

Human Systems Engineering (Aviation Human Factors), MS

ESHSEAHFMS

Program description

Degree awarded: MS Human Systems Engineering (Aviation Human Factors)

The MS program in human systems engineering with a concentration in aviation human factors provides students with a deep understanding of the science of human performance and experience in the aerospace and aviation industries.

Students in this program participate in courses focusing on methods and tools in applied cognitive science, foundations of human systems engineering, uses of simulation, aviation physiology and crew resource management, among other topics. Students gain an understanding of cognitive science and human systems concepts and tools that enables them to effectively analyze, design, and develop aerospace and aviation products, workspaces, operations and training programs.

At a glance

- **College/School:** [Ira A. Fulton Schools of Engineering](#)
- **Location:** [Polytechnic](#)

Degree requirements

30 credit hours and a portfolio, or

30 credit hours and a thesis, or

30 credit hours including the required applied project course (HSE 593)

Required Core (12 credit hours)

HSE 520 Methods and Tools in Applied Cognitive Science (3)

HSE 530 Intermediate Statistics for Human Systems Engineering (3)

HSE 531 Data Analytics: Modeling Human Subjects Data (3)

HSE 542 Foundations of Human Systems Engineering (3)

Concentration (6 credit hours)

AMT 533 Aviation Systems and Psychology (3)

AMT 565 Safety in Complex Systems (3)

Electives and Research (6 or 12 credit hours)

Culminating Experience (0 or 6 credit hours)

HSE 593 Applied Project (6) or

HSE 599 Thesis (6) or

portfolio (0)

Additional Curriculum Information

For electives and research coursework, enrollment in HSE 592 Research for three credit hours is required for students completing a thesis and optional for students completing the applied project or portfolio culminating experience. Students in all culminating experience options should contact the academic unit for an approved electives list.

Students completing a portfolio for the culminating experience must complete 12 credit hours of electives and research coursework, while students completing an applied project or thesis complete six credit hours of electives and research coursework.

Admission requirements

Applicants must fulfill the requirements of both the Graduate College and the Ira A. Fulton Schools of Engineering.

Applicants are eligible to apply to the program if they have earned a bachelor's or master's degree in engineering, aeronautical management, psychology or a related field from a regionally accredited institution.

Applicants must have a minimum cumulative GPA of 3.00 (scale is 4.00 = "A") in their first bachelor's degree program or in the last 60 hours of their first bachelor's degree program; or a minimum cumulative GPA of 3.00 (scale is 4.00 = "A") in nine semester hours of graduate coursework from a U.S. institution; or a minimum cumulative GPA of 3.00 (scale is 4.00 = "A") in an applicable conferred master's degree program from a regionally accredited college or university.

All applicants must submit:

1. graduate admission application and application fee
2. official transcripts

3. curriculum vitae or professional resume
4. professional statement
5. research summary
6. three letters of recommendation
7. proof of English proficiency

Additional Application Information

An applicant whose native language is not English must provide proof of [English proficiency](#) regardless of their current residency. [Global Launch at ASU](#) offers an online alternative to standardized testing for international students who are seeking admission to ASU but need proof of English proficiency.

Unofficial transcripts may be submitted at time of application. If admitted, applicants must then submit official transcripts to ASU Graduate Admission Services.

The letters of recommendation should be from college professors, employers (in a human factors or aviation-related field) or a combination of both academic and professional references.

Applicants to this program generally have completed an undergraduate course in statistics.

Tuition information

When it comes to paying for higher education, everyone's situation is different. Students can learn about [ASU tuition and financial aid](#) options to find out which will work best for them.

Program learning outcomes

Program learning outcomes identify what a student will learn or be able to do upon completion of their program. This program has the following program outcomes:

- Choose the appropriate statistical analysis, address violations of assumptions (e.g., sphericity), & run the analysis using SPSS.
- Apply the methods of human systems engineering to test a hypothesis or solve an applied problem
- Conduct independent research to address problems in the space of aviation systems and human performance in those systems.

Career opportunities

Graduates of this program are prepared for management, research, and training positions in aerospace and aircraft manufacturing, airlines, flight training and government.

Contact information

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