

Proposing a Classification for Aeronautics, Astronautics and Aerospace Sciences

The flying world grouped in a logical order. Aviation terms defined and in hierarchical relations. Aerospace science meets library and information science.

Classifying is the act of forming classes from a variety of things while simultaneously arranging them in a logical order in which they relate to each other. The **Classification** is the result of this work. Classifying the things around us is deeply rooted in human nature. The first records of a systematic classification can be traced back to Aristotle (ancient Greek philosopher, 384–322 BC). **Aeronautics and Astronautics** is about designing, constructing and operating aircraft and spacecraft in the earth's atmosphere and the space beyond (Aerospace). **Aerospace Sciences** are all the related sciences (the knowledge from studies of the physical world, with experiments, and the development of theories). By addressing a longstanding gap, this new classification has the potential to become a standard in the field.

PURPOSE

This poster presents an aerospace classification and explains its logic. The classification is checked and presented in various forms. Furthermore, HTML, PDF, and Excel versions have been made available online.

METHODOLOGY

A review of aerospace classifications was conducted. A classification authored originally for the "Aims & Scope" section of the journal Advances in Aerospace Science and Technology (AAST) was selected and applied to the requirements from DIN 32705.

FINDINGS

The classification from AAST was found to be the most suitable classification in the field of aerospace (aeronautics, astronautics, and aerospace sciences) thus far. It largely corresponds to the standard in terms of content and structure. Some minor changes were introduced. Extracts of the classification are presented in Figures 1 to 4, while the complete classification can be accessed through the provided links and QR codes.

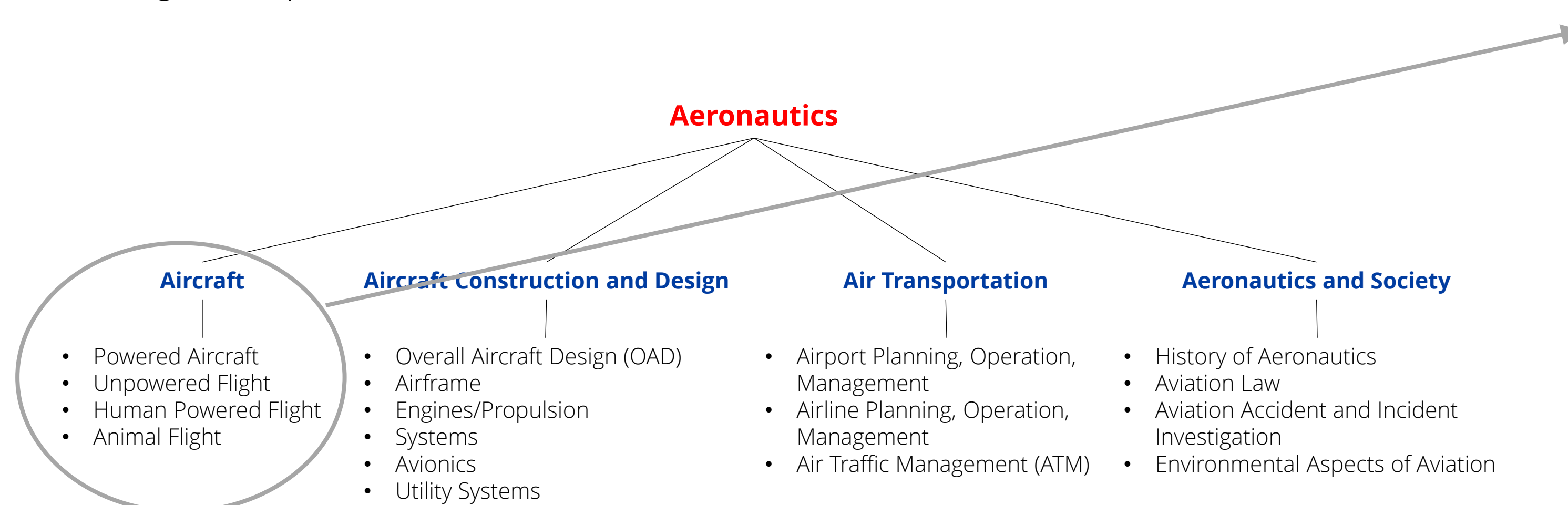


Figure 1: Aeronautics system tablet

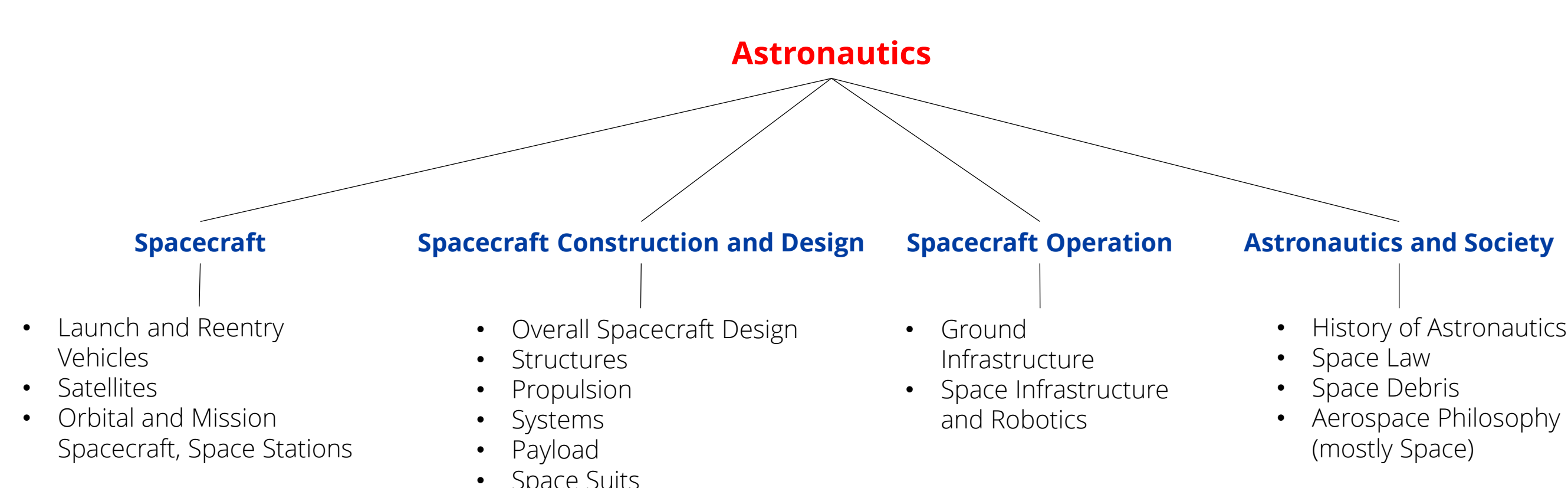


Figure 2: Astronautics system tablet

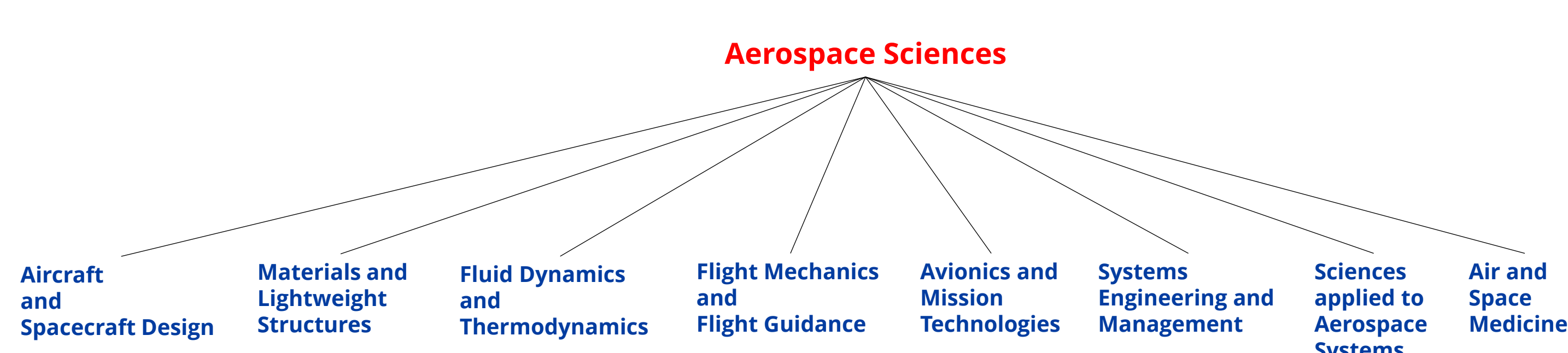


Figure 3: Aerospace Sciences system tablet

Aeronautics	100
➤ Aircraft	110
■ Powered Aircraft	111
• Manned Aircraft	111.1
○ Heavier than Air Vehicles	111.11
▪ Fixed Wing Aircraft	111.111
– Subsonic	111.111.1
– Supersonic	111.111.2
– Transonic	111.111.3
– Hypersonic	111.111.4
▪ Rotorcraft	111.112
– Helicopter	111.112.1
– Autogiro	111.112.2
– Gyrodyne	111.112.3
○ Lighter than Air Vehicles	111.12
▪ Blimps	111.121
▪ Zeppelins	111.122
• Unmanned Aircraft	111.2
○ Unmanned Aerial Systems (UAS)	111.21
○ Missiles	111.22
■ Unpowered Flight	112
• Gliders	112.1
• Kites	112.2
• Balloons	112.3
○ Moored	112.31
○ Free	112.32
■ Human Powered Flight	113
■ Animal Flight	114

Figure 4: The classification in more detail (example): "Aeronautics" => "Aircraft" and its decimal classification

PRACTICAL IMPLICATIONS

The new classification can be used in the publishing industry in libraries and archives. It can help students find and organize educational material. It can also be used in all situations in aerospace where a logical structure of the domain is required. It could be used, for example, to structure organizations or statistical investigations. Moreover, this work can be used as an example for establishing other classifications according to DIN 32705.

ORIGINALITY

Thus far, a standard classification does not exist in the field of aerospace. This new classification, published for the first time, has the potential to fill this niche.

Online Versions

Aerospace classification as HTML file:
<https://purl.org/aero/classification/html>

PDF containing classification and register:
<https://purl.org/aero/classification/pdf>

Excel spreadsheet containing classification and register:
<https://purl.org/aero/classification/excel>

Bachelor thesis (Gulani 2022) with all details:
<https://purl.org/aero/classification>

