IAF SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
On Track - Undergraduate Space Education (3)

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A PROPOSAL FOR A DISCIPLINE IN AEROSPACE DESIGN IN THE U.A.E

Abstract

This paper describes the proposal to form the discipline of Aerospace Design. It highlights the motives behind the need to establish the discipline and lays down a curriculum that could be implemented in the Dubai Institute of Design and Innovation (DIDI) in the U.A.E.

In this paper Aerospace Design is defined as the theory and practice of designing and improving interactions between humans, tools, and technologies they use as their extensions, and the environments in which they live, and with which they interact in the harsh conditions of orbital, interplanetary, and extra-planetary space.

The purpose of an Aerospace Design discipline is to leverage the multidisciplinary nature of the designer and create a Swiss army knife figure capable of tackling solutions from a human-centered perspective and implementing design methodologies to solve complex problems.

The current state of rapid development of Entrepreneurial Space with the race of private companies to create a sustained commercial space corridor leads to an unprecedented problem: the presence of "untrained" public customers, and eventually masses of people who would be interacting with artificial instruments and environments in space, bound to subdue their users and hosts to incredible amounts of psycho-physiological stress. Unfortunately, priority and budget issues have resulted in marginal design considerations in space missions, except in rare historic cases, such as Raymond Loewy's contribution to the Skylab.

The above-mentioned circumstance represents an important opportunity and a need to establish the discipline of Aerospace Design to tackle aerospace from a design perspective, which does not formally exist. The closest thing that can relate to Aerospace Design is Aerospace Architecture. Although the term was formalized during a workshop at the World Space Congress 2002 in Houston, Texas, unfortunately, it has made little traction within academia at a global level. The few space architects within the aerospace sector, for the most part, are self-made and follow self-directed career paths.

The existing BDes undergraduate program at DIDI allows students to create their cross-concentration by choosing two tracks whether in Multimedia Design, Product Design, Fashion Design, and Strategic Design Management. This trans-disciplinary approach is the ideal platform to build an Aerospace Design discipline in combination with any of the above-mentioned disciplines. The introduction of Aerospace Design will enhance the current curriculum through scientific knowledge, advanced technologies, and human behavior analysis in extreme environments, to an already robust program developed in collaboration with MIT and Parsons.