

- **WHEN and WHERE:** Wednesday-Friday, 8-10 February 2023 at Mid-Del Technology Center, Main Campus, 1621 Maple Dr, Midwest City, OK 73110. Class runs from 8:00 to 4:30 the first two days and from 8:00 to around noon on Friday.
- **COURSE DESCRIPTION and MATERIALS:** This 20-hour course is all about gas turbine engines (GTEs) and how they are used in various air-breathing propulsion systems. After taking this course, you will have a new-found understanding of the extraordinarily challenging “jet” engine operating environment. From a very practical perspective, you will be introduced to the fundamentals of the engine core (compressor, combustor, and turbine) and the various GTE propulsion systems. Where practical, a field trip will reinforce classroom discussions by examining actual engines and specific examples of airframe-engine(s) integration. With clear learning objectives, the following topics are presented and discussed:

- Introduction and Historical Perspective
- Foundational Concepts ⇒ Blade Geometry, Aerodynamics, and Thrust Fundamentals
- Applications ⇒ Propeller Aerodynamics, Inlets, and Exhaust Nozzles

- The Gas Turbine Engine “Core” ⇒ Compressor, Combustor, and Turbine
- Propulsion Systems ⇒ Turbojet, Turbofan, Turboprop, and Turboshift
- Field Trip or In-Class Activity

- Engine Performance and Operability
- Airframe and Engine(s) Integration
- Review Learning Objectives and Concluding Remarks

You will be given a set of course notes and a copy of Klaus Hunecke’s text, *Jet Engines -- Fundamentals of Theory, Design, and Operation* or other suitable text. 2.0 Continuing Education Units (CEUs) are awarded.

- **WHO SHOULD ATTEND:** This course is designed for *anyone working with GTE applications* who wants to gain a practical appreciation for and foundational understanding of gas turbine engines -- engineers, scientists, maintenance, repair, overhaul, operational, managers and administrative support 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 and propulsion -- in our classroom, theory and practical application come alive! Here are a few comments from recent offerings:
 - “Instructors have a wealth of complimentary experience to bring to [the] course – airframe versus power – maintenance versus operator – designer versus analysis. Very responsive to questions – nice!” Cleveland, Ohio
 - “This course will assist me in my job. I’ve been reading design texts and engine texts over the last year to pick out the nuggets this course gave me in 2.5 days. Keep up the good work!” Dayton, Ohio
 - “Liked the practical applications – didn’t just learn why the engines work and are designed the way they do/are...We also learned why that’s important and how to use it. Great level of detail – explained well for the non-techies but with enough info and details for the techies” Oklahoma City, Oklahoma
 - “I can now understand the terms of people around me. I understand the importance of my job.” North Charleston, South Carolina
- **COST, REGISTRATION, and CANCELLATION POLICY:** \$1450 (\$1375 if registered by 20 Jan 2023), \$1375 for Federal Government employees. 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:** We can only accommodate a few seats for this course...register early!