

Explore the Possibilities . . .



Pursue a Career in Human Factors/Ergonomics



Human Factors and Ergonomics Society

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Human Factors Work

Work in the field of human factors/ergonomics (or HF/E, also known as human engineering) is exciting, challenging, and rewarding. HF/E professionals apply their scientific and engineering expertise to the many problems people encounter in the use of tools, equipment, and systems.

Solutions to these problems often involve a combination of product design, user training, and refinement of procedures for using or maintaining the products. Among the areas of application are automation in a wide range of systems, computer hardware and software, aerospace systems, training, transportation (including driver distraction), health care, and consumer products.

HF/E work and a brief history of how the field began are stated concisely in the words of one of the outstanding human factors scientists and a pioneer in the field, Alphonse Chapanis: “Human engineering got its big push during World War II, when it was found that many of the new and complicated weapons were useless because they exceeded the capacities of their human operators. This same kind of mismatching of people and machines is common today in modern industry, in the skies above us, and on our highways. It is . . . the job [of HF/E professionals] . . . to redesign present equipment and devise new equipment so that human errors, accidents, and frustrations can be reduced and efficiency increased.”

According to a recent survey, the level of job satisfaction among HF/E professionals was found to be higher than among those working in other professional and technical fields. The same study found that HF/E positions are notable for the variety of tasks involved, the employee’s relative independence, and the amount of feedback he or she receives.

Your Educational Background

Degree requirements. Virtually all employers seek job candidates with at least a bachelor’s degree, and many jobs require a master’s or PhD.

Fields of study. Degrees in human factors and related fields are offered by a number of universities and colleges. HF/E professionals come from a variety of academic disciplines, including engineering, psychology, industrial design, medicine/life sciences, education, business administration,



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computer science, and others. Specializations within engineering include general, industrial, mechanical, electrical, and aeronautical-astronautical.

Preparing for work in the field. Educational preparation for working in the HF/E field starts with a bachelor's degree. Undergraduate programs in any of the fields of study listed above will prepare you for most jobs. You also need strong communication skills, both written and oral, and you will be working with statistical methods. Internships are encouraged.

If you wish to pursue a graduate degree in an area related to HF/E, view the online Directory of Human Factors Graduate Programs in the United States and Canada at hfes.org, under Information for Students.

Employment Areas

Whether you prefer an academic environment, private industry, government, consulting, or the military, HF/E employment opportunities are numerous and wide ranging.

Academic institutions. Many HF/E professionals work in state and private colleges and universities. Faculty positions range from research associate (often filled by graduate students) to full professor, both part-time and full-time.

Industry employment. HF/E professionals work in a wide variety of industries. Jobs range from research positions to management of product development teams, with titles such as human factors engineer, ergonomist, safety scientist, usability (UX) practitioner, technical specialist, and research scientist.

Military-related research centers. Several research laboratories in the U.S. Army, Air Force, and Navy employ HF/E professionals.

Government agencies. Agency employers include the National Research Council, National Aeronautics and Space Administration, National Academy of Sciences, National Transportation Safety Board, National Highway Traffic Safety Administration, Occupational Safety and Health Administration, Federal Aviation Administration, and U.S. Consumer Product Safety Commission. HF/E professionals also work in city and state agencies.



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Independent research and consulting organizations. Numerous consulting companies employ full- or part-time temporary or permanent HF/E professionals.

Independent consulting. HF/E professionals offer their services as consultants on a permanent or temporary basis, either full-time or part-time. Some consult part-time in addition to a permanent full-time job. These consultants are sometimes retained by trial lawyers to provide expert witness services in areas such as accident analysis, consumer product design, and slip and falls.

Salaries

The Human Factors and Ergonomics Society periodically conducts surveys to collect information about salary levels in all areas of human factors employment. The results indicate that salaries increase at about the level of inflation from year to year.

Not surprisingly, professionals who have obtained a PhD earn more than those with less education. In general, positions within industry are the highest paying, followed by academia and then government agencies. A recent Salary and Compensation Survey (go to hfes.org, under Publications), showed that an average salary for an HF/E professional with a master's degree in the United States was about \$78,000 per year.



About the Human Factors and Ergonomics Society

With more than 4,800 members, HFES is the largest nonprofit organization for human factors/ergonomics professionals in the world. Members receive benefits such as complimentary journals, reduced prices on books and standards, and discounted registration for the International Annual Meeting, Health-Care Symposium, and ErgoX conferences. See all that HFES has to offer at hfes.org.

