Lab 6 Composite Laminate Design

Section 11 Group 4 Date: Month/Date/Year

Member: Peter Brown

Instructions:

- Replace the highlighted areas in yellow above with your own name, section and group numbers and correct dates,
- Review related materials in lecture notes, lab manual and other related documents (note that there is no demo video for this lab),
- Provide your best answers to the following questions. Add pages as needed,
- Convert this Word answer sheet into pdf format and submit to Canvas.

1. (20 pts) Provide a concise account of composite materials: what they are in general and what type of composites are commonly used in aerostructures.
2. (3 pts) What does the subscript 's' mean in the laminate code $[0,(45,-45)_2]_s$? (5 pts) How many plies in total this code indicates?
3. (3 pts) For the fiber-reinforced composite focused in this lab, what type of material property they possess? (4 pts) How many independent elastic constants are required to describe this material property?
4. (5 pts) In the theory learned in lecture notes, what kind of loads are considered/susceptible?
5. (10 pts) What are the objectives of this lab? (5 pts) What is the single strain component of particular interest? (15 pts) What steps are involved in the design process?

Total 70 points

Answers: