

Aviation Challenge Mach II

Lesson Overviews

FY-2018

Aerospace Physiology- In this briefing, trainees are introduced to concepts of flight that affect the human body. They will discuss factors that affect both the vestibular and ocular senses as well as ways to deal with sensory issues.

Aviation History and Technology- This briefing can be broken up into several smaller discussions with trainees. It covers the history of flight as well as how flight has changed as technology has improved.

UAS Intro- This briefing will cover the definition, governance and use of 'drones' both in military and civilian uses.

Water Survival Briefing- In this briefing, trainees will be introduced to water survival tips and techniques. They will also be introduced to the different types of life preservers and the situations in which each kind would be appropriate.

Land Survival Briefing- The 'Intro to Survival Briefing' will be a quick way for cadets to understand the basics of survival skills.

Parachute Design Challenge- In this challenge, the trainee will use the supplies provided as well as the information on the history and science of parachutes to design a deployable chute. The Chute must slow the decent of the Green Army Man, but also let him land on target.

Gliders- Trainees will construct a foam glider and test it to determine how the different control surfaces affect flight.

Instruments- This briefing will cover the inside of the basic cockpit of a standard aircraft as well as some advanced features in modern military and civilian aircraft.

Intro to Flight- This briefing provides an introduction to the scientific principles of flight. The trainees will be introduced to control surfaces of the plane and the rotational motion that each correlates to. There is also information about the planes on-sight so that they can be used as teaching aids when appropriate.

Rotor Craft- This briefing will introduce the trainees to helicopters. We will discuss their history as well as the science behind how they work, in particular the role that torque plays in helicopter flight.

Weather- Trainees will discuss how different types of weather affects flight. In a hands-on activity, trainees will discover how limited visibility due to fog or cloud cover can affect a pilot's ability to fly safely.