

# Course Competency

## ASC 2470 Physiology /Psychology of Flight

### Course Description

This is an introductory course in the physiology and psychology of flight. Students will learn aero-medical facts of significance to pilots, including causes, symptoms, prevention and emergency treatment of ailments common to the aviation environment through a basic understanding of a person's normal functioning. Cabin pressurization, communications, decompression sickness, hyperventilation, hypoxia, self-imposed stresses, spatial disorientation and vision are examined.

Course Competency	Learning Outcomes
<p><b>Competency 1:</b>The student will demonstrate knowledge and understanding of physiology of flight by:</p>	<ol style="list-style-type: none"> <li>1. Critical thinking</li> <li>2. Computer / Technology Usage</li> </ol>
<ol style="list-style-type: none"> <li>a. Describing the atmosphere and the impact of the atmosphere upon the human body.</li> <li>b. Defining various physical laws such as: Boyle’s Law, Charles’ Law, Graham’s Law, Henry’s Law, and Dalton’s Law.</li> <li>c. Explaining the respiration and circulation processes in the human body.</li> <li>d. Identifying the causes, symptoms, prevention, and treatment of various forms of hypoxia.</li> <li>e. Pointing out the causes, symptoms, prevention, and treatment of hyperventilation.</li> <li>f. Recalling the causes, symptoms, prevention, and treatment of “decompression sickness”.</li> <li>g. Differentiating the benefits and problems associated with cabin pressurization.</li> <li>h. Analyzing the human visual system and its limitations.(including visual illusions)</li> <li>i. Breaking down the effects of noise in the aviation environment, including communications.</li> <li>j. Summarizing the effects of certain self imposed stresses (such as alcohol, drugs, and fatigue) on flight safety and pilot performance.</li> <li>k. Explaining the importance of the maintenance of proper physical fitness.</li> </ol>	

<b>Competency 2:</b> The student will demonstrate knowledge and understanding of physiology of flight by:	<ol style="list-style-type: none"> <li>1. Critical thinking</li> <li>2. Computer / Technology Usage</li> <li>3. Communication</li> </ol>
<ol style="list-style-type: none"> <li>a. Discussing the unerring decision making process, including the idealized aeronautical decision making (ADM) or problem solving process.</li> <li>b. Summarizing the flawed decision making process.</li> <li>c. Explaining the impact of leadership, attitude, and motivation on safety.</li> <li>d. Analyzing training and training devices, their importance and use to improve pilots' ADM.</li> <li>e. Describing the impact of stress and other mental ailments on aviation safety.</li> <li>f. Describing human error; listing its sources and methods of classification, and meeting the challenge of human error in the cockpit.</li> <li>g. Naming the elements of risk management in aviation operations.</li> </ol>	
<b>Competency 3:</b> The student will produce reasoned, critical responses to common concerns in aviation physiology and psychology by:	<ol style="list-style-type: none"> <li>1. Critical thinking</li> <li>2. Communication</li> <li>3. Information Literacy</li> <li>4. Information Literacy</li> </ol>
<ol style="list-style-type: none"> <li>a. Examining actual accident reports from the Department of Transportation and providing a class presentation and written report outlining the causes and various ways in which the assigned accident could have been prevented.</li> <li>b. Analyzing the physiological and psychological factors affecting the student (self-analysis) prior to a flight in a comprehensive manner that will allow the student to make a competent go/no-go decision as pilot in command.</li> </ol>	

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