

Master's Graduate Student Handbook

*Rice University
Department of Psychological
Sciences*

Rice University
The Department of Psychological Sciences
Master of Human-Computer Interaction & Human Factors
Program

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Introduction

Human-Computer Interaction & Human Factors (HCIHF) is the scientific study of people in the design of products, services, and systems. The Master of Human-Computer Interaction & Human Factors (MHCIHF) program trains students to understand, design, and assess complex technological systems, with an emphasis on how human perceptual, cognitive, and physical abilities inform those designs. As advancing technology becomes more ubiquitous, it will change the way we work and interact. Failure to consider the human side of technology will have ever-increasing costs. Thus, HCIHF professionals will be integral in helping to design technologies of the future in areas such as autonomous vehicles, augmented reality, advanced medical systems, mobile computing, and other information/communication technologies.

As the home of Rice University, the city of Houston offers key advantages to our students. Houston is a vibrant, technologically sophisticated metropolis, making it an ideal place in which to study human-computer interaction and human factors. As a student, you will have unparalleled access to industries, people, and other institutions of higher learning that will enhance your educational experience here at Rice. Among these industries is the Johnson Space Center, home of NASA's famed Mission Control. Because 14 astronauts and many HCIHF professionals on-site are Rice graduates, we maintain a special relationship with NASA's JSC through the Rice Space Institute. In the energy sector, Houston is widely considered to be the energy capital of the world, with over 5,000 energy firms locally. Houston is also home to the Texas Medical Center, the largest medical center in the world, with 21 hospitals, 9 medical/nursing schools, and 8 research institutes. As the most ethnically and racially diverse city in the United States, Houston offers excellent opportunities to study a wide range of different populations, and the Texas Medical Center provides easy access to patient and medical provider populations as well.

The MHCIHF program is designed for students from a variety of backgrounds, including psychology and engineering. Students will complete 37 hours across 11 courses, including a summer internship and a capstone project. The program is designed for a student to complete in 2 academic years. Upon graduation, students will have the skills to:

- Understand fundamental human perceptual, cognitive, and physical capabilities.
- Understand the interplay between technology and human behavior.
- Be able to collect human performance data and have the statistical skill to analyze and explain those data.
- Apply all of this knowledge to the design and assessment of any system.

Academic Requirements

The MHCIHF degree is a full-time non-thesis master's degree. For general university requirements, please see [Non-Thesis Master's Degrees](#). For additional requirements, regulations, and procedures for all graduate programs, please see [All Graduate Students](#). Students pursuing the MHCIHF degree must complete:

- A minimum of 11 courses (36 credit hours) to satisfy degree requirements.
- A minimum of 36 credit hours of graduate-level study (coursework at the 500-level or above).
- A minimum of 24 credit hours must be taken at Rice University.
- A minimum overall GPA of 2.667.
- A minimum GPA of 3.000 in required coursework.
- A maximum of 2 courses (6 credit hours) from transfer credit.
- An internship.* All students in the Master's program are required to intern in the summer between their two years of study.
- A capstone design course (this is a project course, supervised jointly by the MHCIHF faculty, and should be taken in the second semester of the second year).

Course Requirements

Core Requirements

- PSYC 502 – Advanced Psychological Statistics I
- PSYC 503 – Advanced Psychological Statistics II
- PSYC 520 – Foundations of Cognitive Psychology
- PSYC 531 – HF/HCI Research Seminar (Fall Semester I)
- PSYC 531 – HF/HCI Research Seminar (Spring Semester I)
- PSYC 531 – HF/HCI Research Seminar (Fall Semester II)
- PSYC 531 – HF/HCI Research Seminar (Spring Semester II)
- PSYC 540 – Foundations of Engineering Psychology
- PSYC 541 – Human-Computer Interaction
- PSYC 561 – Teaching in Psychology
- PSYC 609 – Methods in Human-Computer Interaction

Internship Requirement

- PSYC 595 – Human-Computer Interaction & Human Factors Professional Master's Internship

Elective Requirements

select 2 from the following:

- PSYC 504 – Computer Applications in Technology
- PSYC 522 – Information Processing and Attention
- PSYC 524 – Memory
- PSYC 525 – Psycholinguistics
- PSYC 527 – Reasoning, Decision Making, and Problem Solving
- PSYC 530 – Foundations of I-O Psychology
- PSYC 535 – Human Factors/Ergonomics
- PSYC 543 – Computational Modeling of Cognitive Processes
- PSYC 581 – Vision Science
- PSYC 601 – Multivariate Statistics
- PSYC 602 – Psychometrics
- PSYC 630 – Advanced Topics in I-O
- PSYC 634 – Personnel Psychology
- PSYC 640 – Topics in Human-Computer Interaction
- PSYC 662 – Non-traditional Interfaces
- PSYC 663 – Medical Human Factors
- PSYC 664 – Usability Assessment

Capstone Requirement

- PSYC 600 – Human-Computer Interaction & Human Factors Professional Master's Capstone Project**

* All students in the Master's program are required to intern in the summer between their two years of study. That internship is reflected in the student's course of study as PSYC 595, and students should register for that summer course. Faculty in the MHCIHF area have relationships with multiple local and national companies and government labs that would be suitable. Students sponsored by their employer may return to that company for the summer internship, provided that the work is classified as human factors-related.

** The capstone requirement, PSYC 600, is a project course supervised jointly by the MHCIHF faculty, and should be taken in the second semester of the second year.

Proposed Plan-of-Study

The following plan-of-study represents an example five-semester sequence in which students pursuing the MHCIHF degree complete the required coursework.

1st Semester (Fall) – 10 Credit Hours

Course Number	Course Title	Credit Hours
PSYC 531	HF/HCI Research Seminar	1
PSYC 502	Advanced Psychological Statistics I	3
PSYC 541	Human-Computer Interaction	3
PSYC 609	Methods in Human-Computer Interaction	3

2nd Semester (Spring) – 8 Credit Hours

Course Number	Course Title	Credit Hours
PSYC 531	HF/HCI Research Seminar	1
PSYC 503	Advanced Psychological Statistics II	3
PSYC 540	Foundations of Engineering Psychology	3
PSYC 561	Teaching in Psychology	1

3rd Semester (Summer) – 1 Credit Hour

Course Number	Course Title	Credit Hours
PSYC 595	HCIHF Professional Master's Internship	1

4th Semester (Fall) – 7 Credit Hours

Course Number	Course Title	Credit Hours
PSYC 531	HF/HCI Research Seminar	1
PSYC 520	Foundations of Cognitive Psychology	3
PSYC XXX	Elective One	3

5th Semester (Spring) – 10 Credit Hours

Course Number	Course Title	Credit Hours
PSYC 531	HF/HCI Research Seminar	1
PSYC XXX	Elective Two	3
PSYC 600	HCIHF Professional Master's Capstone Project	6

Academic Progress and Expectations

Expectations

The program aims to train students to acquire the skills and knowledge needed to be a successful professional in Human-Computer Interaction & Human Factors. This means that students will be trained in both research and the application of that research to practical concerns. We expect that students will embrace not only the practical aspects, but the research and knowledge of human behavior that lies behind these tools and techniques.

All graduate students are expected to perform well in classes and in conducting research throughout their time in the program. We encourage students to become involved in a faculty mentor's research laboratory and to present and publish this research at professional venues as appropriate.

Students whose cumulative grade point average or the average for the most recently completed semester (including the summer semester) falls below 3.0 are placed on probationary status. Grades of B- reflect marginal but passing performance, and grades below B- are considered failing. Students making below a B- in a required course are typically required to retake the course. Given the restricted timeline of the program, the course may not be offered again before the 2-year time limit is reached. In these cases, the faculty may allow a student with a grade of C+ to retake the final or do other work demonstrating mastery of the material in order to satisfy the requirement. Only one make-up chance will be granted.

The student must complete an internship in the summer following their first year in the program. This internship may be performed at the student's home employer, or the student may obtain professional-level employment elsewhere. The work must be related to human-computer interaction and human factors.

During the final semester of the program, students are required to take the capstone project course. This course allows students to integrate all of the knowledge they have gained in their MHCIHF coursework in the form of a capstone project in the area of human-computer interaction and human factors. The capstone may be either research-focused or application-focused. Research-focused projects will conduct original research in an area that has been mutually agreed upon by the student and the MHCIHF faculty. Application-focused projects will apply fundamental user-centered design principles in the design, iteration, and evaluation of product, service, or system that has been mutually agreed upon by the student and the MHCIHF faculty. Both research and application capstones include a written component, consisting of an APA-compliant report of sufficient length to cover the material, and a presentation component, in which the student presents the work to the HCI/HF seminar course (PSYC 531). This requires the proposal be approved in the semester prior to enrolling in the capstone course. A first draft of the proposal is due halfway through the fall semester (exact date will vary with the academic calendar) and it must be approved by the end of the semester.

For the university's policies on academic probation and dismissals, please refer to the General Announcements: <https://ga.rice.edu/graduate-students/academic-policies-procedures/regulations-procedures-all-degrees/>.

Evaluations

Every graduate student's academic progress is evaluated informally at the end of each semester, and formally at the end of the first academic year.

All first-year students are reviewed after each semester at a faculty meeting. Students receive an evaluation letter from the director of the graduate program written based on the discussion at the faculty meeting. Students are evaluated in terms of course grades, progress in research, and internship performance.

If a student is not making adequate progress, a description of the areas in which progress is not adequate will be spelled out and steps required by the student to remedy the problem(s) will be contained in the written evaluation.

Petitions and Appeals

Petitions and appeals involve exceptions to academic requirements, regulations, and judgments.

Course Substitutions

A student wishing to substitute a course for a required course must obtain the approval of the MHCIFH faculty. The faculty will then recommend the substitution to the graduate director, who decides whether or not to approve the recommendation. If the course to be used as a substitute is on the same topic as the required course, then the advice of the current instructor of the required course will be sought. If the recommendation is not approved by the graduate director, the MHCIFH faculty can appeal the decision, first to the graduate committee and then to the whole faculty. If the recommendation is approved, the student will need to submit a Graduate Request for Transfer Credit form to the Registrar with a copy of the transferred course's syllabus.

Petitions seeking exceptions to academic requirements or regulations should be submitted in writing at least 30 days before the requirement or regulation takes effect.

Academic Decisions

If a student wishes to appeal an academic decision made by a faculty member, he or she should present, in writing, an appeal to the graduate committee, who will reconsider the decision in view of the information provided in the petition and consult with the department chair when appropriate. This committee may choose to return the matter to the faculty, acting as a committee of the whole, for further consideration.

Petitions regarding academic decisions must be submitted in writing within 15 days from the time that the student knew or should reasonably have known of the decision being petitioned, or within 15 days after an unsuccessful effort to resolve the situation informally.

Student Wellbeing

Title IX

Rice encourages any student who has experienced an incident of sexual, relationship, or other interpersonal violence, harassment, or gender discrimination to seek support. There are many options available both on and off campus for all graduate students, regardless of whether the perpetrator was a fellow student, a staff or faculty member, or someone not affiliated with the university.

Students should be aware when seeking support on campus that most employees are required by Title IX to disclose all incidents of non-consensual interpersonal behaviors to Title IX professionals on campus who can act to support that student and meet their needs. The therapists at the Rice Counseling Center and the doctors at Student Health Services are confidential, meaning that Rice will not be informed about the incident if a student discloses to one of these Rice staff members. Rice prioritizes student privacy and safety, and only shares disclosed information on a need-to-know basis.

If you are in need of assistance or simply would like to talk to someone, please call Rice Wellbeing and Counseling Center, which includes Title IX Support, at x3311 (713-348-3311).

Policies, including Sexual Misconduct Policy and Student Code of Conduct, and more information regarding Title IX can be found at <https://safe.rice.edu>.

Grievances

Unlike petitions and appeals, which involve academic exceptions, a grievance is a complaint regarding inappropriate conduct by other students, faculty members, or staff. Inappropriate conduct encompasses both inappropriate personal conduct, such as sexual harassment, and inappropriate official conduct, such as violation of University policies. Specific policies exist to address grievances based on discrimination or sexual harassment, and those policies must be followed in situations involving such issues.

Grievances against another student may be raised with the Assistant Dean of Student Judicial Programs and addressed under the Code of Student Conduct. In other cases, a student may present a grievance in writing at the lowest appropriate level, typically the department or school. If a satisfactory resolution is not obtained at that level, the student may appeal the outcome of the grievance by presenting the problem at the next administrative level, such as the school, Office of Graduate and Postdoctoral Studies, Provost, or President. Grievances against non-faculty staff members may also be brought to the Employee Director in Rice's Human Resources office.

The procedures for handling grievances are analogous to those for handling petitions and appeals. Students submitting grievances must so indicate in their submissions.

Problem Resolution

During the course of graduate studies, problems that do not fall under the category of grievances, described above, may arise in the relationship between a graduate student and his/her program. Students should attempt to resolve such problems by informing the appropriate faculty members and working together to resolve the problem. When attempts to resolve the problem informally are unsuccessful, the following problem-resolution procedure will be used:

1. The student will submit the problem in writing to the department's graduate program director, who will then attempt to resolve it, consulting with the department chair when necessary.
2. If the student remains unsatisfied, the problem will be presented to the department Graduate Committee for resolution. This is a standing committee independent of the student's program faculty; its current members are Dr. Chris Fagundes, Dr. Randi Martin, Dr. Fred Oswald, and Dr. Mikki Hebl. Both the student and the graduate program director will submit a written record of their views to this committee.
3. If the student remains unsatisfied, the problem will be referred to a standing subcommittee of the Graduate Council composed of three faculty members (representing diverse disciplines within the university) and a graduate student, with the Dean of Graduate and Postdoctoral Studies as an ex-officio member. A written report of proceedings at stage 2 will be presented to the Chair of Graduate Council for forwarding to the subcommittee, along with all other written materials generated during the investigation. The decision of this subcommittee is considered final.

The time frame for handling problem resolution is similar to that for handling petitions, appeals, and grievances.

In addition to being in agreement with the regulations stated in this departmental handbook, students must also be in agreement with the General Announcements and the Code of Conduct.

If there is conflicting information, university-wide regulations take precedence over department-wide regulations, which take precedence over research group-wide regulations. When in doubt, students should seek help first at the department level (Graduate Coordinator, Director of Graduate Studies, MHCIHF director, and/or Department Chair) and then at the central administration level (Office of Graduate and Postdoctoral Studies).