

# Human Computer Interaction

## Interdepartmental Graduate Program



# Graduate Student Handbook

2022-2023 Academic Year

**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 printings 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**

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:tlkayser@iastate.edu">tlkayser@iastate.edu</a>
<b>Supervisory Committee</b>	
Stephen Gilbert	HCI DOGE   <a href="mailto:gilbert@iastate.edu">gilbert@iastate.edu</a>
Eliot Winer	VRAC Director   <a href="mailto:ewiner@iastate.edu">ewiner@iastate.edu</a>
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# Table of Contents

<a href="#">Introduction</a> .....	5
<a href="#">General Info, Canvas Page, Email &amp; Medical Conditions or Learning Disabilities</a> .....	6
<a href="#">Upon Admission to Iowa State University</a> .....	7
<a href="#">ISU and Graduate College Policies</a> .....	9
<a href="#">Admissions Information</a> .....	9
<a href="#">Academic Leave/Re-entry</a> .....	9
<a href="#">Home Department and Major Professor</a> .....	10
<a href="#">Degree Program Requirements</a> .....	11
<a href="#">Requirements for the Doctor of Philosophy in Human Computer Interaction</a> .....	11
PhD Course Requirements	
PhD Program Timeline	
PhD Program of Study and Committee Form (POSC)	
PhD Preliminary Examination	
PhD Dissertation	
PhD Final Oral Examination	
PhD Annual Reviews	
<a href="#">Requirements for Master of Science in Human Computer Interaction</a> .....	15
MS Course Requirements	
MS Program Timeline	
Degree Timeline for MS Capstone Students	
Steps Toward Completing MS in HCI Capstone Degree	
MS Program of Study and Committee Form (POSC)	
Final Oral Examination	
Sample Curricula for MS Thesis Students	
<a href="#">Requirements for the Online Master of Human Computer Interaction</a> .....	20
Online M.HCI Course Requirements	
MHC/M.HCI Program Timeline	
<a href="#">Online Graduate Certificate Course Requirements</a> .....	22
<a href="#">Course Policies</a> .....	24
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	
<a href="#">Graduate Assistantships</a> .....	27
<a href="#">Specific Policies and Laws of Interest to Graduate Students</a> .....	28

# 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. It is always good to make copies for yourself or email a PDF scan to yourself.

## HCI Graduate Program Canvas Group Page

All of the HCI Graduate Program Student Resources can be [found here](#). These resources will have the information you need to navigate and excel in your HCI graduate degree program.

## ISU Email/Setting Up Your Net-ID

You should have set up your student accounts using the [New Student IT Checklist](#). If you have any questions about your Net-ID or email address, contact the [IT Solution Center](#).

The graduate program staff sends many vitally important messages by email regarding impending deadlines and clarifications of policy.

## Medical Conditions or Learning Disabilities

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

1076 Student Services Building; (515) 294-7220 or [accessibility@iastate.edu](mailto:accessibility@iastate.edu)

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

The first thing to do is set up your student accounts if you haven't already. Please use the ISU IT Services setup information: <https://www.it.iastate.edu/resources/newstudent>

***When you create your NetID, please send it to HCI@iastate.edu?*** The HCI Graduate Program Coordinator will then add you to the Canvas New Student Orientation and give you further instructions.

## ***Orientation Resources for International Students***

<https://www.isso.iastate.edu/new-student-orientation>

The International Students and Scholars website can be found at <https://www.isso.iastate.edu/>

## ***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**



Iowa State University's AccessPlus is a personalized, secure, university information resource that provides on-demand accessibility to your confidential information. Some 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

You can learn more about AccessPlus at this link: <https://www.registrar.iastate.edu/resources/accessplus-information>

### ***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 with [Thesis/Dissertation guidelines](#) and [Graduation deadlines](#).

## Admissions Information

Please visit the HCI Graduate Program website (<http://www.vrac.iastate.edu/hci/>) for up-to-date Admissions Information.

## 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.

Arrangement for a leave of absence is made between the graduate assistant and that assistant’s supervisor adhering to all grant and other funding source restrictions. When a graduate assistant needs to be absent either for personal reasons or illness, the supervisor should be understanding and accommodating to that need. At the same time, the graduate assistant should attempt to plan personal leave so that it does not interfere with or cause neglect of the duties associated with his or her appointment. Supervisors of graduate assistants are responsible for ensuring that their assistants do not exceed reasonable limits for leave.

When a conflict arises between the graduate assistant and that assistant’s supervisor regarding leave of absence use, either party may involve the Director of Graduate Education (DOGE). If the conflict is not resolved in a timely manner, any of the parties may involve the Dean of the Graduate College for a binding resolution. When resolving conflicts, the concerned party must present all evidence in writing (email is acceptable) and all parties involved must receive a copy. In order to accommodate schedules, allow a minimum of five business days for document review and resolution meeting to be scheduled between the two parties within two weeks. Resolutions achieved between the DOGE and parties need to be in writing (email is acceptable) and must be sent to all parties including the Dean of the Graduate College.

# Home Department and Major Professor

## Establishing a Home Department

All graduate students must be assigned to the same department as their major professor. The HCI Graduate Program will file the home department request for all HCI students in their first semester/term at Iowa State University.

## Major Professor

For PhD and some MS students, your major professor is the person who will chair your Program of Study (POS) committee. This person supervises your thesis, creative component, or dissertation.

The HCI Director of Graduate Education (DOGE) will serve as the major professor for online M.HCI/MHC students. The HCI Graduate Program Coordinator will serve as the academic advisor.

## Co-major Professors

If you are pursuing a co-major or double degree, each of the major fields must be represented by a different major professor, which will require the designation of co-major professors. However, the same person, if a faculty member in both majors/degrees, will be allowed to serve as major professor for both majors/both degrees.

## Concurrent Master's Degrees

By special request, students may complete two-degree programs that lead to two concurrently awarded master's degrees by following these requirements:

- Complete and submit a "Two Concurrent Graduate Degrees" form to the Graduate College (1137 Pearson Hall),
- File separate Program of Study Committee (POSC) forms for each degree,
- File separate "Application for Graduation" forms for each degree,
- Complete separate projects or theses for each degree,
- File separate "Final Oral Exam Request" forms for each degree, and
- Pass separate final oral examinations and complete a separate "Graduate Student Approval Form" for each degree.

Two awarded master's degrees require at least 22 hours of non-overlapping graduate credit in each major and two terminal projects (theses or creative components). These two degrees do not have to be awarded during the same term, since requirements for each are completed separately.

# Degree Program Requirements

The Human Computer Interaction Interdepartmental Graduate Program offers a PhD degree, an MS Degree, an Online Masters of HCI degree, and a Graduate Certificate in HCI. The MS degree is not a prerequisite for the PhD program.

Students who are admitted to the MS program and who wish to transfer to the PhD program in HCI may request to do so. Approval is required from the major professor supporting the student's MS program.

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## >> Requirements for the Doctor of Philosophy in Human Computer Interaction

### PhD Course Requirements

Iowa State University requires a minimum of 72 graduate credits to earn a Ph.D. At least 36 graduate credits, including all research credits, must be earned at ISU.

1. Ph.D. students will be required to choose any four courses, one from each of the Design, Implementation, Phenomena, and Evaluation categories.
2. They will also take two additional HCI courses of their choice from the list of core courses or the list of recommended electives listed below.
3. In addition to these courses, Ph.D. students will be required to take a minimum of 9 research credits.
4. All PhD students entering the program in Spring 2022 and after, 1 credit of GR ST 565 Responsible Conduct of Research will be required. For current PhD students, the HCI Graduate Program encourages these students to enroll in this course, but it is not required.

### Core Courses

#### Design

- HCI/PSYCH 521 — Cognitive Psychology of HCI
- HCI 595 – Visual Design for HCI
- ArtGr 530 – User Engagement
- IE 572 – Design and Evaluation of Human Computer Interaction

#### Implementation

- HCI/ComS/CprE 575 — Computational Perception
- HCI/ME 580 – Virtual Worlds and Applications
- CprE/ComS/ME 557 — Computer Graphics and Geometric Modeling
- HCI 584X – Python Application Development in HCI

## Phenomena

- ArtGR 540 – Design for Behavioral Change
- HCI/MIS 655 — Organizational and Social Implications of HCI
- HCI/ArtGR 589 — Design and Ethics
- JL MC 574 – Communication Technologies and Social Change
- JL MC 474 – Communication Technology and Social Change
- HCI 530X – Perspectives in HCI
- ME/WLC 584 – Technology, Globalization and Culture

## Evaluation

- ENGL/STAT 332 — Visual Communication of Quantitative Information
- HCI/EDUC 504 — Evaluating Digital Learning Environments
- PSYCH 501 — Foundations of Behavioral Research
- STAT 586 — Introduction to Statistical Computing
- HCI/PSYCH 522 – Scientific Methods in HCI
- HCI 523X – Qualitative Research Methods in HCI

## Recommended Electives

- ArtIS 508 – Computer Aided Visualization
- EDUC 503 – Theories of Designing Effective Learning and Teaching Environments
- EDUC 511 – Technology Diffusion Leadership and Change
- ENGL/LING 516 – Methods of Formal Linguistic Analysis
- HCI/EDUC 510 – Foundations of Game-Based Learning
- ENGL/LING/HCI 520 – Computational Analysis of English
- HCI/ME 525 – Optimization Methods for Complex Designs
- HCI 574 — Computational Implementation and Prototyping
- HCI 587 – Models and Theories in Human Computer Interaction
- HCI 596 – Emerging Practices in Human Computer Interaction
- HCI/ EDUC 603 – Advanced Learning Environments Design
- HCI/ IE 681 – Cognitive Engineering
- IE 577 – Human Factors
- STAT 587 – Statistical Methods for Research Workers
- HCI 560X – Learn to Speak AI
- IE 576 – Human Factors in Product Design

## Ph.D. Program Timeline

1. Graduate College Student Forms can be found at [this link](#).
2. ISU Graduate College requirements are summarized in the Graduate College Handbook available at [this link](#).
3. Submit Program of Study and appoint a graduate Program of Student Committee (POSC)
  - Before the end of the first semester of your second year

- Program of Study and Committee form via [AccessPlus](#) > Grad Stdnt Status tab > My POSC form button
  - Please note: Effective January 1, 2021 students will need their POSC's approved three months prior to the date that they wish to take their preliminary oral exam.
4. Submit Request for Preliminary Oral Examination
    - At least two weeks prior to the proposed preliminary oral examination date
    - Complete the [online form](#). Must be received by the Graduate College by the [deadline](#).
    - Your Preliminary Oral Exam is completed before the end of the first semester of the third year and a minimum of six months must elapse between passing the preliminary oral examination and taking the final oral examination.
    - If the preliminary oral examination is taken between terms (including the first day of classes for the later term), registration can be for either the term before or the term after the examination date.
    - If the preliminary oral examination is taken between terms (including the first day of classes for the later term), registration can be for either the term before or the term after the examination date.
  5. Submit Dissertation Proposal to POS committee
    - At least two weeks prior to the preliminary oral examination
  6. Take Preliminary Oral Examination
    - A minimum of six months must elapse between passing the preliminary oral examination and taking the final oral examination.
  7. Submit Application for Graduation
    - Typically, within three weeks of the start of the semester of graduation (see [ISU Graduation Deadlines](#))
    - "Graduation" tab in [AccessPlus](#)
  8. Format Check
    - Before you request your Final Oral Exam, review Organizing Your Thesis Checklist: <https://www.grad-college.iastate.edu/thesis/> or make an appointment with the Center for Communication Excellence: <https://cce.grad-college.iastate.edu/>.
  9. Submit Request for Final Oral Examination
    - Please see [How to Schedule a Prelim or Final Exam](#)
    - At least three weeks before the intended date of the student's final oral examination
    - Complete the [online form](#). Must be received by the Graduate College by the [deadline](#).
    - Open your account with ProQuest and input the title of your dissertation, which will appear in the commencement program. <http://www.etdadmin.com/cgi-bin/home>.
  10. Submit Dissertation to Members of the POS Committee
    - Two weeks prior to the final oral examination
  11. Take Final Oral Examination
    - At least six months after the preliminary oral examination
    - After completing the [Thesis Checklist](#), you will find a link to upload your dissertation at the end of the checklist.
    - Upload your dissertation to ProQuest - [note the deadline for uploading](#).
  12. Additional Graduate College graduation information can be found [here](#).

## **PhD Program of Study and Committee Form (POSC)**

Students should work with their major professor to begin planning a suitable program for completion of the HCI graduate coursework. Before the end of the first semester of the student's second year, students, in coordination with their major professor, should appoint a graduate Program of Study Committee (POSC). The composition and responsibilities of the POSC committee must be in accordance with the Graduate College guidelines (see below).

The POSC committee should include faculty whose expertise will ensure a breadth of knowledge on the committee and whose knowledge and research interests can aid and complement the student's research interests. The POSC committee must consist of at least five members of the Graduate College Faculty. The committee must have at least three faculty members—including the major professor and any co-major professor—from within the Human Computer Interaction major (i.e., who are members of the HCI faculty). One member of the committee must be either outside the major (not an HCI faculty member) or outside the student's home department.

To file a POSC, a student logs into AccessPlus and navigates to the "Grad Student Status" tab. On the right-hand side of the screen the student will see a button labeled "My POSC Form." The student clicks on that button and a blank POSC will be displayed. For further instructions, the student is directed to the [help page of the ISU Graduate College](#). After the form is approved by the committee, it is routed to the DOGE and then on to the ISU Graduate College. If the POSC is rejected it will be routed back to student. All committee members must approve any changes to the POSC.

## **PhD Preliminary Oral Examination**

The Graduate College requires a preliminary oral examination of Ph.D. degree students; most programs add a written portion to the preliminary oral examination (the written portion may be determined by your advisor). The Ph.D. degree preliminary oral examination rigorously tests a graduate student's knowledge of major, minor, and supporting subject areas as well as the student's ability to analyze, organize, and present subject matter relevant to the field. A [Preliminary Oral Exam Request](#) must be submitted to the Graduate College at least two weeks before the proposed date of the examination.

Effective January 1, 2021 students will need their POSC's approved three months prior to the date that they wish to take their preliminary oral exam.

**PhD Dissertation:** Dissertations must be prepared according to the Graduate College [requirements](#).

## **PhD Final Oral Examination**

The dissertation must be distributed to members of the POSC at least two weeks prior to the final oral examination. It is the responsibility of the student to arrange a meeting time and place in agreement with all committee members. The examination is generally a defense of the dissertation; however, questions may be asked on specific coursework or areas of concentration. For examinations to be valid, all members of the committee must be present throughout the entire scheduled period of the exam.

The Request for Final Oral Examination [online form](#) is available on the Graduate College's website and must be received by the Graduate College at least three weeks prior to the intended date of the exam, per the

deadline established by the Graduate College. The student is responsible for reserving a conference room. The Graduate College will use an electronic process to report the outcome of the final oral exam. Each committee member will receive an email with a link to the online exam form to complete promptly after the exam.

### **PhD Annual Reviews**

Annual Reviews will be conducted during the month of October. The survey will be conducted via Qualtrics (online survey tool) and the Graduate Program Coordinator will email the student. If the survey remains incomplete, the Graduate Program Coordinator will send out reminder emails to both the major professor and the student.

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## **>> Requirements for the Master of Science in Human Computer Interaction**

### **MS Course Requirements**

In order to earn an MS at Iowa State University, each student's Program of Study (POS) must include at least 30 graduate credits. A minimum of 22 of the graduate credits must be earned at ISU.

1. MS students will be required to choose any four courses, one from each of the Design, Implementation, Phenomena, and Evaluation categories. MS students will therefore be required to take a total of four courses from the core. The other courses taken can be any from the ISU Course Catalog. However, recommended electives are listed below.
2. All thesis MS students entering the program in Spring 2022 and after, 1 credit of GR ST 565 Responsible Conduct of Research will be required. For current thesis MS students, the HCI Graduate Program encourages these students to enroll in this course, but it is not required.
3. MS students will also be required to take a minimum of 3 research credits.

We offer two paths to complete your master's degree on-campus at Iowa State University for the Master of Science in HCI:

- **Path #1:** Master of Science in HCI, thesis or non-thesis/creative component: An HCI faculty member must agree to serve as your major professor (to supervise your research) and usually provides funding for a half-time graduate assistantship.
- **Path #2:** Master of Science in HCI with capstone project: Students in this program take 27 credits of coursework plus a 3-credit capstone course (to fulfill the research requirement). You do not need an HCI faculty member to serve as your major professor, and assistantship funding is not available for this degree program. You are responsible for tuition and fees.

### **Core Courses**

#### Design

- HCI/PSYCH 521 — Cognitive Psychology of HCI
- HCI 595 – Visual Design for HCI

- ArtGr 530 – User Engagement
- IE 572 – Design and Evaluation of Human Computer Interaction

#### Implementation

- HCI/ComS/CprE 575 — Computational Perception
- HCI/ME 580 – Virtual Worlds and Applications
- CprE/ComS/ME 557 — Computer Graphics and Geometric Modeling
- HCI 584X – Python Application Development in HCI

#### Phenomena

- ArtGR 540 – Design for Behavioral Change
- HCI/MIS 655 — Organizational and Social Implications of HCI
- HCI/ArtGR 589 — Design and Ethics
- JL MC 574 – Communication Technologies and Social Change
- JL MC 474 – Communication Technology and Social Change
- HCI 530X – Perspectives in HCI
- ME/WLC 584 – Technology, Globalization and Culture

#### Evaluation

- ENGL/STAT 332 — Visual Communication of Quantitative Information
- HCI/EDUC 504 — Evaluating Digital Learning Environments
- PSYCH 501 — Foundations of Behavioral Research
- STAT 586 — Introduction to Statistical Computing
- HCI/PSYCH 522 – Scientific Methods in HCI
- HCI 523X – Qualitative Research Methods in HCI

#### Recommended Electives

- ArtIS 508 – Computer Aided Visualization
- EDUC 503 – Theories of Designing Effective Learning and Teaching Environments
- EDUC 511 – Technology Diffusion Leadership and Change
- ENGL/LING 516 – Methods of Formal Linguistic Analysis
- HCI/EDUC 510 – Foundations of Game-Based Learning
- ENGL/LING/HCI 520 – Computational Analysis of English
- HCI/ME 525 – Optimization Methods for Complex Designs
- HCI 574 — Computational Implementation and Prototyping
- HCI 587 – Models and Theories in Human Computer Interaction
- HCI 596 – Emerging Practices in Human Computer Interaction
- HCI/ EDUC 603 – Advanced Learning Environments Design
- HCI/ IE 681 – Cognitive Engineering
- IE 577 – Human Factors
- STAT 587 – Statistical Methods for Research Workers
- HCI 560X – Learn to Speak AI

- IE 576 – Human Factors in Product Design
- HCI 560X – Learn to Speak AI

### **MS Program Timeline (does not apply to MS capstone students)**

1. Graduate College Student Forms can be found at [this link](#).
2. ISU Graduate College requirements are summarized in the Graduate College Handbook available at [this link](#).
3. Submit Program of Study and appoint a graduate Program of Student Committee (POSC)
  - Before the end of your first year
  - Program of Study and Committee form via AccessPlus > Grad Stdnt Status tab > My POSC form button
4. Submit Application for Graduation
  - Typically, within three weeks of the start of the semester of graduation (see [ISU Graduation Deadlines](#))
  - “Graduation” tab in AccessPlus
5. For Thesis Students Only: Format Check - Before you request your final oral exam, review [Organizing Your Thesis Checklist](#), or make an appointment with the [Center for Communication Excellence](#).
6. Submit Request for Final Oral Examination
  - At least three weeks before the intended date of the student’s final oral examination
  - Complete the [online form](#). Must be received by the Graduate College by the [deadline](#).
  - For Thesis Students Only: Open your account with ProQuest and input the title of your thesis, which will appear in the commencement program. <http://www.etdadmin.com/cgi-bin/home>
7. Submit Thesis or Creative Component to Members of the POS Committee
  - Two weeks prior to the final oral examination
8. Take Final Oral Examination
  - For Thesis Students only: After completing the [Thesis Checklist](#), you will find a link to upload your thesis at the end of the checklist, then upload your thesis to ProQuest - [note deadline for uploading](#).
  - For Nonthesis Students only: Submit Creative Component to ISU Digital Repository. Instructions in #7 at this [link](#).
9. Additional Graduate College graduation information:
  - For master’s thesis students at this [link](#).
  - For master’s non-thesis students at this [link](#).

### **Master of Science in HCI with capstone project**

#### **Degree Timeline for MS capstone students:**

1. This degree program is a total of 30 graduate credits.
2. Core Courses: one course from each of the core course categories [listed here](#) (12 credits)
3. Electives: 15 credits\*
  - Your general electives should be 500 and 600-level courses.
  - You may take three undergraduate courses: Either up to three courses at the 400 level  
\*or\* One 300 level and two 400 level courses.

- No amount of 100 or 200-level courses is allowed to be used toward your MS in HCI degree requirements.
- 4. Research Credits: you will take the HCI 599, HCI Capstone Class (a course research project) or do an independent research project (with an HCI faculty member). Tiffany will assist you with getting you set up and enrolled.
- 5. You will present your capstone class project or independent research project during your Final Oral Exam. This presentation will take place in your graduating semester.

### **Steps Toward Completing your MS in HCI capstone degree:**

1. ISU Graduate College requirements are summarized in the Graduate College Handbook available at [this link](#).
2. Submit Program of Study and Committee (POSC)
  - Must be submitted by the end of the first semester
  - Please set up a meeting with the HCI Graduate Program Coordinator before submitting the POSC form.
  - Steps on completing the POSC form can be [found here](#).
3. Submit Application for Graduation
  - Typically, within three weeks of the start of the semester of graduation (see [ISU Graduation Deadlines](#))
  - “Graduation” tab in AccessPlus.
4. Submit Request for Final Oral Examination
  - You will work with the HCI Graduate Program Coordinator on when you will submit your final oral exam request.
  - At least three weeks before the intended date of the student’s final oral examination
  - Complete the [online form](#). Must be received by the Graduate College by the [deadline](#).
5. Submit your Capstone/Creative Component Project to the Members of the POS Committee
  - Two weeks prior to the final oral examination
6. Take Final Oral Examination
  - Submit Creative Component to ISU Digital Repository. Instructions in #7 at this [link](#).
7. Additional Graduate College graduation information:
  - For master’s non-thesis students at this [link](#).

### **MS Program of Study and Committee Form (POSC)**

Students should work with their major professor to begin planning a suitable program for completion of the HCI graduate coursework. Before the end of the first year, students, in coordination with their major professor, should appoint a graduate Program of Study Committee (POSC). The composition and responsibilities of the POSC committee must be in accordance with the Graduate College guidelines (see below). The POSC committee should include faculty whose expertise will ensure a breadth of knowledge on the committee and whose knowledge and research interests can aid and complement the student’s research interests.

**Master's with thesis:** The master’s POS committee for a student completing a thesis consists of at least three members of the graduate faculty. It must include two members, including the major professor, from

the HCI faculty. One member of the committee must be either outside the major (not an HCI faculty member) or outside the student's home department.

**Master's with creative component (non-thesis) and Capstone:** The master's POS committee for a student completing a creative component consists of one member of the HCI faculty as the major professor. One additional HCI faculty member is needed on the committee.

**To file a POSC:** a student logs into AccessPlus and navigates to the "Grad Student Status" tab. On the right-hand side of the screen the student will see a button labeled "My POSC Form." The student clicks on that button and a blank POSC will be displayed. For further instructions, the student is directed to the help page of the ISU Graduate College. After the form is approved by the committee, it is routed to the DOGE and then on to the ISU Graduate College. If the POSC is rejected it will be routed back to student. All committee members must approve any changes to the POSC.

**MS Thesis:** The MS thesis is the result of a focused research effort by the student and must be prepared according to the Graduate College [requirements](#).

### Final Oral Examination

The thesis or creative component or capstone project must be distributed to members of the POS committee at least two weeks to the final oral examination. It is the responsibility of the student to arrange a meeting time and place in agreement to all POS committee members. For examinations to be valid, all members of the POS committee must be present throughout the entire scheduled period of the exam.

The Request for Final Oral Examination [online form](#) is available on the Graduate College's website and must be received by the Graduate College at least three weeks prior to the intended date of the exam, per the deadline established by the Graduate College. The student is responsible for reserving a conference room. The Graduate College will use an electronic process to report the outcome of the final oral exam. Each committee member will receive an email with a link to the online exam form to complete promptly after the exam.

### Sample Curricula for thesis MS in HCI

#### Sample I

HCI	575	Computational Perception
JLMC	574	Communication Technology and Social Change
HCI	521	The Cognitive Psychology of HCI
Stat	401	Statistical Methods for Research Workers
HCI	580	Virtual Worlds and Applications
HCI	558	Introduction to the 3D Visualization of Scientific Data – replace elective
ME	557	Computer Graphics and Geometric Modeling
HCI	699	6-9 Research credits, including thesis research

#### Sample II

Art GR	672B	Graphic Design & Human Interaction: Design for Social Inclusion
HCI	589	Design and Ethics
HCI	520	Computational Analysis of English

HCI	504	Managing & Evaluating Instructional Technology Programs
CI	503	Theories of Designing Effective Learning and Teaching Environments
CI	511	Technology Diffusion Leadership and Change
HCI	521	Cognitive Psychology of HCI
HCI	699	6-9 Research credits, including thesis research

#### Sample III

HCI	520	Computational Analysis of English
JLMC	574	Communication Technology and Social Change
HCI	521	The Cognitive Psychology of HCI
HCI	504	Managing & Evaluating Instructional Technology Programs
MIS	533	Data Management for Decision Makers
MIS	534	Electronic Commerce
ME	584	Technology, Globalization and Culture
HCI	699	6-9 Research credits, including thesis research

#### Sample IV

Art GR	672B	Graphic Design & Human Interaction: Design for Social Inclusion
JLMC	574	Communication Technology and Social Change
HCI	575	Computational Perception
HCI	504	Managing & Evaluating Instructional Technology Programs
ArtGR	672A	Graphic Design and Human Interaction: Usability
HCI	521	The Cognitive Psychology of HCI
ArtIS	509	Computer and Video Game Design and Development
HCI	699	6-9 Research credits, including thesis research

## >> Requirements for the Online Master of Human Computer Interaction

### Online MHC/M.HCI Course Requirements

1. Students in this program will be required to take four courses (12 credits), one from each of the Design, Implementation, Phenomena, and Evaluation categories.
2. MHC/MHCI students must take two additional courses of their choice from the list of core courses or the list of recommended electives (6 credits).
3. The remaining four courses (12 credits) would be general electives of your choosing from the Iowa State University course catalog.
4. Total: 10 courses (30 credits)

### Core Courses

#### Design

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

## Implementation

- HCI/ME 580 – Virtual Worlds and Applications
- CprE/ComS/ME 557 – Computer Graphics and Geometric Modeling
- HCI 584X – Python Application Development in HCI

## Phenomena

- HCI/MIS 655 – Organizational and Social Implications of HCI
- HCI/ArtGR 589 – Design and Ethics
- JL MC 574 – Communication Technologies and Social Change
- JL MC 474 – Communication Technology and Social Change
- HCI 530X – Perspectives in HCI
- ME/WLC 584 – Technology, Globalization and Culture

## Evaluation

- HCI 504 – Evaluating Digital Learning Environments
- HCI 522 – Scientific Methods in HCI
- HCI 523X – Qualitative Research 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/ME 525 – Optimization Methods for Complex Designs
- HCI 574 – Computational Implementation and Prototyping
- HCI 587 – Models and Theories in Human Computer Interaction
- HCI 596 – Emerging Practices in Human Computer Interaction
- HCI/ IE 681 – Cognitive Engineering
- IE 577 – Human Factors
- HCI 510 – Foundations of Game-based Learning
- HCI 560X – Learn to Speak AI

## MHC/M.HCI Program Timeline

1. Graduate College Student Forms can be found at [this link](#).
2. ISU Graduate College requirements are summarized in the Graduate College Handbook available at [this link](#).
3. 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
4. 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](#)

5. 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.
  6. 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. No undergraduate level (300 or 400) courses will be allowed on the certificate program of study.

The certificate consists of four courses (12 credit hours), including:

**1. Phenomena Requirement (choose one course from this list):**

- HCI/MIS 655 – Organizational and Social Implications of HCI
- HCI/ArtGR 589 – Design and Ethics
- JL MC 574 – Communication Technologies and Social Change
- JL MC 474 – Communication Technology and Social Change
- HCI 530X – Perspectives in HCI

**2. Implementation Requirement (choose one course from this list):**

- HCI/ME 580 – Virtual Worlds and Applications
- CprE/ComS/ME 557 – Computer Graphics and Geometric Modeling
- HCI 584X – Python Application Development in HCI

**3. HCI 521 Requirement:**

- HCI/PSYCH 521 – Cognitive Psychology of HCI

**4. One General Elective Course, suggested electives include, but are not limited to:**

- HCI/ EDUC 504 – Evaluating Digital Learning Environments
- HCI/ENGL/LING 520 – Computational Analysis of English
- HCI/PSYCH 522 – Scientific Methods in HCI
- HCI/ME 525 – Optimization Methods for Complex Designs
- HCI 574 – Computational Implementation and Prototyping
- HCI 587 – Models and Theories in Human Computer Interaction
- HCI 595 – Visual Design for HCI
- HCI 596 – Emerging Practices in Human Computer Interaction
- HCI/ IE 681 – Cognitive Engineering
- IE 577 – Human Factors
- HCI/EDUC 510 – Foundations of Game-based Learning
- HCI 560X – Learn to Speak AI
- HCI 523X – Qualitative Research Methods in HCI

## Academic Procedures

1. A Certificate Program of Study (POS) form shall be filed by each Certificate student after completing and receiving a grade for the fourth and final course. The online POS form can be [found here](#). No undergraduate level (300 or 400) courses will be allowed on the certificate program of study.
2. Certificate students do not have a POS committee but do have a supervising professor. The supervising professor (Director of Certificate Studies (DOCS)) for the HCI Certificate program is Stephen Gilbert. The academic advisor for Graduate Certificate in HCI students is the HCI Program Coordinator, [Tiffany Kayser](#).
3. The regular Graduate College course rules apply to certificates: a student must have a graduate GPA of 3.0 or better, and no course with less than a C may be applied to the POS.
4. Once you have completed all requirements, send a [Certification Completion form](#) to [hci@iastate.edu](mailto:hci@iastate.edu). We will get the form signed by the DOCS and forward 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.
5. The Registrar will add a notation to the permanent record (transcript) indicating that a Graduate Certificate in HCI was granted on a specified date 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. 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.
- Students are limited to 9 credits at the undergraduate level, 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.

Please note:

- Graduate students who take undergraduate classes are not required to do extra work or to be exposed to material more advanced than what is taught to undergraduates.
- In contrast, dual-listed courses (offered at both the undergraduate and graduate level) are required

to expect more of graduate students who enroll at the 500 level.

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 (500-level) 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:

- With approval of the student's Program of Study Committee, up to 6 graduate credits a student earned as an ISU undergraduate may be used to meet the requirements of the graduate degree.
- Grades of B or better are required in the courses that led to these credits.
- These credits must have been earned when the student was classified as an undergraduate, not as a nondegree undergraduate (special) student.
- These credits could have been used to meet undergraduate degree requirements.
- For students in concurrent undergraduate and graduate status, these credits (up to 6) may be in addition to the 6 credits identified on the [Transfer of Courses for Concurrent B.S./Graduate](#) form.

## **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.
- Students are limited to 9 credits at the undergraduate level, 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**

The HCI Graduate Program will expired courses on a student's program of study. Please follow the Graduate College's procedures:

- The age of a course used on a POSC is defined as the time between the year the credits were earned and the year that the student graduates. A course is considered expired when its age is greater than the time limit for the master's or doctoral program. As indicated in [section 4.4.5 of the Graduate College Handbook](#), the Graduate College Time-to-Degree Limit is seven years. Graduate

programs may establish more restrictive policies for both time-to-degree limits and expired course limits.

- Typically, POSC forms include only age-compliant course credits, no older than seven years. Occasionally, a student and their POSC committee members may believe expired credits should be counted toward degree requirements. Recognizing the wide diversity of graduate programs at Iowa State University, and the fact that students embark on graduate study under many different circumstances and with varying degrees of prior experience and/or education, the Graduate College offers the [following procedure](#) for the review of expired courses for possible inclusion on a POSC.

## **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.

Research credits earned at another institution are generally not transferred. In rare circumstances, the transfer of S or P marks may be accepted for research credits only. It is the responsibility of the POS committee to obtain a letter from the responsible faculty member at the other institution stating that research credits recommended for transfer with S or P marks are considered to be worthy of a B grade or better.

# Graduate Assistantships

Some HCI students studying on campus in the Human Computer Interaction Interdepartmental Graduate Program receive some form of financial support from either an on-campus or an external source. Both the source of the support and the responsibilities associated with it vary from situation to situation. Stipends for students admitted are provided by major professors or home departments and are governed by departmental policies. The responsibilities associated with a stipend are determined by the major professor.

All graduate students on assistantships sign a Graduate Assistantship Letter of Intent in Workday that lists the terms and conditions of their appointment. Generally, graduate assistantship appointments are on a half-time basis. "Half-time" is the maximum time appointment for graduate students; the remaining "half-time" is spent as a student in graduate studies and research.

Appointments can be terminated by mutual consent or for reasons as described in the [Graduate College Handbook](#).

## Benefits for Graduate Assistantships

Benefits in addition to stipend support accrue to the graduate assistant during the appointment period. A full explanation of these benefits appears in the Policy Library; the following shortened description omits references to forms and approvals. Graduate Assistants are responsible for making sure they review and understand the benefit information.

Benefit information is also available from:

Student & Scholar Health Insurance Program  
3810 Beardshear Hall  
Phone: 515-294-4800  
Email: [isusship@iastate.edu](mailto:isusship@iastate.edu)  
<https://sship.hr.iastate.edu>

**Health Insurance Plan** - GAs on an appointment at least three months during a semester receive single-student health insurance coverage, which includes a prescription drug plan at no charge (additional coverage for a spouse, children, and dental is available for additional premiums).

Visit [sship.hr.iastate.edu](https://sship.hr.iastate.edu) for information on how to enroll, costs, and specific plan information.

**Dental Insurance Plan** - Graduate Assistants receive a [portion](#) of the Self Only dental insurance premium as a paid benefit of their position.

**Leave** - Arrangement for a leave of absence is made between the graduate assistant and that assistant's supervisor adhering to all grant and other funding source restrictions. When a graduate assistant needs to be absent either for personal reasons or illness, the supervisor should be understanding and accommodating to that need. At the same time, the graduate assistant should attempt to plan personal leave so that it does not interfere with or cause neglect of the duties associated with their appointment. Supervisors of graduate assistants are responsible for ensuring that their assistants do not exceed reasonable limits for leave.

When a conflict arises between the graduate assistant and that assistant's supervisor regarding leave of absence use, either party may involve the appropriate Director of Graduate Education (DOGE). If the conflict is not resolved in a timely manner, any of the parties may involve the Dean of the Graduate College for a binding resolution. When resolving conflicts, the concerned party must present all evidence in writing (email is acceptable) and all parties involved must receive a copy. In order to accommodate schedules, allow a minimum of five business days for document review and resolution meeting to be scheduled between the two parties within two weeks. Resolutions achieved between the DOGE and parties need to be in writing (email is acceptable) and must be sent to all parties including the Dean of the Graduate College.

## 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](#)).
- **Compliance with Research Standards.** Graduate students conducting research must comply with the University's procedures for human subjects review, animal care and use, use of radioactive materials, prior approval of certain recombinant DNA experiments, and various safety requirements (see [Faculty Handbook, Section 8.3](#)).
- **Ownership of Intellectual Property and Data.** Iowa State University subscribes to the general principle that the intellectual property created by a student is generally owned by that student. However, student work often owes much to faculty initiative. In addition, the provisions of sponsored research grants that fund research appointments may affect the ownership of intellectual property. Students must be aware of these restrictions on ownership of intellectual property as provided by [University policies on patents and copyrights](#). Graduate students will be given an opportunity to use data resulting from sponsored research grants; however, that opportunity is subject to the University's obligations with respect to those grants. The University has a general obligation to publish the results of scientific investigation. Consequently, the student's right to control data collected under sponsorship is not exclusive. Unless prior approval for a temporary embargo is secured from the Graduate College, theses and dissertations are made publically available upon their final approval by the Graduate College.
- **Tutoring.** A graduate teaching assistant may not tutor a course that he or she is teaching. In addition, graduate students must check with their department or graduate major before entering into a tutoring agreement to learn whether additional regulations exist.