

Aerospace and Occupational Safety (SFTY)

SFTY 520 Occupational Health and Safety Foundations 3 Credits (3,0)

Graduate-level foundational course in occupational health and safety. Covers public health principles, communication, leadership, research ethics, and interdisciplinary teamwork.

Course Offered at: Daytona Beach

SFTY 530 Safety, Health and Environmental Legislation, Litigation and Compliance 3 Credits (3,0)

Survey of regulatory and legal settings in occupational safety, health, and environmental management. Exploration of regulations, legal responsibilities, and ethical considerations.

Course Offered at: Daytona Beach, Worldwide, Asia

SFTY 531 Aircraft Accident Investigation 3 Credits (3,0)

Examination of aircraft accident investigation from administrative, regulatory, and field perspectives. Emphasis on evidence gathering and roles of investigative organizations. Includes laboratory work.

Course Offered at: Prescott

SFTY 540 Disaster Preparedness and Emergency Response 3 Credits (3,0)

Disaster preparedness and emergency response procedures. Topics: emergency response plans, incident command system, medical surveillance, post-emergency recovery.

Course Offered at: Daytona Beach, Prescott, Worldwide, Asia

SFTY 550 Fire Safety Management and Disaster Response 3 Credits (3,0)

Essentials of fire protection and prevention in safety, health, and environmental management. Concepts of fire behavior, fire detection, suppression systems, and disaster response management.

Course Offered at: Daytona Beach

SFTY 551 Case Studies in Safety 3 Credits (3,0)

Case studies in accidents from various industries: aviation, maritime, rail, highway, and others. Analysis of risks, organizational issues, and failure modes.

Course Offered at: Prescott

SFTY 560 Industrial Hygiene and Physical Hazards 3 Credits (3,0)

Health effects, measurement, regulations, and control technologies for physical hazards such as noise, temperature extremes, radiation, and vibration.

Course Offered at: Daytona Beach

SFTY 570 Fire Safety Management 3 Credits (3,0)

Fire behavior, fire chemistry, detection systems, fire prevention and control methods. Development of safety prevention programs and emergency action plans and response.

Course Offered at: Daytona Beach, Worldwide, Asia

SFTY 580 Environmental Protection for the Safety, Health and Environmental Manager 3 Credits (3,0)

Environmental hazard prevention, mitigation, and compliance techniques. Focus on sustainable practices, environmental regulations, and strategic environmental management.

Course Offered at: Daytona Beach, Worldwide, Asia

SFTY 581 Industrial Hygiene and Environmental Protection 3 Credits (3,0)

Role and responsibilities of industrial hygienists in aviation and other industries. Identification, evaluation, and control of workplace hazards such as noise, chemicals, and radiation.

Course Offered at: Prescott

SFTY 590 Hazard Control Methods in Occupational Safety and Health 3 Credits (3,0)

Application of scientific and technical principle to anticipate, recognize, evaluate and control workplace safety and health hazards. Topics: job safety analysis, inspections, audits, machine safeguarding, walking and working surfaces, materials handling.

Course Offered at: Daytona Beach, Prescott, Worldwide, Asia

SFTY 599 Special Topics in Aerospace and Occupational Safety 1-6 Credit (1-6,0)

Individual, independent, or directed studies of selected topics in aerospace and occupational safety.

Course Offered at: Daytona Beach, Prescott, Worldwide

SFTY 600 Occupational Safety and Health Management 3 Credits (3,0)

Overview of occupational safety program development and management. Application of safety management principles to complex technical industries.

Course Offered at: Daytona Beach, Worldwide, Asia

SFTY 601 Physical Ergonomics 3 Credits (3,0)

Role of ergonomics in workplace and task design. Musculoskeletal anatomy, physiology, biomechanics, and techniques for controlling musculoskeletal disorders.

Course Offered at: Prescott

SFTY 602 Human Factors 3 Credits (3,0)

Survey of human information processing capabilities and limitations. Includes visual and auditory systems, human error, reliability analysis, task analysis.

Course Offered at: Prescott

SFTY 603 Occupational Safety 3 Credits (3,0)

Overview of occupational safety, including worker compensation, program development, and hazard management. Includes evaluation of specific hazards like machine guarding, fire protection, and lighting.

Course Offered at: Prescott

SFTY 604 Quantitative Methods 3 Credits (3,0)

Survey of quantitative methods for safety practitioners: descriptive statistics, probability, parametric/nonparametric statistics, and ANOVA.

Course Offered at: Prescott

SFTY 609 Advanced System Safety 3 Credits (3,0)

Techniques important in the practice of system safety. System safety management; mathematics and probability including probability distributions, networks, simulation, decision analysis, and hazard analysis.

Course Offered at: Prescott

SFTY 611 Industrial Hygiene and Toxicology 3 Credits (3,0)

Concepts in industrial hygiene and toxicology to prevent occupational illnesses. Recognizing, evaluating, and controlling occupational health hazards. Overview of federal and state laws and regulations.

Course Offered at: Daytona Beach, Worldwide, Asia

SFTY 612 Research Methods in Safety 3 Credits (3,0)

Research methodologies for problem development. Problem selection, data collection, sample selection, and literature review.

Course Offered at: Prescott

SFTY 613 Aviation Safety Management Systems 3 Credits (3,0)

Safety management systems in aviation; components of safety policy, risk management, safety assurance, and safety promotion; mandatory and voluntary safety programs. History of aviation safety initiatives.

Course Offered at: Prescott

SFTY 614 Safety Ethics 3 Credits (3,0)

Ethical decision-making for safety professionals. Foundations in professional ethics and morality; responsible relationships with colleagues, supervisors, and customers. Impact on the safety environment.

Course Offered at: Prescott

SFTY 616 Safety Training and Leadership 3 Credits (3,0)

Leadership and communication skills for safety professionals. Topics: team facilitation, conflict resolution, negotiation, leadership processes, training program development, design, implementation, and evaluation.

Course Offered at: Prescott

SFTY 617 Aviation Human Factors 3 Credits (3,0)

Human information processing, capabilities, and limitations. Human error, reliability, motor capabilities, task analysis. Emphasis on aviation applications.

Course Offered at: Prescott

SFTY 619 Human Factors and Ergonomics 3 Credits (3,0)

Human factors in workplace, work task, and equipment design. Topics: anthropometry, control-display design, visual and auditory acuity, circadian rhythms, psychomotor skills, learning and memory, physiological aspects of ergonomics.

Course Offered at: Daytona Beach, Worldwide, Asia

SFTY 620 Evaluation of Chemical Hazards and Analytical Methods in Industrial Hygiene 3 Credits (3,0)

Evaluation of occupational exposures to gases, vapors, aerosols. Industrial hygiene air-monitoring equipment; exposure distribution characterization; sampling strategies.

Course Offered at: Daytona Beach

SFTY 631 Aircraft Accident Analysis 3 Credits (3,0)

Critical analysis of aircraft accidents through extensive fieldwork, investigation, group discussions, decision-making, and report production. Focus on accident prevention and loss-prevention technologies.

Course Offered at: Prescott

SFTY 635 Advanced Aircraft Survivability 3 Credits (3,0)

Detailed analysis of survivability factors in aircraft accidents. Focus on impact forces, injury mechanisms, crashworthiness, and technologies to protect occupants. Case studies included.

Course Offered at: Prescott

SFTY 640 Industrial Hygiene Sampling and Analysis 3 Credits (3,0)

Contaminant exposure assessment for public health and regulatory compliance. Focus: air, dermal, surface, noise, soil, and water sampling. Data analysis and equipment use.

Course Offered at: Daytona Beach, Prescott

SFTY 675 Aviation Maintenance Safety 3 Credits (3,0)

Aviation maintenance safety practices, procedures, and policies. Maintenance safety in relation to safety management programs. Case studies on accident prevention and loss control.

Course Offered at: Prescott

SFTY 691 Capstone 3 Credits (3,0)

Development, execution, reporting, and presentation of project or research. Culminating effort in safety science or occupational safety management.

Course Offered at: Daytona Beach, Prescott, Worldwide

SFTY 696 Internship in Safety Science 1-3 Credit (1-3,0)

Temporary professional work in safety science. Application of theories and philosophies in industrial or professional settings. Coordinated by the University between offering organizations and graduate students.

Course Offered at: Prescott

SFTY 697 Internship in Safety Science 1-3 Credit (1-3,0)

Temporary professional work in safety science. Application of theories and philosophies in industrial or professional settings. Coordinated by the University between offering organizations and graduate students.

Course Offered at: Prescott

SFTY 698 Internship in Safety Science 1-3 Credit (1-3,0)

Temporary professional work in safety science. Application of theories and philosophies in industrial or professional settings. Coordinated by the University between offering organizations and graduate students.

Course Offered at: Prescott

SFTY 699 Special Topics in Aerospace and Occupational Safety 1-6 Credit (1-6,0)

Individual, independent, or directed studies of selected topics in aerospace and occupational safety.

Course Offered at: Daytona Beach, Prescott, Worldwide

SFTY 700 Graduate Thesis 1-9 Credit (1-9,0)

Original research in occupational safety or aviation safety science. Valid methodology, data analysis, and oral defense required. Advances the field of study.

Course Offered at: Prescott

SFTY 700A Graduate Thesis I 3 Credits (3,0)

First part of a two-course sequence. Develop a thesis on occupational safety and management. Supervised by a thesis committee. Quality suitable for publication.

Course Offered at: Daytona Beach

SFTY 700B Graduate Thesis II 3 Credits (3,0)

Completion of the occupational safety and management thesis. Focus: problem identification, hypothesis formulation, findings interpretation, and original research contribution.

Course Offered at: Daytona Beach

SFTY 799 Special Topics in Aerospace and Occupational Safety 1-6 Credit (1-6,0)

Individual, independent, or directed studies of selected topics in aerospace and occupational safety.

Course Offered at: Daytona Beach, Prescott