

RESEARCH PAPER ASSIGNMENT INSTRUCTIONS

INSTRUCTIONS

The student will write a 1,000 word research paper on the unique aerodynamic characteristics of your favorite aircraft. Your paper should not discuss the capabilities of the aircraft unless these capabilities pertain to the aircraft's unique aerodynamic design. The topics addressed in the Dole text provide specific aerodynamic areas to address as they relate to your chosen aircraft. Unique characteristics might include:

- Airfoils and aerodynamic forces: unique airfoil design to enhance the airfoil's purpose (speed, lift, etc.)
- Lift/Drag: the relationship that lift and drag have to each other and the design characteristics to optimize each
- Jet Aircraft/Propeller Aircraft: similarities and differences and their use in commercial/military/missions aviation
- Slow-speed flight: how design enhances both performance and safety
- Maneuvering Performance: maneuverability/controllability relationship and its effect on aircraft design
- Longitudinal, directional, and lateral stability and control: the relationship between each during typical phases of flight
- High-speed flight: those aspects unique to airframe, engine performance, and the challenges of flight from takeoff to landing

The paper must adhere to current APA formatting and include a title page and reference page (neither of which are included in the word count). A minimum of 3 sources must be used, only 2 of which can be from non-academic websites. Do not use Wiki sites. The other sources must be academic, scholarly resources. Please reference the Liberty University Writing Center for templates.

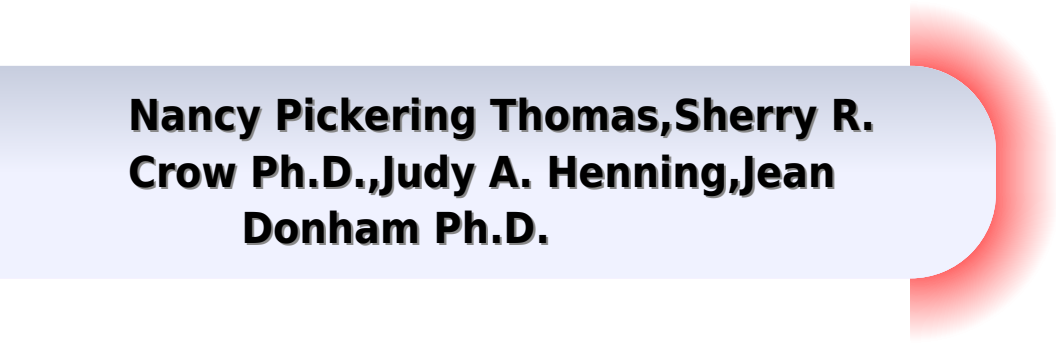
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