



DEPARTMENT OF AUTOMOTIVE AND AERONAUTICAL ENGINEERING

Aircraft Wing Design with the Open Software PreSTo

Background

PreSTo stands for Preliminary Sizing Tool. It is a tool still under development with the goal to eventually provide full computer support to the lecture Aircraft Design given at Hamburg University of Applied Sciences. PreSTo modules will eventually support aircraft design activities from preliminary sizing up to the calculation of Direct Operating Costs. For the module on wing design, equations from the lecture can be used as well as equations only recently conceived by other students who have contributed to the topic. It is important to come up with a layout of the calculation sheet which is intuitive for the user of PreSTo.

Task

Task is to generate a spreadsheet for conceptual wing design of an aircraft. It is important to follow the principles used for programming of other modules of PreSTo, to integrate wing parameters in PreSTo's database and to enable visualization of the designed wing and aircraft with OpenVSP-Connect. These topics should be addressed when working on the thesis:

- Preliminary sizing in aircraft design
- PreSTo's program structure, data base, and didactics
- Preliminary and conceptual wing design and visualization

The report will be written in English based on German or international standards on report writing.