Transfers-Fluids-Materials in Aeronautical and Space Applications – International Master's Programme

1st Semester:
Université de Bordeaux (UBx)
»Material Science and Structures in Aerospace Applications«

Mandatory Modules (30 ECTS credit points)

· 4TSA701U Materials and Aeronautical Structures	6 CP
· 4TSA702U Assembly and Bonding	3 CP
· 4TSA703U Fatigue and Fracture	3 CP
· 4TSA704U Non-Destructive Evaluation for Aerospace Applications	3 CP
· 4TSA705U Continuum Mechanics and Finite Element Method Applied to Solid Mechanics	6 CP
· 4TSA706U Simulation and Design of Structures	9 CP

2nd Semester:
Université catholique de Louvain (UCLouvain)
»Aeronautical Engineering«

Mandatory Modules (30 of 35 ECTS credit points must be validated)

· LMECA2220 Internal Combustion Engines	5 CP
· LMECA2195 Gasdynamics and Reacting Flows	5 CP
· LMECA2300 Advanced Numerical Methods	5 CP
· LMECA2323 Aerodynamics of External Flows	5 CP
· LMECA2711 Quality Management and Control	5 CP
· LMECA2771 Thermodynamics of Irreversible Phenomena	5 CP
· LMECA2780 Introduction to Turbomachinery	5 CP

3rd Semester:
Brandenburgische Technische Universität Cottbus-Senftenberg (BTU)
»Advanced Fluid Mechanics, Thermodynamics, Heat Transfer«

Compulsory Elective Modules I (18 ECTS credit points are to be selected from the following list)

· 11913 Turbulence Modeling	6 CP
· 11938 Thermodynamics, Heat and Mass Transfer	6 CP
· 12886 Flow Measurements	6 CP
· 12887 Engineering Acoustics – Sound Fields	6 CP
· 13519 CFD 1[a]	6 CP
· 14040 Computational Fluid Dynamics for Engineers[a]	6 CP

Compulsory Elective Modules II
(12 ECTS credit points. One module from each area must be selected, respective lists are provided)

- IIa: Mechanical Engineering, Aerodynamics, Fluid Mechanics, Aerospace Engineering, Materials Science
- IIb: Physics, Mathematics, Computer Science

[a] For a CFD related content please select one of these two modules depening on your proficiency level.

4th Semester:
Master Thesis

one of the universities is to be selected according to scientific interests (30 ECTS credit points)

Letter/Digit Codes: Module numbers with direkt links to module descriptions.