



■ Participants

Engineers and managers from civil and military industry who want to develop skills in Human Factors and Ergonomics as well as in the new and growing field that is Neuroergonomics, and Human Factor experts who want to deepen their knowledge on aeronautics and transportation applications.

■ Aims of the programme

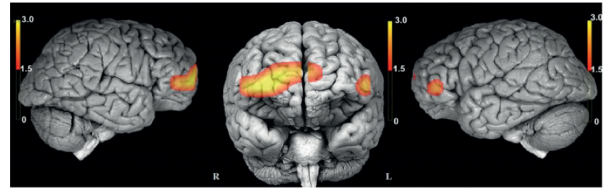
To provide learners with a high-level multi-disciplinary approach to understand human behavior and performance. This course focuses on fundamental and applied concepts to design safer and more efficient systems that integrate the human operator into the loop. Moreover, this course also encompasses a thorough training on the use of the five main physiological sensors dedicated to measure human performance and mental activity. The students learn the know-how of technical, measurements and signal processing issues for each of these sensors. This course emphasizes on practical work using the ISAE flight simulators and real light aircrafts to assess the pilots' brain activity.

■ Organisation

Course duration: 100 hours in April.

Teaching language: English.

Location: ISAE-SUPAERO, 10 avenue Edouard Belin, Toulouse.



■ Syllabus

Understanding Human Behavior (25h):

Vigilance, Fatigue & Rhythms
Perceptual Systems
Attention & Executive Control
Memory & Learning
Emotions, Stress & Decision Making
Sensorimotor Behavior
Application Focus: Pilot/Autopilot Conflict, Airline Pilot Experience

Humans at work (25h):

Cognitive Ergonomics
Physical Ergonomics
Human-Computer Interaction
Social Psychology
Application Focus: Motor Transportation, Cockpit Design, Nuclear Plant Control Room

Physiological markers (25h):

Eye-tracking
Electrocardiography
Electroencephalography
Near Infra-Red Spectroscopy
Application Focus: Certification

Advanced Techniques (25h):

Signal processing for physiological data
Brain Computer Interfaces
Ethics
Research Tools
Application Focus: Aviation/Aerospace psychology & medicine, Accident analysis, Experimental work using flight simulators & real light airplanes

Further information and registration:

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