Postgraduate Certificate in Aviation Security Management

Aviation Human Factors and Behavior

Aviation Human Factors: A multidisciplinary field focused on understanding human behavior and performance in aviation systems, aiming to enhance safety, efficiency, and security.

Behavioral Markers: Observable actions or behaviors that can be used to assess an individual's performance, decision-making, and situational awareness in aviation.

Crew Resource Management (CRM): A training program designed to improve communication, decision-making, and teamwork among aviation crew members to enhance safety and efficiency.

Cognitive Task Analysis (CTA): A process used to identify and understand the cognitive skills, knowledge, and strategies required to perform complex tasks, often used in aviation to improve training and performance.

Communication: The exchange of information between individuals or groups, playing a critical role in aviation safety, security, and efficiency.

Culture: A shared set of values, beliefs, and practices within an organization or society, influencing behavior, decision-making, and performance.

Decision Making: The process of selecting a course of action from multiple options based on available information, context, and personal judgment.

Error Management: A proactive approach to identifying, analyzing, and mitigating errors in aviation systems to enhance safety and efficiency.

Fatigue: A state of physical and mental exhaustion that can negatively impact performance, decision-making, and alertness in aviation.

Human-Machine Interface (HMI): The design and interaction between humans and technology, playing a critical role in aviation safety and efficiency.

Human Factors Analysis: The process of identifying and understanding the human factors contributing to aviation incidents, accidents, and system failures.

Human Performance: The study of human behavior, cognition, and physiology in relation to aviation tasks, systems, and environments.

Job Demands-Resources (JD-R) Model: A framework used to understand the relationship between job demands, resources, and well-being in aviation professionals.

Mental Workload: The cognitive and perceptual demands placed on an individual during aviation tasks,

influencing performance, decision-making, and safety.

Non-Technical Skills (NTS): The interpersonal and cognitive skills necessary for effective communication, decision-making, and teamwork in aviation.

Procedural Compliance: The adherence to established aviation procedures and protocols to ensure safety, security, and efficiency.

Resilience: The ability of aviation systems and individuals to adapt to unexpected situations, challenges, and disruptions while maintaining performance and safety.

Situational Awareness (SA): The ability to perceive, understand, and anticipate one's environment and operational context in aviation.

Stress: A psychological and physiological response to challenging or threatening situations, potentially impacting aviation performance, decision-making, and safety.

Safety Culture: A collective commitment to safety within an aviation organization, reflected in shared values, beliefs, and practices.

Selection and Training: The process of identifying, assessing, and developing the knowledge, skills, and abilities required for aviation professionals.

Supervision and Monitoring: The oversight and evaluation of aviation personnel, tasks, and systems to ensure compliance, safety, and efficiency.

Teamwork: The collaborative effort among aviation professionals to achieve shared goals, often involving communication, coordination, and cooperation.

Threat and Error Management (TEM): A framework used to understand, analyze, and mitigate threats and errors in aviation systems to enhance safety and efficiency.

Work Environment: The physical and psychological conditions in which aviation professionals perform their tasks, potentially impacting performance, safety, and well-being.