



Fundamentals of Flight – A Practical Overview of Aeronautics

- **WHEN and WHERE:** 13-15 June 2018 (8:00 – 4:30 Wednesday and Thursday, 8:00 – 12:00 Friday) Location—the Capital Room of the Beavercreek Office Suites (BOS). BOS are located at 4031 Colonel Glen Highway, Beavercreek, OH.

- **COURSE DESCRIPTION and MATERIALS:** This 2 ½ day short course is all about airplanes, how they fly and why they look the way they do. From a very practical perspective, you’ll be introduced to the key aspects of aeronautics, including: low and high-speed aerodynamics, stability and control, structures, propulsion systems, and airplane performance. Design tradeoffs are weaved throughout the discussion. A “field trip” to the Air Force Museum will reinforce in-class discussions. With clear learning objectives, the course follows the outline below:

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| <ul style="list-style-type: none"> ● Introduction ● Fundamental Aerodynamics ⇔ Language of Aerodynamics, Physical Explanation of Lift, Sources of Drag, and High-Speed Aerodynamics ● Airplane Aerodynamics ⇔ Components, Geometry, Lift Equation, Stall Airspeed, High-Lift Devices, and Design Approaches for Low and High-Speed Flight | } | 1 st Day |
| <ul style="list-style-type: none"> ● Stability and Control ⇔ Airplane Controls, Designing for Pitch, Yaw and Roll Static Stability ● Structures ⇔ Load Factor, the “Flight Envelope,” Airplane Stresses, and Airplane Structural Components ● Field Trip (if available) | } | 2 nd Day |
| <ul style="list-style-type: none"> ● Propulsion ⇔ Types of Systems, Airframe/Engine Integration ● Airplane Performance ⇔ Takeoff and Climb, Cruise, Approach, and Landing ● Review Learning Objectives and Concluding Remarks | } | 3 rd Day (Morning Only) |

Students will be given a set of course notes and a copy of *Aerodynamics for Naval Aviators*, one of the best references available. 2.0 Continuing Education Units (CEUs) are awarded.

- **WHO SHOULD ATTEND:** Anyone working directly or indirectly in the field of aviation, especially those desiring a brief overview course—perfect for program managers, supply chain managers, analysts, and technicians—aircraft operations, test, logistical, and maintenance personnel. A building-block approach is used -- no prior knowledge is assumed. Since 2002, we’ve taught thousands of students from audiences across the Air Force, Navy, NASA, FAA, and industry. Our instructors have earned a tremendous reputation for teaching fundamental aeronautics, systems, and propulsion...in our classroom, theory and practical application come alive! Here’s what a few graduates have said:

- *“The instructors were incredibly knowledgeable and used common sense examples.”*
- *“The course provided a great balance of theory, equations, examples, and case studies not often achieved.”*
- *“I wish I would have taken this course 12 years ago when I started my career.”*
- *“Learned more in two days about aeronautics from these guys than in seven years [with industry].”*
- *“Enjoyed the passion of the instructors and hearing about personal experiences that relate to course material.”*

- **COST, REGISTRATION, and CANCELLATION POLICY:** \$1350 (\$1250 if registered by May 18), \$1215 for Federal Government employees -- Group discounts are available. For more information and to register, visit PracticalAero.com, contact JEllsworth@PracticalAero.com, or call (719) 659-7319. Substitutions may be made at any time. Cancellations must be received two weeks prior to course start date and are subject to a \$50 fee. If you must cancel within the two-week period, and do not have a substitute, you may forfeit the entire fee. Refunds of the registration fee (only) are issued if the course is canceled. **NOTE:** This course is an “open enrollment” course and must meet a minimum student count for the offering to be held. If the minimum count is not met, the course will be canceled not later than two weeks prior to the course start date. Practical Aeronautics will not be responsible for any travel/lodging costs incurred by the student if the course is cancelled.