PROGRAM BENEFITS

➢ Gain a working knowledge of safety and efficiency issues in human work environments.

➢ Learn how to design safe and easy-to-use products and computer interfaces.

➢ Prepare for BCPE certification as a Professional Ergonomist.

➢ Earn graduate credits that may be applied toward Penn State’s master's degree (M.S.) in industrial engineering with the option in human factors and ergonomics engineering.

Be Exceptional

Certificate students are given the opportunity to work with exceptional Penn State professors like Dr. Andris Freivalds — respected Fellow of the Ergonomics Society and author of numerous influential publications in the field. Among his many achievements, Dr. Freivalds was awarded the IE Technical Innovation Award in 1995 for his development of the touch glove to measure stressors on the operator’s hand while working, and the CTD Risk Index to evaluate the potential risk for injury from these stressors.
THE PROGRAM
The need for engineering professionals capable of safely and efficiently designing and developing products for human use is growing. The postbaccalaureate certificate program in human factors and ergonomics was created to address this growing need by providing people with in-depth knowledge regarding product and workplace design, for the purposes of safety, ease of use, and improved productivity. The curriculum focuses on the application of user engineering design principles, tools, and methods to assess and enhance quality and productivity for both consumers and employees. Applications include, but are not limited to, medical devices, consumer products, military systems, software design, and the workplace.

ADMISSION REQUIREMENTS
Successful applicants will possess a baccalaureate degree in a related technical field and are expected to have a minimum GPA of 3.0. International students must satisfy the Graduate School's English language requirement. Professional experience will be taken into consideration for admission, and exceptions to the minimum 3.0 grade-point average may be made for students with special backgrounds, abilities, and interests.

For details about World Campus admission requirements, visit: www.worldcampus.psu.edu/pub/hfec

COSTS
The tuition rate for courses in the program is $600 per credit. This rate is subject to change. A $104 per year technology fee is required. Additional variable costs include course materials such as textbooks and software. For more information about World Campus tuition or registration processes, please contact Student Services at psuwd@psu.edu.

THE COURSES
A student must complete 15 credits to earn the certificate and should be able to complete the program in 24 months. Each course consists of 3 credits. Check the Web site for course updates, as new program electives are currently being developed.

IE 418  Human-Computer Interface Design
Design and evaluation of the human-computer interface, including human performance, visual displays, software design, and automated system monitoring.

IE 552  Mechanics of the Musculoskeletal System
The upper limb and its musculoskeletal components, including mechanical properties and models; work-related musculoskeletal injuries, including techniques, models, and instruments to measure and quantify the risks for developing such injuries.

IE 553  Engineering of Human Work
Physics and physiology of humans at work; models of muscle strength, dynamic movements; neural control; physical work capacity; rest allocation.

IE 558  Engineering of Cognitive Work
Information processing and decision-making models of the human in the modern workplace, emphasizing visual inspection and other industrial applications.

IH S 470  Analytical Methods for System Safety
Quantitative and qualitative methods of system safety of analysis are covered; issues in risk assessment, acceptance, analysis, and communication, as well as accident cost analysis and cost-benefit analysis, are included.

DELIVERY METHOD
The courses are delivered through a variety of media and technologies, which include the use of print-based materials, videotaped lectures, and Web-based interactions with program faculty. Web access is required to complete the program.