

M.S. in Human Factors

The Master of Science in Human Factors (MSHF) is an online program tailored to working professionals who want to better understand the interrelationship between humans and technology, environment, and other system components, as they relate to human performance, limitations, and error in simple and complex systems. This multidisciplinary degree explores how humans interact with technology, designs, social systems, operational interfaces, and environmental factors in contexts that include healthcare, aerospace, transportation, military, security, virtual and augmented reality, simulation, computing, and other complex sociotechnical systems concerned with human performance, system design, comfort, and safety.

Students will also learn and apply critical thought and synthesis skills required to analyze current trends and past events and designs in which human error led to operational failures, as core elements of the curriculum. Our goal is for graduates to emerge from the MS in Human Factors program with the knowledge and ability to identify trends, analyze system requirements, develop strategies, recommend solutions, and recognize opportunities for innovation in this field.

Students will select one of two research options, the 30-credit program with the 3-credit Culminating Research Experience (CRE), or the 33-credit program, which incorporates the 6-credit culminating Thesis series. This Thesis option will allow the student to complete original human factors research at the end of the MSHF degree program. Along either path (CRE or Thesis), students can expect to study human physiology, cognition, psychology, and biomechanics; human performance capabilities, limitations and errors; virtual and simulated environments; and human interactions within complex sociotechnical systems.

The MS in Human Factors also has a 4+1 agreement with the Prescott BS in Human Factors Psychology program, which allows students who have earned a minimum of 75 undergraduate credits with a grade of B or better in all courses to apply to the Prescott BSHFP-WW MSHF 4+1 Combined Program. View information for the PC BSHFP-WW MSHF 4+1 Combined Program.

Estimated Cost of Attendance

Students will:

- Apply human factors evidence-based methodologies to identify, interpret, and define industry-based problems and develop strategies to control mitigate and/or solve them.
- Apply the fundamentals of human factors and ergonomic (human factors and ergonomics) principles and concepts to complex socio-technical systems.
- Comprehensively evaluate human physiological capabilities and limitations across multiple human factors and ergonomics domains.
- Demonstrate ethical professional writing, communication and oral presentation skills using appropriate media and industry technology.
- Evaluate human cognitive/psychological capabilities and limitations comprehensively across multiple human factors and ergonomics domains.

DEGREE REQUIREMENTS

Major/Core

MSHF 606	Human Cognition	3
MSHF 612	Human Performance, Limitation, and Error	3
MSHF 618	Human Factors in Virtual and Simulated Environments	3
MSHF 624	Ergonomics and Biomechanics	3
MSHF 640	Human Physiology and Adaptation	3
MSHF 641	Systems Psychology	3

MSHF 647	Human Factors in Complex Systems	3
Total Credits		21

Research Options:

Culminating Research Experience (CRE)

RSCH 650	Research Methods and Analysis	3
MSHF 653	Cognitive Systems Engineering	3
MSHF 691	MSHF Culminating Research Experience	3
Total Credits		9

Thesis

RSCH 665	Statistical Analysis	3
RSCH 670	Research Methods	3
MSHF 700A	MSHF Thesis I	3
MSHF 700B	MSHF Thesis II	3
Total Credits		12

Total Degree Requirements

Culminating Research Experience (CRE)	30
Thesis	33