Computer Based Learning in Aircraft Design - 
A Case Study with HTML and JavaScript

Diplomarbeit in compliance with § 21 of "Ordnung der staatlichen Zwischen- und 
Diplomprüfung in den Studiengängen Fahrzeugbau und Flugzeugbau an der Fachhochschule 
Hamburg"

Background
Computer Based Learning (CBL) Modules can be offered on the Internet, local networks or 
CD-ROM. The advantage: students can learn in a multimedia environment, independently of 
university resources. Various approaches and programming techniques exist for the module 
design. One possibility is to apply HTML and JavaScript programming.

Task
The thesis will research the possibilities of programming a CBL module with HTML and 
JavaScript. The work is based on a module featuring the first steps in preliminary sizing in 
aircraft design based on an approach presented by LOFTIN in NASA Reference Publication 
1060. The module includes the calculation of aircraft design parameters from landing, take-off, 
second segment climb and missed approach climb requirements. Subtasks are:
• Discussion of possibilities in multimedia course design with HTML / JavaScript
• Summary of key JavaScript features useful in aircraft design education based on available 
literature
• CBL module programming (results to be added to the report on CD-ROM)
• Presentation of selected features of the module on preliminary sizing in aircraft design
• Discussion of pros and cons of multimedia course design with HTML / JavaScript.

The results have to be documented in a report. The report has to be written in a form up to 
internationally excepted scientific standards. The application of the German DIN standards is 
one excepted method to achieve the required scientific format.