

Department of Genetic Engineering

Tel : +82 31 201 2433 Fax : +82 31 203 4969 E-mail : genetic@khu.ac.kr URL : <http://genetech.khu.ac.kr/>

What is the Genetic Engineering?

Genetic Engineering is technology that takes advantage of the genetic information of life by using molecular biological tools. New recombinant therapeutic peptides and proteins, monoclonal antibodies, and vaccines have been successfully produced and are on the market using genetic engineering techniques. Novel approaches, such as gene therapy for disease treatment, hold great promises in the future. In addition, transgenic plants and animals offer the possibility of producing cheaper pharmaceuticals as well as providing resources for basic and applied researches.

Genetic Engineering at Kyung Hee

The goal of our Genetic Engineering Program is to provide highly motivated and creative students with practical knowledge of genetic engineering as well as basic knowledge of life sciences. Genetic engineering techniques are essential in achieving the eventual goal of harnessing the biological system that is beneficial to human life. The genetic engineering program draws much attention from incoming students because of recent progress in this field such as the duplication of animals, gene therapy, and the human genome project. All the faculty members in our program have excellent careers both in education and research. Their research areas cover biochemistry, molecular and cell biology, biotechnology, microbiology, immunology, and plant molecular biology. In addition, our program is equipped with many cutting-edge biotechnological machines, which are accessible by the students. Our genetic engineering program has already achieved many successes and will continue to open new horizons in the fields like medicine, food, energy, and environmental protection. Based on the founding spirit of our university, "Promotion of Shared Humanity," our genetic engineering program will educate students to become professional and competitive in their major as well as good citizens in our global world.

Degree Requirements

To receive the Bachelor of Science in Genetic Engineering, a student must:

- complete a minimum of 130 credit units
- satisfy the general requirements of the school for the professional degrees
- complete 12 units of required courses
- complete 37 units of technical electives for genetic engineering
- complete 49 units (maximum 56 units) stated in the common studies program and humanities/social science elective

Courses

Year 1

Bio-resources, Applied Plant Science, Biology I, Biology II, Chemistry I, Chemistry II

Year 2

Microbiology I, Microbiology II, Microbiology Laboratory, Biochemistry I, Biochemistry Laboratory

Year 3

Biochemistry II, Genetics I, Genetics II, Genetics Laboratory, Cell Biology, Cell Culture Engineering, Molecular

Biology I, Molecular Biology II, Molecular Biology Laboratory, Human Physiology, Bio-technology I, Biotechnology Laboratory, Genetic Engineering I

Year 4

Biotechnology II, Genetic Engineering II, Cell Biology II, Industrial Microbiology, Immunology, Virology, Instrumental Analysis in Biochemistry, Genetic Engineering Seminar, Plant Molecular Biology, Plant Molecular Physiology, Plant Molecular Cytology, Developmental Biology

Careers and Graduate Destinations

Our students have an array of employment options after graduation. They can choose a development or research job in several biotechnology-related areas, such as national or private research institutes, or various industries, including pharmaceuticals, food, brewing, and cosmetics. Our students will have many opportunities to apply their knowledge and skills in contribution to those industries and thus, improve the health of our society. Many students also continue on to graduate school to obtain M.S. or Ph.D. degrees to eventually become scientists in the life science field.

Faculty

Gynheung An, Ph.D. York University, 1980, Professor, Molecular Genetics, genean@khu.ac.kr

In-Sik Chung, Ph.D. Auburn University, 1986, Professor, Biotechnology, ischung@khu.ac.kr

Kwang-Hee Baek, Ph.D. University of Chicago, 1988, Professor, Molecular Biology, khbaek@khu.ac.kr

Jae-Seung Yoon, Ph.D. Purdue University, 1990, Professor, Neuroscience, jsyoon@khu.ac.kr

Dae-Kyun Chung, Ph.D. Cornell University, 1991, Professor, Industrial Microbiology, dkchung@khu.ac.kr

Chang-Joong Kang, Ph.D. Texas A&M University, 1994, Professor, Immunology, cjkang@khu.ac.kr

Seong-Hee Bhoo, Ph.D. University of Nebraska, 1998, Professor, Plant Biochemistry, shbhoo@khu.ac.kr

Jong-Seong Jeon, Ph.D. Seoul National University, 1996, Professor, Plant Functional Genomics, jjeon@khu.ac.kr

Young-Sook Son, Ph.D. UC San Francisco, 1989, Professor, Pharmacology & Cell Biology, ysson@khu.ac.kr

Yongsu Jeong, Ph.D. Seoul National University, 1999, Associate Professor, Developmental Genetics, yongsu@khu.ac.kr

Jae-Sung Hwang, Ph.D. Ajou University, 2003, Associate Professor, Skin Biology, jshwang@khu.ac.kr

Ki-Hong Jung, Ph.D. Pohang University, 2003, Associate Professor, Genetic Engineering & Crop Biotech, khjung2010@khu.ac.kr

Sang-Won Lee, Ph.D. Kyung Hee University, 2000, Assistant Professor, Biochemistry & Molecular Biology, swlee6830@khu.ac.kr

Sun-Hwa, Ha, Ph.D. Michigan State University, 2005, Associate Professor, Plant Molecular Physiology & Biology, sunhwa@khu.ac.kr

Eun-Jin, Lee, Ph.D. Seoul National University, 2003, Assistant Professor, Molecular Microbiology, eunjinlee@khu.ac.kr

Ki-Young, Kim, Ph.D. YeonSei University, 2004, Assistant Professor, Biotechnology Laboratory & Biology, kiyoung@khu.ac.kr