Space Exploration Engineering Program

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Introduction

The primary goal of Space Exploration Engineering(SPE)) program is to develop highly skilled manpower for future national space program through multi-disciplinary education program. Furthermore, we look forward to expanding technological basis in spacecraft and space exploration accumulated by KAIST to international level. For such challenging objectives, our program seeks to train spacecraft experts with mission design analysis capability and system integration knowledge. Moreover, the experts should develop themselves with independent R&D activity and international co-research work through SPE program.

Space has vast scientific, military, economical, social values in its exploration, and nowdays it is considered immense human resources. Our neighboring and leading countries are establishing own space programs and take aggressive actions in developing space technologies. Our government is planning on vision for future national space program with technology infrastructure in Earth observation and scientific satellites developed last 15 years. In 2007, our government announced road map for lunar exploration; launching the first lunar mission satellite in 2020, and lunar lander in 2025. It is required to build skillful technical man power and investigate core technologies by establishing systematic educational and training system.

Space exploration requires multi-disciplinary technologies such as electrical engineering, electronics, computer science, aerospace, mechanical engineering, material science, physics, astrodynamics. KAIST is a leading academic institute, represented Wooribyul satellites, in space technology in Korea. The Space Exploration Engineering Program will be led by faculty members from the departments of electrical engineering, aerospace engineering, physics, mechanical engineering. Technical staffs at Satellite Research Center(SaTRec) will be involved with education and training. Advanced knowledge and hand-on experience will be provided to the students. Key research areas include mission design/analysis, spacecraft engineering, payload technologies, space robotics. The research areas will be decided to meet the concurrent need of national space program. Furthermore, students will be given opportunities to actively participate in future space exploration subjects. In order to experience system engineering, students will make a team to build their own nano-scale satellite.

Space Exploration Engineering Program is aiming the goal to develop into a world-class education and research group in the next ten years. For this goal, building independent research capability and participating national space program are planned with internal network. Students and faculty members with diverse background will work on advanced research on space exploration and contribute to national space program.