Division of Aerospace Engineering

URL : ae.kaist.ac.kr
Dept. Phone : 042-869-3702-4

Introduction

As of April of 2005, the enrollment of Aerospace Engineering included 35 undergraduates (juniors and seniors) and 160 graduate students, with 109 seeking doctorate degrees. KAIST has been a leading research institution in Korea since its foundation and has been instrumental in transforming engineering education in this country, which is reflected in that the graduate enrollment far exceeds that for undergraduates. In the graduate program, research is an integral part of education at KAIST. Research funding from outside sources in 2004 amounted to around $2 million USD for 13 full-time faculty members of the Aerospace Engineering department. So far our Division has graduated 221 Bachelors of Science, 469 Masters of Science and 176 Doctors of Philosophy. Currently, 16 post doctors, including 6 from foreign countries are in our division, and 2 invited foreign professors are actively involved in education and research also. Due to the rigorous education and excellent research performance, the Division has been recognized to be comparable to such departments at internationally renowned universities.

Aerospace Engineering is a branch of engineering that deals with studies associated with vehicles operating in atmosphere and space. Traditionally there have been four major fields in aerospace engineering, namely, aerodynamics, structural mechanics, combustion, and flight dynamics. In the undergraduate program, the fundamentals of aerospace engineering covering the four major fields are taught, with emphasis on design and conceptual development of aerospace system in advanced undergraduate courses.

❒ The present and future of aerospace engineering in Korea

During the turmoil of the Asian currency crisis in 1998, three aerospace companies in Korea merged into a single government subsidiary, KAI (Korea aerospace industries). Recently, the industrial division of Korean Air signed an agreement to join KAI. As Korean Air teams together with KAI, aerospace industry is expected to be more competitive in the world market. Over the decades, KAI and its predecessor companies successfully developed the first trainer, KTX-1, for the ROK Airforce. KAI assembled and delivered F-16 fighter jets to ROK Air Force under license by General Dynamics. A project to develop the first Korean jet trainer/near ground support fighter, T-50, is under way with technical assistance of Lockeed Martin. Another mega project to develop military helicopters for the ROK Army, KMH, is waiting parliamentary approval.

The last five years also witnessed remarkable progress in space technology in Korea. The first liquid rocket was successfully flown in November, 2002. This feat was major breakthrough considering this development began from scratch. The next goal is the development of a far bigger liquid rocket, KSLV-1, capable of launching a small satellite into the low earth orbit in 2007. The construction of a Space Center including a launch facility began in June, 2003 in South Jeonnam Province. Satellites of semi-commercial level and mini-sat level have been successfully developed by KARI and the Satellite Research Center of KAIST, respectively. These satellites were flown by commercial launching service providers and are currently orbiting earth.

The big projects listed above reflect a remarkable progress in aerospace activities in Korea during the last couple of decades. With a restructured private sector, aerospace industries and a changed geopolitical environment surrounding the Korean peninsula, the demand for aerospace technology and specialists will only become greater.