



University
of Houston
Clear Lake

College of
Human Sciences
and Humanities

Program Description and Admissions Information

Master of Science in Psychology

Human Factors Psychology Concentration

And

Human Factors/Ergonomics Certificate

Fall Admission Only
Early Admission February 1
Final Deadline May 1

UHCL's Master of Science in Psychology
Human Factors Psychology Concentration
And
Certificate in Human Factors and Ergonomics

What is Human Factors Psychology?

Human Factors is the application of principles and techniques of psychology to a real world problem. In Human Factors Psychology (HFP), principles and methods associated with Cognitive Psychology are applied to the human-machine interface to improve the usability and effectiveness of the interface. There are many terms used to refer to the areas of research and practice associated with Human Factors psychology: Usability, Human-Computer Interaction, Experience Design, User Centered Design, Ergonomics, among others. Human Factors is an “umbrella” term that can be used to refer to any of these. The Dictionary for Human Factors/Ergonomics by James H. Stramler (Boca Raton, LA: CRC Press, 1993) defines Human Factors as follows:

“Human Factors is that field which is involved in conducting research regarding human psychological, social, physical, and biological characteristics, maintaining the information obtained from that research, and working to apply that information with respect to the design, operation, or use of products or systems for optimizing human performance, health, safety, and/or habitability.”

Thus, by its nature, Human Factors is interdisciplinary and can be applied to software engineering, interface design, industrial engineering, instructional technology, industrial hygiene, architecture, medical technology, and other fields. The keystone of the application of Human Factors to these industries is the utilization and implementation of User Centered Design, a process that insures that the requirements of the ultimate user of the technology (the human) are integrated into the design and construction of the technology. The proliferation of technology in industry has generated an increased demand for professionals with knowledge of the processes and methods associated with the User Centered Design Process. Further, many interdisciplinary academic programs need researchers and instructors to build the knowledge base necessary for the continued development of efficient and usable technology.

Human Factors and Ergonomics at UHCL

Through an integrated sequence of coursework, practicum, research, and hands-on activities, UHCL'S Human Factors Psychology Concentration is designed to provide students with a well-rounded foundation in psychology, the user centered design process, and the methods used to evaluate human-machine interfaces. Students will obtain basic competency in perception, cognition, and information processing systems and learn to apply this knowledge to the design of the human-machine interface. Practicum and research experiences will be provided in laboratory and industrial settings. All students will complete a number of research projects prior to graduation. The Concentration includes a course sequence that prepares the student to take the Board Certified Professional Ergonomist (BCPE) or Certified Human Factors Professional (CHFP) exam. Furthermore, graduates will be prepared to pursue doctoral degrees in psychology with a focus on the human-machine interface. The **Human Factors/Ergonomics Certificate** is designed for individuals who have already earned a master's degree in Psychology or a related discipline and who would like to complete the coursework that would prepare them for the BCPE or CHFP exam. UHCL has one of the few Master's program in the state of Texas explicitly designed to

prepare people to work in industry upon graduation. Some of the industry partners with this program include: Hewlett Packard, Schlumberger, Exxon, Chevron, Lockheed, and United Space Alliance.

M.S. Psychology/Human Factors Psychology Concentration Requirements

Students enrolled in the M.S. Psychology program and the Human Factors Psychology concentration complete the following requirements:

General Psychology Requirements

PSYC 6036 & 6037	Experimental and Non-Experimental Design and Statistics
PSYC 6030	Sensation and Perception
PSYC 6832	Advanced Cognitive and Affective Psychology

Select 2 of the 3 below

PSYC 5235	Learning Principles
PSYC 5532	Advanced Social Psychology
PSYC 6134	Biological Basis of Behavior

Applied Cognitive Psychology Requirements

PSYC 6434 or INDH 5334 Human Factors Engineering
An analysis of the principles of human factors, along with an introduction and overview of the HF/E disciplines.

PSYC 6431 User Centered Design
An examination of how users should be included in the design process including needs analysis, requirements writing, iterative testing of low/medium/high fidelity prototypes, implementation of requirements, and evaluation

PSYC 6435 Human Factors Methods and Analysis
An exploration of Human Factors methods necessary for developing and testing human-machine interfaces and systems that support efficient and effective performance

PSYC 5932 Research Topics in Applied Cognitive Psychology (6 hours)
A seminar devoted to specialty topics; past topics have included Skill Development, Judgement and Decision Making, Advanced Prototyping, and Psychomotor Actions.

PSYC 6439 Practicum in Human Factors Psychology

Human Factors Psychology Elective (select one in consultation with a graduate faculty advisor)

Master's Option

Internship PSYC 6739	Graduate Internship (6 hours)
Thesis PSYC 6939	Master's Thesis (6 hours)

Recommended Schedule (M.S. Program)

Full Time

Year 1	Fall	Exp. Statistics, HF Engineering, User Centered Design
	Spring	Non-Exp Statistics, Research Topics in ACP, HF Methods and Analysis
	Summer	Practicum in HF/E, Sensation and Perception
Year 2	Fall	PSYC Core, Concentration elective, Advanced Cognitive and Affective Psychology
	Spring	Research Topics in ACP, Internship/Thesis
	Summer	PSYC Core, Internship/Thesis

Part Time

Part time completion timing can vary depending on the number of courses taken each semester. Typical timing is three to four years when completing two courses a semester.

Human Factors/Ergonomics Certificate-Only Program

Students enrolled in the Human Factors/Ergonomics Certificate Program complete the following courses:

PSYC 6036/6037 Experimental and Non-Experimental Design and Statistics	6 hours
PSYC 6434 Human Factors Engineering	3 hours
PSYC 6431 User Centered Design	3 hours
PSYC 6435 Human Factors Methods and Analysis	3 hours
INDH 5335 Ergonomics Methods and Analysis	3 hours

Applying to the Program

Students wishing to enroll in the Human Factors Psychology Concentration or Human Factors/Ergonomics Certificate Program must formally apply. Additional information can be obtained by contacting the director of the Human Factors Psychology Concentration, Dr. Nicholas Kelling (281-283-3443; kelling@uhcl.edu).

To apply to the program:

Complete the online application through [ApplyTexas.org](https://applytexas.org)

Please click the following link - [online application](https://applytexas.org)

<https://applytexas.org>

You will need the following to complete the application

- a.** A Curriculum Vitae (an expanded résumé describing previous education; all work experience; relevant course work and relevant volunteer activities; any honors, presentations, papers, avocations or other relevant life experiences).
- b.** A brief essay of purpose and goals stating reasons for wanting this degree and how it fits into career goals.
- c.** Contact information for two letters of recommendation, at least one from an academic source.
Recommendations from academic faculty and/or work supervisors who know the applicant well are especially important.
- d.** Official transcripts from all colleges and universities previously attended

e. Scores from the Graduate Record Examination (GRE) taken within the past five years. If you have not yet taken the GRE, please put the date when the exam is to be taken. A full review of the application cannot occur before results are received.

Please include all requested documentation. Incomplete packets will not be considered.

Deadline for Application and Notification of Admissions Decision:

Application to the Human Factors Psychology Concentration plan can be made at any point during the year. Currently, admission to the Concentration for the fall semester has two deadlines; early admission, February 1, and final deadline, May 1. It is the applicant's responsibility to insure that the Human Factors Psychology Admissions Committee receives a complete application by the due dates. Notification is usually provided within one month of the submission deadline.

Additional information regarding applications:

Any evidence of tampering with recommendations or transcripts could result in disqualifying the applicant from admission. Applicants should note that admission to graduate status at the university and to the Master of Science in Psychology is not equivalent to admission to the Human Factors Psychology Concentration. In some cases, applicants may be notified of admission to the university and to the M.S. Psychology program by the College of Human Sciences and Humanities Advising Office. Any such communication refers only to acceptance into graduate status at the university and to the M.S. Psychology plan. Applicants are not admitted into the Human Factors Psychology Concentration until they receive formal notice from the Human Factors Psychology Selection Committee. Students may take graduate courses before being formally accepted into Human Factors Psychology Concentration or Certificate Program; however, certain courses (Practicum and Internship) will be restricted to those students who have been formally admitted into the program.