines there are extenuating circumstances, petitions the Graduate College for approval to allow the student to graduate with these on their record, and the request is approved by the Graduate College Dean.

## Graduate Courses Taken as an ISU Undergraduate

Certain graduate-level courses listed in the ISU Catalog may be used in the program of study even though they were taken for graduate credit by the student as an undergraduate at ISU. The following conditions must be met:

- The POS committee can request approval from the Dean of the Graduate College for up to nine hours of such credit to be applied toward meeting advanced degree requirements. These courses must be clearly marked on the POSC form.
- Credits earned in these courses must be in addition to those used to meet requirements for the bachelor's degree.
- Contact the Registrar's Office staff (210 Enrollment Services Center) to certify and note on the permanent record the courses that were not used for the undergraduate degree.
- Credits earned in these courses must have grades of B or better.
- The student must be classified as an undergraduate and **not** a nondegree undergraduate (special) student. Credits taken as a nondegree undergraduate(special) student are **not** allowed.

### **Graduate Courses Taken as an ISU Nondegree Graduate Student**

If you are admitted to ISU and took graduate courses as a nondegree seeking graduate student, you may use up to 9 credits of that graduate coursework toward meeting your graduate POS requirements.

### **Undergraduate Courses on Program of Study**

- With POS-committee approval, graduate students will be permitted to use undergraduate classes from both within and outside of their majors on POS forms.
- No 100- or 200-level classes may be used, but all 300- and 400-level classes at Iowa State (not undergraduate classes from other institutions) will be eligible.
- For graduate students who entered degree programs prior to spring semester of 2018, up to 15 credits from 300- and 400-level courses may be used on a POSC form, with a maximum of 6 credits at the 300 level.
- For graduate students who entered degree programs in spring semester of 2018 and thereafter, a limit of 9 credits at the undergraduate level will be in effect, with a limit of 3 credits at the 300 level.
- If a 300-level class is used, it must be from outside of the student's major.

### **Expired Courses**

Courses that you wish to count toward your POS requirements need to have been taken within seven calendar years of the year in which your graduate degree is granted. "Expired" graduate courses (those at Iowa State University, or those documented as graduate-level from other appropriately accredited institutions) that are between eight to ten years old may be used toward a graduate degree with the approval of a student's program of study committee and HCI DOGE.

### **Transfer Courses**

At the discretion of the POS committee, and with the approval of the HCI Graduate Program and the Graduate College, graduate credits earned as a graduate student at another institution or through a distance education program offered by another institution may be transferred if the grade was B or better. Such courses must have been acceptable toward an advanced degree at that institution and must have



been taught by individuals having graduate faculty status at that institution. If a student wishes to transfer credits from graduate courses taken at or through another university as an undergraduate student, it is that student's responsibility to provide verification by letter from that institution that those graduate courses were not used to satisfy undergraduate requirements for a degree. (Grades from courses taken at another institution will **not** be included in ISU grade calculations, nor will the grades display on an ISU transcript.)

A copy of an official transcript must accompany the POSC in order to transfer credits. The transcript should show that the courses were taken as a graduate student. There should be a clear indication that the courses taken were graduate level courses. The POS committee may ask for other materials, such as a course outline or accreditation of the institution, to evaluate the course. Transfer courses not completed when the POS is submitted must be completed before the term in which the student graduates. A transcript must then be submitted through the online POSC process for review and final approval.

# Specific Policies and Laws of Interest to Graduate Students

The following policies and laws apply to graduate students or assistants:

- **Student Disciplinary Regulations (Student Conduct Code).** All students, including graduate students, are subject to the [Student Disciplinary Regulations](#) that contain the Code of Conduct. Behaviors not permitted include: academic misconduct, abuse of controlled substances, assault or threat of assault, bribery, contempt, disruption of the rights of others, violation of fire or safety regulations, endangerment, gambling, harassment, hazing, misuse of computers, false identification, misuse of keys, sexual abuse, theft, threat of harm, unlawful entry, possession of weapons, and violation of law.
- **Academic Misconduct.** Instances of suspected academic misconduct in research should be reported to the Office of the Vice President for Research. Applicable rules and procedures appear in [Section 7.2](#) of the [Faculty Handbook](#). For issues regarding conduct of research, graduate students are held to the same standards as faculty. Instances of graduate students suspected of academic misconduct not involving research should be reported to the Office of Judicial Affairs in the Dean of Students Office. See the [Student Disciplinary Regulations](#) for applicable rules and procedures.
- **Discrimination and Harassment Policy.** The University's policies on discrimination and harassment apply to graduate students. See the University's [Policy Library](#). Issues and concerns of discrimination and harassment should be reported to the Office of Equal Opportunity.
- **Sexual Misconduct, Sexual Assault, Sexual Harassment, Stalking, and Intimate Partner Violence Involving Students.** The University's policies and procedures on sexual misconduct apply to graduate students. See the University's [Policy Library](#). Issues and concerns relating to sexual misconduct should be reported to the Office of Equal Opportunity.
- **Conflicts of Interest.** Several provisions of law and policy related to conflicts of interest apply to graduate students (see the [Policy Library, Personnel, Conduct & Human Relations Section; Faculty Handbook, Section 7.2, 8.2](#)). As required by federal regulations, the University has adopted a conflict of interest policy affecting employees who have outside business commitments. Graduate assistants, especially those on research appointments, with significant private business arrangements must comply with this policy. University facilities should not be used for private commercial purposes without approval.
- **Statement on Professional Ethics.** Graduate students are expected to comply with the Faculty Statement on Professional Ethics (see [Faculty Handbook, Section 7.2](#)).