

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

Author: Dr. Jose Alberto Ramirez Aguilar
High Technology Unit (UAT) Faculty of Engineering - UNAM, Mexico, albert09@unam.mx

Dr. Jorge Alfredo Ferrer Perez
Universidad Nacional Autónoma de México (UNAM), Mexico, ferrerp@unam.mx

Mr. Rafael Guadalupe Chavez Moreno
Facultad de Ingeniería-UNAM, Mexico, rchavez@comunidad.unam.mx

Dr. Carlos Romo Fuentes
Facultad de Ingeniería-UNAM, Mexico, carlosrf2000@yahoo.com.mx

UNDERGRADUATE AEROSPACE ENGINEERING PROGRAM AT THE SCHOOL OF
ENGINEERING OF THE NATIONAL AUTONOMOUS UNIVERSITY OF MÉXICO

Abstract

On 2016 it was proposed the creation of an undergraduate aerospace engineering program at the School of Engineering of the UNAM to respond the increasing demand of human resources of the aerospace industry installed in the country and other parts of the world. The project of aerospace engineering program is based on the great tradition of the School of Engineering which graduates high quality engineers in the American continent. With a current enrollment of 13,000 undergraduate students in thirteen programs, 996 master's degrees and 361 doctorate students. Every year the School of Engineering grants more than 1,700 undergraduate degrees in engineer and graduates more than 450 specialists and masters, and around 50 Ph.D.'s in Engineering. A problem clearly identified in Mexico and in Latin American countries is the lack of space engineers who know the development of a space mission and the associated engineering: develop of space instrumentation, on board computer, attitude control system, pre certification tests, launchers, space environment, tracking, power, propulsion, space communications, telemetry and command, etc. The current challenges in space exploration and its social impact in Mexico, demand qualified human resources to attend the issue. So, parallel to the creation of a Mexican undergraduate aerospace engineering program, academics of the School of engineering are working in space projects and encouraging to young people to dedicate themselves to the space area in partnership with countries in Latin America, the United States and Asia. The methodology used to create the aerospace engineering academic program began with the study of the state of the art in aerospace education at universities and prestigious institutions such as: MIT, University of Surrey, Johns Hopkins University, etc., subsequently a search of human resources needs was carried out by the industrial sector: EutelSat Americas, Zafran group, space science and technology networks, research centers and high technology units in Mexico and other parts of the world. Finally, for the conformation of the academic program, a technical committee of the different areas of knowledge was created: basic sciences, engineering sciences, social sciences and humanities and applied engineering. In conclusion, the creation of a Mexican undergraduate aerospace engineering program was created to prepare Mexican, Latin American and international students from a technical and humanistic point of view. Currently the undergraduate program is under evaluation by the different authorities of the faculty of engineering for the final approval.