Department 03 Mechanical, Automotive and Aeronautical Engineering
Course title Aircraft Design and Certification (Project)
Hours per week (SWS) 4
Number of ECTS credits 7
Course objective Upon successful completion of this course the student will be able to conduct an aeronautical design project in a team environment. The adherence to industry and government regulations, conforming to requirements, proving compliance including testing, all within the domain of typical aerospace project will be expected. Hardware should be developed, built, and tested.
Prerequisites Construction of Aerospace Subsystems, Aerodynamics
Recommended reading
Teaching methods
Assessment methods Project Report and Exam
Language of instruction English support
Name of lecturer Prof. Dr. -Ing. G. Sperl
Email guido.sperl@hm.edu
Link
Course content Legal definitions of aeronautical design organization and production facilities, EASA Parts 21 & 145. Quality management, reporting and conformity requirements, compliance with regulations. Product structure trees, interface definitions, requirements on system and subsystem level, presentation techniques. Test procedures, testing, flight readiness reviews. Fundamentals of airplane design. Estimation or sizing of mass, wings, horizontal stabilizer, rudder, control surfaces, propulsion systems, and loads. Cockpit and cabin layout, flying qualities. Detail design of airplane structures. Load assumptions and strength calculation. Application of acceptable means of compliance and certification.
Remarks