Hi everyone, I am Kanghua Jin from China. I enrolled in the Department of Physics, School of Science in 2011, and graduated successfully after four years of undergraduate studies. The physics program has provided plenty of fundamental courses in my first three years. During the classes, not only am I required to know about the formulas, but also I am taught the principles behind. Being different from high school teachers, G30 professors focus a lot on students’ own opinions and teach me “how to think”. They are patient and taking good care of all the students with the promise of the small class size. After finishing the fundamental courses, I choose theoretical particle physics as my major and enter a lab focusing on the nuclear physics. In the lab, I have access to a new world with a lot of frontiers, interesting and challenging.

Kanghua Jin
China
School of Science
Fundamental and Applied Physics Program
Bachelor of Science / Bachelor of Engineering

– School of Science

School/Course-specific Feature
The Fundamental Physics Course is build up systematically, starting from basics in physics and mathematics. After finishing the first year of basic physics, students choose from a variety of majors, including Particle Physics, Condensed Matter Physics, Astrophysics, Biophysics, and Computational Physics. Courses offered in the second and third years include Analytical Mechanics, Statistical Physics, Electricity and Magnetism, Quantum Mechanics, Mathematical Physics, Physics Tutorials, Physics Experiments, and Physics Seminars. In their final year, students in the School of Science are required to major in a specialized field of either theoretical or experimental physics. Subjects of research in physics extend to infinity, ranging from the micro world to the distant expanses of outer space: Elementary Particle Physics and Physics of Gravity; Astrophysics; Physics of Superconductors, Semiconductors, Magnetic materials, and Dielectric materials; and Biophysics.

Career Prospects
Many of the students are expected to enter the Graduate School of Science. Then, after undergoing rigorous training and studies, most of our graduates eventually enter teaching or research careers in academia or industry. Basic problem-solving and abstract thinking skills make physics graduates competitive employees in a broad range of areas including finance, industry and education.

– School of Engineering

School/Course-specific Feature
The Applied Physics Course aims to cultivate leading scientists and engineers with broad perspective, deep thinking, and global communication ability. Applied physics is a field that brings collaboration between science and technology into reality, and performs the role of an interface between science and technology. Therefore, our education program is based on both basic and applied physics, and provides undergraduate students with the ability to perform scientific and technological research. Students in the final year join one of the research groups in the Department of Applied Physics to work on a research project for their graduation thesis and brush up their communication and presentation abilities through fruitful discussion with supervisors and older members of the group.

Career Prospects
Most of our graduates eventually enter teaching or research careers in academia or industry. After graduation, many students enter the Master Program of the graduate school to undertake advanced training or to carry out leading research in their major field, and to gain a competitive edge at an international level. Some will go on to further study by entering the Doctoral Program. Graduates from the Department of Applied Physics can be found in academia worldwide, as well as in top-class companies such as Apple, Canon, Sharp, Seiko Epson, Toshiba, Toyota Motor, Toyota Industries, NEC, Denso, Fujitsu, Sony, Brother, Hitachi, Bridgestone, Yamaha, Honda Motor, Panasonic, Mizuno, Fujifilm, etc.

Program Outline
The Fundamental and Applied Physics Program is jointly offered by the Department of Physics in the School of Science and the Department of Applied Physics in the School of Engineering. The program is designed to allow early exposure to specialized scientific fields and to cultivate well-balanced individuals through broad-based education and professional knowledge. On the firm base of fundamental physics that will be taught in the first years, the program enables students to acquire a deep understanding in their majors of various fields in physics and technology.