

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

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STRATEGY FOR INTRODUCTION OF UNDERGRADUATE STUDENTS TO THE AEROSPACE
FIELD IN COLOMBIA

Abstract

Colombia is a country that is in its early stages of aerospace development, and there's been a renewed interest in promoting the different areas of the field. This task requires to generate a general aerospace ecosystem, in particular education, to generate the next generation of workforce. However, there are currently not many formation programs on aerospace available, and the fact that most of the available literature is written in English supposes a barrier, given the low level of bilingual population, preventing self formation in many cases. In order to make the field available to more people, and increase the general interest on it, the Aerospace Research and Development Group of Universidad Nacional de Colombia(GIDA-UN) proposed an academic environment denominated Seedbed, for students in their first two years of professional studies, where a course titled Introduction to Aerospace Science and Engineering is given. The course consists of a conceptual introduction to the main fields of aerospace including, among others, history, propulsion, aerodynamics, orbit mechanics, GNC, structures, and life support systems. The methodology is theoretical and practical, including the development of hands-on practices, such as the construction of a plane, water rocket, and parachute. It is important to note that the class is given in Spanish, the native language of the students, allowing for a better understanding of the topics for non bilinguals. As of the beginning of 2018, six versions of the course have been given, with several of the participants getting involved in research activities after participating on it. Class guides were developed so that the contents are consistent and verifiable, and also the document is made available for institutions that wish to replicate it, also in other Spanish speaking countries.