

Department of Biochemical Engineering

| Introduction |

The world is currently facing a host of challenges including climate change, depleted natural resources, alternative energy sources, and the need for green and sustainable solutions. In the demanding programs in Biochemical Engineering, students will obtain crucial and sought-after expertise and knowledge in the areas of technology, engineering in the life sciences, and sustainable solutions for energy and the environment.

Equipped with well-qualified faculties and supporting staff, the Department is in a strong position to provide rigorous engineering education to our students, and to improve our local and global communities through engineering education and research.

Research Highlights:

- Organic Medicinal Chemistry
- Functional Polymer Chemistry
- Bioenvironment and Energy
- Waste Treatment Engineering
- Enzyme and Protein Engineering
- Polymer Surface and Interface Chemistry

Programs:

- Master of Biochemical Engineering
- Doctor of Philosophy in Biochemical Engineering

Join our program and pave the way to a healthier and more efficient tomorrow.

| Information |

Campus	Gangneung Campus
Location	Engineering Hall 2 No.423 (N12-No.423)
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Fax	+82-33-640-2410
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| Professor Introduction |

Name	Research Interests	Phone	Email
Kang-Yeoun Jung	Organic Chemistry, Medicinal and Natural Product Chemistry	+82-33-640-2403	kyjung@gwnu.ac.kr
Sang-Yeon Shim	Functional Polymeric Materials, Polymer Engineering	+82-33-640-2404	syshim@gwnu.ac.kr
Sung-Ho Yeom	Biochemical Engineering, Environmental Biotechnology	+82-33-640-2406	shyeom@gwnu.ac.kr
Choong Jeon	Waste Material Engineering	+82-33-640-2405	metaljeon@gwnu.ac.kr
Young-Joo Yeon	Protein, Enzyme, Metabolic Engineering	+82-33-640-2401	yjyeon@gwnu.ac.kr
Kyung-Min Kim	Adsorption Process, Process Optimization	+82-33-640-2402	kmkim@gwnu.ac.kr
Kwang-Ha Park Emeritus	Environmental Chemical Engineering, Environmental Analysis		khpark@gwnu.ac.kr
Han-Soo Kim Emeritus	Physical Chemistry(Thermodynamics), Surface Chemistry		khs@gwnu.ac.kr

Curriculum

Course Code	Course Title	Credit
501.008	Basic Mathematics	2-1-2-0
562.0001	Calculus	3-3-0-0
562.0002	General Chemistry and Experiments	3-2-2-0
562.0004	Introduction to Advanced Materials and Biochemical Engineering	3-3-0-0
562.0003	General Physics and Experiments	3-2-2-0
559.433	Chemical Biochemistry	3-3-0-0
559.435	Analysis in Biochemical Engineering	3-3-0-0
559.228	Organic Chemistry	3-3-0-0
559.211	Chemical Engineering Mathematics	3-3-0-0
559.213	Inorganic Chemistry	3-3-0-0
559.223	Introduction to Chemical Engineering	3-3-0-0
559.224	Computer Application in Chemical Engineers	3-3-0-0
559.229	Physical Chemistry	3-3-0-0
559.214	Inorganic Chemistry of Engineers	3-3-0-0
559.218	Organic Chemistry II	3-3-0-0
559.226	Organic Chemistry Lab & Design	2-0-4-0
559.251	Biochemical & Molecular Engineering	3-3-0-0
559.336	Chemical Engineering Thermodynamics I	3-3-0-0
559.317	Polymer Engineering	3-3-0-0
559.402	Chemical Reaction Engineering	3-3-0-0
559.305	Organic Synthesis	3-3-0-0
559.326	Environmental Biotechnology	3-3-0-0
559.331	Inventive Experiment and Design of Physical Chemistry	2-0-4-0
559.337	Chemical Engineering Thermodynamics II	3-3-0-0
559.329	Water Treatment Engineering	3-3-0-0
559.318	Transport Phenomena	3-3-0-0
559.324	Applied Chemistry Lab & Design for Engineers	2-0-4-0
559.335	Instrumental Analysis of Organic Materials	3-3-0-0
559.332	Education in Chemical & Fiber Engineering	3-3-0-0

559.429	Education in Chemical Engineering	3-3-0-0
559.333	Writing and presentation of thesis for chemical and fiber engineers	2-2-0-0
559.430	Writing and presentation of thesis for chemical and engineers	2-2-0-0
559.328	Separation Process	3-3-0-0
559.406	Polymer Synthesis	3-3-0-0
559.334	Process Control	3-3-0-0
559.338	Industrial and Medical Biotechnology	3-3-0-0
559.423	Industrial Energy Chemistry	3-3-0-0
559.424	Waste Material Engineering	3-3-0-0
559.425	Introduction of Reaction Mechanism	3-3-0-0
559.428	Textbook Study&Teaching Method In Chemical&Fiber Engineering	3-3-0-0
559.431	Textbook Study&Teaching Method In Chemical Engineering	3-3-0-0
559.323	Chemical Process Design	3-3-0-0
559.416	Materials of Chemical Engineering	3-3-0-0
559.426	Industrial Organic Chemistry	3-3-0-0
559.434	Electrochemistry	3-3-0-0
559.432	Practical Training	3-0-6-0
557.0016	Principles of Surface Analysis Equipment	3-3-0-0
557.481	Semiconductor Memory Devices	3-3-0-0
557.0009	Nanoelectronic Devices	3-3-0-0
557.0010	Semiconductor Devices Design	2-2-0-0
557.0011	ET-EDS Test	3-3-0-0
504.407	Solid-state physics	3-3-0-0
557.0013	Global Research Facility Study Program	2-0-4-0
557.0014	Semiconductor Equipment Seminar	3-3-0-0
557.0017	Semiconductor Unit Processes	3-3-0-0