AVIATION TRAINING PROGRAMS
at the NASTAR® Center

G-TOLERANCE AND TACTICAL FLIGHT TRAINING
ATFS-400™

EJECTION AND EGRESS TRAINING
Ejection Seat Simulator (ESS)

NIGHT VISION AND NIGHT VISION GOGGLE TRAINING
(NVTS/NVGTS)

FIXED WING AND HELICOPTER SPATIAL DISORIENTATION TRAINING
GYROFLIGHT

ALTITUDE (HYPOBARIC) PHYSIOLOGY TRAINING
Hypobaric Chamber

UPSET RECOVERY AND SPATIAL DISORIENTATION TRAINING
GYROLAB Flight Simulator
G-TOLERANCE AND TACTICAL FLIGHT TRAINING™
ATFS-400™

1 DAY ACADEMIC INSTRUCTION & 1 DAY TRAINING FLIGHTS

INITIAL ACADEMIC INSTRUCTION
- Introduction to Acceleration
- Physiological Effects of G
- G-LOC Characteristics and Prevention
- Anti-G Straining Maneuver (AGSM)
- Protective Equipment
- Stress Management
- Physical Conditioning and Diet

FLIGHT TRAINING
- Gradual Onset Run to Assess Individual G Tolerance
- Rapid Onset Run to 6 Gz (AGSM Practice)
- Rapid Onset Run to 8 Gz (9 Gz for F-16 training)
- Check Six Profile Rapid Onset to 6 Gz (7Gz for F-16 training)

Customized training programs are available upon request.
*Tactical flight training requires ITAR approval.

REFRESHER TRAINING (FOR EXPERIENCED TACTICAL PILOTS)

1/2 DAY ACADEMIC INSTRUCTION
- Anti-G Straining Maneuver
- Protective Equipment
- Stress Management
- Physical Conditioning and Diet

1/2 DAY FLIGHT TRAINING
- Pursuit (Tail Chase)
- Air Intercept
- Low Level
- BFM (1v1)

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*Tactical flight training requires ITAR approval.
EJECTION AND EGRESS TRAINING
Ejection Seat Simulator (ESS)

1/2 DAY PROGRAM: 3 HOURS ACADEMIC INSTRUCTION & 2 HOURS ESS EJECTIONS

- Escape & Egress Systems
- Ejection Decision
- Controlled vs. Uncontrolled Ejections
- Pre-Ejection Actions
- Proper Body Position
- Dynamics of Ejection
- Seat Separation, Parachute Descent and Landing
- Ejection & Egress Mishaps Summary
- Special Escape & Egress Problems
- 2 ESS Ejections
  - Body Position Evaluation
  - Decision To Eject Evaluation

Customized Training Programs Available Upon Request
NIGHT VISION TRAINING
1/2 DAY PROGRAM:

ACADEMIC INSTRUCTION
• Visual System - Anatomy and Physiology
• Day and Night Vision
• Object Recognition
• Common Night Visual Illusions
• Recognition and Recovery from Visual Illusions
• Effects of Altitude on Night Vision
• Effects of Flash Blindness
• Techniques for Optimizing Seeing
• Night Visual Approaches and Landings
• Flight Into Weather

HANDS ON TRAINING

NIGHT VISION GOGGLE (NVG) TRAINING 1/2 DAY PROGRAM:

ACADEMIC INSTRUCTION
• Physiology of the Visual System
• How Night Vision Goggles Work
• Capabilities and Limitations of NVG’s
• Operational Considerations
• Physical Considerations
• Physiological Considerations
• Environmental Considerations
• Interface with Other Life Support Equipment
• Preflight, Fitting and Focusing

HANDS ON TRAINING
• NVG Image Interpretation Exercises
1/2 DAY ACADEMIC INSTRUCTION AND 1/2 DAY TRAINING FLIGHTS

ACADEMIC INSTRUCTION

Situational Awareness
• Conscious and Preconscious Information Processing
• Learned Skill Execution
• Anomalies of Attention

Spatial Disorientation
• Physiological Effects of Spatial Disorientation
• Sensory Systems and Physiology
• Illusions and their Effects

Effects of Stress
• Mission, Self, Environmentally Imposed Stresses
• Stress Management

FIXED WING TRAINING

• Coriolis, False Horizon (Day and Night), Leans, Runway Width, Runway Slope, Graveyard Spiral, Dark Takeoff

HELIicopter TRAINING

• Coriolis, False Horizon, Leans, Distance and Depth Perception, Flicker Vertigo, Autokinesis
• Undetected Drift in Hover, Brown Out/White Out

Customized Training Programs are available upon request

NASTAR CENTER
ALTITUDE PHYSIOLOGY TRAINING PROGRAM

1 DAY PROGRAM:
4 HOURS ACADEMIC INSTRUCTION & 1 TRAINING FLIGHT

- Gas Laws and Atmospheric Physics
- Physiological Divisions of the Atmosphere
- Physiology of Respiration and Circulation
- Effects of Stress
- Effects of Trapped Gasses in the Human Body
- Effects of Decompression Sickness (DCS)
- Effects of Hypoxia and Hyperventilation
- Pressure Equalization Difficulties
- Aviation Oxygen Equipment
- Altitude Chamber Oxygen Equipment Familiarization
- Effects of Altitude on Night Vision
- Chamber Flight Profile Briefing and Flights
  - Hypoxia (35,000 feet)
  - Effects of Hypoxia while using Night Vision
  - Rapid Decompression (8,000 to 22,000 feet AGL)
  - Pressure Breathing

1/2 DAY PROGRAM:
2 HOURS ACADEMIC INSTRUCTION & 1 TRAINING FLIGHT

- Gas Laws and Atmospheric Physics
- Physiological Divisions of the Atmosphere
- Effects of Trapped Gasses in the Human Body
- Effects of Decompression Sickness (DCS)
- Effects of Hypoxia and Hyperventilation
- Aviation Oxygen Equipment
- Altitude Chamber Oxygen Equipment Familiarization
- Effects of Altitude on Night Vision
- Chamber Flight Profile Briefing and Flights
- Chamber Flight to 25,000 Feet

Customized Training Programs are available upon request
UPSET RECOVERY AND SPATIAL DISORIENTATION TRAINING

PILOT UPSET RECOVERY TRAINING PROGRAM

2 DAY PROGRAM:
1 DAY ACADEMIC INSTRUCTION & 1 DAY TRAINING FLIGHTS

• Situational Awareness and Spatial Orientation
• Types and Classes of Aircraft Upsets
• Upset Detection and Recognition
• Flight Characteristics Familiarization and Lift Vector Control
• Pilot Errors During Upset Conditions
• GYROLAB Training Flights consisting of:
  • Familiarization Flight
  • Lift Vector Control Exercises
  • Extreme Maneuvering Exercises
  • Upset Demonstration and Performance Exercises
  • Proficiency Assessment Session

SPATIAL DISORIENTATION TRAINING PROGRAM

2 DAY PROGRAM:
1 DAY ACADEMIC INSTRUCTION & 1 DAY FLIGHT TRAINING

Academic Instruction

Situational Awareness
• Conscious and Preconscious Information Processing
• Learned Skill Execution
• Anomalies of Attention

Spatial Disorientation
• Physiological Effects of Spatial Disorientation
• Sensory Systems and Physiology
• Illusions and their Effects

Effects of Stress (Mission, Self, Environmentally Imposed)

Flight Training
• Flight 1: Somatogravic, Graveyard Spiral, Ground Lights and Stars, G Excess, Linear Vection, Upsloped & Downsloped Runways, Black Hole

ADVANCED TACTICAL DISORIENTATION TRAINING PROGRAM

1 DAY PROGRAM: 1/2 DAY ACADEMIC INSTRUCTION & 1/2 DAY FLIGHT TRAINING

Academic Instruction

Situational Awareness
• Conscious and Preconscious Information Processing
• Learned Skill Execution
• Anomalies of Attention

Spatial Disorientation
• Physiological Effects of Spatial Disorientation
• Sensory Systems and Physiology
• Illusions and their Effects

Effects of Stress (Mission, Self, Environmentally Imposed)

Flight Training
• Flight 1: Somatogravic, Graveyard Spiral, Ground Lights and Stars, G Excess, Linear Vection, Upsloped & Downsloped Runways, Black Hole

Customized Training Programs are available upon request