

Aerodynamics is everywhere in our lives: it exerts its influence over our sports, our modes of transportation, the buildings we occupy, and even our speech.

Through the lens of aviation, experience new learning about yourself and the world around you. Acquire new approaches to problem solving. Be empowered to overcome obstacles in your daily life.



Featured Presenters

Rich Stowell is a nine-time Master Instructor, the 2014 National FAA Safety Team Rep of the Year, and the 2006 National Flight Instructor of the Year. He has provided more than 8,700 hours of flight instruction and holds a BSME from Rensselaer Polytechnic Institute.

Linda Fritsche Castner is a Master Aviation Educator, Advanced Ground Instructor, Private Pilot, and co-owner of Alexandria Field Airport. She received the 2011 MAAC Award for Innovations in Aviation Education, is the creator of Take Flight Workshops, and holds an M.S. in Exercise Physiology.

Event Hosts



4888 West Aeronca
Boise, ID 83705

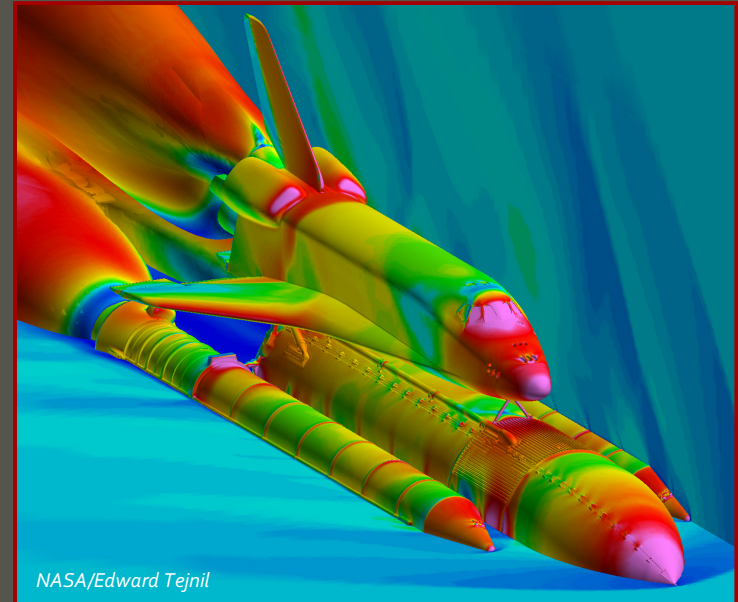
www.PonderosaAero.org



3815 Rickenbacker Street
Boise, ID 83705
www.JacksonJetCenter.com

FMI contact Sheri "Sharki" Kontra
208-410-8550 Info@ArtandScienceofFlying.com

The Art and Science of Flying Ground School



A Fun Workshop that Explores the Magic and Mechanics of Flight

Hosted by Ponderosa Aero Club

Saturday, April 23, 2016, 8:00 am – 5:00 pm
Jackson Jet Center
3815 Rickenbacker Street
Boise, ID 83705

www.ArtandScienceofFlying.com

Discovery

ART: “the expression or application of human creative skill and imagination producing work to be appreciated primarily for its beauty or emotional power”

SCIENCE: “the intellectual and practical activity encompassing the systematic study of the structure and behavior of the physical and natural world through observation and experiment”

Bugs, birds, and Boeings are subject to the same laws of aerodynamics. Although the mechanics of flight vary considerably among these fliers, the magic of flight for each occurs within the same small window of opportunity.

Discover the connections between crane flies and 747s; jellyfish and jet engines; sharks and golf balls; airplanes, helicopters, and flying cars. Meet great thinkers and tinkers like William of Ockham, Isaac Newton, Daniel Bernoulli, Albert Einstein, the Wright Brothers, and Burt Rutan. Explore stability and control with a 3x5 index card. Design a real flier using a simple mathematical relationship.

Depict airplane performance on two diagrams. Learn how mindset influences your own performance. Discover how mind, body, and emotion interact to shape your experiences. Practice tiny techniques to overcome stress in your quest for peak performance.

Are you an educator, student, pilot, scientist, engineer, artist, or athlete with a learner’s mindset? Then join us for dynamic discussions and experiential activities. Through the lens of aviation, you will gain new insights into the world around you and renewed awareness about yourself!

Participants will receive a certificate of completion. Attendance may also qualify for FAA WINGS Credit, Professional Development (PD) Credit(s), Continuing Education Unit(s), etc.

Course Outline

Part I

Clearing Your Imagination for Take Off

- Introduction
- The Learner’s Mindset
- Brief History of Aerodynamics
- Aerodynamics in Everyday Life
- Airplanes as Spacetime Machines
- Baseball, Flying, and the SHELL Construct

Part II

The Aerodynamics of Flight Revealed

- Birds, Bees, Boeings and the Great Flight Diagram
- The Essential Theory – Wind and Angle of Attack
- The Language of Flight
- Managing a Collection of Wings
- One + One = Four Forces
- Exploring Airplane Design with an Index Card

Part III

The Living Labs Experience

- Injecting Aerodynamic Concepts into STEM Education*
- The Magic and Mechanics of Myelin
- The Kingwood Township School *Living Lab* Project

Part IV

Airplane Performance: What Planes Do and Why

- Designed to Perform
- Maneuvering Flight Performance
- Climbing Flight Performance
- Elements of Performance

Part V

Human Performance: What We Do and Why

- Stress and Performance
- Finding Your Peak Performance Zone
- The Flying Effect™
- Maximizing Your Learning Experience
- Experience vs. Memory

* STEM = Science, Technology, Engineering, & Math