

Masters of Science in Human-Computer Interaction (HCIM)

University of Maryland, College Park

Program Handbook

Version 1.2 - Spring 2015

Introduction

This handbook serves the Masters of Science in Human-Computer Interaction (HCIM) students, faculty, and staff at the College of Information Studies (the iSchool) at the University of Maryland, College Park. The handbook contains both an overview of policies and procedures and specific suggestions to help guide students through each stage of the HCIM program. It covers the most important and common issues that HCIM students encounter, but it is not meant to be exhaustive. For any issues not covered here, students should consult the HCIM Program Director, the Student Services Office, and/or University policies, as appropriate.

Relationship between the Handbook and the University's Graduate Catalog

This HCI Masters Program Handbook is an iSchool-specific elaboration of the policies established in the [University of Maryland Graduate Catalog](#).¹ All policies, procedures, and regulations enforced by the Graduate School are updated in this handbook on an annual basis. However, in cases where there is a discrepancy between the handbook and the Graduate Catalog, the Graduate Catalog supersedes this handbook.

Process for Updating the Program Handbook

The HCI Masters Program Handbook is updated annually by the iSchool HCIM Committee. Requests for changes to this handbook can be made to the HCIM Program Director at any time, but the handbook is only updated on an annual basis.

Other Information

Additional information about the iSchool programs is contained in the [Master's Student Handbook](#).²

Description of the Program

The HCIM program requires 30 credit hours. The HCIM is designed as a full-time program. It is possible for students to complete the degree as a part-time student; however, some required classes may be offered during the day and students will have to make arrangements in their schedules to attend.

Coursework

Required HCIM Courses (Core)

- INST 630 - Introduction to Programming for the Information Professional
- INST 631 - Fundamentals of HCI
- INST 632 - HCI Design Methods

¹ <http://www.gradschool.umd.edu/catalog>

² <http://ischool.umd.edu/content/ischool-masters-student-handbook>

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- Research Methods
- INST 717 - Internship
- Thesis or Capstone (6 credits in total)
 - o Thesis: INST 799 - Thesis Research (6 credits), OR
 - o Capstone project
 - INST 775 - Capstone Preparation
 - INST 776 - Capstone Research

Grades

The grade of A+ or A is calculated at 4 quality points, A- at 3.7 quality points, B+ at 3.3 quality points, B at 3.0 quality points, B- at 2.7 quality points, C+ at 2.3 quality points, C at 2.0 quality points, and C- at 1.7 quality points. Students do not earn credit toward the degree for courses in which they receive a grade of C+ or lower. For graduate students, all courses numbered 400 and above are used in the calculation of the grade point average, except 500- level courses, those numbered 799, 898, or 899, and those graded with an S.

HCIM students must receive a grade of B- or higher in all required courses to be considered passing. If a student receives lower than a B-, the course must be repeated.

In order to maintain good academic standing, every graduate student must maintain a cumulative grade point average (GPA) of 3.0 for all courses taken at the University. A student may repeat a course to earn a better grade. Whether higher or lower, the most recent grade is used to compute the grade point average. Grades for graduate students remain a part of the student's permanent record. Changes in previously recorded grades may be made if timely (within one semester) and if the original instructor certifies that an actual mistake was made in determining or recording the grade. The change must be approved by the Dean and the Dean of the Graduate School. Graduate credits transferred from another institution are not included in the calculation of the grade point average.

An "incomplete" is an unusual grade that an instructor may award to a student whose work in a course has been qualitatively satisfactory, but who is unable to complete some portion of the work required because of illness or other circumstance beyond the student's control. In awarding the grade of "I" for graduate courses other than 799, instructors must fill out an "Incomplete Contract for Graduate Students." The contract specifies the work remaining to be completed. It must be signed by the instructor and the student. The grade of incomplete in 500-, 600-, 700-, and 800-level courses does not automatically roll-over to letter grades. Normally, students are expected to complete courses in which they have received an "I" by a date no more than twelve months from the beginning of the semester in which the course was taken. The mark of incomplete in 400-level courses is governed by the rules for awarding

incompletes to undergraduate students, including the provision of automatically converting an "I" to a letter grade.

Students remain in good standing despite grades of incomplete if the courses are not required for their degrees. For courses required for graduation, students are considered to be making satisfactory progress only if they fulfill the conditions of any outstanding incomplete contracts in a timely manner.

A student whose cumulative grade point average falls below 3.0 will be placed on academic probation by the Graduate School. Permission of the program director and the Director of Student Services is required for a student on probation to register for courses. Probation will be lifted when the student achieves a cumulative GPA of 3.0. A student on probation who has completed fewer than 15 credits must raise his or her GPA to 3.0 or above by the end of the semester in which the student completes 15 credit hours or he/she will be dismissed from the Graduate School and HCIM program. A student who has completed 16 or more hours of course work and whose cumulative GPA falls below 3.0 will be placed on probation and will have one semester in which to raise his or her cumulative GPA to a 3.0 or he/she will be dismissed from the Graduate School and HCIM program.

A graduate student's academic record (transcript) is intended to serve as a complete history of the student's academic progress at the University of Maryland. Under no circumstances will academic records be altered because of student dissatisfaction with a grade or other academic accomplishment.

Designation of Full-Time and Part-Time Status

The Graduate School uses a unit system in making calculations to determine full-time or part-time student status. Please note that graduate units are different from credit hours. The number of graduate units per credit hour is calculated in the following manner. Courses in the series: 400-499 carry 4 units per credit hour. Courses in the series: 500-599 carry 5 units per credit hour. Courses in the series: 600-897 carry 6 units per credit hour. Audited classes do not count toward calculating full or part-time status.

To be certified as full-time, a graduate student must be registered for a combination of courses equivalent to 48 units per semester. Graduate assistants holding regular appointments have full-time status if they are registered for at least 24 units in addition to the assistantship. Holders of half-time assistantships are considered full-time if registered for 36 units. Audited courses cannot be used in calculating full-time or part-time status.

Sample Program of Study

For students who enter the program without the requirement to take a programming course, the following is a typical course of study.

Sample program for student who has chosen to do a capstone project

Fall, Year 1

INST 630 - Introduction to Programming*

INST 631 - Fundamentals of HCI

INST 701 - Research Methods (this course is not required but is strongly recommended as a course to fill the research methods requirement)

Spring, Year 1

INST 632 - HCI Design Methods

Elective

Summer, Year 1

INST 717 - Internship

Fall, Year 2

INST 775 - Capstone Preparation

Elective

Spring, Year 2

INST 776 - Capstone Research

Elective

** For students who are able to waive the programming requirement, an elective should be substituted here.*

Sample program for student who has chosen to do a thesis

Fall, Year 1

INST 630 - Introduction to Programming*

INST 631 - Fundamentals of HCI

INST 701 - Research Methods (this course is not required but is strongly recommended as a course to fill the research methods requirement)

Spring, Year 1

INST 632 - HCI Design Methods

Elective

Summer, Year 1

INST 717 - Internship (ideally, an HCI research internship).

Fall, Year 2

INST 799 - Thesis Research (with advisor)

Elective

Spring, Year 2

INST 799 - Thesis Research (with advisor)

Elective

** For students who are able to waive the programming requirement, an elective should be substituted here.*

Timelines

There is some flexibility in the program, but certain requirements must be fulfilled in order, as follows:

1. Students must take INST 630 before or at the same time as taking INST 631. INST 630 can be waived for students with a programming class on their transcripts that has been taken in the last 5 years or if they can demonstrate they have recent work experience requiring programming.
2. INST 631, INST 632, and the research methods course must be completed before beginning the internship.
3. The internship must be completed in the summer while taking the internship course.
4. The internship must be completed before beginning work on the thesis or Capstone project.
5. The thesis or Capstone must be started in the Fall of the student's final academic year, and the required coursework must be completed over two consecutive semesters. The sequence cannot be compressed into one semester or taken over two non-consecutive semesters. It cannot be started in any semester but the Fall. Students doing a thesis who need more than two semesters to complete their project may enroll in INST 799 for a third semester.

Electives

Any graduate-level course (600 and above) relevant to your program is an acceptable elective. You may also take one 400-level undergraduate class for graduate credit. No additional undergraduate classes can be counted toward the program nor can any courses with numbers under the 400 level be counted toward a graduate program. This is a university requirement and there are no exceptions to this policy.

Any course that was applied to requirements for any other degree cannot be counted towards the HCIM requirements.

The list below contains suggestions of elective courses that are likely to be relevant for HCIM students, but new courses will be created regularly. Any course within the iSchool is acceptable for an elective (other than the exceptions listed below). Courses in other departments are also acceptable. If you are considering a course not listed below or on the HCIM website, please contact the HCIM Program Director for approval.

In the iSchool

All iSchool courses can be taken as electives, although the following are the most likely to be of interest to HCIM students:

Fall 2015

- INST 728V - Data Visualization
- INST 737 - Digging into Data

Spring 2016 or later

- INST TBD - Inclusive Technology Design (new - anticipated Spring 2016)
- INST 611 - Privacy and Security in a Networked World
- INST 633 - Social Network Analysis
- INST 741 - Social Computing Technologies and Applications
- INFM 750 - From Data to Insights

Outside the iSchool

These are graduate courses in other departments. You must contact the instructors of these courses before enrolling to ensure you have the appropriate background to complete them. For example, a graduate-level computer science class is likely inappropriate for someone without a computer science undergraduate degree or similar background. Though by no means an exhaustive list, the following courses are particularly relevant to HCIM students:

- CMSC 734 - Information Visualization
- CMSC 838C - Social Computing
- CMSC 838D - Human Factors in Security and Privacy

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- CMSC 838F - Tangible Interactive Computing (listed as Special Topics in Programming Languages)

Research Methods Course

We strongly recommend that students take INST 701 to fulfill their research methods requirement. However, other courses such as those below may also be used. Students who choose not to take INST 701 should check with an academic advisor to ensure that the course they choose instead is a valid replacement.

- PSYC 798J/488H/ INST 728E - Graduate Seminar and Undergraduate Special Topics: Doing Psychological Research on the Internet: Issues and Methods
- PSYC 779 - Seminar in Human Performance: Human-Computer Interaction
- PSYC 601 - Quantitative Methods I
- PSYC 602 - Quantitative Methods II
- EDMS 451 - Introduction to Educational Statistics
- SURV 420 - Introduction to Statistics
- EDMS 645 - Quantitative Research Methods I
- SOCY 601 - Statistics For Sociological Research I
- SURV 615 - Statistical Methods I

Courses to Avoid

Core courses in the other programs are in high demand by those students. Please do not register for these courses.

INFM 600, 603, 612, 736, 737 (MIM required courses)

LBSC 601, 650, 670, 690 (MLS required courses)

Residency

The University paperwork includes a form used to determine whether the applicant is an in-state or out-of-state resident. However, all students enrolled in the HCIM program must attend courses on campus during the period of their coursework for the program. The internship can be completed off campus, but students may be required to meet before or after the internship period to report on their plans and experiences.

The University System of Maryland Board of Regents has developed policies and procedures that define a Maryland resident for tuition and charge-differential purposes. This information is maintained on the Residency Classification Office's website: www.testudo.umd.edu/rco/policy.html.

Program Administration

The HCIM program is administered under standards and regulations established by the Graduate School under the jurisdiction of the Graduate Council of the University of Maryland.

Within the College, the HCIM program is directed by the HCIM Program Director in consultation with the HCIM Committee, which is comprised of faculty representatives, one representative of the HCIM students, and the Dean of the College as an ex officio member. The meetings of the HCIM Committee are open to anyone interested in participating. However, due to legal requirements related to privacy, meetings or portions of meetings where the HCIM Committee addresses issues pertaining to individual students or applicants to the College are not open to students.

The HCIM Program Director leads the HCIM Committee to perform the following tasks:

- Oversee administration of the program;
- Define, evaluate, and modify principles on which the program is based;
- Make admission and funding decisions about applicants to the program;
- Determine if admitted students are sufficiently prepared to be able to waive the programming course requirement and communicate the status of these requirements to accepted students;
- Review and vote on thesis committees for individual HCIM students.

Thesis and Capstone Project

All students must complete either a thesis or Capstone project. Both options require 6 credits that must be completed as 3 credits in the fall semester of the final academic year and 3 credits in the spring semester of the same academic year. For thesis students, this coursework will be 6 credits of INST 799. For Capstone students, the courses will be INST 775 in the fall and INST 776 in the spring.

Thesis

What is a thesis?

The thesis must be original research. The HCIM standards require a project equivalent to a publishable CHI³ paper. Students interested in doing a thesis should browse the ACM Digital Library to see example CHI papers in order to understand the required contribution.

The College of Information Studies and the University of Maryland Graduate School have developed separate, yet complementary, requirements for theses. Students should review the [Graduate School's "Academic Policies: Master's Degrees" document](http://www.gradschool.umd.edu/catalog/masters_degree_policies.htm)⁴ and note those sections relating to the thesis.

³ The annual ACM Conference on Human Factors in Computing.

⁴ http://www.gradschool.umd.edu/catalog/masters_degree_policies.htm

Coursework for the Thesis

Thesis students must have an advisor for their projects. This advisor will not be assigned and the program cannot require a faculty member to advise your thesis. Thus, it is your responsibility to seek out an advisor. The best approach is to begin talking to faculty members very early in the process to see if your project idea fits with their research agenda and if they have time to advise you on the project. Students unable to find an advisor will not be able to do a thesis and should consider a Capstone project.

Students who plan to do a thesis must have found an advisor who has agreed to supervise their project prior to the beginning of the Fall semester of their last academic year. These students should register for 3 credits of INST 799 with their advisor's section number in the fall, and an additional 3 credits of INST 799 in the spring.

Early in the process, the student and the advisor, who will serve as the chair of the thesis committee, will assemble the complete thesis committee. In addition to the chair, the thesis committee must include at least two other members who meet the criteria specified in the Graduate School Policies. Three committee members (in total) are typically recommended. The Thesis Committee nomination [form](#)⁵ should be submitted as soon as the committee has been determined, but it has to be submitted no later than the [dates published by the Graduate School](#).⁶ Committee members are responsible for approving a proposal and evaluating the thesis itself (see below for a discussion of each of these).

Thesis Defense

After completing the research, the student will draft a thesis document and share it with the chair. Once the chair has reviewed the document and any necessary revisions have been made, the student will schedule an oral defense. This will be scheduled so that all Committee members can attend (see Graduate School Policies for details on emergency cancellations, remote attendance, and related issues). The oral defense typically occurs within the College of Information Studies. Thesis defenses are open to the entire University community and are announced, including student and committee member names, time, location, title and abstract, to the University via the College's electronic lists.

Prior to the defense, the chair of the committee will secure the Report of the Thesis Examining Committee created by the Graduate School. This document is used to record the outcome of the defense after its completion.

⁵ <http://www.gradschool.umd.edu/images/uploads/NominationThesis.pdf>

⁶ http://www.gradschool.umd.edu/current_students/deadlines_for_graduate_students.html

During the oral exam, the student presents the research questions, methods, and findings to attendees. He or she also typically fields questions from attendees and committee members. After the oral examination is complete, the thesis committee deliberates in private, without the student present, and decides on the outcome. Once decided, they share the outcome with the student.

The committee has a number of options regarding the outcome of the thesis and oral defense. These options are laid out in the Graduate School Policies and read as follows:

- To accept the thesis without any recommended changes and sign the Report of Examining Committee.
- To accept the thesis with recommendations for changes and, except for the chair, sign the Report of Examining Committee. The chair will check the thesis and, upon his or her approval, sign the Report of Examining Committee.
- To recommend revisions to the thesis and not sign the Report of Examining Committee until the student has made the changes and submitted the revised thesis for the Thesis Examining Committee's approval. The Thesis Examining Committee members sign the Report of Examining Committee when they approve the revised thesis.
- To recommend revisions and convene a second meeting of the Thesis Examining Committee to review the thesis and complete the student's examination.
- To rule the thesis (including its examination) unsatisfactory. In that circumstance, the student fails.

To pass, a student must receive passing votes from all Committee members. One vote of failure means that the student does not pass. The Committee may call a second examination as a result of a failed defense. If the student fails the second defense, or if no second defense is called, the student loses standing as a graduate student at the University of Maryland (see Graduate School Policies for details).

Publishing and Final Submission

Following the completion of the Report of the Thesis Examining Committee, the student must submit that form and the [Thesis and Dissertation Electronic Publishing Form](#)⁷ signed by the student and the Chair to the Office of the Registrar (see Graduate School Policies for details).

To be successfully submitted, a thesis must conform to the [electronic thesis guidelines and style guide](#).⁸ To facilitate the submission of the thesis, the

⁷ http://www.gradschool.umd.edu/images/uploads/Publishing_Your_ETD.pdf

⁸ http://www.gradschool.umd.edu/images/uploads/ETD_Style_Guide_2010.pdf

student should consult these resources early in the process of writing the thesis and follow the requirements accordingly.

The thesis and accompanying forms must be submitted by the [deadlines posted by the Graduate School](#).⁹

Capstone

What is a Capstone Project?

There is no single model for an HCIM Capstone project. Project components may include formative studies, design, prototype building, and prototype evaluation. These components may be combined in any number of ways, but we expect the following approaches to be the most common types of projects. These descriptions are meant to be general guidelines. Every project needs to be approved by the Capstone course advisor. In all cases, a background literature review and existing product analysis are required.

Option 1. Balance of Formative, Design, Building and Evaluation

Many projects will balance effort among a subset of these components, for example, designing, building and evaluating a new prototype, or conducting a formative study, followed by designing and building a prototype, with only a minor evaluation.

Option 2. Focus on Formative Study

When the project focuses on a formative study, the majority of the effort will be on designing the study of existing practice, executing the research, and analyzing the data. For example, such a project could identify the need to improve medication tracking for diabetes patients and include qualitative interviews with patients to understand their current practice. Rigorous study method and execution is critical. The outcome of the analysis would be a synthesis of existing practice, identification of unaddressed user needs, and proposed solutions for how to address these needs—that is, implications for design. While initial designs could be sketched out, a prototype does not need to be built.

Option 3. Focus on Design and Prototype Building

For projects that focus on design, the primary contribution will be to produce an innovative artifact. In addition to the artifact itself, the design process and design rationale are of high importance and need to be clearly articulated. The artifact could be a software application or a more tangible computing interface. For example, such a project could include participatory design sessions with children and, ultimately, an implementation of a tangible computer game. Some evaluation is necessary, but not to the extent of options #1 and #4.

⁹ http://www.gradschool.umd.edu/current_students/deadlines_for_graduate_students.html

Option 4. Focus on Evaluation

A project in which a substantial portion of the work is focused on evaluation will likely involve little to no formative study and, if building, the prototype will be much smaller than for option #3. Evaluations could be in the lab or in the field, as appropriate for the interface being evaluated. The interface could be an existing product, possibly selected in partnership with a company, or could be a prototype that is fast to implement, leaving sufficient time for an in-depth evaluation of its use. For example, for a project involving a new gestural technique to support users in interacting with one hand on their smartphone, a quick experimental prototype could be built, followed by a full laboratory experiment. As another example, the student could partner with a company that has a new interface they would like to evaluate. In that case, the student would conduct extensive usability testing with the product and provide recommendations for improvements.

Coursework for a Capstone Project

Students completing a Capstone must take INST 775 in the Fall semester of their final year and INST 776 in the Spring semester of the same academic year.

INST 775, Capstone Preparation, guides students through choosing a Capstone topic, developing initial versions of the project, and preparing a proposal to present in the Spring's INST 776 class. Topics that are covered include applying for IRB approval, running pilot studies, and user testing. Students will come out of INST 775 with a draft proposal and detailed plan for completing their Capstone in the spring.

Students must have a proposal for their Capstone project prepared by the first class of INST 776, HCIM Capstone Research, ready for presentation and approval by the instructor. The purpose of this course is to provide a framework in which students can work on their projects, receive guidance from the faculty, and benefit from peer feedback. This structure ensures that students make adequate progress throughout the semester, but it is ultimately the students' responsibility to complete the proposed project in a timely manner. As appropriate, the instructor may arrange sessions devoted to particular topics of interest. For example, if many of the students are using a particular research methodology, the instructor might use a class session to discuss that methodology in more detail.

At the end of the semester, students will present their Capstone projects to a panel consisting of the instructor, the director of the HCIM, and an external evaluator invited by both. The presentation will be open to the public and advertised on appropriate mailing lists. No later than a week prior to the Capstone presentation, the student will deliver a written report to the panel in the style appropriate to each project. The panel will determine if the student's

project is acceptable, based both on the oral presentation and written report, and if not, the student will be given an opportunity to revise the written report.

Thesis and Capstone Scheduling

The university specifies a final date by which theses must be submitted to the Graduate School. The same deadline applies to Capstone projects. Students must complete their final presentations no less than two weeks before this date.

- For Capstone students, the presentation will be made to the Capstone Panel, on a date determined by the HCIM Committee for all Capstone students.
- For thesis students, this presentation is the oral defense. You must schedule the oral defense with your advisor and committee.

In both cases, the two-week buffer allows time for you to make corrections and changes requested by the committee so that you can graduate on time.

You must submit the final draft of your thesis or Capstone project to your thesis committee or the Capstone Panel no less than two weeks ahead of your presentation date.

Academic Integrity

The University is an intellectual community. Its fundamental purpose is the creation and dissemination of knowledge. Like all other communities, the University can function properly only if its members adhere to clearly established goals and values. Essential to the fundamental purpose of the University is the commitment to the principles of truth and academic honesty. The Code of Academic Integrity is designed to ensure that the principle of academic honesty is upheld. While all members of the University community share this responsibility, the [Code of Academic Integrity](#)¹⁰ is designed so that special responsibility for upholding the principle of academic honesty lies with students. The Graduate School's academic integrity policies are available [here](#).¹¹ The College takes issues of academic integrity extremely seriously and has a zero tolerance policy for academic dishonesty.

Code of Academic Integrity

The University's Code of Academic Integrity states that any of the following acts, when committed by a student, shall constitute academic dishonesty:

- **Cheating:** intentionally using or attempting to use unauthorized materials, information, or study aids in any academic exercise.
- **Fabrication:** intentional and unauthorized falsification or invention of any information or citation in an academic exercise.

¹⁰ <http://www.president.umd.edu/policies/iii100a.html>

¹¹ http://www.gradschool.umd.edu/catalog/academic_record.htm#2

- **Facilitating academic dishonesty:** intentionally or knowingly helping or attempting to help another to violate any provision of this Code.
- **Plagiarism:** intentionally or knowingly representing the words or ideas of another as one's own in any academic exercise. The College encourages the faculty and students to explore useful strategies and resources about academic integrity. For example, some advice on how to avoid plagiarism is available [here](#).¹²

Honor Pledge

On each examination, paper, or other academic exercise not specifically exempted by the instructor, a student may be requested to write by hand and sign the following pledge: *"I pledge on my honor that I have not given or received any unauthorized assistance on this examination."* Failure to sign the pledge is not an honors offense, but neither is it a defense in case of violation of this Code. Refusal to sign must be explained to the instructor. Signing or non-signing of the pledge will not be considered in grading or judicial procedures. Material submitted electronically should contain the pledge – submission implies signing the pledge.

On exams, no assistance is authorized unless given by or expressly allowed by the instructor. On other assignments, the pledge means that the assignment has been completed without academic dishonesty, as defined in the Code of Academic Integrity.

The pledge is a reminder that at the University of Maryland students carry primary responsibility for academic integrity because the meaningfulness of their degrees depends on it. Faculty members are urged to emphasize the importance of academic honesty and of the pledge as its symbol.

Penalties for Violations of Academic Integrity

Engaging in any academic dishonesty will result in consequences in line with University policies. Academic dishonesty includes, but is not limited to, plagiarism, cheating, buying work, multiple submissions of the same paper, forging signatures, submitting fraudulent documents, and facilitating the academic dishonesty of others.

Students who are found to have falsified, fabricated, or plagiarized in any context, such as course work, laboratory research, archival research, or thesis/dissertation writing, are referred to the [Office of Student Conduct](#).¹³ The Office of Student Conduct has some discretion in determining penalties for violations of the University's standards of academic integrity, but the normal sanction for a graduate student found responsible for a violation of academic

¹² <http://www.lib.umd.edu/guides/citing.html>

¹³ <http://www.jpo.umd.edu/>

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integrity is dismissal (suspension or expulsion) from the University. The College pursues the maximum penalties applicable in cases where a HCIM student engages in academic dishonesty.