Graduate Studies in Nursing

The goals of the graduate program in Nursing are:
1. To empower students to conduct nursing research for the purpose of generating and testing nursing knowledge.
2. To acquire professional nursing knowledge and skills, and to develop problem-solving competency in practice.
3. To demonstrate leadership roles appropriate for nursing and the healthcare system in general.
4. To prepare for expanding nursing roles contributing to the health of human beings.

Degree Requirements

Master’s degree candidates must complete 3 core courses (9 credits) and five electives (15 credits). To be awarded the degree, all students must pass a comprehensive exam and a foreign language test prior to submitting a thesis.

Students must deliver a presentation, successfully complete a defense, and provide all required documents to the thesis committee.

Students in the Advanced Practice Nursing program (Master’s track) must complete 6 core courses (15 credits) and 9 electives (20 credits).

Ph.D. candidates must complete 4 core courses (12 credits) and eight electives (24 credits). To be awarded the degree, all students must pass a comprehensive exam and a foreign language test before submitting a thesis.

Students must deliver a presentation, successfully complete a defense, and provide all required documents to the thesis committee.

What Do You Study?

Core Courses

Master’s Program
- Nursing Theory (3)
- Nursing Research (3)
- Health Statistics (3)

Ph.D. Program
- Nursing Science (3)
- Nursing Theory Development (3)
- Research Design & Measurement (3)
Nursing Research Seminar 1 (3)
Nursing Research Seminar 2 (3)

Elective Courses
Family Nursing and Family Therapy (3)
Concept development in Nursing (3)
Analysis of Nursing Outcome (3)
Counseling in Nursing (3)
Seminar for nursing simulation (3)
Analysis for nursing research (3)
Nursing Profession (3)
Organizational Management in Nursing (3)
Development of Nursing Interventions (3)
Philosophy of Nursing science (3)
Management of Infectious Disease (3)
Health Promotion (3)
Methodology and Application in Evidence-based Nursing (3)
Seminar for Older People's Health Problem (3)
Chronic Illness Nursing and Practice (3)
Problem Based Learning (3)
Health Program Development and Evaluation (3)
Advanced Health Assessment (3)
Bioethics and Nursing Issue (3)
Seminars in Stress & Symptom Management (3)
Faculty Development (3)
Theory of human behavior (3)
Clinical Physiology (3)
Process of Decision Making in Clinical Nursing (3)
Rehabilitation Nursing Seminar (3)
Advanced Nursing Administration and Practice (3)
Advanced Adult Nursing and Practice (3)
Advanced Child Health Nursing and Practice (3)
Advanced Women's Health Nursing and Practice (3)
Advanced Community Health Nursing and Practice (3)
Advanced Community Mental Health Nursing and Practice (3)
Qualitative Research in Nursing (3)
Health related theory (3)

Advanced Health Statistics (3)
Nursing Policy (3)
Scale development and psychometric evaluation (3)

Nurse Practitioner Program
Core Courses
Nursing Theory (3)
Nursing Research (3)
Nursing Professionalism (2)
Advanced Health Assessment (3)
Clinical Pharmacology (2)
Pathophysiology (2)

Gerontological Nurse Practitioner
Introduction to Advanced Gerontological Nursing (2)
Elderly Care of Chronic Illness 1 (2)
Elderly Welfare Nursing (2)
Elderly Health Promotion (2)
Elderly Care of Chronic Illness 2 (2)
Practicum of the Elderly Health Promotion (2)
Practicum of Elderly Care for Chronic Illness 1 (3)
Practicum of Elderly Care for Chronic Illness 2 (3)
Practicum of Elderly Welfare Nursing (2)

Hospice Nurse Practitioner
Introduction to Hospice & Palliative Care (2)
Palliative Care of Pain & Symptom (2)
Psychosocialspiritual Nursing (2)
Family Nursing & counseling for the Bereaved (2)
Management in Hospice care (2)
Hospice Practice 1 (3)
Hospice Practice 2 (3)
Hospice Practice 3 (2)
Hospice Practice 4 (2)

Oncological Nurse Practitioner
Introduction to Oncology (2)
Oncology Therapeutics and Nursing 1 (2)
Oncology Therapeutics and Nursing 2 (2)
Management of Oncology Symptom (2)
Issues on Oncology Nursing (2)
Oncology Nursing Practice 3 (2)
Issues on Oncology Nursing Practice (3)

Professors

Oncology Nursing Practice 1 (2)
Oncology Nursing Practice 2 (3)

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• Yoo, Sung-Hee, Ph.D.
  [Assistant Professor, Adult Nursing, shyoo@jnu.ac.kr]
• Chae, Duckg-Hee, Ph.D.
  [Assistant Professor, Community Health Nursing, dheechae@jnu.ac.kr]
• An, Min-Jeong, Ph.D.
  [Assistant Professor, Adult Nursing, anminjeong@jnu.ac.kr]

Professors Emeritus

• Kim, Young-Sook Ph.D.
  [hannaysk@yahoo.co.kr]
• Kim, Mi-Won Ph.D.
  [mwkim@jnu.ac.kr]
• Park, Oh-Jang Ph.D.
  [ojpark@jnu.ac.kr]
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  [julia4779@hanmail.net]
• Lee, Young-Sook Ph.D. [yslee@jnu.ac.kr]
• Kang, Hae-Young, Ph.D. [hykang@jnu.ac.kr]
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■ Laboratories
- Center for Supporting Field-Specific Technology
- Center for Evidence-Based Nursing Education & Research
- Center for Cardio Pulmonary Resuscitation
- Center for Mental Health Promotion
- Center for Multicultural Family Health Promotion
Graduate Studies in Business Administration

The goal of the Business Administration Graduate Studies Program is to train students to be business professionals with both leadership and managerial capabilities. We provide advanced theories and techniques of management applicable to all management environments. Consequently, we not only teach students the general theories and techniques of management but also endeavor to cultivate the skills needed to solve crucial practical problems in business. The topics covered include Human Resource Management and Organizational Behavior, Marketing, Financial Management, Production and Operations Management, and Management Information Systems.

Degree Requirements

- Master’s degree candidates are required to earn 24 credits, up to 9 credits each semester. Candidates also have to pass a comprehensive exam and a foreign language exam as well as submit a thesis.
- Doctoral degree candidates are required to earn 36 credits, up to 9 credits each semester. Candidates also have to publish an article in a journal listed in National Research Foundation of Korea as a first author, also have to present a related paper at an Academic conference, pass a comprehensive exam and a foreign language exam as well as submit a thesis.

What Do You Study?

Advanced Industrial Relations (3)  E-Business Management (3)
Advanced Statistics (3)             E-Business Project (3)
Advanced Study on Regional Corporate Strategies (3) E-Business Research Methodology (3)
Advanced Study on Strategic Management (3)   E-Business Strategy (3)
Advertising Promotion (3)             Empirical Research in Corporate Finance (3)
Asset Pricing Theory (3)                 Empirical Research in Financial Institutions (3)
Business Innovation and Change Management (3)   Empirical Research in Investments (3)
Channel Management (3)                     Environmental Management : Theory and Practice (3)
Consumer Behavior (3)                     Environment : Climatic Change and business
Consumer Behavior Seminar (3)             Management (3)
Customer Relationship Management (3)      Financial Econometrics (3)
Decision Science (3)                       Fixed income Securities (3)
Derivatives (3)                           Global Operations Management (3)
Human Resources Development (3)
Human Resources Management (3)
Information Policy and Evaluation (3)
Information Technology and Management Innovation (3)
Information Technology Management (3)
Intelligence Information Systems (3)
Intermediate Business Statistics (3)
Internet Marketing (3)
Leadership and Motivation Theory (3)
Management Information System (3)
Management Innovation Case Study (3)
Management of Financial Institutions (3)
Management of Technology (3)
Management Theories on Corporate Social Responsibility (3)
Manufacturing Strategy (3)
Marketing Research (3)
Marketing Seminar (3)
Marketing Strategy and Planning (3)
Marketing Theory (3)
Merchandise Planning and Brand Management (3)
Multimedia Applications Study (3)
Operations Management: Special Topics (3)
Optimization Theory (3)
Organizational Behavior and Theory (3)
Organization Change and Development (3)
Organization Theory (3)
Organizations and Interpersonal Relationships (3)
Pricing Management (3)
Production Innovation Theories and Practices (3)
Production Planning and Control (3)
Research Methods in Business Administration (3)
Research Methods in Organizational Behavior (3)
Retailing Management (3)
Seminar of Management Information System (3)
Seminar in Organization Theory (3)
Seminar I in Organizational Behavior (3)
Seminar II in Organizational Behavior (3)
Service Marketing (3)
Service Operations Management (3)
Service Science (3)
Simulation and Application (3)
Societal Marketing (3)
Solution Applications and Programming (3)
Special Topics in Corporate Finance (3)
Special Topics in Human Resources Management (3)
Special Topics in Industrial Relation (3)
Strategic Quality Management (3)
Structured Finance and Securitization (3)
Studies in Investments (3)
Studies in Organizational Culture (3)
Supply Chain Management (3)
System Development Methodology (3)
Technology and Innovation Study (3)
Theoretic Approach to the Theory of Corporate Finance (3)
Theory of Corporate Finance (3)

Professors

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• Min-Jung Kim, Ph.D.
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• Sang-Hee Kim, Ph.D.
Graduate Studies in Economics

The Major of Economics places great value on practical applications of economic theories and strives to provide market economy-oriented education. The instructional focus is on cultivating the students' problem-solving skills in an effort to better prepare them for the 21st century. In the Economics major track, courses are offered to develop the students' ability to understand and analyze a wide variety of economic phenomena.

Degree Requirements

- Master's degree candidates are required to earn 24 credits, up to 9 credits each semester. Candidates also have to pass a comprehensive exam and a foreign language exam as well as submit a thesis.
- Doctoral degree candidates are required to earn 36 credits, up to 9 credits each semester. Candidates also have to pass a comprehensive exam and a foreign language exam as well as submit a thesis.

What Do You Study?

Game Theory (3)  Seminar on Political Economy (3)
Economic Development (3)  Seminar on Industrial Organization (3)
Economic History (3)  International Trade (3)
Economic Philosophy (3)  Seminar on International Economics (3)
Mathematics for Economists (3)  Financial Economics (3)
History of Economic Thoughts (3)  Seminar on Monetary Theory (3)
Econometrics (3)  Analysis of Industrial Relations (3)
Advanced Microeconomic (3)  Seminar on Labor Economics (3)
International Finance (3)  Seminar on Public Economics (3)
Labor Economics (3)  Law and Economics (3)
Industrial Organization (3)  Seminar on History of Economic Thoughts (3)
Mathematical Economics (3)  Political Economy (3)
Regional Economy Analysis (3)  International Political Economy (3)
Macroeconomy Analysis (3)  Monetary Theory (3)
International Economy Analysis (3)  Public Economics (3)
Microeconomy Analysis (3)  Economics Seminar (3)
Advanced Macroeconomics (3)  Special Lectures on Economics (3)
Public Economy Analysis (3)
Statistical Method for Economic Analysis (3)
Information, Risk, and Uncertainty (3)
Energy and Resource Economics (3)
Environmental Economics (3)
Microeconomics Seminar (3)
Macroeconomics Seminar (3)
Industrial Economy Analysis (3)

Professors

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Graduate Studies in International Trade

The Department of International Trade aims to provide students not only with a broad knowledge of international business, trade, and international economics, but also with a sagacious insight into contemporary issues of international business and economy. The department designs its courses to produce specialists in international business and trade, international finance, and foreign area economy. To this end, a balanced course of study is structured around a wide variety of relevant subjects which include international business strategy, international marketing, international business and trade environment, international finance, international trade, and foreign area study. The educational objectives of the department are to develop an understanding of the international business environment through foreign regional studies and practical knowledge of international trade and cyber trade.

Degree Requirements
- Master’s degree candidates are required to earn 24 credits, up to 9 credits each semester. Candidates also have to pass a comprehensive exam and a foreign language exam as well as submit a thesis.
- Doctoral degree candidates are required to earn 36 credits, up to 9 credits each semester. Candidates also have to publish an article in a journal listed in National Research Foundation of Korea as a first author, also have to present a related paper at an Academic conference, pass a comprehensive exam and a foreign language exam as well as submit a thesis.

What Do You Study?

| Special Study in Econometrics (3) | Advanced Theory of International Finance (3) |
| Advanced Statistics (3) | Special Study in International Finance (3) |
| Advanced Business English (3) | Seminar in International Trade (3) |
| Advanced Microeconomic (3) | Advanced Theory of International Trade (3) |
| Special Study in International Business Strategy (3) | Special Study in International Trade (3) |
| Advanced Study in International Business (3) | International Commercial Arbitration (3) |
| Special Study in International Business (3) | Seminar in Balance of Payment (3) |
| Special Study in International Economic Policy (3) | Advanced Theory of Balance of Payment (3) |
Advanced Theory of International Financial Management (3)
Special Study in International Business Finance (3)
Theory of International Trade Contract (3)
Special Study in International Trade Contract (3)
Theory of International Trade Customs and Practices (3)
Advanced Theory of International Trade Practices (3)
Special Study in International Trade Practices (3)
Advanced Theory of Trade Policy (3)
Comparative Business Management (3)
Special Study in Comparative Business Management (3)
Advanced Theory of Letter of Credit (3)
Special Study in Letter of Credit (3)
Advanced Theory of Foreign Exchange (3)
Intermediate Business Statistics (3)
Advanced Theory of Korean Trade (3)
Special Study in Korean Trade (3)
Advanced Theory of Marine Insurance Theory (3)
Special Study in Marine Insurance (3)
Theory Of International Regional Economics (3)
Theory of Foreign Direct Investment (3)
Special Study in Foreign Direct Investment (3)
Special Study in Foreign Exchange (3)
Advanced Macroeconomics (3)
Special Study in Strategic Marketing (3)
Special Study in International Law for Trade (3)
Theory of International Transportation (3)
Special Study in International Business History (3)
History of International Trade (3)
Advanced Theory of International Trade Environments (3)
Advanced Commodity Theory (3)
Advanced Theory of Economic Integration (3)
Special Study in International Trade Customs and Practices (3)
Law for International Trade (3)
Special Study in International Commercial Arbitration (3)
Special Study in International Trade Environments (3)
Special Study in History of International Trade (3)
Special Study in International Transportation (3)
Advanced International Marketing (3)
Special Study in International Marketing (3)
Advanced International Marketing Strategy (3)
Advanced Theory of International Trade and Commerce (3)
Special Study in International Trade and Commerce (3)
Advanced Case Study in International Business (3)

Professors

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- Ji-Yoon Kim, Ph.D.
  [Assistant Professor, International Business, jykim2016@jnu.ac.kr]
- Sang-Chul Park, Ph.D.
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- Byoung-Sop Han, Ph.D.
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Graduate Studies in Regional Development

The Department of Regional Development aims to provide students with knowledge and skills in the field necessary to cope with trends in globalization, localization, and information technology.

Graduate programs in Regional Development aim to help students gain an understanding of economic theories and their implications on urban planning, regional development, and the environment. The programs guide students' understanding of modern methods of urban planning that will reduce the gap among different cities and regions, producing regional development experts with thorough theoretical and practical knowledge.

The graduate programs equip students with research ability and teaching skills in the field. The subjects taught in the program comprise theory and methodology, which provide the basic tools necessary in solving the problems in the field of Urban and Regional Development.

Degree Requirements

- Master's course: Master's degree candidates must earn a minimum of 24 credits.
- Doctoral course: Ph.D. candidates must earn a minimum of 36 credits.
- Students are required to pass both the qualifying examination and the foreign language examination.

What Do You Study?

Advanced Macroeconomics
Advanced Public Economics
Advanced Study on Transportation Policy
Seminar On Rural Development Planning
Studies on City Management
Urban Planning Process
Advanced Study on Urban Planning Theory
Urban Transportation Planning
Advanced Housing Economics
Advanced Regional Development Policy
Advanced Regional Economic Analysis

Advanced Land Economics
Advanced Urban Land Use Planning
Advanced Environmental Planning
Advanced Planning Theory
Advanced Transportation Economics
Advanced Theory of Economic Development
Advanced Theory of Economic Integration
Seminars in Industrial Locations
Advanced Study on Real Estate
Advanced Study on Economic Geography
Small and Medium Sized City Development
Advanced Urban Development Policy
Advanced Study on Planning Laws
Advanced History of Urban Planning
Advanced Urban Economics
Advanced Local Public Finance
Special Topics in Urban Economics
Special Topics in Regional Economics
Methodology in Statistical Survey
Project Evaluation Theory
Research on Urban History
Advanced Urban Development
Planning Statistics
Advanced Logistics Management and Policy
Advanced Public Investment and Policy
Advanced Studies on the Environmental Policy
Geographic Information System
Advanced Urban Econometrics
Regional Logistics Management
Advanced Urban Management
Case Studies on International Development

A Study on Real Estate Econometrics
Advanced Study on Urban & Regional Regeneration
Theory of city and regional tourism
Advanced Community Business
A Study on Spatial Econometrics Analysis
Real Estate Appraisal
Social Overhead Capital Theory
Advanced Regional Development Theory
Advanced National and Regional Planning Theory
City and Regional Information Theory
Advanced Regional Community Development Theory
Seminar in Regional Economic policies
A Study on Real Estate Development
Advanced Social Economy
Social Economy

Professors

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Graduate Studies in Accounting

The most common aspiration of a graduate in accounting is to pursue a career as a university educator and researcher in the field. Accounting educators teach and conduct research across a wide variety of specializations, including financial reporting, management accounting, auditing, taxation, and accounting information systems.

Degree Requirements

1) At least 24 course units of graduate level credit in Accounting courses are required for the master's degree, and further 60 course units for doctor's degree (including units completed in master course).
2) Students have to pass qualifying examination and the foreign language examination.
3) Students must fulfill presentation, defense, and document requirements in the department thesis committee.
4) A thesis advisor can be any faculty member from the department.

What Do You Study?

Intermediate Business Statistics (3) 
Research for the Master's or Doctoral Degree (1) 
Advanced Statistics (3) 
Multivariate Statistics (3) 
Research for the Master's or Doctoral Degree (1) 
Financial Accounting Seminar (3) 
Managerial Accounting Seminar (3) 
Market-based Accounting Research Seminar (3) 
Income Determination and Asset Valuation Seminar (3) 
Information Economics Seminar in Accounting (3) 
Behavioral Research Seminar in Accounting (3) 
Mathematics for Management & Economics (3) 
Advanced Financial Accounting (3) 
Financial Statements Analysis & Investment Theory (3) 
Advanced Management Accounting (3) 
Advanced Tax Accounting (3) 
Tax Accounting Seminar (3) 
Accounting Information System Management (3) 
Accounting Information System Design (3) 
Theory of Firm and Accounting (3) 
Research Methodology in Accounting (3) 
Auditing Seminar (3) 
Study of Advanced Financial Accounting (3) 
Study of Advanced Auditing (3) 
Study of Advanced Managerial Accounting (3) 
Experimental Research in Accounting (3) 
Research Methodology in Tax Accounting (3) 
Study of Tax Compliance (3)
Study of Tax Planning & Management (3)
Study of Advanced Accounting Information System (3)
Study of Expert Systems (3)

Professors

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- In-Seon Jo, Ph.D.
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- Ung-Yong Choi, Ph.D.
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Graduate Studies in Department of Advanced Chemicals & Engineering

Advanced Chemicals & Engineering serves as the core foundation for information, electronic, communication, aerospace, energy, environment, and healthcare technologies that drive 21st century industries. The Department of Advanced Chemicals & Engineering consists of four specific research tracks: advanced material for photonic application, functional material for energy application, material for information and electronic technology, and nanostructured material. Principal researchers and faculty members carry out state-of-the-art research and education in their respective fields. Faculty members also encourage students to develop and apply their own creative design and chemical preparation ideas.

Degree Requirements

Master’s Program

The graduate program aims at instruction of the highest level of academic theory and towards enhancing the research abilities of students. Applicants should have earned an undergraduate degree in good standing in an engineering discipline. Candidates from other backgrounds may be considered if they have suitable qualifications and interests. Master’s degree candidates are required to earn a minimum 24 credit hours and submit a thesis based on a research project. These requirements should be fulfilled between two to three years of enrollment.

Ph.D. Program

Ph.D. candidates undertake an individual research project under the general direction of a supervisor and prepare a dissertation presenting their work and findings. The dissertation, which is examined by at least 5 committee members, must make a substantial contribution to the scientific or engineering fields.

In addition, students are required to earn at least 60 credits in coursework including the credits already earned for the master’s degree as well as pass one foreign language exam. Degrees are conferred to those who fulfill the requirements between two to five years of enrollment.

What Do You Study?

Seminar on Research Topics I
Seminar on Research Topics II
Research for Master’s or Doctoral Degree
Special Topic on Fine Chemicals
Advanced Biopolymer
Polymeric Nanofabrication
Advanced Polymer Physics
Polymer Alloys
<table>
<thead>
<tr>
<th>Course Title</th>
<th>Research Guidance</th>
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<tbody>
<tr>
<td>Advanced thermal analysis of polymers</td>
<td>1</td>
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<tr>
<td>Advanced Course Of Polymer Chemistry</td>
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<tr>
<td>Advanced Industrial Organic Chemistry</td>
<td>3</td>
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<td>Advanced Photo-Electronics</td>
<td>Fuel Cell Technology</td>
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<td>Opto-Electronics</td>
<td>Organometallic Chemistry</td>
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<td>Advanced Photocatalyst</td>
<td>Advanced Organic Reactions</td>
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<td>Advanced Course of Instrumental Analysis</td>
<td>Spectroscopic Identification of Organic Molecules</td>
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<td>Functional Polymers</td>
<td>Organic Electronic Materials</td>
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<td>Functional Polymer Materials</td>
<td>Advanced Organic Synthesis</td>
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<tr>
<td>Functional Organic Molecular Design</td>
<td>Advanced Organic Chemistry</td>
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<tr>
<td>Technical Informations and Patent Strategies</td>
<td>Imaging Materials</td>
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<tr>
<td>Nano-Structured Media</td>
<td>Low Temperature Plasma Process</td>
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<tr>
<td>Advanced Nano Science</td>
<td>Fibrous Electrode</td>
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<tr>
<td>Advanced Nono Biotechnology</td>
<td>Advanced Electrochemistry</td>
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<tr>
<td>Nano Materials Chemistry</td>
<td>Organic Conductive Materials</td>
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<tr>
<td>Nanocarbon Engineering</td>
<td>Advanced Electronic Materials</td>
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<tr>
<td>Display Engineering</td>
<td>Advanced Battery Materials</td>
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<tr>
<td>Advanced Inorganic Material Chemistry</td>
<td>Management and Valuation of Intellectual Properties</td>
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<tr>
<td>Advanced Course Of Inorganic Chemistry</td>
<td>Method of Intellectual Property based Research and Development</td>
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<tr>
<td>Advanced Biophotonics</td>
<td>Coordination Chemistry</td>
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<tr>
<td>Thin Film Fabrication Process</td>
<td>Supramolecular Chemistry</td>
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<tr>
<td>Thin Film Coating &amp; Modification Process</td>
<td>Advanced Catalysis Design Chemistry</td>
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<tr>
<td>Semiconductor Materials and Processing</td>
<td>Advanced Catalytic Chemistry</td>
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<td>Reaction Equipment</td>
<td>Materials for Solar Cell</td>
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<td>Advanced Colloid Thin Film Materials</td>
<td>Advanced Photonic Crystals</td>
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<tr>
<td>Advanced Bioprocess Engineering</td>
<td>Surface Science</td>
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<tr>
<td>Advanced Bioseparation &amp; Purification</td>
<td>Process System Engineering</td>
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<tr>
<td>Advanced Bioanalysis</td>
<td>Numerical Analysis for Chemical Process</td>
</tr>
<tr>
<td>Advanced Biochemical Engineering</td>
<td>Chemical Process Optimization</td>
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<tr>
<td>Advanced Biomaterials</td>
<td>Advanced Chemical Equilibrium</td>
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<tr>
<td>Biochemical Sensors</td>
<td>Adsorption Processes Analysis</td>
</tr>
<tr>
<td>Advanced Biochemistry</td>
<td>Seminar on Engineering for Research &amp; Industrial Application</td>
</tr>
<tr>
<td>Hydrogen Energy</td>
<td>Global Field Practice</td>
</tr>
<tr>
<td>New and Regenerative Energy Process</td>
<td>Design of Experiments</td>
</tr>
<tr>
<td>Special Topic on Fine Chemicals</td>
<td>Industry Field Placement 1</td>
</tr>
<tr>
<td>Advanced Drug Delivery</td>
<td>Industry Field Placement 2</td>
</tr>
<tr>
<td>Energy Materials Engineering</td>
<td>Capstone Design</td>
</tr>
</tbody>
</table>
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- Chang-Kook Hong, Ph.D.
Laboratories

- Chemical Process Laboratory for Advanced Materials
- Catalytic Chemistry Lab
- Polymer Oriented Leading Study Lab
- Organic Synthesis and Molecular Engineering Lab
- Synthesis Organic Chemistry Lab
- Adsorption and Separation Lab
- Functional Polymers Lab
- Reaction Engineering Lab
- Biopolymer Lab
- Polymer Functional Devices Lab
- Organic Electronic Materials Lab
- Energy Conversion and Storage Lab
- Biochemical Engineering Lab
- Photonic Materials and Devices Lab
- Process Systems Lab
- Interface Engineering Lab
- Clean Energy Technology Lab
- Nano-Materials Lab
- Opto-electron Research Lab
- Inorganic Materials Chemistry Lab
- Electrochemical Energy Materials Lab
- Nano Photonic Devices Lab
- Nano Carbon Convergence Materials Lab
- Polymer Energy Materials Lab
- Chemical Process Safety System Lab
- Functional Nanomaterials Lab
- Separation and Energy Conversion/Storage Process Lab
Graduate Studies in Architectural Engineering

Architectural Engineering is a comprehensive science which is combined with natural science, social science, engineering, and art to create spaces for human living. There are four major areas in the Department of Architectural Engineering: architectural and urban design, architectural structure, architectural environment, and architectural construction. The graduate program is committed to training researchers and engineers with advanced knowledge in the architectural profession.

Degree Requirements

Master’s Program

The graduate program aims at instruction of the highest level of academic theory and towards enhancing the research abilities of students. Applicants should have earned an undergraduate degree in good standing in an engineering discipline. Candidates from other backgrounds may be considered if they have suitable qualifications and interests. Master’s degree candidates are required to earn a minimum 24 credit hours and submit a thesis based on a research project. These requirements should be fulfilled between two to three years of enrollment.

Ph.D. Program

Ph.D. candidates undertake an individual research project under the general direction of a supervisor and prepare a dissertation presenting their work and findings. The dissertation, which is examined by at least 5 committee members, must make a substantial contribution to the scientific or engineering fields. In addition, students are required to earn at least 60 credits in coursework including the credits already earned for the master’s degree as well as pass one foreign language exam. Degrees are conferred to those who fulfill the requirements between two to five years of enrollment.

What Do You Study?

Advanced Value Engineering
Construction Network Scheduling (Ⅰ)
Theory of Architectural Planning
Methodology in Architectural Planning

Theory of Architectural Space
Advanced Building Foundation Analysis and Design
Theory of Architecture
Research Methodology for Architectural History
Principles of Building Facilities
Plastic Analysis of Structure
Principles and Applications of Architectural Acoustics
Theory of Elasticity
Theory of Architectural Form
Advanced Course in Building Science
Evaluation Theory of Architectural Planning
Advanced Site Planning
Theory of Urban Structure
Theory of Urban Design
Theory of Urban Renewal
Advanced Theory of History of Orient Architecture
Matrix Analysis of Structure
Principles of Noise Control
Advanced Decision Analysis
Advanced Theory of Housing
Structural Design Of R.C.S. Building
Theory of Elastic Stability
Theory of Plates and Diaphragms
Advanced Theory in History of Korean Architecture
Advanced Theory of Modern Architecture
Fundamentals of Acoustics and Noise Control
Computer Applications for Field Construction Projects
Architectural Aesthetics
Architectural Criticism
Ecological Architecture
Plasticity in Concrete
Structural Control
A Higher Rising Building Structure Design
Theory of Buddhist Architecture
Seismic Engineering
Finite Element Analysis
Structural Optimization
Structure Dynamics

Advanced Construction Production Engineering
Advanced Construction Management & Engineering
Studies in Construction Material Engineering
Studies in High-class Construction Material
The Planning of Ecological Life House
The Planning of Regeneration
Technology of Wooden Buildings
Environmental Friendly Architectural
Theory of Wood Structure Architecture
Reliability Engineering
Advanced Construction Risk Management
Advanced Construction Productivity Management
Research Guidance 1
Research Guidance 2
Research Guidance 3
Smart Concrete
Integrated Architectural Design
Theory in Digital Architecture
Building Information Modeling
Urban Research Methodology
Architectural Design Studio 1
Architectural Design Studio 2
Urban Design Studio 1
Urban Design Studio 2
Advanced Safety management Engineering
Housing Design Theory
Architectural Design Theory
Special Topics in Architectural space and Practice
Theories of Urban Cultural Landscape
Urban Cultural Landscape Design Workshop
Special Topics in Architecture, Cultural Regeneration
Special Topics in History of Western Architecture
Integrative Design Studio
Smart City and Building

Professors

Architecture & Urban Design Major

• Deuk-Youm Cheon, Ph.D.
Architectural Engineering Major

- Jin-Gyu Song, Ph.D.
  [Professor, Reinforced Concrete, Performance Evaluation, Loess Reinforced Concrete, jgsong@jnu.ac.kr]
- Jae-Seung Hwang, Ph.D.
  [Professor, Structural Performance Enhancement Against Wind and Seismic Loads, Sustainable Control Device, Structural Control, jshwang@jnu.ac.kr]
- Seong-Seok Go, Ph.D.
  [Professor, Construction Management, Engineering, Safety, Material, ssogo@jnu.ac.kr]
- Kang-Seok Lee, Ph.D.
  [Professor, Seismic Engineering and Optimal Design, ksinist@jnu.ac.kr]
- Bang Yeon Lee, Ph.D.
  [Associate Professor, Advanced Building Materials, bylee@jnu.ac.kr]
- Jong Kwan Ryu, Ph.D.
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Laboratories

- Architectural History & Design Lab
- Architecture & Housing Design Lab
- The Architecture Design Theory Lab
- Architectural Design and Evaluation Lab
- Sustainable Architecture Design Studio
- Urban Design Planning Lab
- Construction Management & Technology Lab
- Concrete Structural System Lab
- Control of Vibration Lab
- Seismic Engineering & Optimal Design Lab
- Advanced Building Materials Lab
- Architectural Environment & Acoustics
Graduate Studies in Chemical Engineering

The Chemical Engineering Graduate Studies Department offers advanced degree programs to prepare its students for research and technical careers in industry, academia, and government. The program strikes a balance between the science of chemical engineering and its implementation, by synthesizing a blend that bases itself upon the fundamentals of the discipline whilst encouraging students to develop the skills to apply these fundamentals to significant engineering problems.

Degree Requirements

Master’s Program

The graduate program aims at the instruction of the highest level of academic theory and developing capabilities to perform original research work. Applicants for the master’s program should have achieved a good standard in an undergraduate degree course in an engineering discipline. Candidates from other backgrounds may be considered if they have suitable qualifications and interests. Assessment of M.S. students includes a combination of at least 24 credit hours coursework and a thesis based on the research project. These requirements should be fulfilled between two and three years of enrollment.

Ph.D. Program

Students who pursue a Doctor of Philosophy degree undertake an individual research project under the general direction of a supervisor and prepare a dissertation presenting their work and findings. The dissertation must make a substantial contribution to the scientific or engineering fields. The dissertation is examined by at least five committee members. In addition, students are required to take at least 60 credits in coursework including the master’s degree, and must pass one foreign language test. Degrees are conferred to those who fulfill the requirements between two and five years of enrollment.

What Do You Study?

Common Course
- Chemical Engineering Seminar
- Research Guidance 1
- Research Guidance 2
- Research Guidance 3

Separation Process & Thermodynamics
- Transport Phenomena
- Advanced Chemical Engineering Thermodynamics
- Mass Transfer
- Membrane Separation
- Advanced Heat Transfer of Chemical Engineering
Statistical Thermodynamics
Advanced Separation Process
Advanced Chemical Engineering Fluid Mechanics
Electrochemistry
Molecular Thermodynamics
Thermodynamics of Phase Equilibria
Advanced Particulate Technology

**Catalytic & Reaction Engineering**
Advanced Chemical Reaction Engineering
Catalytic Reaction Engineering
Reaction Kinetics
Catalyst Design
Polymer Science

C-1 Chemistry
Acid-Base Catalytic
Surface Science
Functional Polymer Materials
Special Topics in Chemical Engineering I
Special Topics in Chemical Engineering II
Advanced Chemical Process Design
Chemistry in Organic Resources
Organic Reaction Mechanism
Selected Topics in Material Patents

**Energy & Environment**
Advanced Energy Engineering
Advanced Air Pollution Control Engineering

**Professors**

- Sung-Ju Kang  
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- Choon-Hyoung Kang  
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- Young-Dae Kim  
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- Young-Chul Kim  
  [Professor, Catalytic Engineering, Industrial Property Rights, youngck@jnu.ac.kr]  
- Nam-Cook Park  
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Laboratories

Process Modeling Simulation Laboratory
Examines process systems through control algorithms and process simulation using Wavelet Transform to analyze the characteristics of voice signals and undertakes research that improves efficiency through manufacturing of encoding and compression.

Intelligence Polymer & Biosensor Laboratory
Analysis of the planning and composition of intellectual polymers, alongside the development and application of biosensors.

Environmental Catalyst Laboratory 1
The research of environmental problems is undertaken here. We have developed a degradative reaction of ammonia, a liquid reaction of ammonia and a liquid reaction of phenol by using metal oxide catalysts. Furthermore, we study environmental catalyst application through the creation and characteristic analysis of nano-catalysts. We use the GC 3, TPD/TPR. Auto-clave, and Xe lamp.

Environmental Catalyst Laboratory 2
In this laboratory we use several catalysts to undertake research that investigates environmental pollutants and research that investigates waste. In our laboratory, we are trying to investigate how we can manufacture and develop a catalyst alongside nano rescue to have a perovskite structure that can be used cheaply in a natural gas car. There is GC and FT-IR with experiment equipment that is possessed in this laboratory, produced worthy scholar 7 persons.

Catalyst Oxidation Reaction Lab
Oxidative reaction of catalysts and degradation of polymers have been studied by a variety of catalysts. In this laboratory we study partial oxidative reactions of ethylene and propylene using Ag-Nano catalysts and Naphtha cracking. We have the GC 2, GPC, HPLC, and GC-Mass.

Physical Properties & Equi. Lab
This laboratory carries out experiments on separation and purification, phase equilibrium of mixtures, application of polymers and separation using supercritical fluid extraction.

Our lab possesses GC (Gas Chromatography), GPC (Gel Permeation Chromatography), and UV (Ultra-Violet spectroscopy).
Graduate Studies in the Department of Civil Engineering

The Civil Engineering department focuses on developing future leaders for the engineering profession, for academia, and for applying engineering methods in the broader application. The department conducts cutting-edge research, defining what constitutes the evolving domain of civil engineering. This research develops theory and understanding as well as tools and techniques for professional practice and for solving engineering problems. The department exhibits great service, both through the actions of its members and contributing expertise where needed. The research and graduate study programs within the civil engineering department are organized by the different disciplines: Transportation Engineering; Water Resources; Hydrology; Geotechnical Engineering; Structural Engineering and Structural Mechanics and Land Surveying.

Degree Requirements

Master’s Program

The graduate program aims at instruction of the highest level of academic theory and towards enhancing the research abilities of students. Applicants should have earned an undergraduate degree in good standing in an engineering discipline. Candidates from other backgrounds may be considered if they have suitable qualifications and interests. Master’s degree candidates are required to earn a minimum of 24 credit hours and submit a thesis based on a research project. These requirements should be fulfilled between two to three years of enrollment.

Ph.D. Program

Ph.D. candidates undertake an individual research project under the general direction of a supervisor and prepare a dissertation presenting their work and findings. The dissertation is examined by at least 5 committee members and should make a substantial contribution to the scientific or engineering fields.

In addition, students are required to earn at least 60 credits in coursework including the credits already earned for the master’s degree as well as passing one foreign language exam. Degrees are conferred to those who fulfill the requirements between two to five years of enrollment.

What Do You Study?

General Courses

Advanced Applied Mathematics
Material Science

Planning Major Courses

Numerical Analysis
Research for Master’s or Doctoral Degree
Advanced Urban Planning
Advanced Transportation Engineering
Advanced System Engineering for Civil Engineering
Advanced Pavement Engineering
Instrumentation & Measurement for Civil Engineering
Advanced Regional Planning Land Use Planning
National Planning
Theory of Surveying Error
Advanced Geodesy
Advanced Photogrammetry
Advanced Remote Sensing

**Hydraulics, Environment Major Courses**
Advanced Fluid Mechanics
Advanced Hydraulics
Analysis of Water Distribution Systems
Dimensional Analysis
Applied Hydrology
Applied Ground Water Hydraulics
Water Resource Engineering
Hydrological Modeling
Theory of Sedimentation
Coastal Engineering
River Morphology
Advanced Water Treatment Engineering
Environmental Chemistry
Treatment and Management of Waste Water
Management of Environmental Pollution
Advanced System Engineering of Water Treatment
Solid Waste Management
Planning of Usable Water
Design and Construction of Water Supply and Sewage

**Structure Major Courses**
Advanced Structural Analysis
Theory of Elasticity
Theory of Plasticity
Theory of Plates and Shells
Continuum Mechanics
Structural Dynamics
Theory of Structural Stability
Fracture Mechanics
Matrix Structural Analysis
Finite Element Method
Advanced Steel Structures
Advanced Reinforced Concrete Structures
Geotechnical Engineering Major Courses
Advanced Soil Mechanisms
Advanced Foundation Engineering
Soil Dynamics
Theory of Shear Strength
Theory of Multi-Dimensional Consolidation
Theory of Deformation for Soils
Surveying and GIS Courses
Theory of Surveying Error
Advanced Geodesy
Advanced Photogrammetry
Advanced Remote Sensing

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**Professors**

- **Woo Kim, Ph.D.**
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rheei@jnu.ac.kr
• Jae-Hong Oh, Ph.D.

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Laboratories

- Structural Engineering Lab
- Water Resource Lab
- Water Supply and Water Drain System Lab
- Geotechnical Research Lab
- Highway/Transportation Lab
What is Electrical Engineering?

Electrical engineering is based on sciences such as mathematics, physics, and chemistry, and studies how to transform fossil, hydraulic, atomic, wind, solar light or heat, and tidal energy into electric energy. Students also study how to transport the transformed energy efficiently and steadily to distant places. One primary focus of the Department is on transforming these into other types of energy such as light, heat, and power. The Department maintains high standards of research and development of electrical energy to benefit society.

Degree Requirements

Master’s Program

The graduate program aims at instruction of the highest level of academic theory, towards enhancing the research abilities of students. Applicants should have earned an undergraduate degree in good standing in an engineering discipline. Candidates from other backgrounds may be considered if they have suitable qualifications and interests. Master’s degree candidates are required to earn a minimum 24 credit hours and submit a thesis based on a research project. These requirements should be fulfilled between two to three years of enrollment.

Ph.D. Program

Students who pursue a Doctor of Philosophy degree undertake an individual research project under the general direction of a supervisor and prepare a dissertation presenting their work and findings. The dissertation must make a substantial contribution to the scientific or engineering fields and will be examined by at least five committee members. In addition, students are required to take at least 60 credits in coursework including the credits already earned for the master’s degree and they must pass one foreign language test. Degrees are conferred to those who fulfill the requirements between two to five years of enrollment.

What Do You Study?

Topics of Special Electric Machinery
Advanced Analysis for Electric Machinery
Advanced Electric Machine Design
Power System Operations

Optimal Control Theory
Foundation Oriented Materials
Advanced High Voltage Engineering
Solid State Electronics

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Breakdown Theory of Dielectrics
Opto-Electrical Engineering
Properties of Electrical Engineering Materials I
Properties of Electrical Engineering Materials II
Surface Physics for Electronics
Applied Electrostatics
Advanced Electrical Power Engineering I
Advanced Electrical Power Engineering II
Phenomenal Theory of Dielectrics
Solar Energy Generation Engineering
Power System Analysis I
Power System Analysis II
Advanced Power System Operations
Advanced Power System Control
Power System Control
Power System Planning
Theory of Light Sources
Lighting System Design and Applications
C Programming
Digital Processor
Design of Neurofuzzy System
Optimal Experimental Design
Semiconductor Manufacturing
Embedded Program
Filter Circuit Design
High Integrated Power Circuit
Advanced Power Electronic Engineering
Optimization Theory
Application of Fuzzy Logic
Advanced Servo Control of Electric Machinery
Finite Element Methods for Electrical Engineering Analysis
Power Communication Network
Special Topics in Solid-State Lighting
Color Science & Its Applications
Power System Dynamic Simulation
Application of Energy Storage Systems on Power System
Adaptive Control Theory
Digital Control Theory
Neural Network Applications
Microprocessor Applications
Sensor Interfacing
Automatic Measurement System
Automatic Devices and Apparatus
Robotics
Mechatronics
Automatic Guided Vehicle System
Electric Vehicle Technology
Automation of Industrial Process
Topics of Management for Electric Machinery
Advanced Applied Power Electronics
Design Projects of Power Electronic Converter System
Quantum Electrical Engineering
Lighting Calculations and Computer Modeling
Lighting Design
Superconductor Applications
High Voltage Power Apparatus
Power System Protection
Power IT Engineering
Quantum Chemistry
Electrochemistry
Molecular Orbital Theory
Advanced Electromagnetic Field Theory
Computer-Aided Problem Solving Techniques
Electrodynamics
Photometry and Radiometry
Power Communication Theory
Power Communication Systems
Digital Processor Applications
Illumination Optics & Its Applications
Power System Modeling
Renewable Energy Systems
Applied Numerical Method of Engineering

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  [Assistant Professor, Energy Mechatronics]

Laboratories
- Control & Instrumentation Lab
- Light source & Illuminating System Lab
- Electric Machine Design Lab
- Superconductivity Applications Lab
- Power System & Electrical Apparatus Lab
Graduate Studies in Computer Science

A focal point for graduate-level research and education, strong research groups exist in areas of software engineering, database, computer graphics, multimedia communication, theory of computation, mobile computing, Internet application technology, image information processing, information retrieval, and smart computing. Basic work in computer science is the main research goal of these groups, but there is also a strong emphasis on interdisciplinary research and on applications that stimulate basic research.

Degree Requirements

Master’s Program

The graduate program aims at instruction of the highest level of academic theory and towards enhancing the research abilities of students. Applicants should have earned an undergraduate degree in good standing in a computer science discipline. Candidates from other backgrounds may be considered if they have suitable qualifications and interests. Master’s degree candidates are required to earn a minimum 24 credit hours and submit a thesis based on a research project. These requirements should be fulfilled between two to three years of enrollment.

Ph.D. Program

Ph.D. candidates undertake an individual research project under the general direction of a supervisor and prepare a dissertation presenting their work and findings. The dissertation, which is examined by at least 5 committee members, must make a substantial contribution to the scientific or engineering fields.

In addition, students are required to earn at least 60 credits in coursework including the credits already earned for the master’s degree.

What Do You Study?
3D Multimedia
Advanced Computer Graphics
Advanced Computer Vision
Advanced Database System
Advanced Multimedia Systems
Advanced Object-oriented Systems
Client Server System
Computer and Multimedia Society
Computer and Network Security
Cryptography
Database Design
Design and Analysis of Algorithms
Distributed Application System
Distributed Database
Distributed Object System
Distributed Systems Design
Graph Theory
High-speed Networks
Human Computer Interaction
Image Analysis
Image Information Processing
Image Synthesis Theory
Information Extraction and Integration
Information Protection Systems
Information Retrieval
Integrated Networks Operations and Management
Internet Protocols
Internet Security
Introduction to Computer Vision
Introduction To Data Mining
Machine Learning
Mathematics for Computer Graphics
Mathematics for computer scientist
Medical Imaging and Applications
Methodologies for Development of Program
Mobile Interface
Mobile IP

Multimedia Data Mining
Multimedia Information Storage and Retrieval System
Network Programming
Parallel Processing
Project Management
Real-time System
Security Protocol
Sensor Networks
Software Engineering Environment
Software Process
Software Reuse
Statistical Language Processing
TCP/IP
Technical Writing
Theory of Computation
Topics in Artificial Intelligence
Topics in Computer Networks
Topics in Context Inferencing
Topics in Data Communication
Topics in Data Mining
Topics in Deep Learning
Topics in Distributed Systems
Topics in Image Processing
Topics in Intelligent Systems
Topics in Internet
Topics in Mobile Computing
Topics in Natural Language Processing
Topics in Pattern Recognition
Topics in Software Engineering
Topics in Theoretical Computer Science
Topics on Web Mining
Transaction Processing Systems
Ubiquitous Computing
Virtual Reality
Visual Information Processing
Web Engineering

Professors

• Bu-hyun Hwang, Ph.D. [Professor, Database,
Laboratories

Database Lab
Research is carried out on transaction management, data mining, mobile transaction management, and XML. In addition, research is conducted on X3D in the 3D field. The main research topics of Distributed Networks and Systems Laboratory are bigdata processing platform and algorithms, social networking systems, software defined network, content distribution networks, and grid/cloud systems.

Computer Graphics Lab
Research is conducted on soft rendering and efficient velocity of radiosity rendering.

Internet@Information Security Lab
Research is carried out on information security including secure operating systems, intrusion detection, security in ubiquitous computing, privacy protection, cyber forensics and the recent security issues such as botnet detection.

Multimedia and Image Processing Lab
Research is conducted on image processing and computer vision. Recent research has been focused on document image processing, face tracking, object tracking applications. Especially deep learning approaches with convolutional neural networks are explored.

Theory of Computation Lab
The Theory of Computation Lab is involved in the study of graph theory applied to the parallel or distributed process, network algorithm, information security, and bioinformatics.
**Mobile Computing Lab**

The Mobile Lab conducts research on a mobile agent which improves performance of the distributed Object System.

**Advanced Network Lab**

Research is carried out on ubiquitous computing, particularly the ubiquitous computing environment consisting of sensor layers, middleware layers, and application layers, which sense information, collect and analyze information, and apply information, respectively.

**Pattern Recognition Lab**

Research is carried out on artificial intelligence techniques related to image processing and pattern recognition to implement human thinking and learning mechanisms. Research is also conducted on scene text recognition and keyword spotting for digital libraries.

**Information Retrieval Lab**

Research is carried out on information retrieval and natural language processing development which utilizes human language processing and artificial intelligence technology. Major research includes all major intelligent software and natural language processing technologies such as information retrieval, information extraction, text and multimedia classification, text summarization, speech recognition, text-to-speech, natural language dialog, intelligent agents, and bio-informatics.

**Smart Computing Lab**

Research is conducted on multimedia data mining, e-learning, collaborative product development, and bio-image analysis. The main direction of research is to support intelligent computing in many applications such as multimedia information retrieval, e-health, and e-product design by employing data mining and machine learning techniques.

**Smart Mobile & Media Computing Lab**

The Smart Mobile & Media Computing Lab, performs research in the field of next generation computing, broadcasting & telecommunication convergence media, human-oriented IT conversion services.

**Software Language & System Lab**

The main research themes of Software Languages and Systems Laboratory are programming languages, compilers, and software engineering. The laboratory has studied on the design and implementation of programming languages, program analysis, and software testing for efficient development of defect free software in the areas of mobile computing and Internet-of-Things computing.
Graduate Studies in Computer Engineering

As the role of computers in our lives continues to expand dramatically, it has become even harder to imagine engineering, natural science or society in general without such devices. In the emerging future information society, computer engineering will become one of the most important fields of expertise. Computer engineering is a branch of engineering that studies various problems occurring in information acquisition, processing, storage, and transmission. Computer engineering is classified into two major areas: software and hardware. The software branch includes artificial intelligence, multimedia network programming, database and convergence. The hardware branch includes computer architecture, SoC design, embedded systems, computer networks and communication.

Degree Requirements

Master’s Program

The graduate program aims at the instruction of the highest level of academic theory and the development of capabilities to perform original research work. Applicants for the Master’s Program should have achieved a good grade in an undergraduate degree course in an engineering discipline. Candidates from other backgrounds may be considered if they have suitable qualifications and interests. Assessment of M.S. students includes a combination of at least 24 credit hours of course work and a thesis based on the research project. These requirements should be fulfilled between two and three years of enrollment.

Ph.D. Program

Students who pursue Doctor of Engineering degrees undertake an individual research project under the general direction of a supervisor and prepare a dissertation presenting their work and findings. The dissertation must make a substantial contribution to the scientific or engineering fields and it will be examined by at least five committee members. In addition, students are required to take at least 60 credits in coursework including the credits already earned for the master’s degree, and they must pass one foreign language test. Degrees are conferred to those who fulfill the requirements between two and five years of enrollment.

What Do You Study?

Three Dimensional Vision                  Object-Oriented System
Reliable Computer System Design           Advanced Network Security
Advanced Mobile Computing Systems
Machine Vision
Advanced Network Programming
Advanced Network Protocols
Studies in DBMS
Digital Systems Design
Digital Signal Processor Architecture
Digital Arithmetic Algorithm Design
Radar Engineering
Microcontroller Architecture and Low Power Design
Advanced Microprocessors
Topics in multimedia Systems
Multimedia Applications
Wireless Network Engineering
Wireless Communication Engineering
Bioinformatics
Distributed Processing
Performance Evaluation
Advanced Performance Evaluation
Smart Sensors and Application
Advanced Smart NUI
Special Topics in Neural Networks
Real Time Internet Protocol
Advanced Algorithm Design
Special Topics on Cryptography
Visual Information Processing and Recognition
Image Communication
Advanced Theory of Applied Mathematics
Application VLSI Design
Medical Image Processing
Special Topic on Mobile Internet

Professors

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• Young-Chul Kim Ph.D.
  [Professor, System on Chip Design,
Laboratories

- Communication System Lab
  Cheol-Sung Kim Ph.D.
- Computer Architecture Lab
  Seong-Mo Park Ph.D.
- Artificial Intelligence and Computer Vision Lab
  Bae-Ho Lee Ph.D.
- IT SoC Lab
  Young-Chul Kim Ph.D.
  http://soc.jnu.ac.kr
- Multimedia Data Communication Lab
  Ji-Seung Nam Ph.D.
- Intelligent Image Media/Interface Lab
  Chil-Woo Lee Ph.D.
  http://image.jnu.ac.kr
- Intelligent Computing & Bio-Medical Engineering Lab
  Yonggwan Won Ph.D.
- Network Technology Lab
  Jaehyung Park Ph.D.
- Embedded System Lab
  Cheol-Hong Kim Ph.D.
  http://eslab.jnu.ac.kr
- Smart Mobile & Media Computing Lab
  Jin-Sul Kim, Ph.D.
- Coding & Communication Theory Lab
  Hosung Park, Ph.D.
  http://cctl.jnu.ac.kr
### Graduate Studies in Electronics Engineering

Electronic engineering is making rapid progress in a variety of research areas ranging from electronic materials and electron devices to the design of ultra-large-scale computers, information processing systems, and software. Education in the Department of Electronic Engineering is aimed at the development of versatile research scientists and engineers with a wide field of vision based on mathematics and physics.

### Degree Requirements

#### Master’s Program

The graduate program aims at instruction of the highest level of academic theory and the development of capabilities to perform original research work. Applicants for the Master’s Program should have achieved a good standard in an undergraduate degree course in an engineering discipline. Candidates from other backgrounds may be considered if they have suitable qualifications and interests. Assessment of Electronics Engineering students includes a combination of at least 24 credit hours of course work, and a thesis based on the research project. These requirements should be fulfilled between two and three years of enrollment.

#### Ph.D. Program

Students who pursue Doctor of Engineering degrees undertake an individual research project under the general direction of a supervisor and prepare a dissertation presenting their work and findings. The dissertation must make a substantial contribution to the scientific or engineering fields and will be examined by at least five committee members. In addition, the students are required to take at least 60 credits in coursework including the credits already earned for the master’s degree. Degrees are conferred to those who fulfill the requirements between two and five years of enrollment.

### What Do You Study?

- Advanced mobile communication Engineering
- Adaptive Signal Processing
- Advanced Antenna Design
- Advanced Control Engineering
- Advanced Digital Communication
- Advanced Digital Signal Processing
- Advanced Digital System
- Advanced Digital video compression
- Advanced Electronic Circuits
- Advanced integrated circuit fabrication methodology
- Advanced Machine Learning
Advanced MODEM Theory
Advanced semiconductor design methodology
Advanced Signal and System Mathematics
Advanced Signal Detection Theory
Advanced Speech Signal Processing
Analysis and Design of RFID
Antenna Engineering
Artificial Neural Network
Audio Signal Processing
Automatic Control
Bio-Medical Image Processing and Analysis
Bio-Medical image system
Broadband Convergence Network
Coding Theory
Compound Semiconductor Devices
Computer Architecture Design
Control Application Engineering
Digital Broadcasting Engineering
Digital Control Applications
Digital Filter Theory
Digital Image compression
Digital Image Processing
Digital Processing of Speech Signal
Digital Signal Processing
Digital Video Broadcasting Engineering
Electromagnetic Wave Analysis
Estimation Theory
ICT Convergence Technology based Start-ups
Image Communication Systems
Image Compression System Design
Information Theory
Integrated-Circuit System
Intelligent Control Engineering
Introduction to Communication System Engineering
Introduction to Pattern Recognition
Linear System Theory
Local-area Wireless Communications
Mechatronics control
Microwave Circuit Design
Microwave Engineering
Multi-antenna Communication Systems
Multi-Dimensional Signal Processing
Multimedia Signal Processing
Multimodal Signal Processing
Nanoelectronics
Nano-scaled semiconductor applied sensor engineering
Network Protocols
Next Generation Communication Engineering
Next Generation Information and Communication Engineering
Next Generation Intelligent Communication Engineering
Next Generation Intelligent Mobile Communication Engineering
Next Generation Intelligent Information and Communication Engineering
Next Generation Intelligent Wireless Communication Engineering
Next Generation Memory Semiconductor Design
Next Generation Mobile Communication Engineering
Next Generation Wireless Communication Engineering
Optical Communication SoC Design
Optical Communication System
Optical Internet
Optical Wireless Communications
Opto-Electronics
Parallel Processing System
Power Electronics
Power Semiconductor Engineering
Probability and signal processing
Programming for Electrical Engineering
Random Variables
RF Circuit Design
Robotics
Satellite Communication System
Semiconductor Device Physics and Technology
Semiconductor Device Process Engineering
Sensor-based control
Service Robots
Signal and System Mathematics
Spectral Estimation Theory
Statistical Signal Processing and Modeling
Wave Propagation Theory
Professors

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- Taek-Soo Ji, Ph.D.
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- Myoungjin Lee, Ph.D.
  [Assistant Professor, Semiconductor device & Circuit design, mjlee@jnu.ac.kr]

Laboratories

- Microwave Lab
  Yeongseog Lim Ph.D.
- Intelligent Control & DSP Lab
  Seung-You Na, Ph.D. & Jin-Young Kim, Ph.D. & Sung-June Baek, Ph.D.
- New Media Signal Processing Lab
  Dong-Kook Kim, Ph.D.
- Optical Communication Lab
  Su-il Choi, Ph.D.
- Digital Communication Lab
  Dae-Jin Kim, Ph.D.
- Visual Information Processing System Lab
  Sung-Hoon Hong, Ph.D.
- VLSI & Computer System Lab
  Young-min Kim, Ph.D.
- Broadband Wireless Communication Lab
  Tae-Jin Jung, Ph.D.
- Information and Telecommunication Research Lab
  In-Tae Hwang, Ph.D.
  http://itrl.jnu.ac.kr
- Semiconductor Device Research Lab
  Taek-Soo Ji, Ph.D.
http://sdrg.jnu.ac.kr
- Integrated Nano Device & Circuit Lab

Myoungjin Lee, Ph.D.
Graduate Studies in Energy & Resources Engineering

These days, natural resources are essential for developing domestic economies. Each country is trying to secure natural resource stability. Currently, our government is making efforts to develop the technology of resource extraction and to encourage resource engineers, as many other developed countries have, because the matter of resources is based not only on geopolitical situations. In order to meet the demands of these times, the Department of Energy & Resource Engineering deals with Applied Geology & Applied Geochemistry, Resources Geology Engineering, Geophysical Prospecting, Resource Development Engineering, Petroleum Engineering, Mineral Processing, Resources Development Safety & Environment, Drilling Engineering, and Resource Economics.

Degree Requirements

Master’s Program

The graduate program aims at instruction of the highest level of academic theory and towards enhancing the research abilities of students. Applicants should have earned an undergraduate degree in good standing in an engineering discipline. Candidates from other backgrounds may be considered if they have suitable qualifications and interests. Master’s degree candidates are required to earn a minimum 24 credit hours and submit a thesis based on a research project.

Ph.D. Program

Ph.D. candidates undertake an individual research project under the general direction of a supervisor and prepare a dissertation presenting their work and findings. The dissertation, which is examined by at least 5 committee members, must make a substantial contribution to the scientific or engineering fields. In addition, students are required to earn a minimum of 36 credits. Students should pass a foreign language test and a qualifying examination to present their thesis.

What Do You Study?

Metallic Mineral Processing
Advanced Physical Separation
Advanced Flotation Treatment
Power Technology
Non-Metallic Mineral Processing
Separation Process Design
Advanced Material Processing Technology
Materials Analysis Technology
Advanced Rock Mechanics
Theory of Rock Failure
Advanced Energy Materials
Special Issues on Resource Engineering
Advanced Resources Recycling
Recycling of Waste Materials
Advanced Geochemistry Exploration
Advanced Geochemistry
Theory and Measurement of Earth Press
Advanced Engineering Geology
Advanced Geology
Advanced Ground water Engineering
Elastic Wave Theory
Potential Theory
Advanced Marine Mineral Resources
Advanced Chemical Treatment
Development of Environmental Resources
Planning and Design in Environmental Engineering
Advanced Environmental Geochemistry
Advanced Rock Blasting
Advanced Seismic Prospecting
Interfacial Phenomena
Advanced Thin Film Technology
Materials Synthesis Technology
Advanced Gravity and Magnetic Prospecting
Electronic Property of Materials
Advanced Environment Management
Treatment of Contaminated Soil
Rock Structure Design
Rock Slope Engineering
Advanced Electrical and Electromagnetic Prospecting
Wavelet Theory
GPR Prospecting
Applied Remote Sensing

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Laboratories

- Applied Geology & Geochemistry Lab
- Rock Mechanics & Blasting Engineering Lab
- Geophysical Prospecting Lab
- Mineral Processing & Recycling Lab
- Mineral Processing & Extractive metallurgy Lab

- Microbial Geochemistry Lab
- Advanced Material processing & Mineral Economics Lab
- Petroleum & Natural Gas Engineering Lab
Graduate Studies in Department of Environment and Energy Engineering

Environmental researchers deal with interactions between human beings and their environment, to protect each from the harmful effects of the other. The broad scope of this course provides graduate students with unique opportunities to specialize in areas best suited to their background and research interests. The objectives of the graduate program in Environmental Engineering are to mold students into highly competent environmental engineers and scientists, and to research pollution abatement technologies. The Environmental and Energy Engineering Program covers the areas of water supply and water resources, wastewater treatment, environmental systems modeling, air pollution control engineering, air quality management, solid and hazardous waste management, environmental biotechnology and microbiology, fuel cell & battery, and novel renewable energy systems such as microbial fuel cells (MFC).

Degree Requirements

The Department offers graduate programs leading to the Master of Science and Doctor of Philosophy degrees in Environmental and Energy Engineering. The Master’s Program emphasizes the enhancement of professional knowledge and skills, including research techniques. The doctorate is a research degree emphasizing more extensive and original approaches to problem solving. Students may work directly toward the doctorate, but must earn a master’s degree first.

Master’s Program

The graduate program aims at instruction of the highest level of academic theory, towards enhancing the research abilities of students. Applicants should have earned an undergraduate degree in good standing in an Environmental and Energy engineering discipline. Candidates from other backgrounds may be considered if they have suitable qualifications and interests. Students must pass a foreign language and a qualifying examination. Master’s degree candidates are required to earn a minimum of 24 credits and submit a thesis based on a research project. These requirements should be fulfilled between two to three years of enrollment.

Ph.D. Program

Ph.D. candidates undertake an individual research project under the general direction of a supervisor and prepare a dissertation presenting their work and findings. The dissertation, which is examined by at least 5 committee members, must make a substantial contribution to the scientific or engineering fields.

In addition, students are required to earn a minimum of 36 credits. Students should pass a foreign language test and a qualifying examination to present their thesis. Degrees are conferred to those who
fulfill the requirements between two to five years of enrollment.

**What Do You Study?**

- Advanced Environment and Safety Engineering
- Advanced Air Pollution Control
- Advanced Chemical Substance Safety
- Advanced Construction Noise & Vibration Engineering
- Advanced Control of Underground Water Pollution
- Advanced Coping Engineering with Air Pollution & Climate Change
- Advanced Eco-Toxicology
- Advanced Environmental Aerosol Engineering
- Advanced Environmental Biological Engineering
- Advanced Environmental Chemistry
- Advanced Environmental Ecology
- Advanced Environmental Impact Assessment
- Advanced Environmental Microbiology
- Advanced Environmental Toxicology
- Advanced Hazardous Gases Treatment
- Advanced Micrometeorology
- Advanced non-point pollutant treatment
- Advanced Organic Waste Recycling Engineering
- Advanced Soil Chemistry
- Advanced Wastewater Treatment Engineering
- Advanced Water Environmental Microbiology
- Advanced Water Quality Management
- Advanced Water supply and Sewerage Planning
- Advanced Water Treatment Engineering
- Air quality management seminar
- Atmospheric Chemistry of Air Pollution
- Bioenergy Seminar
- Biological Engineering Seminar
- Bioremediation Engineering
- Clean Energy Technology
- Design and Operation of Bioreactor
- Eco-Energy Storage Systems
- Environmental GIS
- Environmental Microbiology Seminar
- Environmental Polymer Design
- Environmental Risk Assessment
- Experiment for Eco-Toxicity Assessment
- Fuel Cells
- Industrial Waste-water Treatment Engineering
- Introduction to Korea REACH and ACC
- Microbial Electrochemical Systems
- Patent Mapping
- Remediation Engineering of Polluted Soil
- Research Guidance 1
- Research Guidance 2
- Research Guidance 3
- Secondary Battery
- Seminal for Air Pollution and Climate Change
- Seminar for Air Pollutant Protection Design
- Seminar for water environment technologies
- Seminars in Chemical Risk
- Soil Remediation Seminar
- Trends in Bioenergy Technology
- Trends in Modern Renewable Energy Technology
- Waste Management Seminar

**Professors**

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- Yong-Woon Lee, Ph.D.  
- Yong-Woon Lee, Ph.D.  
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· Seong-Jun Kim, Ph.D.
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· Jeong-Hun Park, Ph.D.
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· Ho-Young Jung, Ph.D.
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Laboratories

- Environmental Microbiology Lab
- Water Quality Management System Lab
- Air Pollution Control and New Energy Lab
- Environmental Biotechnology Lab
- Hazardous Waste and Soil Lab
- Air Quality Management Lab
- Environmental Energy Materials Lab
- Environmental Fusion Energy Technology Lab
Industrial Engineering

Graduate Studies in Industrial Engineering

Industrial Engineering deals with various issues such as software design, system management, statistical application and artificial intelligence. Studies undertaken at the graduate level are firmly based on undergraduate curricula. Qualified students perform advanced cutting-edge research. Under the supervision of faculty members, students are offered the opportunity to apply their knowledge and to lead many research projects supported by academic institutes and the private sector.

Degree Requirements

Master’s Program

The Master’s Program generally takes two years to complete and requires students to earn 24 credits and submit a master’s thesis. In the Department of Industrial Engineering, there are nine Laboratories for master’s students to take part in: Systems Optimization & Integration Lab, Production Management Lab, Reliability & Communication Management Lab, Intelligence & Information System Lab, HCI & Design Lab, Stochastic Systems & Creative Problem Solving Lab, Knowledge Service Engineering Lab, Management of Technology Lab and Data Mining Lab.

Ph.D. Program

Ph.D. candidates are required to earn 60 credits including credits already earned during master’s courses and present a dissertation that offers academically significant contributions and new findings. It will be carefully examined by five committee members. Ph.D. candidates must demonstrate their excellence in research and understanding of leadership in various fields of society.

What Do You Study?

Major Courses

- Advanced Programming Language
- Advanced Linear Programming
- Advanced Supply Chain
- Graphics and Visualization Design
- Advanced Technology Management
- Technological Innovation Policy
- Multivariate Statistical Methods

Queueing Theory
- Advanced Data Mining
- Advanced Design Engineering
- Advanced Topics on Digital Design Applications
- Metaheuristics
- Advanced Logistics Management
- Complex Systems Engineering
- Case Study of Industrial Engineering
Computer Application to I.E
Special Topics in Industrial Engineering
Production Innovation Methodology
Advanced Topics in Service Engineering
Case Study of Systems Engineering
Advanced Topics in Systems Safety Engineering
Neural network algorithms and Applications
Reliability Engineering and Maintenance Theory
Advanced Design and Analysis of Experiments
Application of Image Processing
Applied Probability
Advanced Decision Analysis
Human Decision Making and Support
Cognitive Systems Engineering
Advanced Inventory Management
Information Design and Visualization
Advanced product development engineering
Advanced Topics on Product and Technology Innovation
Advanced Knowledge Engineering
Optimization Theory
Advanced Computer Vision
Advanced Quality Management
Advanced Project Management
Collaboration and Interaction Design
Advanced Probability and Statistics
Advanced Human Interface Engineering
HCI Research Methodology
TOC Thinking Process
TOC Constraint Management
UX and Service Design

Professors

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- Lee, Joon-Woong, Ph.D.  
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- Kim, Nam Ki, Ph.D.  
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- Ham, Dong-Han, Ph.D.  
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- Joo, Si-Hyung, Ph.D.  
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- Jeong, Young-Seon, Ph.D.  
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Laboratories

- Production Management Lab
- Reliability & Communication management Lab
- Intelligence & Information System Lab
- HCI & Design Lab
- Stochastic Systems & Creative Problem Solving Lab
- Knowledge Service Engineering Lab
- Management of Technology Lab
- Data Mining Lab
Graduate Studies in Materials Science and Engineering

Materials Science and Engineering (MSE) is an interdisciplinary field which deals with the discovery and design of new or high-performance materials constituting modern civilization and industrial developments. The field involves studying materials through the materials paradigm — synthesis, structure, properties and performance. It incorporates elements of physics and chemistry and is at the forefront of nanoscience and nanotechnology research. Mechanical, electrical, optoelectronic, and electrochemical properties of metals and ceramic materials are utilized for the transport machinery, semiconductor devices, energy and environmental devices such as batteries, fuel cells, and solar cells, and also medical applications. Eminent large-scale national projects such as WCU, BRL, Get-Future, and BK21+ and numerous individual government and industrial projects indicate the high-level research activities in Graduate Studies in MSE at Jeonnam National University. The graduate students are trained for the R&D career paths in industrial laboratories, research institutes and also for faculty positions at the colleges and universities.

Degree Requirements

Master’s Program
Applicants should have an undergraduate degree in an engineering discipline. Candidates from other backgrounds should take the required undergraduate courses during the graduate course. Master’s degree candidates are required to earn 24 credits minimum, to pass the foreign-language and qualifying examination, and to prepare a thesis evaluated by a 3 member committee.

Ph.D. Program
Ph.D. candidates should have a master’s degree in an engineering or natural science discipline. Students are required to earn at least 36 credits and pass the foreign-language and qualifying examination for the thesis submission. The dissertation, which is examined by at least 5 committee members, must make a substantial contribution to the Materials Science and Engineering.

Combined Degree Programs
Combined degree programs allow qualified candidates to earn a bachelor's/master's degree in as little as five years or to focus directly on the Ph.D. dissertation without submission of Master’s thesis.

What Do You Study?
Advanced Ferrous Alloys
Advanced Ceramics Processing
Advanced Course of Inorganic Materials for Special Use
Advanced Course of Instrumental Analysis
Advanced Course of Instrumental Analysis (Inorganic Substance)
Advanced Crystal Physics
Advanced Crystallography
Advanced Electrometallurgy
Advanced Energy Materials Engineering
Advanced Ferrous Metallurgy
Advanced Fired Materials
Advanced Foundry Metallurgy
Advanced High Temperature Materials
Advanced materials Characterization
Advanced Mechanical Behavior of Materials
Advanced Metallurgy
Advanced Metallurgical Thermodynamics
Advanced Microporous Materials
Advanced Non Ferrous Alloys
Advanced Noncrystalline Materials
Advanced Powder Metallurgy
Advanced Sintering Theory
Advanced Solid State Physics
Advanced Solid State Thermodynamics
Advanced Solidification Theory
Advanced Surface Treatment of Metals
Advanced Theory of Plastic Deformation
Advanced Welding Metallurgy
Alloy Design
Amorphous Materials
Battery Materials
Battery Materials Science
Ceramic Composite Materials
Ceramic Fuel Cell Materials
Computational Materials Science
Corrosion and Protection of Metals
Crystal Structure Analysis
Defects in Solids
Dental Materials
Dislocation Theory
Electrochemical Energy Conversion and Storage
Electrochemistry
Electromagnetic Properties of Materials
Electronic Materials
Fracture Mechanics
Hydrogen Storage Materials
Instrumental Analysis of Solid Surface
Kinetic Processes in Solids
Light Metals and Materials
Mechanical Properties of Thin Films
Metal Matrix Composite
Metallic Biomaterials
Metals and Alloys for Medical Use
Micro & Special Bonding
Nanointerface Engineering
Nanoionics
Nano-processing for Energy Materials
Nonstoichiometry of Materials
Optical Properties of Materials
Plasma Processing of Materials
Power Technology
Precision Casting
Process Engineering of Composites
Reaction Kinetics
Semiconductor Materials and Processing
Semiconductor Physics
Sensor Materials and Devices
Single Crystal Growth
Solid State Electrochemistry
Solid State Ionics
Solid State Lighting Device
Special Lecture of Nanomaterials Engineering
Strengthening and Fracture of Metals
Structure of Inorganic Materials
Surface Phenomena of Materials
Surface Treatment of Biomaterials
The Role of Solid State Electrochemistry in Green Energy Technology
Theory and Practice of Electron Microscopy
Theory of Magnetic Materials
Theory of Metals and Alloys
Theory of Phase Transformation in Metal Alloys
Thermal Properties of Materials
Thermoelectric Materials

Professors

- Choong-Nyeon Park, cnpark@jnu.ac.kr [Hydrogen Storage Materials, Ni-MH Secondary Batteries]
- Byung-Teak Lee, btlee@jnu.ac.kr [Thin Film Growth & Fabrication of Optoelectronic Devices]
- Ho-Sung Kim, symmetry@jnu.ac.kr [Crystal Structure Analysis & Crystal Growth]
- Kwangmin Lee, kmlee@jnu.ac.kr [Nano- & Bio-materials]
- Youngman Kim, kimy@jnu.ac.kr [Mechanical & Thermal Characterizations of Thin Films]
- Jong-Ha Moon, jhmoon@jnu.ac.kr [Photonic Electronic Thin Films]
- Sung-Kil Hong, skhong@jnu.ac.kr [Light Metals, Mold & Automotive Parts Materials]
- Jin-Hyeok Kim, jinhyeok@jnu.ac.kr [Photonic Electronic Thin Film Growth & Characterization]
- Jaekook Kim, jaekook@jnu.ac.kr [Design, Synthesis, Characterization of Nano Energy Materials]
- June Key Lee, junekey@jnu.ac.kr [Semiconductor Process Design]
- Jong-Sook Lee, jongsook@jnu.ac.kr [Electroceramics]
- Sun-Ju Song, song@jnu.ac.kr [Ionics, Energy Materials]
- Chan-Jin Park, parcej@jnu.ac.kr [Corrosion & Energy Materials, Materials Electrochemistry]
- John Gerard Fisher, johnfisher@jnu.ac.kr [Green Energy Materials]
- Won Bin Im, imwonbin@jnu.ac.kr [High Functional Inorganic Materials for Energy]
- Jaeyeong Heo, jheo@jnu.ac.kr [Nanodevices & Materials for Energy]
- Hoonsung Cho, cho.hoonsung@jnu.ac.kr [Biomaterials]
- Uk Sim, usim@jnu.ac.kr [Synthesis and characterization of multi-functional low-dimensional nanostructured materials]

Laboratories

- Advanced Biomaterials Lab
- Materials Electrochemistry Lab
- Electroceramics Lab
- Electrochemistry Lab
- Functional Inorganic Materials for Energy Lab
- Green Energy Materials Lab
- Ionics Lab
- Light Metal Materials Lab
- Mechanical Metallurgy Lab
- Nano Energy Lab
- Nanodevices and Materials for Energy Lab
- Nanomaterials Processing Lab
- Photonic and Electronic Thin Film Lab I
- Photonic and Electronic Thin Film Lab II
- Photonic and Electronic Thin Film Lab III
- Semiconductor Process Design Lab
- Single Crystal Growth Lab
- Nanomaterials for Energy and Environment Laboratory (NEEL)
Graduate Studies in Mechanical Engineering

Mechanical Engineering covers comprehensive technological fields encompassing the entire spectrum of design, manufacture, and control of mechanical systems. Mechanical Engineering is rapidly expanding its frontiers into more modern and high-tech areas including robotics, hydrogen energy, fuel cells, nano-technology, smart materials, and automotive engineering.

Degree Requirements

Master’s Program

The graduate program aims at instruction of the highest level of academic theory and towards enhancing the research abilities of students. Applicants should have earned an undergraduate degree in good standing in an environmental engineering discipline. Candidates from other backgrounds may be considered if they have suitable qualifications and interests. Master’s degree candidates are required to earn a minimum 24 credit hours and submit a thesis based on a research project. These requirements should be fulfilled between two to three years of enrollment.

Ph.D. Program

Ph.D. candidates undertake an individual research project under the general direction of a supervisor and prepare a dissertation presenting their work and findings. The dissertation, which is examined by at least 5 committee members, must make a substantial contribution to the scientific or engineering fields.

In addition, students are required to earn at least 60 credits in coursework including the credits already earned for the master’s degree as well as pass one foreign language exam. Degrees are conferred to those who fulfill the requirements between two to five years of enrollment.

What Do You Study?

- Adv. Control Engineering
- Adv. Mechanical Vibration
- Adv. System Engineering
- Advanced Automotive and Environment
- Advanced Combustion Engineering
- Advanced Course of Applied Mathematics
- Advanced Course of Composite Materials
- Advanced Design Engineering
- Advanced Dynamics
- Advanced Electrochemical Power Systems
- Advanced Energy Conversion
- Advanced Energy Transfer
Advanced Experimental Plan and Measurement of Energy System
Advanced Fluid Mechanics
Advanced Internal Combustion Engine
Advanced Kinetics
Advanced Material Strength
Advanced Mechatronics
Advanced MEMS
Advanced mold design
Advanced Nonlinear Control
Advanced Numerical Analysis
Advanced Robotics
Advanced Signal Processing
Advanced Solid Mechanics
Advanced Techs in Internal Combustion Engines
Advanced Thermodynamics
Analytical Fluid Dynamics
Application of finite element method
Application of Hydrogen Energy
Automation in Manufacturing
Autonomous Mobile Robot
Bio Fluid Mechanics
Biomaterials
Biomechanics
Biomimetics
Compressible Fluid Dynamics
Computational Fluid Dynamics
Conduction Heat Transfer
Convective Heat Transfer
Design and fabrication of microsystems
Discrete System Control
Finite Element Method
Fracture Mechanics
Fuel Cell Power System
Introduction to Mechatronics and Measurement Systems
Introduction to Nanotech Process
Mechanics for Inelastic Materials
Micro Thermal and Fluid System
Microscale Heat Transfer and Thermophysical Properties
Nano process and measurement
Optimal Control
Optimal Design of Thermal System
Production Technology
Radiation Heat Transfer
Renewable Energy
Research Guidance 1
Research Guidance 2
Research Guidance 3
Rotor Dynamics
Science and Technical Writing
Service Robotics
Spray and Atomization
Structural Dynamics
Turbulence
Two-Phase Flow
Ultra Light Metal Structures
Viscous Fluid Dynamics
Welding Engineering

Professors

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·You-Gon Kim, Ph.D.
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■ Laboratories

- Hydrogen and Fuel Cell Lab
- Material Strength Lab
- Nano-Composite Materials Lab
- Engine Performance Lab
- Theoretical Fluid Mechanics Lab
- Thermal Engineering Process Lab
- Optical Flow Measurements Lab
- Mechatronics Lab
- HVAC Lab
- Micro/Nano Robotics Lab
- Advanced Combustion Control Lab
- Mechatroptical Engineering Lab
- Active Structures and Dynamics Laboratory
- MNTL (Micro/Nano Technology Laboratory)
- X-Lab
- Multiscale Molding & Manufacturing (M3) Lab
- Medical Robotics & Intelligent Control Lab
- Composites & Mechanics Lab
- Power & Energy Conversion Lab
- Advanced Fluidics & Nanotechnology Lab
- Electrochemical Power Lab
- Autonomous Navigation and Smart Robot Lab
- Robot Research Initiative Lab I
- Robot Research Initiative Lab II
Graduate Studies in the Department of Polymer Engineering

Polymer engineering is an academic field dealing with the synthesis, properties, processing, and application of polymers. Polymers are giant molecules that have significance not only in terms of products such as plastics, rubber, fiber, adhesives, and coatings, but also less obviously though none the less importantly, in many leading industries (new materials, biochemistry, biomedical, environments, aerospace, electronics, automotive, etc.). The Department is dedicated to producing high-quality graduates who are able to make significant engineering contributions toward enhancing the quality of life of human beings. The objectives of our academic functions are the practical application of scientific and engineering principles to generate new material and processing concepts, and the enhancement of technical problem-solving capabilities related to the production and use of polymers.

Degree Requirements

Master’s Program

The graduate program aims at instruction of the highest level of academic theory and towards enhancing the research abilities of students. Applicants should have earned an undergraduate degree in good standing in a polymer engineering discipline. Candidates from other backgrounds may be considered if they have suitable qualifications and interests. Master’s degree candidates are required to earn a minimum 24 credit hours and submit a thesis based on a research project. These requirements should be fulfilled between two to three years of enrollment.

Ph.D. Program

Ph.D. candidates undertake an individual research project under the general direction of a supervisor and prepare a dissertation presenting their work and findings. The dissertation, which is examined by at least 5 committee members, must make a substantial contribution to the scientific or engineering fields. In addition, students are required to earn at least 60 credits in coursework including the credits already earned for the master’s degree as well as pass one foreign language exam. Degrees are conferred to those who fulfill the requirements between two to five years of enrollment.

What Do You Study?
Sensitive Polymer
Advanced Surface Chemistry
High performance functional fibers
Advanced Polymer Processing (I)
Advanced Polymer Processing (II)
Advanced Polymer Engineering (I)
Advanced Polymer Engineering (II)
Structure and Properties of Macromolecules
Advanced Instrumental Analysis of Polymer (I)
Advanced Instrumental Analysis of Polymer (II)
Advanced Polymer Rheology
Advanced Physical Chemistry of Polymer
Advanced Polymer Reactions
Organic Composite Materials
Membrane Separation
Advanced Polymer Testing Method
Advanced Polymer Solution
Polymers in Electronics
Advanced Polymer Chemistry (I)
Advanced Polymer Chemistry (II)
Advanced Functional Polymers (I)
Advanced Functional Polymers (II)
Functional Dyestuffs
Functional Carbon Materials
Nanostructured Organic Materials for Electronics and Photonics
Special topics of Nanostructured techniques for Nanofabrication
Multicomponent Polymer Materials
Organic Electronic Materials and Devices for Displays

Professors

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Laboratories
- Physics Polymer Science Lab
- Polymer Processing Lab
- Polymer Physical Chemistry Lab
- Polymeric Materials and Polymeric Membranes Lab
- Fiber Chemistry Laboratory
- Carbon Materials Laboratory
- Laboratory of Automation in Textile and Apparel Manufacture
- Nano Carbon Materials Laboratory
- Functional Polymer Laboratory
- Functional Nano Materials Laboratory
- Theory and Simulations for Soft Materials Laboratory
Graduate Studies in Bioenergy and Biomaterials

The interdisciplinary Graduate program of Bioenergy & Biomaterials is an academic discipline that researches and educates profound knowledge of bioenergy and biomaterial. Bioenergy and biomaterials have become a very active and vital area of research which is rapidly developing in industrial sectors and spreading to almost every field of science and engineering. Bioenergy, a renewable energy, is derived from biomass including wood, straw, sugar cane, plant parts, garden waste, animal waste and other agricultural materials. Bioenergy is a research field to produce biofuel derived from biological sources in its most sense. Biomaterials research encompasses area such as design of biomolecules, biopolymer and biosensor resulting in exciting developments in biomaterials-based technologies over the last decade. Graduate students in our program will learn the theory and applications of biology, chemistry and engineering as it pertains to bioenergy and biomaterial science and engineering. The diverse faculty members from several colleges and departments are participated in the interdisciplinary masters program of bioenergy and biomaterials. It should give a chance to students exposing to a wide range of projects and viewpoints on the cutting edge of the field. The program will accept both part-time and full-time students. Full-time graduate students typically receive financial support. Regardless of strong background, we have a place for students to grow in our program. Our alumni fulfil leadership roles in industry, research center and academia across a wide variety of sectors including bioenergy, biomaterial, biotechnology and bioengineering.

Degree Requirements

The master of interdisciplinary program of bioenergy and biomaterials requires 24 credits of coursework. A student studying for Ph.D. degree must earn an additional 36 credits. All of students in the programs must pass a foreign language exam, a qualifying exam, and a thesis submission for graduation.

What Do You Study?

- Research for the Master’s or Doctoral Degree
- Climatical Change Agreement
- Special Topics in Process Design
- Scientific Writing
- Advanced Biomass Conversion
- Bioproducts
- Biosystem Engineering
- Advanced Bioenergy Plant Design
- Advanced Bioenergy Engineering
- Advanced Bioenergy Microbial Biotechnology
- Advanced Bioenergy Fermentation

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Technology
Bioenergy Production Processes & Practices I (Biodiesel)
Bioenergy Production Processes & Practices II (Bioethanol/Biogas)
Bioenergy Production Processes & Practices III (Biodiesel)
Bioenergy Production Processes & Practices IV (Bioethanol/Biogas)
Bioenergy Seminar 1
Bioenergy Seminar 2
Bioenergy Seminar 3
Bioenergy Seminar 4
Advanced Bioenergy Materials
Bioenergy Quality Analysis & Practices I
Bioenergy Quality Analysis & Practices II
Bioenergy Quality Analysis & Practices III
Bioenergy Quality Analysis & Practices IV
Advanced New & Renewable Energy
Advanced Energy Engineering
Advanced Energy Materials Analysis
Advanced Energy Materials Synthesis
Energy Policy
Advanced Energy Catalytic Chemistry
Advanced Environmental Biological Engineering
Environmental Energy Engineering
Advanced Technologies in Combustion Control
Advanced Microbial Biotechnology
Advanced Plant Metabolism
Advanced Plant Tissue Culture I
Advanced Plant Tissue Culture II
Special Topics in Protein Separation & Purification
Advanced Fermentation Technology
Cell Culture Engineering
Advanced Bioprocess Engineering
Advanced Bioprocess Control
Advanced Bioreactor Design
Advanced Bioseparation & Purification
Bioinformatics
Advanced Plant Molecular Biology
Advanced Plant Physiology
Plant Tissue Culture
Special Topics in Metabolic Engineering
Biochemistry & Molecular Biology
Special Topics in Biochemistry
Biomedical Engineering
Advanced Carbohydrate Materials
Special Topics in Enzyme Process Engineering
Advanced Inorganic Material Chemistry
Advanced Catalyst Design Chemistry
Advanced Catalytic Chemistry
Advanced Crop Physiological
Crop Seed Physiology
Seminar in Seed Production
Advanced Energy Materials
Materials Analysis Technology
Advanced Synthesis Technology
Advanced Process Control
Acid Base Catalysts
Energy Environmental Engineering
Advanced Combustion Engineering
Advanced Solid Waste Treatment Engineering
Design & Operation of Bioreactor
Advanced Aquatic Chemistry

Professors

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**Laboratories**

- Catalytic Chemical Lab.
- Environmental Biotechnology Lab.
- Biomolecules Engineering Lab.
- Metabolic Engineering Lab.

- Wood Chemistry Lab.
- Protein Engineering Lab
Graduate Studies in Photonics Engineering

The Interdisciplinary Program of Photonics Engineering offers opportunities to perform basic and applied research at the frontier of optical communications and networking, optoelectronic semiconductor devices, and harnessing solar energy. Faculty members from Department of Materials Science and Engineering, Applied Chemical Engineering, Chemistry, and Physics constitute the interdisciplinary program.

Degree Requirements

Master's Program

Master's degree candidates are required to earn 24 credits minimum, to pass the foreign-language and qualifying examination, and to prepare a thesis evaluated by a 3 member committee.

Ph.D. Program

Students are required to earn at least 36 credits and pass the foreign-language and qualifying examination for the thesis submission. The dissertation, which is examined by at least 5 committee members, must make a substantial contribution to Photonic Science and Engineering.

What Do You Study?

Advanced Course of Inorganic Materials For Special Use   Applied Optics (II)
Advanced Course of Instrumental Analysis   Display Engineering
Advanced Course of Polymer Chemistry   Electrochemistry
Advanced Electronic Materials   Electromagnetic Engineering
Advanced Photocatalysts   Electronic Materials
Advanced Instrumental Analysis   Experiments for Optical Materials
Advanced Photonic crystals   Fabrication Process
Advanced Polymer Physics   Functional Polymer Materials
Advanced Solid State Physics   Laser Engineering
Advanced Solid Thermodynamics   Laser Materials Processing
Amorphous Photonic Materials   Low Temperature Plasma Process
Applied Optics (I)   Mechanical Properties of Thin Films
### Professors

- Byung-Teak Lee, btlee@jnu.ac.kr [Thin Film Growth & Fabrication of Optoelectronic Devices]
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- Jin-Hyeok Kim, jinhyeok@jnu.ac.kr [Photonic Electronic Thin Film Growth & Characterization]
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- Moo-Sung Lee, moosung@jnu.ac.kr [Polymer/Hybrid Materials]
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- Nano Photonic Devices Lab
- Nano Photonics Lab
- Nanocarbon Convergence Materials Lab
- Nanodevices and Materials for Energy Lab
- Photo & Electrochemical Energy Material Lab
- Photonic and Electronic Thin Film Lab I
- Photonic and Electronic Thin Film Lab II
- Photonic and Electronic Thin Film Lab III
- Photonic Materials & Devices Lab
- Polymer Energy Materials Lab
- Polymer Hybrid Materials Lab
- Polymer Oriented Leading Study Lab
- Processing Design Lab
- Terahertz Photonics Lab
Graduate Studies in Electronic Communication Engineering

The Department of Electronic Communication Engineering provides education that will prepare students to be the backbone of this localizing/globalizing society. Students will fully understand the electronic communication development process, and utilize state-of-the-art equipment as well as computer simulations that will develop their creative skills and get them accustomed to the working environment.

Degree Requirements

Both master’s and Doctoral Programs are normally completed in 2 years. Students wishing to complete the programs in shorter durations are required to earn the necessary credits (24 for a master’s and 36 for Ph.D.) and achieve a grade point average of at least 4.3 (out of 4.5). They will also need to obtain the recommendation of their academic adviser and pass the thesis qualification exam.

What Do You Study?

- Advanced Optical Communication
- Graph Theory
- Networks and Algorithms
- Network Programming
- Digital Design
- Digital Signal Processing
- Microwave and Millimeter Wave Engineering
- Microwave Communication System
- Microwave Circuit Design
- Advanced Coding Theory
- Distributed Operating Systems
- Sensor Engineering
- Principles of Underwater Sound Communication
- Theory and Application of Antenna
- Piezoelectric Ceramic Application Technique
- Acoustic Engineering
- Advanced Wave Engineering
- Information Communication and Management
- Optimization Theory
- Computer Networks
- Computer Networking
- Advanced Circuit Theory
- Design of Digital Integrated Circuits
- Design of Data Converters
- VLSI Design Automation
- VLSI Digital Signal Processing Systems
Professors

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Laboratories

- Electronic Measurement Lab
- Communication Engineering Lab
- Digital Lab
- Electronic Circuit Lab
- Applied Electronic Lab
- Electrical and Electronic Lab
Graduate Studies in the Department of Computer Engineering

Leading the information-oriented society, computers are playing a major role in scientific calculation as well as computer communication, office automation, design automation, and artificial intelligence, all of which are crucial to future industry. In order to nurture computer-related human resources, the Department of Computer Engineering offers subjects in computer programs, digital systems, computer structure, databases, computer graphics, artificial intelligence, pattern acknowledgement, embedded systems, SOC design, data communication, and networks.

Degree Requirements

Both master's and doctoral programs are normally completed in 2 years. Students wishing to complete the programs in shorter durations are required to earn the necessary credits (24 for master's and 36 for Ph.D.) and achieve a grade point average of at least 4.3 (out of 4.5). They will also need to obtain the recommendation of their academic adviser and pass the thesis qualification exam.

What Do You Study?

**Required Course**
Research for Master's and Doctor's Degree

**Major Courses**
Object-oriented Systems
Multimedia System Design
Parallel Processing Architecture
Interconnection Network System
Advanced Computer Graphics
Advanced Image Processing
Advanced Artificial Intelligence
Soft Computing
Digital Integrated Circuits
MOS Integrated Circuit
Advanced Data Communication
Embedded System Design
Advanced Pattern Recognition
Artificial Intelligence Application
Advanced Real Time Communication Systems

Advanced Operating System
Advanced Database
Topics in Supercomputer System
Digital Signal Processing
Advanced Multimedia
Computer Vision
Advanced Pattern Recognition
Artificial Intelligence Application
VLSI System Design
VLSI Test
Advanced Multi Processor Architecture
Advanced 3D Graphics
Graphics Modeling
Fault Tolerant Computer Systems
Multimedia Computer Architecture
Advanced Computer Vision
Medical Image Processing Systems
SoC Design
Embedded Software
Advanced Soft Computing
Ubiquitous Sensor Network

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- Gwang-Jun Kim, Ph.D
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Laboratories

- High Performance Computer Lab
- Image Processing Lab
- Embedded System Lab
- Computer Application Lab
- Real-time Communication Lab
Graduate Studies in Electrical and Semiconductor Engineering

The Department of Electrical and Semiconductor Engineering is focused on research and development in specific fields, such as power systems, semiconductor and VLSI engineering, power electronics, vision and computer engineering, and automatic controls and mechatronics.

Degree Requirements

Master's candidates are required to earn 24 credits (15 credits in electrical and semiconductor engineering). A maximum of 9 credits (earned up to 5 years from the time of enrollment) may be transferred into the program from other graduate schools. Transfer credits are determined by the Department.

What Do You Study?

Required Course
Research for Master's or Doctoral Degree
Major Courses
   Advanced DSP
Motion, Tracking and Stereo Vision
VLSI Circuit Design
Emotion Engineering
Advanced Robust Control
Robot and Machine Vision
Advanced Microprocessor
Reliability Engineering of Power System
Stability Engineering of Power System
Power Electronics Systems
Advanced Power Electronics
Power Electronics Project
Analysis of Power Electronics Circuit
Advanced Engineering Electromagnetics

Advanced Electronic Display Engineering
Advanced Electronics
Advanced Information Security
Probability Stochastic Process Theory
Advanced Probability Control
Network Analysis and Synthesis
Advanced Matrix Converter
Multimedia Digital Signal Processing
Thin Film Engineering
Semiconductor Process
Advanced Semiconductor Engineering
Semiconductor Physics
Advanced Non-linear Control Theory
Industrial Safety Engineering
Advanced Solid Electronic Device Engineering
Advanced Optoelectronics Engineering
Advanced Nano Integrated Circuit Engineering
Neuro Computing
Advanced Digital Image Processing
Digital Control Engineering Regulation
Biometrics System
Advanced Linear Control Theory
Plant Diagnosis Theory
Sensor Engineering
Renewable Energy System
Dielectric Engineering
Adaptive Control Engineering
Advanced Electrical Machinery
Economic Engineering of Power System
Advanced Power System Engineering

Professors

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Laboratories

- Power Electronics Lab
- Automatic Controls Lab
- Power Systems Lab
- Semiconductor and VLSI Lab

- Non-linear Dynamics Lab
- Signal Processing and Computer Vision Lab
- VLSI Processing and Design Lab

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Graduate Studies in Mechanical Design Engineering

The Department of Mechanical Design Engineering trains students in industrial technology theory and application methods. The Department fosters creativity and critical thinking amongst its students, in terms of mechanical engineering as the center of advanced technology. Graduates serve as prominent figures in government agencies and research institutions, servicing a broad range of important industries.

Degree Requirements

Master's candidates are required to earn 24 credits and successfully complete a research project. Ph.D. candidates are required to earn an additional 36 credits and successfully complete a research project.

What Do You Study?

Research for Thesis
Random Data
Machine Tool Research
Advanced Manufacturing Processes
Theory of Elasticity
Advanced Vibration Theory
Advanced Measurements Engineering
Advanced Fluid Mechanics
Advanced Thermodynamics
Casting
Mechanics of Composite Materials
Vibration of Plate and Shell
Noise and Vibration Engineering
Advanced Automatic Control
Advanced Robotics
Boundary Layer Theory
Advanced Combustion Engineering
Finite Element Method
Micromachine
Nonlinear Vibration
Theory of Composit Plates
Turbulence
Gas Dynamics
Experimental Methods in Thermal Engineering
Computational Fluid Dynamics
Computational Turbulence Modelling
Heat Power
Aeroacoustics
Multi-phase Flow
Hydraulic and Pneumatic Control System
Applied Mathematics
Materials for Machines
Fracture Mechanics
Advanced Machine Design
Continuum Mechanics
Numerical Control
Advanced Fluid Machinery
Internal Combustion Engines
Advanced Welding Process
Mechanical Behavior of Materials
Advanced Dynamics
Numerical Stresses Analysis
Experiment for Fluid Engineering
Advanced Heat Transfer
Advanced Thermal Engineering
Numerical Analysis
Structural Vibration
Optimal Design
Application of Image
Thermal System Design

Professors

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• Ki-Seong Kim, Ph.D.
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Laboratories

- Control Engineering Lab
- Heat Engineering Lab
- Hydraulic Engineering Lab
- Applied Mechanics Lab
- Materials Lab
Graduate Studies in Automotive System Engineering

The Department of Automotive Systems Engineering is an application field which is composed of multidisciplinary electronic and material engineering disciplines, based on mechanical engineering. Students in the Department of Automotive System Engineering study basic subjects of electronics and high technology materials after the completion of studying basic subjects which are required in mechanical engineering. Students also study car engines, chassis and the basic principles of cars as automotive-related disciplines.

Degree Requirements

Master's candidates are required to earn 24 credits and successfully complete a research project. Ph.D. candidates are required to earn an additional 36 credits and successfully complete a research project.

What Do You Study?

Research for Thesis
Advanced Dynamics
Advanced Vibration Theory
Advanced Solid Mechanics
Experiment for Stress Analysis
Advanced Combustion Engine
Advanced Fluid Mechanics
Applied Numerical Method of Engineering
Advanced Automatic Control
Advanced Working Machine
Tribology

Advanced Numerical Dynamics
Advanced Vehicle Dynamics
Finite Element Analysis
Advanced Figure Mechanical Behavior
Strength Design of Automotive Component
Advanced Thermodynamics
Advanced Heat Transfer
Advanced Mechatronics
Mechanical Instrumentation Theory and Application
Advanced Manufacturing
Special Machining

Professors

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• 5Hoon Kim, Ph.D. [Professor, Mechanics Control and Measurements, khoon97@jnu.ac.kr]
• Bong-Ho Moon, Ph.D. [Professor, Tribology, mbh@jnu.ac.kr]

Laboratories
- Dynamics Lab
- Mechanics of Mechanics Lab
- Combustion Engine Lab
- Production Engineering Lab
- Control System Instrumentation Lab
Graduate Studies in Refrigeration & Air-Conditioning Engineering

The Department of Refrigeration and Air-Conditioning Engineering aims to cultivate quality human resources in the field of refrigeration and air conditioning, development of heat exchangers and energy-saving machines, cryogenics, utilization of natural energy, and food refrigeration. There have been numerous research projects led by the Department’s faculty members and involving numerous graduate students.

Scholarships are available for selected students along with opportunities to attend domestic and international conferences where students can learn about new research and developments in their respective fields and learn how to present themselves in international environments.

The Department of Refrigeration and Air-Conditioning Engineering provides graduate student exchange programs lasting from a month to a year with overseas universities including ACRC at the University of Illinois in the USA, and the Departments of Mechanical Engineering at the University of Tokyo and University of Waseda in Japan.

These exchange programs allow students a chance to improve their research skills and expand their experience with international researchers. Upon finishing a master’s or Ph.D. Program, graduates are expected to contribute significantly to research and development on a national and global scale.

Degree Requirements

Master’s candidates are required to earn 24 credits while Ph.D. candidates must earn 36 credits. Students are able to select their courses upon consulting their academic advisor.

As a general rule, graduate students are limited to earning 9 credits per semester, up to 2 semesters per year. Students who have transferred from other graduate schools may transfer up to 9 credits and 12 credits for master’s and Ph.D. programs, respectively.

Master’s and Ph.D. degree candidates submit coursework, including the Korean language proficiency examination.

The Department encourages all students to present and publish research papers at international conferences and in journals.

Master’s degree candidates have their theses assessed by three examiners while Ph.D. theses are assessed by five examiners.

Two of the five Ph.D. thesis examiners are from external organizations. Applicants are encouraged to select their supervisors by contacting faculty are required to pass one foreign language exam. Graduate students must pass examinations upon completing all members at Chonnam National University directly.
What Do You Study?

- Advanced Building Environmental Engineering 1, 2
- Advanced Air Conditioning 1, 2
- Advanced Engineering Mathematic 1, 2
- Advanced Air Conditioning Plan
- Advanced Air Conditioning Equipment and Design 1, 2
- Advanced Refrigeration Fluid Engineering 1, 2
- Advanced Refrigeration Equipment and Design 1, 2
- Research for Master’s or Doctoral Degree
- Advanced Ship Refrigeration
- Advanced Noise Engineering
- Advanced Numerical Analysis
- Advanced System Optimal Design
- Advanced Food Freezing 1, 2
- Advanced Energy Utilizing Engineering 1, 2
- Advanced Energy
- Advanced Thermal Engineering 1, 2
- Advanced Heat Exchanger and Design 1, 2
- Advanced Thermal Engineering 1, 2
- Advanced Sanitary Provision 1, 2
- Advanced Fluid Engineering 1, 2
- Advanced Two-phase Flow 1, 2
- Advanced Automatical Control
- Advanced Material Engineering 1, 2
- Advanced Low Physical Properties Engineering 1, 2
- Advanced Cold Chain 1, 2
- Advanced Numerical Fluid Mechanics 1, 2
- Advanced Control Measurements Engineering
- Advanced Vibration Engineering
- Advanced Ultra Cryogenics Engineering 1, 2

Professors

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Laboratories

Heat Engineering Lab

The Heat Engineering Lab provides experimental equipment and measuring devices for heat transfer research. The research includes flow patterns and heat transfer characteristics of boiling and condensation in tubes, heat transfer enhancement technology and effective heat exchanger design and development, heat transfer characteristics and energy consumption used in cryogenics refriger-
ration, analysis of insulation performance, special quality of heat fluids, and energy saving studies.

**Energy Engineering Lab**

The Energy Engineering Lab provides students with energy conversion machines and measuring equipment for energy engineering research. Research in this lab includes district heating and cooling equipment, cogeneration systems, energy diagnosis of building and estimation of heat loss, development of new and potential energy, development of waste heat collection technology, energy saving operations, development of high efficiency heat pump systems, estimation of heat source and propriety examination, and solar energy studies.

**Air Conditioning Lab**

The Air Conditioning Lab provides experimental equipment for air-conditioning system research.

Topics studied in the Lab include comfort air and indoor environment control, building development, energy saving appliances, air and earth environment.

**Refrigeration Engineering Lab**

The Refrigeration Engineering Lab provides students with sophisticated experimental and measurement equipment, used for drop-in testing of alternatives, pure and mixture refrigerants, development and improvement of various refrigeration cycles, cryogenics equipment, improvements protections, plumbing flow characteristic estimations, indoor heat environment assessments, heat storage air-conditioning systems, weather condition standardization for air-conditioning equipment, and windows air circulation development.

**Control and Instrumentation Engineering Lab**

The Control and Instrumentation Engineering Lab offers control and instrumentation test devices for graduate students. Research is conducted on operation enhancement of system controls for food and beverages storage, air conditioning environment control, performance improvement of equipment controls, efficient use of refrigeration equipment, solutions for industry control systems, engineering numerical analysis, and computer applications.

**Food Refrigeration Lab**

The Food Refrigeration Lab is specifically designed for students wishing to conduct research in the field of food refrigeration technology.

Research is carried out in the fields of operation development of food storage and circulation system, physical and chemical characteristics of food at low temperature storage, heat properties of material changes of food at cryogenics conditions, heat transfer, cryogenics and super conduction utilities application, thermodynamics characteristics of food of freezing processes, thermal diffusions coefficients by thermal conduction model estimations, thermal properties measurement to estimate freezing time of food, controlled atmosphere (CA) storage, and development of after-ripening control systems.
Graduate Studies in Marine and Civil Engineering

Graduate programs in Marine and Civil Engineering aim to improve research activities in the fields of structuring engineering, geotechnical engineering, hydraulics, coastal engineering, transportation engineering, surveying and GIS toward enhancing industry productivity and preserving the natural environment. Quality engineers are produced by providing training in theory along with opportunities to apply this knowledge.

Graduate Studies in Environmental Engineering

Environmental Engineering focuses on identifying and understanding environmental problems and designing appropriate solutions. Major research areas include air pollution control, water and wastewater treatment, bioremediation, hazardous waste management, and pollution prevention. Environmental engineers have the technical and scientific knowledge to identify, monitor, design, build and operate systems that protect the environment from damage and correct existing problems. Environmental engineers typically work in consulting firms, industries, state and federal agencies, universities or waste treatment companies.

Degree Requirements

Master’s Program

The graduate program aims at instruction of the highest level of academic theory and towards enhancing the research abilities of students. Applicants should have earned an undergraduate degree in good standing in an engineering discipline. Candidates from other backgrounds may be considered if they have suitable qualifications and interests. Master’s degree candidates are required to earn a minimum 24 credit hours and submit a thesis based on a research project. These requirements should be fulfilled between two to three years of enrollment.

Doctoral Program

Ph.D. candidates undertake an individual research project under the general direction of a supervisor and prepare a dissertation presenting their work and findings. The dissertation, which is examined by at least 5 committee members, must make a substantial contribution to the scientific or engineering fields.

In addition, students are required to earn at least 60 credits in coursework including the credits already earned for the master’s degree as well as pass one foreign language exam. Degrees are conferred to those who fulfill the requirements between two to five years of enrollment.
What Do You Study?

Marine and Civil Engineering
Theory of Elasticity and Plasticity
Finite Element Method
Theory of Structural Stability
Advanced Prestressed Concrete
Advanced Reinforced Concrete
Structural Dynamics
Boundary Element Method
Earthquake Engineering
Reliability Engineering
Advanced Applied Mathematics
Design and Analysis of Special Structure
Theory of Optimum Design
Advanced Soil Mechanics
Advanced Foundation Engineering
Advanced Rock Mechanics
Advanced Ocean Soil Mechanics
Soil Improvement Method
Theoretical Soil Mechanics
Advanced Geodesy
Liquefaction of Soil
Ground Translation
Site Investigation and Reinforcement Techniques
Advanced Hydrodynamics
Advanced Hydraulics
Advanced Coastal Hydraulics
Advanced Hydrology
Coastal Hydraulic Models
Advanced River Engineering
Water Resource System
Advanced Coastal Engineering
Advanced Harbor Engineering
Advanced Study on Transportation Engineering
Transportation Policies
Transportation Planning and Economy
Traffic Engineering
Advanced Study on Intelligent Transportation Systems
Artificial Neural Networks
Advanced Photogrammetry

Advanced Remote Sensing
Advanced Geographic Information System
Research for Master’s Degree or Doctoral Degree
Environmental Engineering
Advanced Water and Wastewater Treatment
Advanced Instrumental Analysis
Advanced Air Pollution Control Equipment Design
Modeling of Atmospheric Diffusion
Advanced Atmospheric Chemistry
Physical and Chemical Processes for Water and Wastewater Treatment
Special Topics in Pollutant Mixing
Advanced Industrial Gas Treatment
Advanced Industrial Wastewater Treatment
Advance Water Supply System Engineering
Biological Processes for Water and Wastewater Treatment
Noise Control Engineering
Hydrological Simulation
Advanced Water Quality Control and Management
Combustion Gas and Particle Control Engineering
Thermal System Design Engineering
Advanced Water Treatment Plants
Technique of Watershed Modeling
Fluid Flow and Heat Transfer Design Engineering
Advanced Hazardous Gas Treatment
Advanced Hazardous and Industrial Waste Treatment
Mobile Source Control Engineering
Advanced Soil Pollution Management
Advanced Integrate Waste Management Engineering
Advanced Waste Treatment Engineering
Advanced Wastewater Treatment
Advanced Sewage System Engineering
Design of Advanced Wastewater Treatment Plants
Maintenance and Operation of Wastewater Treatment Plants
Advanced Ocean Environmental Engineering
Environmental Economics
Environmental Toxicology
Advanced Environmental Hydraulics
Advance Environmental Hydrology
Numerical Analysis for Environmental Engineering
Advanced Environmental System Engineering

Professors

Marine and Civil Engineering

• Kwang-il Go, Ph.D.
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• Byeong-Cheon Paik, Ph.D.
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• Eun Sik Kim, Ph.D.
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• Min Jin Hwang, Ph.D.
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Graduate Studies in Biotechnology and Chemical System Engineering

The Department of Biotechnology and Chemical System Engineering is open to all students interested in pursuing further studies in the fundamental and applied aspects of biotechnology. The Department's aim is to educate a new generation of young scientists with fundamental knowledge and state-of-the-art research skills to harness the potential of biotechnology for the development of human society in ways harmonious with the natural environment. Both master's and Ph.D. programs are offered.

The Major of Chemical Engineering has the educational aim of studying manufacturing processes of chemicals and operations for the conversion of raw materials into final products, as well as to cultivate creativity and a challenging spirit toward new things. To reach this goal, the department presents a curriculum that centers on teaching the basics in mathematics, physics and chemistry, which stem from the basis of natural science and on helping students to experiment and practice. The spectrum of research and educational opportunities in our department also includes environmental engineering, chemical reaction engineering, particle technology, electrochemical engineering, biochemical engineering, semiconductor processing, polymer and material engineering. The major has produced engineers who have greatly contributed to the nation's industrial development as some of sophisticated experts in inorganic and organic industrial fields including petrochemicals, fertilizers, acid-alkali, rubber, synthetic fibers, biosensor, fine chemicals, ceramics and fine polymers.

Degree Requirements

Master's candidates are required to earn 24 credits and achieve a grade point average of 3.0 (based on a 4.5 scale). Ph.D. candidates are required to earn an additional 36 credits with a grade point average of 3.0 (based on a 4.5 scale). Graduate students must also pass a comprehensive examination in three subjects within a specific major as well as a foreign language examination. All students must successfully complete a thesis presentation and defense and provide all required documents to the thesis committee. The thesis must be submitted in English or Korean. The thesis advisor must be a faculty member within the Department.

What Do You Study?

Biotechnology
Advanced Botany (3)
Advanced Genetics (3)

Topics in Functional Food (3)
Topics in Bioreactor Engineering (3)
Topics in Fermentation Technology (3)
<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>Bioresource Engineering</td>
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<tr>
<td>Topics in Ecology</td>
<td>3</td>
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<tr>
<td>Advanced Biochemistry</td>
<td>3</td>
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<tr>
<td>Topics in Breeding</td>
<td>3</td>
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<tr>
<td>Advanced Protein Engineering</td>
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<td>Protein Chemistry</td>
<td>3</td>
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<td>Advanced Immunology</td>
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<tr>
<td>Topics in Microbial Engineering</td>
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<td>Advanced Microbiology</td>
<td>3</td>
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<tr>
<td>Molecular Genetics</td>
<td>3</td>
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<tr>
<td>Advanced Industrial Microbiology</td>
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<tr>
<td>Advanced Bioseparation</td>
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<tr>
<td>Advanced Cell Technology</td>
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<td>Advanced Food Engineering</td>
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<td>Ichthyology</td>
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<td>Special Topics in Genetic Engineering 2</td>
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<tr>
<td>Special Topics in Antioxidants</td>
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<tr>
<td>Advanced Zoology</td>
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<td>Advanced Molecular Biology</td>
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<td>Advanced Cell Culture</td>
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<td>Special Topics in Food Biotechnology</td>
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<tr>
<td>Bioprocess Engineering</td>
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<td>Special Topics in Food Biotechnology</td>
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<td>Advanced Bioactive Material Fermentation</td>
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<tr>
<td>Technology</td>
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<td>Special Topics in Breeding</td>
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<tr>
<td>Special Topics in Marine Ecology</td>
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<td>Special Topics in Enzyme Technology</td>
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<td>Special Topics in Controlling Products</td>
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<tr>
<td>Topics in Microbial Engineering 2</td>
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<tr>
<td>Advanced Microbial Physiology</td>
<td>3</td>
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<tr>
<td>Radiation Biology</td>
<td>3</td>
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<tr>
<td>Advanced Culture Engineering</td>
<td>3</td>
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<tr>
<td>Advanced Biomembranes</td>
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<tr>
<td>Special Topics in Genetic Engineering 1</td>
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<tr>
<td>Advanced Economic Botany</td>
<td>3</td>
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<tr>
<td>Phycology</td>
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<tr>
<td>Research for Master's or Doctoral Degree</td>
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</table>

**Chemical System Engineering**

**Required Courses**

- Research for Master's Thesis

**Electives**

- Advanced Fine Chemical Process
- Advanced Chemical Reaction Engineering
- Advanced Chemical Engineering
- Thermodynamics
- Advanced Polymer Chemistry
- Advanced Fluid Mechanics
- Advanced Physical Chemistry
- Fluid Phase Equilibria
- Design of Organic Synthesis
- Advanced Process Control
- Reaction Kinetics
- Properties of Polymer
- Chemical Engineering for Waste Treatment
- Adsorption Technology
- Advanced Instrumental Analysis
- Advanced Engineering Mathematics
- Advanced Organic Chemistry
- The Electronic Theory of Organic Chemistry
- Advanced Industrial Inorganic Chemistry
- Process Thermodynamics
- The Treatment of Hazardous Materials
- Advanced Chemical Engineering Safety
- Rubber Engineering
- Advanced Polymer Synthesis
- Catalytic Reaction Engineering
- High Pressure Chemical Processes
- Advanced Catalyst Engineering
- Interfacial Phenomena
- Advanced Transport Phenomena
- Advanced Industrial Organic Chemistry
- Advanced Separation Process
- New Material Engineering
- Advanced Reactor Analysis and Design
- Non-Newtonian Fluid Mechanics
- Process Analysis and Simulation
- Properties of Gases and Liquids
- Advanced Environmental Chemical Engineering
- Polymer Rheology
- Energy Engineering
- C-1 Chemistry
- Advanced Chemical Equipment Design
- Advanced Polymer Materials Polymer Blend
- Advanced Supercritical Fluids Engineer
- Advanced Process Design
Chemical Engineering for Waste Recycling

Topics in Physical Chemistry

Professors

Biotechnology

- Gyu-Hwa Chung, Ph.D.
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- Myeong-Rak Choe, Ph.D.
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Chemical System Engineering

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Biotechnology

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- Oh-Yun Kwon, Ph.D.
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- Hun-Soo Byun, Ph.D.
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- Soon-Do Yoon, Ph.D.
  [Assistant Professor, Process and Control of Chemical Engineering Materials, sdyun03@jnu.ac.kr]
- Heon-Ho Jeong, Ph.D.
  [Assistant Professor, Bio-fusion Chemistry, jeonghh29@jnu.ac.kr]

Laboratories

- Plant Genetics and Breeding
- Genetic Resources and Molecular Biology
- Food Biotechnology
- Biological Pharmaceutics
- Cell Culture Technology
- Organic and Environmental Chemistry Lab

- Supervisor: Sang-Won Choi
- Polymer Chemistry Lab

- Supervisor: Youn-Sop Kim
- Reaction Engineering Lab
- Supervisor: Ho-Jun Seo
- Physical Chemistry Lab
- Supervisor: Oh-Yun Kwon
- Supercritical Fluids Thermodynamics and Chemical Engineering Safety Lab
- Supervisor: Hun-Soo Byun
Graduate Studies in Architecture

The Department of Architecture aims to understand the basis of architectural development considering the background of architecture's comprehensive character, rapid innovation of technology, and recognition of various cultures and values. The department cultivates the ability to think critically and comprehensively among its students. In addition, students are encouraged to understand nature, society, and technology through studies in architecture.

Degree Requirements

Supervisors are assigned to students based on the preferences of both students and faculty members. Faculty members are limited to supervising up to 5 Master's degree candidates and 3 Ph.D. candidates. Faculty members may not teach more than 2 courses per semester with the exception of jointly taught courses. Students may earn up to 9 credits each semester. Master's degree candidates must earn a total of 24 credits, of which 12 must be from the Department. Ph.D. candidates are required to earn at least 18 credits from the Department.

Among the qualification tests for all graduate students will be a foreign language examination. Students will have to present a thesis plan before submitting the actual thesis. Supervisors will sit in on a thesis supervision committee 6 months prior to submission of a Master's degree thesis and 1 year before the submission of a Ph.D. thesis.

What Do You Study?

- Computer-aided Architectural Design
- Theory of Architectural Planning
- Methodology of Architectural Planning
- Theory of Architectural Space
- Theory of Architectural Project
- Theory of Architectural Design 4
- Methodology of Architectural Design
- Psychology of Architecture
- Architectural Environment
- Theory of Design’s Valuation
- Theory of Architectural Design 3
- Methodology of Urban Design 2
- Theory of Welfare Facility's Design
- Theory of Waterfront
- Theory of Medical Facility's Design
- Japan and East History of Architecture
- Theory of Education Facility's Design
- Research for Master's Degree
- Theory of Complex's Design
- Theory of City Planning
- Theory of Urban Design
- Methodology of Urban Design 1
- Theory of Architectural Beauty
- Aesthetics of Architecture
Theory of Architectural Design 1
Theory of Architectural Design 2
Theory of Japan and East of Architecture
Theory of Garden's Design

■ Professors

• Kil-hwan Jo, Ph.D.
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• Hyun-tae Kim, Ph.D.
  [Professor, Architectural Planning and Design, htkim@jnu.ac.kr]
• Chan Park, Ph.D.
  [Professor, Architectural Decoration and History, chan@jnu.ac.kr]
• Joo-seong Jeong, Ph.D.
  [Professor, Architectural Planning and Design, jsjeong@jnu.ac.kr]
• Kum-ho Chung, Ph.D.
  [Professor, Architectural Planning and Design, kumho@jnu.ac.kr]

■ Laboratories

- Architecture Planning Studio 1
- Architecture Planning Studio 2
- Architecture Planning Studio 3
- City Planning Studio
- Architecture Design Drawing Room 1
- Architecture Design Drawing Room 2
- City planning Design Preparation Room
- Preparation Room for Architecture Stage
- Architecture Planning Preparation Room
- Architecture Planning Design Preparation Room
- Architecture Design Preparation Room
What is Applied Plant Science?

Applied Plant Science deals with scientific theories and applied techniques in plant production harmonized with nature and agro-ecosystems, which ultimately serve as the basis of the lives of human beings. Its goal is the clarification of the plant life phenomena from plant molecular levels to those of the community through understanding of heredity, environments, and their inter-relationships, in order to secure both the productivity and quality of crop plants.

Degree Requirements

Master’s degree candidates are required to earn at least 24 credits. Ph.D. candidates are required to earn additional 36 credits.

Department of Applied Plant Science at Chonnam National University

The Department of Applied Plant Science educates students with an interest in agronomic crops. It conducts research and offers courses in the subjects of Crop Science, Agro-Ecology, Crop Breeding, Industrial/Medicinal Crops, Crop Physiology, and Plant Biotechnology. The Department has progressed into exciting new and nontraditional areas in recent years. Environmental concerns have redirected much of the emphasis on both teaching and research. Faculty members are involved in active research projects in crop production and ecology, genetic improvement of crops for environmental reclamation, best management practices, and developing advanced bio-techniques in industrial/medicinal crops. Agronomy is a blend of teaching and research in the basic and applied, traditional and nontraditional aspects of agriculture. Students with graduate degrees will have an opportunity to go on to rich and rewarding careers, being challenged to contribute to the world in which they live.

The Department of Applied Plant Science that houses the Agronomy Program, offers students hands-on training. Learning is enhanced by practical training in the campus fields and campus greenhouses as well as in the facilities at Naju. Faculty members who teach and supervise students are also devoted to meaningful scientific progresses, enabling students to participate in significant research projects in various areas of research.
What Do You Study?

Advanced Agricultural Meteorology (3)  
Advanced Agricultural Ecology (3)  
Advanced Agricultural Genetics (3)  
Advanced Crop Breeding (3)  
Advanced Crop Ecology (3)  
Advanced Crop Molecular Breeding (3)  
Advanced Crop Physiology (3)  
Advanced Crop Production (3)  
Advanced Crop Stress Physiology (3)  
Advanced Industrial Crop Science (3)  
Advanced Medicinal Plant Science (3)  
Advanced Molecular Biology (3)  
Advanced Plant Genetic Engineering (3)  
Advanced Plant Tissue Culture (3)  
Advanced Rice Culture (3)  
Advanced Upland Crop Science (3)  
Advanced Weed Ecology (3)  
Advanced Weed Science (3)  
Arable Land Ecology (3)  
Bio-metrical Breeding (3)  
Crop Seed Physiology (3)  
Culture of Food (3)  
Gene Manipulation (3)  
Herbicide Physiology (3)  
Metabolism in Crop Plant (3)  
Metabolism of Natural Products (3)  
Plant Breeding for Pest and Disease Resistance (3)  
Plant Breeding for Unfavorable Environment (3)  
Plant Cell Engineering (3)  
Plant Growth Regulation (3)  
Plant Physiological Genetics (3)  
Plant-water Relationships (3)  
Production of Functional Materials in Plants (3)  
Research Guidance 1 (3)  
Research Guidance 2 (3)  
Research Guidance 3 (3)  
Seminar in Crop Breeding (3)  
Seminar in Crop Environment (3)  
Seminar in Crop Growth and Development (3)  
Seminar in Crop Growth and Reproduction (3)  
Seminar in Plant Hormones (3)  
Seminar in Rice Culture (3)  
Seminar in Seed Production (3)  
Special Studies in Crop Ecology (3)  
Special Studies in Crop Science (3)  
Special Topics to Crop Physiology (3)  
Topics in weed Science (3)

Professors

- Han-Yong Kim, Ph.D.  
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- Jonghan Ko, Ph.D.  
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- Bo-Keun Ha, Ph.D.  
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- Jaeil Cho, Ph.D.  
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Laboratories

- Rice Crop Science Lab
- Crop Environmental Ecology Lab
- Special Crop Science Lab
- Crop Breeding Lab
- Climatological Crop Physiology Lab
Graduate Studies in Department of Horticulture

Laboratories in the Department of Horticulture provide an opportunity for students to learn knowledge and technology required to be a horticultural specialist in the horticulture industry. The main areas of research are greenhouse horticulture, floriculture, pomology, plant propagation, plant breeding and plant physiology. The combination of theories and practical training enables students to experience advanced and applied technologies prevalent in the horticulture industry.

Degree Requirements

Master’s degree candidates are required to earn 24 credits. Ph.D. candidates are required to earn an additional 36 credits.

What Do You Study?

Major Courses

Advanced Pomology (3)                              Organic Horticulture (3)
Advanced Greenhouse Horticulture (3)                Crop Growth Modeling in Greenhouse Crops (3)
Special Topics in Plant Physiology (3)              Greenhouse Climate Control (3)
Advanced Nutrition (3)                              Horticultural Production System (3)
Advanced Horticultural Crop Breeding (3)            Special Topics in Horticultural Statistics (3)
Advanced General Genetics (3)                       Special Topics in Applied Ornamentals (3)
Advanced Plant Tissue Culture (3)                   Grapes and Wine Science (3)
Advanced Vegetable Crops (3)                        Advanced Technology for hydroponic culture (3)
Advanced Floriculture (3)                           Plant Factory system (3)
Physiology of Environmental Stress in Horticultural Crops (3) Global Trend in GMO technology and market (3)
Advanced Seed Sciences and Technology (3)          Small Fruit Production (3)
Horticultural Therapy (3)                           Tropical Fruit Science (3)
Plant Resources (3)                                 Introductory Cource of Flower Breedomics (3)
Advanced Horticultural Crops (3)                    Advanced Postharvest Physiology of Horticultural Crops (3)
Advanced Plant ecology (3)                          Introductory Course about Risk Assessment of GMOs (3)
Professors

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- TaeHo Han, Ph.D.
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- JeongHyun Lee, Ph.D.
  [Greenhouse, leetag@jnu.ac.kr, +82-62-530-2064]
- Sunggil Kim, Ph.D.
  [Horticultural Crop Breeding & Genetics, dronion@jnu.ac.kr, +82-62-530-2061]
- SangHyeon Lee, Ph.D.
  [Propagation of Horticultural Crops, pear@jnu.ac.kr]

Laboratories

This Lab meets the demands of horticultural specialists and students in ornamental and pomological areas. Among the research conducted is in regards to eco-physiological mechanisms of individual responses for the adaptive and ecological capacity of any given plant population. Plant breeding theories and basic laboratory principles are also taught.
Graduate Studies in Department of Applied Biology

The Department of Applied Biology at Jeonnam National University is composed of 3 main fields: Plant Pathology, Entomology, and Stress Biology. The educational goal at Department of Applied Biology is to foster professional individuals who learn both basic and applied sciences on plant response to pathogens, agricultural pests, and environmental stresses that significantly diminish plant and crop productivity.

Plant Pathology field focuses mainly on plant-pathogen (bacteria, fungi, virus) interactions, molecular genetics to understand mechanisms and biological control of plant diseases, and ecology and evolutionary biology of plant-associated microbes. Entomology field focuses mainly on the damage analysis and integrated pest management by the fundamental studies of classification, phylogeny, chitin biotechnology, and ecology of insect pests. Interactions between microbial natural enemy and insect pests are also studied for the eventual biological control of agricultural insect pests. Stress Biology field focuses mainly on the identification and determination of potential genes involved in plant responses to environmental stresses (drought, high and low temperatures, salt, UV), which would provide novel means to develop stress-tolerant agronomic crops.

The Department's curricula cover all necessary subjects for basic and applied sciences. We will educate students with a vision of becoming leading scientists in future agriculture.

Degree Requirements

Master's degree candidates are required to earn 24 credits. Ph.D. candidates are required to earn an additional 36 credits.

What Do You Study?

General Courses
Advanced Scientific Communication and Writing Scientific Papers (3)

Major Courses
Microbial Genetics (3)
Advanced Plant Virology (3)

Biological Control Of Plant Pathogens (3)
Biological Control of Insect Pest (3)
Insect Natural Enemy (3)
Plant Molecular Biology (3)
Plant Pathogenic Bacteriology (3)
Physiological Plant Pathology (3)
Advanced Plant Environmental Stress (3)
Nucleic Acid Biochemistry (3)  
Protein Biochemistry (3)  
Plant Functional Genomics (3)  
Plant Nematology (3)  
Fungal Diseases of Plants (3)  
Plant Growth Regulator (3)  
Advanced plant molecular biotechnology (3)  
Insect Molecular Genetics (3)  
Insect Molecular Systematics (3)  
Microbial genetics (3)  
Molecular Biology Lab. (3)  
Insect Immunology (3)  
Insect Protein Purification (3)  
Plant Biochemistry (3)  
Research Techniques in Plant Pathology (3)  
Diagnosis of Plant Diseases (3)  
Insect Molecular Ecology (3)  
Biological Statistics and Field Experiment (3)  
Plant Disease Control (3)  
Disease of Crop Plants (3)  
Plant Pathology Lab. (3)  
Advanced Molecular Plant Pathology (3)  
Seminar in Plant Pathology (3)  
Vector Biology (3)  
Insect Molecular Physiology (3)  
Insect Integument Biology (3)  
Gene Siencing and Functional Genomics in Insect Integrated Pest Management (3)  
Plant Volatile Compound and Natural Enemy Biology (3)  
Advanced Industrial Entomology (3)  
Advanced Insect Biochemistry and Molecular Biology (3)  
Crop Protection Colloquium (3)  
Crop Protection and Plant Quarantine Seminar (3)  
Advanced Crop Production and Management (3)  
Research Guidance 1 (3)  
Research Guidance 2 (3)  
Research Guidance 3 (3)  
Plant Disease Epidermiology (3)  
Advances in Insect Molecular Diagnosis (3)  
Methods in Plant Pathology (3)  
Advanced Plant Microbe Interactions (3)  

Professors

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  [Plant Molecular Biology, hskang@jnu.ac.kr]
- Young-Cheol Kim, Ph.D.  
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- Yeon-Soo Han, Ph.D.  
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- Cheol-Soo Kim, Ph.D.  
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- Iksoo Kim, Ph.D.  
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- Yasuyuki Arakane, Ph.D.  
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Laboratories
• Plant Molecular Biology Lab
• Plant Pathology Lab
• Insect Pathology Lab
• Plant Molecular Biology Lab
• Plant Functional Genomics Lab
• Insect Molecular Phylogenetics and Ecology Lab
• Insect Chitin Biothecnology Lab
• Plant Virology Lab
Graduate Studies in Forestry

Forests occupy 65% of the land area in Korea. The mission of the Department of Forestry is to educate and engage the next generation of scholars, practitioners, and users of forests, to conduct distinctive problem-solving and fundamental research on the nature and use of forests and related resources, and to share discoveries and knowledge with others. The Department of Forestry is committed to enhancing understanding, effective management, and sustainable use of forests to support the national economy and public welfare, and to conserve the forest ecosystem.

Degree Requirements

Master’s degree candidates are required to earn 24 credits and achieve a grade point average of 3.0 (based on a 4.5 scale). Students will normally take 2 years to complete a Master’s Program, during which they must pass a comprehensive exam in 3 subjects and a foreign language exam (English). Master’s theses may be submitted in English or Korean. Ph.D. Candidates are required to earn 36 credits and achieve a grade point average of 3.0 (based on a 4.5 scale). Students will normally take a minimum of 3 years to complete a Ph.D. program, during which they must pass a comprehensive exam in 4 fields and a foreign language exam (English). Ph.D. theses may be submitted in English or Korean.

What Do You Study?

Advanced Economic Plants (3) Advanced Forest Soils (3)
Advanced Mycorrhizae (3)       Advanced Forest Valuation (3)
Computer Science of Agriculture (3) Advanced Dendrology (3)
Advanced Erosion Control (3)    Experimental Design (3)
Advanced Forest Management (3)  Advanced Forest Economics (3)
Advanced Forest Measurement (3) Advanced Silviculture (3)
Advanced Forest Entomology (3)  Regression Analysis (3)
Advanced Forest Protection (3)  Animal Population Ecology (3)
Advanced Forest Ecology (3)     Advanced Tree Pathology (3)
Advanced Forest Plant Systematics (3) Seminar in Forestry (3)
Advanced Seed Science of Forest Plant (3) Advanced Administration (3)
Advanced Forest Genetics (3)    Advanced Tree Physiology (3)
Advanced Forest Policy (3)      Advanced Urban Forestry (3)
Advanced Forest Civil Engineering (3)
Advanced Forest Zoology (3)
Advanced Biochemistry (3)
Seminar in Forest Policy (3)
Advanced Forest Cooperatives (3)
Advanced Global Forestry (3)
Advanced Law of Forest Environment (3)
Advanced Mycology (3)
Advanced Mushroom Cultivation (3)
Advanced Geographical Information Systems (3)

Professors

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• Kye-Han Lee, Ph.D.
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• Young-Sang Ahn, Ph.D.
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Laboratories

Forest Policy Lab
Research is carried out on forest resource management, related policies, planning of forest village development, usage pattern of recreation forests, and development of forest cooperatives.

Forest Ecology Lab
Research is carried out on soil carbon inventory, soil-plant available water, and forest water budgets. Other research areas include Riparian Forest Buffer, Agro-forestry, and Urban forestry.

Forest Environment Conservation Engineering Lab
Our laboratory goal is to elucidate the forest landscape functions as major environmental resources of forest biosphere with integration of natural and social scientific base, to build theory for renovation of disturbed and ruined environment to develop practical technologies.
Graduate Studies in Landscape Architecture

The educational aim of Landscape Architecture is to train landscape architects who have detailed knowledge and understanding of landscape planning, design, construction, and management. Through theoretical study and practice, they are able to create and conserve aesthetically beautiful natural landscapes with concern for ecological stability, social pleasantness, and the artificial environment. Landscape study at Chonnam National University offers the following courses: regional ecosystem planning and management, open space planning, leisure space planning, urban planning, site planning, park planning, detailed design of outdoor space of buildings, roads, and plazas. We also offer research on the methodology for design and planning to analyze visual, functional, human behavioral, and social factors, and on the history of landscape architecture, ecology, landscape engineering, construction technology, landscape plants, and landscape plant design. Students develop traditional landscape techniques of planning, design, and management studied in undergraduate courses. They are also provided an opportunity to study advanced environmental planning, design, and management based on advanced computer graphics and GIS.

Degree Requirements

Master’s degree candidates are required to earn 24 credits and submit a thesis, normally over a period of 4 semesters.

What Do You Study?

Major Courses

Advanced Site Planning (3)
Advanced Landscape Engineering (3)
Landscape Architectural Structure (3)
Research Methods in Landscape Architecture (3)
Environmental Planning and Management with GIS (3)
Landscape Architectural Construction (3)
Advanced Theories on Landscape Maintenance (3)
Advanced Urban Open Space Planning (3)
Advanced History of Oriental Landscape Architecture (3)
Advanced History of Western Landscape Architecture (3)

Ecology in Landscape Plants (3)
Landscape Planting Design (3)
Advanced Landscape Gardening (3)
Advanced Forest Recreation Planning (3)
Advanced Urban Landscape Planning (3)
Urban and Regional Ecosystem Planning (3)
GIS Programming (3)
Water Pollution and Environmental Impact Assessment (3)
Park Planning and Ecological Engineering (3)
Advanced Planning of Natural Environment Restoration (3)
Natural Landscape Planning and Management (3)
Urban Landscape Planning and Management (3)
Universal Design (3)  
Advanced Issues in Landscape Design (3)  
Participating Landscape Design Theory (3)  
Integrated Environmental Design (3)  
Advanced Ecological Restoration and  
Ecological Engineering (3)  

Professors

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• Ji-Soung Baik, Ph.D.  
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• Eun-Il Kim, Ph.D.  
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Laboratories

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- Landscape Design Lab  
  (Phone: +82-62-530-0319)  
- Landscape Architecture Engineering Lab  
  (Phone: +82-62-530-2103)  
- Environment Open Space Planning Lab
Graduate Studies in the Department of Wood Science and Engineering

In an era that focuses on lowered carbon emission and environmentally friendly construction materials, the study of wood science is becoming increasingly important. Wood science and engineering is a comprehensive field that combines wood anatomy, chemistry, physics, mechanics and wood architecture disciplines for the study of resource development, education, research and training of talented individuals.

Our field is divided into wood engineering and wood chemistry subfields. The wood engineering field specializes in the study of processing, producing and mechanical analysis of wood resources for green construction. We provide the techniques and theories needed to analyze the physical and mechanical characteristics of lumber in order to evaluate its quality for market pricing. We also research different methods for utilizing wood.

The wood chemistry field studies the mechanism involved in the physical and chemical damage of lumber as well as the structure and composition of wood for the use of renewable energy production. Furthermore, we research and analyze wood composition and the industrial application of timber. There are many different career paths available to our students after graduation. Work opportunities exist in various green industries involved in wood architecture, furniture, instruments and pulp production.

Degree Requirements

Students must complete 24 credits and submit a master’s thesis in order to receive their degree.

What Do You Study?

| History of Furniture (3) | Material (3) |
| Design of Wood Structure (3) | Maintenance of Woody Cultural Properties (3) |
| Advanced Wood Processing (3) | Advanced in Bioenergy Science (3) |
| Advanced Wood Industry Management (3) | Furniture Design (3) |
| Advanced Wood Physics (3) | Musical Instruments Design (3) |
| Advanced Wood Preservation (3) | Advanced plant and wood science Biotechnology (3) |
| Wood-Water Relationship (3) | Advanced Pulp and Paper Technology (3) |
| Advanced Wood Anatomy (3) | Advanced Pyrolysis of Wood (3) |
| Advanced Course of Composite Materials (3) | Extractive chemistry (3) |
| Electron Microscope in Wood Science (3) | Paper Processing, Packaging and Logistics (3) |
| Advanced Chemistry Of Wood (3) | Toppic in Forest Microbiology (3) |
| Applied Mechanics of Wood & Wood-based | Topics in Biorefinery (3) |
Combustion of Forest Biomass (3)
Advanced Wood Mechanics (3)
Wood engineering (3)

Green Wood construction (3)
Academic writing in wood science (3)
Chemical Analysis of Wood (3)

Professors

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• Hyoung-Woo Lee, Ph.D.
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• Jae-Won Lee, Ph.D.
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• Gi-Young Jeong, Ph.D.
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Laboratories

- Wood Acoustics and Vibration Lab
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- Wood Processing System Engineering Lab
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- Wood Chemistry Lab
  (Phone: +82-62-530-0289)
- Timber Engineering Lab
  (Phone: +82-62-530-2107)
Graduate Studies in Agricultural Chemistry

The Department of Agricultural Chemistry focuses on studies in chemical and biological applications to agricultural and environmental systems. The Department is composed of seven main Laboratories: Natural Chemistry (Professor Jae-Han Shim), Soil Science and Microbiology (Professor Kil-Yong Kim), Environmental Pesticide Science (Professor In Seon Kim), and Environmental Microbiology (Professor Hyang Bum Lee) and Plant Resources Science (Professor Woo Jin Jung), and Plant Growth Regulators Science (Professor Jin Cheol Kim) and Biofertilizer (Professor Yeonjong Koo).

Degree Requirements

Master’s degree candidates are required to earn 24 credits. Ph.D. candidates are required to earn 60 credits including credits earned in a Master’s Program. Students are allowed to transfer up to 9 credits into the master’s program. Master’s theses should be submitted by May or October of each year. Doctoral theses should be submitted by March or September.

Graduate students must achieve a grade of C or better for all courses, and earn a cumulative average of B or better to be awarded a degree. Candidates will be awarded a degree upon fulfilling all requirements, including the foreign language requirement, and submitting a thesis for approval. The foreign language and comprehensive examinations are held in August or February.

What Do You Study?

Advanced Course of Instrumental analysis (3)  Soil Biochemistry (3)
Advanced Agricultural Environment Chemistry (3)  Soil Organic Matters (3)
Advanced Analytical chemistry (3)  Environmental Toxicology (3)
Molecular Cell Biology (3)  Advanced Enzyme Chemistry (3)
Advanced Fertilizers (3)  Pheromone Chemistry (3)
Fungicide Chemistry (3)  Advanced Industrial Microbiology (3)
Insecticide Chemistry (3)  Biochemistry of Plant Pathology (3)
Biopolymer Chemistry (3)  Advanced Plant Growth Regulators (3)
Advanced Biotechnology (3)  Advanced Biochemistry (3)
Experimental Design (3)  Advanced Environmental Ecology (3)
Advanced Organic Chemistry (3)  Advanced Natural Material Science (3)
Advanced Soil Microbiology (3)  Seminar in Agricultural Chemistry 1 (3)
Seminar in Agricultural Chemistry 2 (3)  Environmental Soil Science (3)  Applied Environment Agriculture Science (3)
Advanced in Biological and Environmental Mycotoxicology (3)  Advanced Plant Diseases (3)
Chemistry (3)  Plant Nutrition Physiology (3)  Startup Bussiness of Agricultural Chemistry 1 (3)
Advanced Environmentally-Friendly Agriculture (3)  Startup Bussiness of Agricultural Chemistry 2 (3)
Advanced Plant Resources Science (3)  Mycotoxicology (3)  Advanced Plant Diseases (3)
Biopesticide Science (3)  Plant Nutrition Physiology (3)  Startup Bussiness of Agricultural Chemistry 1 (3)
Applied Plant Resources Science (3)  Startup Bussiness of Agricultural Chemistry 2 (3)

■ Professors

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• In Seon Kim, Ph.D.
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• Hyang Burn Lee, Ph.D.
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• Jin-Cheol Kim, Ph.D.
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• Yeon-Jong Koo, Ph.D.
  [Assistant Professor, Biofertilizer, yeonjong@jnu.ac.kr]

■ Laboratories

Soil and Fertilizer Lab  Natural Products Chemistry Area
Plant Growth Regulators Science Lab  Research is carried out on the isolation and identification of bioactive compounds from plants.

Environmental Pesticide Science Lab

Insect Chemistry Area  The Environmental Pesticide Science Lab (EPSL) is a micro-space for research on the remediation of the agricultural environment contaminated with agricultural toxins such as pesticides, antibiotics, heavy metals, and plant-derived secondary metabolites.

Research is conducted on the analysis of pheromone and enzymes from insects and application of these bioactive compounds to IPM program.

Green Chemistry Area  The remediation technology contains chemical and biological approaches by using chemical catalysts, microorganisms, and plants, which are classified into chemical and biological remediation and phytore-mediation. The EPSL also currently focuses on research concerning plant diseases and pest control technology by using natural plants and micro-organism-derived extracts.

Research is carried out on the analysis of pesticides (endocrine disrupters) and antibiotics by Keele GC injector, SFE/SFC, and bioanalytical method.
Environmental Microbiology Lab

The Environmental Microbiology Laboratory (EML) within the Major of Biological Chemistry, Division of Bioscience and Bioo technology carries out fundamental and applied research on fungi and bacteria. Specific and interrelated areas include 1) fungal and microbial diversity and its bioexploitation, 2) biocontrol agents and biopesticides, 3) agriculturally and pharmaceutically useful metalites and antibiotics, 4) ecophysiology of spoilage fungi with applications in mycotoxins and their control, and 5) eukaryotes in extreme environments.
Graduate Studies in Food Science and Technology

The Department of Food Science and Technology focuses on studies concerning the chemical, microbiological, and functional side of food and processing, and preservation of food. The Department is composed of four main Laboratories: Food Processing and Preservation, Food Microbiology, Food Nutrition and Functional Chemistry, Food and Enzyme Engineering.

Degree Requirements

Master’s degree candidates are required to earn 24 credits. Ph.D. candidates are required to earn 60 credits including credits earned in a Master’s Program. Students are allowed to transfer up to 9 credits into the master’s program. Master’s theses should be submitted by May or September of each year. Doctoral theses should be submitted by March or September.

Graduate students must achieve a grade of C or better for all courses, and earn a cumulative average of B or better to be awarded a degree. Candidates will be awarded a degree upon fulfilling all requirements, including the foreign language requirement, and submitting a thesis for approval. The foreign language and comprehensive examinations are held in April or October.

What Do You Study?

- Advanced Biochemistry (3)  Advanced Fermentation Technology (3)
- Experimental Design (3)  Advanced Fermentation Chemistry (3)
- Computer Science of Agriculture (3)  Advanced Food Hygiene (3)
- Advanced Food Research I (3)  Food Color and Flavor Chemistry (3)
- Advanced Food Research II (3)  Enzyme Technology (3)
- Advanced Food Research III (3)  Advanced Food Analysis (3)
- Advanced Food Research IV (3)  Advanced Research of Food Technology I (3)
- Advanced Food Chemistry (3)  Advanced Research of Food Technology II (3)
- Advanced Nutrition Chemistry (3)  Advanced Research of Food Technology III (3)
- Advanced Food Engineering (3)  Protein Foods (3)
- Advanced Biochemical Engineering (3)  New Product Development (3)
- Advanced Food Preservation (3)  Lipid Foods (3)
- Advanced Food Packaging (3)  Advanced Food Freezing Technology (3)
- Advanced Food Sensory Evaluation (3)  Fermented Foods (3)
- Advanced Food Microbiology (3)  Advanced Food Process Engineering (3)
Food Additives (3)  
Post Harvest Physiology of Food Crops (3)  
Food Toxicology (3)  
Thermal Processing of Foods (3)  
Physical Properties of Foods (3)  
Nutritional Physiology (3)  
Enzyme Utilization (3)  
Microbial Physiology (3)  
Molecular Biotechnology (3)  
Food Function (3)  
Food Ingredient Technology (3)  
Pheology of Foods (3)  
Special Topics in Nutrition (3)  
Advanced Food Biotechnology (3)  
Literature Review in Food Science (3)  
Literature Review in Food Technology (3)  
Recent Technology for Food Processing (3)  
Applicable Instrumental Analysis (3)  
Food Processing and Science of Animal Resources (3)  
Advanced Sensory Evaluation of Foods (3)  
Advanced Statistics for food science (3)

Professors

• Jong-Bang Eun, Ph.D.  
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• Jae-Hak Moon, Ph.D.  
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• Du-Woon Kim, Ph.D.  
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Laboratories

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- Food Microbiology Lab  
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- Nutrition and Functional Chemistry Lab  
  (Phone: +82-62-530-0234)
- Food and Enzyme Engineering Lab  
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Graduate Studies in Biotechnology

The Department of Biotechnology focuses on the study of regulation and functions of genes at the levels of DNA, RNA, and protein in living organisms. The challenges of Biotechnology are to expand its usefulness by identifying and cloning new genes and traits, developing new diagnostic tests, and continuing to use these tools to better understand plants, animals, and microorganisms that make up our world.

Degree Requirements

Master’s degree candidates are required to earn 24 credits. Ph.D. candidates are required to earn 60 credits including credits earned in a Master’s Program. Students are allowed to transfer up to 9 credits into the master’s program and 12 into the Ph.D. program. Master’s theses should be submitted by May or September of each year. Doctoral theses should be submitted by March or September.

Graduate students must achieve a grade of C or better for all courses, and earn a cumulative average of B or better to be awarded a degree. Candidates will be awarded a degree upon fulfilling all requirements, including the foreign language requirement, and submitting a thesis for approval. The foreign language and comprehensive examinations are held in April or October.

What Do You Study?

- Advanced Biochemistry 1
- Advanced Biochemistry 2
- Enzymology
- Advanced Animal Genetic Engineering Ⅰ
- Advanced Animal Genetic Engineering Ⅱ
- Advanced Animal Genetics
- Animal Cell Culture
- Advanced Plant Genetic Engineering Ⅰ
- Advanced Plant Genetic Engineering Ⅱ
- Advanced Plant Metabolism
- Advanced Plant Tissue culture Ⅰ
- Advanced Plant Tissue culture Ⅱ
- Advanced Applied Molecular Microbiology
- Advanced Molecular Biology Ⅰ
- Advanced Molecular Biology Ⅱ
- Special Topics in Signal Transduction Ⅰ
- Special Topics in Signal Transduction Ⅱ
- Advanced Cell Biology Ⅰ
- Advanced Cell Biology Ⅱ
- Advanced Molecular Genetics Ⅰ
- Advanced Molecular Genetics Ⅱ
- Advanced Molecular Genetics
- Advanced Plant Biochemistry
- Advanced Topics in Protein Structure
- Methodology in Biochemistry
- Advanced Molecular Genetics and Breeding
- Advanced Plant Development Genetics Ⅰ
Advanced Plant Development Genetics II
Plant Environmental Stress I
Plant Environmental Stress II
Ethics in Life Science

Industry in Biotechnology
Statistics for Biology
Special Research in Genetic Engineering and Seminar I

Professors

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- Soo Young Kim, Ph.D.
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- Jeong-II Kim, Ph.D.
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- Suk-Whan Hong, Ph.D.
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- Jun Ho Lee, ph.D.
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- Don Kyu Kim, ph.D.
  [Assistant Professor, Molecular Endocrinology, dkkim2@jnu.ac.kr]

Laboratories

Genetic Biochemistry Lab
- Mechanistic studies and engineering of protoo porphyrinogen oxidase.
- Genetic engineering of Erythromycin bio-synthetic enzymes.
- Molecular mechanistic studies on the bio-synthesis of Jasmonic acid.

Plant Genetic Engineering Lab
- Functional study on melatonin biosynthesis in plants.
- Development of melatonin-rich functional crops for human health.

Molecular Cell Biology Lab
- Plant hormone abscisic acid (ABA) and stress signaling.
- Molecular genetic study of plant development.

Protein Biochemistry Lab
- Plant light signal transduction.
- Structure-function study of phytochromes.
- Development of genetically-modified crops with commercial value.

Molecular Genetics and Breeding Lab
- Breeding for quantitative traits in plants.
- Plant chromosome engineering.
- Signal transduction of unfolded protein response in the Endoplasmic Reticulum

Neurobiotechnology Lab
- Structure and function study of voltage-gated ion channels
- Electrophysiology study of neuronal ligand-gated ion channel
- Molecular study of transporters

**Molecular Endocrinology Lab**

Studies on the regulation of metabolic networks by transcriptional factors
- Studies on cell signaling and gene regulation in hepatic glucose, lipid and iron metabolism
- Control of liver metabolic disease by orphan nuclear receptor-specific ligand
Graduate Studies in Animal Science and Biotechnology

The graduate program in Animal Science and Biotechnology is designed to provide training at the master’s degree level for those who wish to continue graduate work at the doctoral levels and for those who wish to seek employment in various fields in the animal industry. The major areas include animal breeding, reproduction, transgenic animals and molecular biochemistry. The program focuses on the development of transgenic animals using biotechnological tools. In addition, the division also emphasizes the research work on the screening of functional ingredients from animal resources by molecular biological and microbiological tools and applies these to animal derived foods such as meat and dairy products.

Degree Requirements

Common Course
Research for the Master’s or Doctoral Degree (3)

Major course
General Selection Course: over 24

What Do You Study?

Method of individual model analysis (3)  Research Method of Animal Molecular Cell Biology (3)
Advanced Muscle Food Analysis and Technology (3)  Advanced Animal Biotechnology (3)
Advanced Muscle Food Science and Biotechnology (3)  Advanced Embryo Technology in Animal (3)
Advanced Functional Ingredients of Muscle Foods (3)  Advanced Animal Biotechnology (3)
Evaluation of Functional Food of Animal Resources (3)  Advanced Animal Cell Toxicology (3)
Advanced Functional Molecular Analysis (3)  Animal experiment design (3)
Protein Engineering (3)  Animal Quantitative Genetics (3)
Controlled Breeding in Animal (3)  Methods for Assessing Animal Genetic Capacity (3)
Animal Engineering Seminar (3)  Advanced Animal Breeding (3)
Animal metabolic physiology (3)  Advanced Tissue Culture (3)
Advanced Reproductive Physiology in Animal (3)  Population Genetics in Animal Breeding (3)
Reproductive Failure in Animal (3)  Advanced Transgenic Animal (3)
Research Methods in Animal Reproduction (3)  Advanced Dispersive Components (3)
Advanced Animal Molecular Biology (3)  Advanced Molecular Genetics (3)
Advanced Animal Molecular Biochemistry (3)  Biological Application Statistics (3)
Special Topics in Bio-Informatics (3)
Advanced Linear Modeling (3)
Advanced Cell Biology (3)
Advanced Meat Processing (3)
Advanced Meat Hygiene (3)
Advanced Meat Science (3)
Advanced Experimental Design (3)

■ Professors

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• Lee, Ji-Woong, Ph.D.
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• Kim, Sung-hak, Ph.D.
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Oil-soluble protein (3)
Gene targeting (3)
Advanced In Vitro Fertilization (3)
Advanced Livestock Management and Economics (3)
Advanced Animal Food Analysis (3)
Hazard Analysis Critical Control Point System of Animal-Origin Food (3)
Graduate Studies in Animal Science and Bio-Industry

Graduate programs leading to the Master of Science degree in either Animal Science or Dairy Science are offered in the general area of livestock production including dairy foods. Courses in the department such as animal physiology, ruminant nutrition, animal production, meat science, dairy microbiology, grassland science and statistics are basically provided. The courses of relevant departments provide in-depth training and laboratory works. These programs are flexible enough to interest students who may want to consider the master’s degree as a terminal and practical degree. They are also designed to accommodate those graduates who want to use the master’s degree as a preparatory step towards the doctoral degree.

Degree Requirements

Common Course
Research for the Master’s or Doctoral Degree (3)

Major course
General Selection Course: over 24

What Do You Study?

Dry and Concentrated Dairy Products (3)  Animal nutrient requirements (3)
Advanced Genetics of Dairy Microbiology (3)  Manipulated Animal Nutrition (3)
Advanced Dairy Microbiology (3)  Farm Animal Hygienics (3)
Metabolic and Signaling Pathway (3)  Advanced Microbiology of Animal Resources (3)
Advanced Animal management (3)  Advanced Animal Wastes Management (3)
Advanced Animal Endo- crinology (3)  Animal Behavior & Welfare (3)
Animal Proteomics (3)  Topics of Horse Science (3)
Nutriqinomics and proteomics (3)  Metabolic Physiology of Pasture Plants (3)
Methodology in Animal Feeding and Nutrition (3)  Growth and Development of Pasture Plants (3)
Advanced Animal Feeding and Nutrition (3)  Advanced Utilization of Pasture Plants (3)
Seminar in animal industry (3)  Engineering of Fermented Milk (3)
Advanced Animal Physiology (3)  Molecular Cell Physiology (3)
Advanced Animal Cell Culture (3)  Advanced Meat Processing (3)
Animal Stress Biology (3)  Advanced Meat Hygiene (3)
Advanced Meat Science (3)  Livestock Management and Economics Analysis (3)
Advanced Swine Production (3)  Topics in Management and Economics of Livestock (3)
Nutrigenomics (3)  Advanced Livestock and Meat Marketing (3)
Hygiene of Milk & Dairy Products (3)  Hazard Analysis Critical Control Point System of Animal-Origin Food (3)
Advanced Milk Processing (3)  Foodborne Pathogens of Animal Resources (3)
Regulation of Gene Expression (3)  Advanced Quality Control of Animal Foods (3)
Dairy Chemistry and Physics (3)  Experimental Design and Statistical Analysis (3)
Advanced Quality Control of Dairy Product (3)  Sustainable Livestock Production (3)
Advance Beef Cattle Production (3)  Functional Probiotics (3)
Advanced Pasture Management (3)  Advanced Turf Grass Science (3)
Grassland Ecology and Productivity (3)  
Advanced Livestock Management and Economic (3)

Professors

• Kim, Kwang-Hyun, Ph.D.  
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• Sun, Sang-Soo, Ph.D.  
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• Chin, Koo-Bok, Ph.D.  
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• Oh, Se-Jong, Ph.D.  
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• Jeon, Tea-II, Ph.D.  
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Graduate Studies in the Department of Rural and Biosystems Engineering

The Department of Rural and Biosystems Engineering pursues global competitiveness in agriculture and the sustainable development of rural communities through the application of integrated knowledge on engineering, natural science, and humanities and social sciences to agricultural, biological, and rural systems. Graduate students in the Department of Rural and Biosystems Engineering enjoy small class sizes and frequent one-to-one contact with Professors. Faculty members are very keen to help and encourage students to develop their careers, from advising research activities to providing job opportunities.

The Department of Rural and Biosystems Engineering offers both master’s and Ph.D. degrees. Students entering one of the Department’s graduate programs may select a research topic from a broad array of research fields. The following two tracks of Rural and Bio-systems engineering research are offered:

Rural System Engineering Track
- Rural Environmental Water
- Environmental Soil Science
- Rural Infrastructure Engineering
- Rural Water Resources Engineering

Biosystems Engineering Track
- Farm Machinery
- Agricultural Machine Control
- Sensors and Intelligent Biosystems
- Human-Centered Robotics and Automation
- Nanoengineered Biomaterial Systems

Degree Requirements

The master’s degree requires students to complete advanced coursework, pass a foreign language and preliminary qualifying exams, and become accustomed to research methodology. Students are required to plan, conduct, and analyze a comprehensive research project, and report findings in a thesis.

Master’s degree candidates learn to express ideas clearly and forcefully in both oral and written communication. They are also encouraged to develop teaching skills through formal study of pedagogical methods and supervised classroom teaching experience.

The Ph.D. degree is designed to provide students with a thorough understanding of their professional field and training in research methods. Students acquire a strong grasp of a broad field of study and are able to conduct independent research.

Students are required to complete advanced coursework and pass a foreign language exam. A preliminary
qualifying examination, covering all fields of study included in the degree program, is also required. Ph.D. candidates will prepare a dissertation, an original, scholarly report of independent research.

**What Do You Study?**

**Rural System Engineering Track**
- Decision-making Analysis and Application for Rural Development (3)
- Analysis on Rural Spatial Information and Data (3)
- Advanced Rural Tourism (3)
- Analysis and Process of Rural Information (3)
- New Local Rural Development Theory (3)
- Design of Rural Survey and Analysis Methods (3)
- Rural Environment Planning and Design (3)
- Social · Spatial Mixed Countryside Planning (3)
- Rural Land Use Planning (3)
- Village Planning and Practice (3)
- Advanced Irrigation and Drainage (3)
- Nonpoint Source Pollution Control Engineering (3)
- Watershed Environmental Modeling (3)
- Climate-smart agricultural management (3)
- Climate change hydrology (3)
- Rural water resources management (3)
- Rural water disaster prevention engineering (3)
- Rural Environmental Engineering (3)
- Land Ecosystem Conservation Engineering (3)
- Topics in Remediation of Polluted Land (3)
- Rural Ecological Engineering (3)
- Soil Carbon Engineering (3)
- Experimental Design and Analysis (3)
- Sustainable Nutrient Management (3)
- Environmental and Instrumental Analysis (3)
- Environmental Isotope (3)
- Rural Systems Engineering Research (3)
- Advanced Design of Soil Structures (3)
- Advanced Foundation Engineering (3)
- Foundation Analysis (3)
- Theory of Slope Stability (3)
- Stability Analysis (3)
- Advanced Information of Structures on Design and Construction (3)
- Advanced Design of Ground Improvement (3)

**Advanced Soil Mechanics (3)**
**Elastic Stability of Structures (3)**
**System Analysis and Planning (3)**

**Bio-systems Engineering Track**
- Dynamics of Farm Machinery (3)
- Vibration of Agricultural Machinery (3)
- Fluid Power Control System (3)
- Topics in Tractor Engineering (3)
- Agricultural Fluid Power System (3)
- Advanced Farm Machinery I (3)
- Advanced Farm Machinery II (3)
- Bio-system Control I (3)
- Bio-system Control II (3)
- Advanced Design of Agricultural Machinery (3)
- Advanced Mechatronics for Bio-systems (3)
- Environment Control for Agricultural Buildings (3)
- Advanced Mechatronics for Bio-systems (3)
- Plant Factory Automation (3)
- Advanced Electrical and Electronic Engineering for Bio-systems (3)
- Advanced Measurement Engineering for Bio-systems (3)
- Advanced Precision Agricultural Engineering (3)
- Bio-sensors (3)
- Advanced Image and Signal Processing for Bio-systems (3)
- Advanced Intelligent Bio-systems Engineering (3)
- Advanced Statistics of Bioinformation (3)

- Telerobotics and Its Applications (3)
- Haptics and Virtual Reality (3)
- Discrete Event Systems Control (3)
- Special Topics in Bio-systems Machine Learning (3)
- Advanced Data Communication and Networking for Bio-systems (3)
- Advanced Human-Robot Interface (3)
- Special Topics in Bio-systems Robotics (3)
- BioMEMS (3)
Micro- and Nanoengineering in Agriculture (3)
Biologically Inspired Engineering Systems (3)
Topic in Biomaterials and Tissue Engineering (3)
Advanced Bio-resources Process Engineering (3)
Topic in Biological Thermodynamics (3)
Engineering Cell Biology (3)
Engineering Thesis Writing in English (3)

Special Topics in Biosystems Mathematics 1 (3)
Special Topics in Biosystems Mathematics 2 (3)
Biosystems Seminar 1 (1)
Biosystems Seminar 2 (1)
Topics in Bio-systems Engineering I (3)
Topics in Bio-systems Engineering II (3)

Professors

Rural System Engineering

- Kwang-Sik Yoon, Ph.D.
  [Professor, Rural Environmental Water, ksyoon@jnu.ac.kr]
- Woo-Jung Choi, Ph.D.
  [Professor, Environmental Soil Science, wjchoi@jnu.ac.kr]
- Won-Jin Baek, Ph.D.
  [Professor, Rural Infrastructure Engineering, bwj215@jnu.ac.kr]
- Seung-Hwan Yoo, Ph.D.
  [Assistant Professor, Rural Water Resources Engineering, yoosh15@jnu.ac.kr]

Biosystems Engineering

- Soo-Nam Yoo, Ph.D.
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- Young-Soo Choi, Ph.D.
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- Kyeong-Hwan Lee, Ph.D.
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- Hyoung Il Son, Ph.D.
  [Assistant Professor, Human-Centered Robotics and Automation, hison@jnu.ac.kr]
- Jangho Kim, Ph.D.
  [Assistant Professor, Nanoengineered Biomaterial Systems, rain2000@jnu.ac.kr]

Laboratories

Rural System Engineering

Irrigation and Drainage Lab
1. Supervisor: Kwang-Sik Yoon, Ph.D.
2. Research Interests
   - Water resources conservation in rural area
   - Nonpoint pollution modeling and monitoring
   - Water quality control in rural watershed
   - Engineering hydrology application
   - Rural stream restoration

Land Remediation and Reclamation Lab
1. Supervisor: Woo-Jung Choi, Ph.D.
2. Research Interests
   - Exploring C and N cycling in ecosystems using stable isotope techniques
   - Development of technology for enhanced soil C sequestration
   - Prevention and remediation of soil and water pollution
   - Dendrochronology study using tree ring for tracing historical changes in ecosystem under climate change

Rural Infrastructure Lab
1. Supervisor: Won-Jin Baek, Ph.D.
2. Research Interests
   - Effect of creep on the settlement-time relation
during primary consolidation of clay.

- An Analysis of secondary consolidation behavior of soft clayey ground
- A characteristics of ground improvement method
- A study on the stability of land slope by FANDA-cone penetration test results
- A creep behavior of over-consolidated clay including secondary consolidation and influence of over-consolidation ratio

**Rural Water Resources Engineering Lab**

1. Supervisor: Seung-Hwan Yoo, Ph.D.
2. Research Interests
   - Modeling of Agricultural water resources
   - Analysis of Agricultural drought
   - Climate change impact in rural area
   - Estimation of water footprint and virtual water
   - Development of Water-Energy-Food Nexus platform

**BioSystems Control Lab**

1. Supervisor: Yoong-Soo Choi, Ph.D.
2. Research Interests
   - Biomechatronics, microprocessor-based control system design, artificial intelligence, agricultural machinery control
   - Environmental control of plant factory
   - Food process control
   - Development of harvesting machinery

**Sensors and Intelligent Biosystems Lab**

1. Supervisor: Kyeong-Hwan Lee, Ph.D.
2. Research Interests
   - Instrumentation and Automation for Biosystems
   - Biorobotics and Autonomous Vehicle
   - Environment-friendly Precision Agriculture Technology
   - Biosensors

**Human-Centered Robotics and Automation Lab**

1. Supervisor: Hyoung Il Son, Ph.D.
2. Research Interests
   - Robotics and Automation: Multi-robot SLAM, Multi-robot Swarm Control
   - Haptics and Teleoperation: Multimodal Shared Teleoperation
   - Agricultural Field Robotics

**Nanoengineered Biomaterial System Lab**

1. Supervisor: Jangho Kim, Ph.D.
2. Research Interests
   - Biomaterials
   - Biologically Inspired Engineering Systems
   - Cell and Tissue Engineering
   - Agricultural Micro- and Nanotechnology
Graduate Studies in Department of Bioenergy Science and Technology

After the energy crisis in the 1970s, natural gas and atomic energy have been utilized to supply a portion of the energy demand due to the accelerated increase in the human population and improvement of human life. However, petroleum resources will become depleted within this century. In recent years, the use of biomass (in which solar energy is captured by photosynthesis and stored) as an alternative and renewable energy source has drawn interest as a means of complementing energy needs. Moreover, biomass is considered a useful alternative energy source that could limit the greenhouse gas emissions that drive global climate change. The aim of this grant proposal is to establish basic knowledge that will enable improvement of the yield and quality of cellulosic biofuels by multidisciplinary system approaches, and to develop production technology of bioethanol.

Education aim / Operation Plan

Our education aim is to nurture the education and professional development of talented people, whose has creative acumen and problem solving abilities will guide the bio-energy industry sector. Renewable energy of the 21st century knowledge base societies with new growth dynamics project requires international experts in the bio-energy field.

Bio-energy researchers with world-wide research ability and the ability to utilize various academic fields. Multi-disciplinary education and research will synergistically add to the research importance of the department. To operate suitably, six scholars will be invite to carry out education courses.

Grow experts with global talents in the field of Bioenergy Science and Technology

A. Research Capability Promotion Programs
   - Journal club, Increasing caliber for graduation, Progress report, Joint meeting, Bioenergy student symposium

B. English Capability Promotion Programs
   - Communication skills, Writing skills, Overseas internship, English certificates, Lectures with English, Presentation with English

Degree Requirements

Master’s degree candidates are required to earn 24 credits. Ph.D. candidates are required to earn an additional 36 credits.
What Do You Study?

Current Topics in Cell signaling (3)
Plant Metabolic Biochemistry (3)
Advanced Bioenergy Science (3)
Advanced Molecular Biology (3)
Advanced Molecular Cell Biology (3)
Advanced Molecular Genetics (3)
Advanced Cell Biology (3)
Advanced Plant Molecular Biology (3)
Advanced Plant Biotechnology (3)
Protein Engineering (3)
Metabolic Engineering (3)
Current Topics in Wood Technology (3)
Current Topics in Microbial Engineering (3)
Current Topics in Biodiesel (3)
Biomass Material Technology (3)
Current Topics in Biomass Pretreatment (3)
Current Topics in Biological Engineering (3)
Current Topics in Fermentation Technology (3)
Current Topics in Separation Process Engineering (3)
Cellulose Science (3)
Systems Biology (3)
Plant Developmental Molecular Biology (3)
Plant Molecular Physiology (3)
Plant-Water Relationships (3)
Systemic Approach to Signal Transduction in Plants (3)
Plant Seed Physiology (3)
Molecular Biology of Plant Hormones (3)
Current Topics in Energy Process Development (3)
Current Topics in Gene Expression and Regulation (3)
Computational Science (3)
Seminar in Seed Production (3)
Molecular Biology and Biochemistry of Plant Lipids (3)
Current Topics in Ocean Biomass (3)
Principles of CDM (3)
Microbial Biocatalysis (3)
Analytic Methodology of Bioenergy (3)
Advanced Bioenergy Engineering (3)
Current Topics on Biorefinery (3)
Current Topics on Bioprocess Engineering (3)
Special Topics in Plant Physiology (3)
Basic Concepts in Genomics (3)
Plant Environmental Stress (3)
Advanced Enzyme Biotechnology (3)
Bioenergy Crop Science (3)
Advanced Methods in Biological Science (3)
Advanced Bioinformatics (3)
Bioinformatics (3)
Advanced Seminar in Plant Systems Biology (3)
Research Guidance1 (3)
Research Guidance2 (3)
Research Guidance3 (3)

Professors

• Kim, Jungmook, Ph.D.
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• Bae, Hyeun-Jong, Ph.D.
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• Lee, Won-Heong, Ph.D.
  [Microbial Engineering Process, wonhlee@jnu.ac.kr]
• Oh, Eunkyoo
  [Plant System Biology, eoh@jnu.ac.kr]
**Laboratories**

1. Plant Cell Signaling & Biomass Control Lab  
   (Phone: +82-62-530-2042)
2. Plant Molecular Physiology Lab  
   (Phone: +82-62-530-0683)
3. Energy Crop Physiology Lab  
   (Phone: +82-62-530-2052)
4. Bioenergy & Biotechnology Lab  
   (Phone: +82-62-530-0266)
5. Microbial Engineering Lab  
   (Phone: +82-62-530-2046)
6. Plant System Biology Lab  
   (Phone: +82-62-530-2045)
Graduate Studies in Agricultural Economics

The Department of Agricultural Economics is dedicated to the education and training of professional applied economists in the analysis of current agricultural problems. Thinking like an economist involves using chains of deductive reasoning to help understand phenomena as well as problem-solving and creative skills in the agricultural sector. Students will have the opportunity to learn about various problems any farm manager is confronted with and the economic principles that guide their decisions.

Degree Requirements

Master’s degree candidates are required to earn 24 credits with a grade point average of 3.0 or above (based on a 4.5 scale) and pass a comprehensive exam in 3 subjects and a foreign language exam. The thesis may be submitted in Korean or English by April or October of each year. Up to 9 credits may be transferred into the Master’s Program.

Ph.D. candidates are required to earn 36 additional credits with a grade point average of 3.0 or above (based on a 4.5 scale) and pass a comprehensive exam in 4 subjects and a foreign language exam. The thesis may be submitted in Korean or English by March or September of each year. Up to 12 credits may be transferred into the Ph.D. Program.

What Do You Study?

| Advanced Statistics (3) | Advanced Farm Accounting (3) |
| Advanced Agricultural Policy (3) | Advanced Farm Survey (3) |
| Advanced Food Economics (3) | Advanced Agricultural Production Economics (3) |
| Advanced Agricultural Development (3) | Advanced Livestock Management (3) |
| Advanced Microeconomics I (3) | Seminar on Farm Management (3) |
| Advanced Mathematical Economics I (3) | Advanced Farm Appraisal and Planning (3) |
| Advanced Mathematical Economics II (3) | Advanced Farm Management Analysis (3) |
| Advanced Production Economics (3) | Advanced Agricultural Economics (3) |
| Advanced Resource Economics (3) | Agricultural Marketing (3) |
| Seminar on Agricultural Policy (3) | Seminar on Agricultural Economics (3) |
| Regional Development (3) | Advanced Agricultural Finance (3) |
| Advanced Farm Management (3) | Agricultural Products (3) |
| Research Methods in Farm Management (3) | Seminar on Agricultural Marketing (3) |
| | Advanced Price Theory on Agricultural Product |
Pricing (3)  
Seminar on Farm Statistics (3)  
Econometrics I (3)  
Econometrics II (3)  
Advanced Econometrics I (3)  
Advanced Econometrics II (3)  
The Theory of Public Choice (3)  
Project Appraisal (3)  
Advanced International Agricultural Marketing (3)  
Industrial Organization of Agricultural Product Market (3)  
Survey of Farmer Production Cost (3)  
Advanced Agricultural Marketing Management (3)  
Advanced Agricultural Marketing (3)  
Advanced Agricultural Marketing Survey (3)  

Seminar on Farm Finance (3)  
Advanced Agricultural Cooperative Management (3)  
Microeconomics I (3)  
Microeconomics II (3)  
Mathematical Economics I (3)  
Mathematical Economics II (3)  
Systems Analysis (3)  
Seminar on Food Economics (3)  
Applied Mathematical Programming (3)  
Input-Output Analysis (3)  
Seminar on Rice Economy (3)  
Advanced Rice Economy (3)  
Advanced International Agricultural Marketing Development (3)  

Professors

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• In Seck Kim, Ph.D.  
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• Yoon-Hyung Kim, Ph.D.  
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Graduate Studies in Department of Transportation and Logistics

Graduate studies in transportation examine issues such as traffic jams, accidents, and air pollution. The Department of Transportation and Logistics nurtures transportation experts able to resolve these types of problems.

Graduate studies in logistics aim to strengthen international competitiveness by strengthening logistics systems. The Department nurtures experts able to plan, design, and operate these types of logistics systems.

Degree Requirements

Ph.D. candidates must earn a total of 36 credits, while master’s degree candidates must earn 24 credits. All students are able to earn up to 9 credits each semester. Students must also pass a comprehensive exam and a foreign language exam as well as submit a master’s thesis.

An academic advisor is appointed to each graduate student based on the student’s interest and with the permission of the advising committee.

What Do You Study?

| Advanced Transportation Planning (3) | Advanced Database Management for Transportation and Logistics (3) |
| Advanced Public Transportation (3) | Advanced Logistics Information System (3) |
| Advanced Study on National and Regional Planning (3) | Information Technology and Management Innovation (3) |
| Advanced Study on Transportation Policies (3) | Economic Evaluation for Transport Infrastructure Investment (3) |
| Transportation Network Theory (3) | Urban Logistics Planning Theory (3) |
| Urban Modeling Seminar (3) | Transportation Economics Seminar (3) |
| Global Logistics Seminar (3) | Transportation Planning Seminar (3) |
| Service Management Seminar (3) | Advanced Green Logistics (3) |
| Performance Management Seminar (3) | Logistics Policies Seminar (3) |
| Network Theory (3) | Estimation of Traffic Accident Cost (3) |
| Port Management Seminar (3) | Urban Disaster Prevention (3) |
| Computer Simulation (3) | Advanced Theory of Urban Planning (3) |
| Advanced Analysis of Traffic Flow (3) | Urban and Regional Economics (3) |
| Advanced Capacity Analysis (3) | International Purchasing Management Seminar (3) |
| Advanced Traffic Control (3) | |
Industrial Organization for Logistics (3)
Thesis Research (3)

Seminar on Traffic Safety (3)

Professors

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- Chang-Ho Choi
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- Seung-Sik Chin
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Graduate Studies in Department of International Commerce

Interdisciplinary Program of International Commerce

The graduate program in International Commerce offers education and research aimed at investigating the rapidly changing domestic and overseas business environment. The program cultivates specialized experts in international commerce.

Degree Requirements

Master’s degree candidates are required to earn 24 credits and pass a comprehensive exam and a foreign language exam as well as submit a master’s thesis.

What Do You Study?

Topics in Statistics (3)  
Topics in International Marketing (3)  
Topics in International Trade Theory (3)  
Topics in Letter of Credit (3)  
Topics in International Financial Management (3)  
Topics in Foreign Direct Investment (3)  
Topics in Overseas Regional Economics (3)  
Topics in Economic Integration (3)  
Topics in International Financial Derivatives (3)  
Case Study on International Commerce (3)  
Topics in Electronic Commerce (3)  
International Trade Contract and Marine Insurance (3)  
Case Study on Distribution and Logistics (3)  
Topics in International Business Management (3)  
Topics in Theory of Foreign Exchange (3)  
Topics in International Business Strategy (3)  
Topics in International Finance (3)  
Topics in Multinational Enterprise (3)  
Topics in Marketing Management (3)  
Topics in Econometrics (3)  
Topics in International Trade Policy (3)  
Topics in International Resource and Environmental Economics (3)  
Topics in Corporate Foreign Exchange Risk Management (3)  
Topics in Commercial Practice of International Trade (3)  
Topics in EDI (3)  
Case Study on International Logistics (3)  
International Negotiation and Foreign Commercial Custom (3)
Professors

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- Gil-sung Kim, Ph.D.
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- Young-moon Kang, Ph.D.
  [Professor, International Commerce, wto3@jnu.ac.kr]

Laboratories

- Internet Trade Practice Lab
- Trade Incubator Lab
Graduate Studies in Business Administration

The goal of the Department of Business Administration aims to provide professional education for students who want to work in various business fields. Since the world economy is fast integrating through openness and globalization, we offer every student courses that cultivate cultural attainments and business expertise, by which they make full use of their talents in facing their opportunities in both domestic and international business enterprises. To cultivate well-rounded and professional business experts, we cover following both basic and applied course:

Basic course covering conventional theories: financial management, human resources & organization behaviors management, production & operations management, marketing, and Management Information Systems.


Degree Requirements
- Master’s degree candidates are required to earn 24 credits, up to 9 credits each semester. Candidates also have to pass a comprehensive exam and a foreign language exam as well as submit a thesis.

What Do You Study?

<p>| Advanced Business Administration Analysis (3) | Corporate Finance (3) |
| Advanced Business Strategy (3) | Network Analysis (3) |
| Advanced Quantitative Management (3) | Advanced Industrial Relations (3) |
| Special Topics of Advanced Financial Accounting (3) | Advanced Agriculture and Fisheries Market Structure (3) |
| Advanced Advertising (3) | Advanced Marketing (3) |
| Advanced International Business (3) | Advanced Accounting (3) |
| Advanced International Marketing (3) | Advanced Production Management (3) |
| Financial Market Theory (3) | Studies on Service Management (3) |
| Studies on Technology Management (3) | Advanced Service Marketing (3) |
| Enterpriser Theory (3) | Advanced Fisheries Marketing (3) |
| Special Topics in the Theory of | Advanced Fisheries Market Structure (3) |</p>
<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Fisheries Law System</td>
<td>(3)</td>
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<tr>
<td>Advanced Compensation Theory for</td>
<td></td>
</tr>
<tr>
<td>Expropriated Fishing Ground</td>
<td>(3)</td>
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<tr>
<td>Advanced Fishing Ground Management</td>
<td>(3)</td>
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<tr>
<td>Advanced Business Ethics</td>
<td>(3)</td>
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<td>Advanced Personnel Management</td>
<td>(3)</td>
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<td>Advanced Wage Management</td>
<td>(3)</td>
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<tr>
<td>Inventory Theory</td>
<td>(3)</td>
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<tr>
<td>Advanced Financial Management</td>
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<tr>
<td>Advanced Organization Theory</td>
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<td>Advanced Organizational Behavior</td>
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<td>Advanced Small and Medium Enterprise Region</td>
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<td>Economic Theory</td>
<td>(3)</td>
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<td>Advanced Investment</td>
<td>(3)</td>
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<td>Applied Behavior Analysis</td>
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<td>Advanced Cooperatives</td>
<td>(3)</td>
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<td>Consumer Behavior Analysis</td>
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<td>Advanced Fisheries Administration</td>
<td>(3)</td>
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<tr>
<td>Advanced Fisheries Business Management</td>
<td>(3)</td>
</tr>
</tbody>
</table>

**Professors**

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- Kyung-soo Chung, Ph.D.  
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- Byung-se Han, Ph.D.  
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Graduate Studies in Department of East Asia Studies

This course concentrates on the culture, economy and politics of East Asian countries including, Korea which is experiencing an increase in national recognition. Students can visualize East Asia by analyzing the East Asian countries from the perspective of a regional frame characterized by East Asia.

Degree Requirements

Master’s degree candidates must earn 24 credits. All students are able to earn up to 9 credits each semester. Students must also pass a comprehensive exam and a foreign language exam as well as submit a master’s thesis.

An academic advisor is appointed to each graduate student based on the student’s interest and with the permission of the advising committee.

What Do You Study?

Studies on International Trade Theories (3)  
Advanced Marketing (3)  
Advanced International Marketing (3)  
Advanced Financial Management (3)  
Advanced Accounting (3)  
Advanced Organizational Behavior (3)  
Advanced International Business (3)  
Advanced Business Administration Analysis (3)  
Advanced Personnel Management (3)  
Advanced Industrial Relations (3)  
East Asian Regional Studies (3)  
Studies on Culture Contents in East Asia (3)  
East Asian Studies (3)  
East Asian Immigration History (3)  
History of Chinese and Korean Cultural Exchange (3)  
Advanced Multimedia System (3)  
Advanced Topics in Game Development (3)  
Topics in Convergence System (3)  

Topics in Mobile System (3)  
Topics in Information Retrieval System (3)  
Topics in Graphic and Moving Image Processing (3)  
Topics in Web Information System (3)  
Comparative Study on Classic Korean and Chinese Prose (3)  
Comparative Study on Korean and Chinese Literature (3)  
East Asian Tea and Art (3)  
Study on East Asian Culture (3)  
Comparative Study on Korean and Chinese Classic Poetry(3)  
Topics in Internet (3)  
Image Pattern Recognition (3)  
Computer Vision (3)  
Sensor Networks (3)  
Topics in Mobile Platform (3)  
Data Mining (3)
Professors

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- Won-il Cho, Ph.D.
  [Professor, Sinology, mengzi@chonnam.ac.kr]
- Young-uk Um, Ph.D.
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- Jin-hee Song, Ph.D.
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- Byung-sae Han, Ph.D.
  [Professor, Marketing, bshan@chonnam.ac.kr]
- Jun-Suk Lee, Ph.D.
  [Professor, Logistic Information and EC and Games, iexpert@chonnam.ac.kr]
- Hy-Thaek Chong, Ph.D.
  [Associate Professor, Distributed Systems and Multimedia, htceong@chonnam.ac.kr]
- Jeong-Seon Park, Ph.D.
  [Assistant Professor, Multimedia Programming and Pattern Recognition, sunyjsp@chonnam.ac.kr]
Graduate Studies in Interdisciplinary Program of Digital Convergence

The interdisciplinary program of digital convergence focuses on studying the skills of leading regional-based industries by means of converging technology. At the same time, it offers a comprehensive education aimed at market creation, the content fusion industry, blue ocean industries and field problem solving.

Degree Requirements

Master’s degree candidates are required to earn 15 credits, and doctoral degree 24 credits.

What Do You Study?

- Advanced Fish Diseases and Nutrition (3)
- Diagnosis of Aquatic Animal Diseases 1 (3)
- Diagnosis of Aquatic Animal Diseases 2 (3)
- Fish Virology (3)
- Fish Parasitology (3)
- Ecology of Aquatic Pathogens (3)
- Management of Aquatic Animal Diseases and Public Sanitation (3)
- Prevention of Epizootics (3)
- Advanced Fish Immunology (3)
- Advanced Fish Pathology (3)
- Clinical Pathology (3)
- Safety Control of Fisheries Products (3)
- Clinical Biochemistry (3)
- Principles of Fisheries Drugs (3)
- Advanced Multimedia Systems (3)
- Advanced Distributed Systems (3)
- Advanced Operating Systems (3)
- Advanced Web Programming (3)
- Advanced Mobile Communication (3)
- Sensor Networks (3)
- Advanced Information Security (3)
- Topics in Graphic and Moving Image Processing (3)
- Machine Learning (3)
- Data Mining (3)
- Topics in Mobile Systems (3)
- Topics in Mobile Platform (3)
- Topics in Real-Time Systems (3)
- Image Pattern Recognition (3)
- Topics in Web Information Systems (3)
- Topics in Convergence Systems (3)
- Topics in Internet (3)
- Topics in Embedded Systems (3)
- Topics in Bio-active Natural Products (3)
- Drug Interactions (3)
- RFID System Applications (3)
- Advanced Computation Theory (3)
- Advanced Database System (3)
- Topics in Information Retrieval Systems (3)
- Computer Vision (3)
- Software Development (3)
Professors

• Hyug-Hyun Cho, Ph.D.
  [Professor, Database and Security, hhcho@jnu.ac.kr]
• Soon-Hee Han, Ph.D.
  [Professor, Compiler and Mobile System, shhan@jnu.ac.kr]
• Young-Man Kang, Ph.D.
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• Hee-Teak Ceong, Ph.D.
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• Yong-Min Kim, Ph.D.
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• Min-Suk Yoon, Ph.D.
  [Professor, MS and IS, msyoon@jnu.ac.kr]
• Seung-Bong Park, Ph.D.
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  [Professor, Logistic Information and Computer Games, iexpert@jnu.ac.kr]
• Jeong-Seon Park, Ph.D.
  [Associate Professor, Multimedia Programming and Pattern Recognition, sunyjsp@jnu.ac.kr]
Graduate Studies in Department of Culture Contents?

The graduate course covers the topics of content authoring and distribution. The purpose of the graduate studies is to provide highly qualified information technology (IT) professionals in the field of electronic commerce.

Degree Requirements

Master’s degree candidates must earn 24 credits. All students are able to earn up to 9 credits each semester. Students must also pass a comprehensive exam and a foreign language exam as well as submit a master’s thesis.

An academic advisor is appointed to each graduate student based on the student’s interest and with the permission of the advising committee.

What Do You Study?

Thesis Research (3)
Advanced Information Security (3)
Software Development Management (3)
Topics in Internet (3)
High Quality Statistical Analysis (3)
Decision Making Methodology (3)
Decision Making Seminar (3)
Digital Culture Business Seminar (3)
Introduction to E-Business (3)
E-Business Strategy (3)
Special Topics in IS Research (3)
Introduction to Information Security (3)
Security and Privacy (3)
Advanced Electronic Commerce Security (3)
Advanced Computation Theory (3)
Sensor Networks (3)
RFID System Applications (3)
Topics in Mobile Systems (3)
Advanced Operating Systems (3)
Topics in Embedded Systems (3)
Topics in Mobile Platform (3)
Advanced Mobile Communication (3)
Topics in Information Retrieval Systems (3)
Data Mining (3)
Advanced Distributed Systems (3)
Topics in Convergence Systems (3)
Advanced Multimedia Systems (3)
Advanced Web Programming (3)
Topics in Network Game (3)
Topics in Graphics and Video Processing (3)
Topics in Web Information Systems (3)
Topics in Culture Contents Planning (3)
Topics in Web Design (3)
Machine Learning (3)
Computer Vision (3)
Image Pattern Recognition (3)
Topics in Digital Image Processing (3)
Professors

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- Seung-Bong Park, Ph.D.
  [Professor, e-Business Models and e-Business Strategy, parks@jnu.ac.kr]
Graduate Studies in Department of English

The Department of English teaches English language skills necessary for scholarly research, and provides students with in-depth knowledge of a broad range of subjects in the fields of English linguistics and literature. Students can specialize either in English linguistics or British and American literature.

Degree Requirements

Master’s degree candidates are required to earn 24 credits, up to 9 credits each semester. Candidates also have to pass a comprehensive exam and foreign language exam as well as submit a thesis.

Ph.D. candidates are required to earn 36 credits and pass a comprehensive exam and foreign language exam. Students must also submit a dissertation. An academic advisor is appointed to each graduate student based on the student’s interest and with the permission of the advising committee.

What Do You Study?

<table>
<thead>
<tr>
<th>English Grammar (3)</th>
<th>History of the English Language (3)</th>
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<tbody>
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<td>Morpheme Semantics (3)</td>
<td>Contemporary English Syntax (3)</td>
</tr>
<tr>
<td>Corpus Linguistics (3)</td>
<td>Contemporary Semantics (3)</td>
</tr>
<tr>
<td>Discourse Analysis (3)</td>
<td>Seminar in English Phonology (3)</td>
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<tr>
<td>Seminar in English Phonetics (3)</td>
<td>Seminar in British and American Poets before the 20th Century (3)</td>
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<tr>
<td>History of English Phonological Theory (3)</td>
<td>Seminar in British and American Writers before the 20th Century (3)</td>
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<tr>
<td>Ecocriticism (3)</td>
<td>English Literature and Nature (3)</td>
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<td>Environments and English Poetry (3)</td>
<td>English Literature and Films (3)</td>
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<td>General Linguistics (3)</td>
<td>History of English Literature (3)</td>
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<td>English Morphology (3)</td>
<td>English Syntax (3)</td>
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<td>Traditional Grammar (3)</td>
<td>Psychological Linguistics (3)</td>
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<td>Theory and Practice of Translation (3)</td>
<td>English Linguistics and Literature (3)</td>
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<tr>
<td>18-19th Century American and British Novel (3)</td>
<td>Modern American and British Novel (3)</td>
</tr>
<tr>
<td>18-19th Century American and British Poetry (3)</td>
<td>Modern American and British Poetry (3)</td>
</tr>
<tr>
<td>Elizabethan Drama (3)</td>
<td>Modern American British Drama (3)</td>
</tr>
<tr>
<td>History of Western Literary Criticism (3)</td>
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</table>
Literature & Environment (3)
Special Topics in English Syntax (3)
Topics in Semantics (3)
Special Topics in English Phonology (3)
Modern British and American Poets (3)
Modern British and American Writers (3)
Comparative Literature (3)

Topics on the Contemporary British and American Fiction (3)
Seminar 1 (3)
Seminar 2 (3)
Seminar 3 (3)
Modern Literature Theory (3)

Professors

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• Sung-Kap Yang, Ph.D.
  [Professor, English Poetry, yangtop@chonnam.ac.kr]
• Kwan-Young Oh, Ph.D.
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• Yong-Ki Kang, Ph.D.
  [Professor, English Novel, greening@chonnam.ac.kr]
Graduate Studies in Education

Education is a discipline aimed at enhancing the healthy development and the harmonious adjustment of the younger generation. The Department of Education offers the following graduate programs: Educational Philosophy, Educational History, Curriculum and Instruction, Educational Evaluation, Educational Psychology, Counseling Psychology, School Psychology, Educational Technology, Educational Sociology, Lifelong Education, and Educational Administration. Prospective students are advised to decide their specialization area at the initial stage of application for admission. Two kinds of degrees are granted at the Department of Education; the Master’s of Education, and the Doctorate in Education.

Degree Requirements

Master’s degree candidates are required to earn at least 24 credits. Ph.D. candidates are required to earn an additional 36 credits. Students in the combined master’s/Ph.D. Program must earn 60 credits. Greater requirements may be enforced through internal regulations in specialized areas of study or upon agreement between academic advisors and the Chair of the Department of Education.

Before applying for the comprehensive exam, all graduate students must fulfill course requirements (18 credits for master’s degree candidates, 27 credits for Ph.D. candidates, and 51 credits for master’s/Ph.D. candidates) and receive recommendations from their academic advisors. They must also have participated in at least two-thirds of all faculty-graduate student seminars, submitted their thesis/dissertation proposals on time (and received passing scores), and published a research article.

Graduate students should submit a thesis proposal or a dissertation proposal along with recommendations from their respective academic advisors six months ahead of the due date for submission of their thesis or dissertation to the thesis/dissertation committee for review and evaluation.

Before theses or dissertations are referred to the committee for review and evaluation, students must have fulfilled course requirements and passed the foreign language exam and comprehensive exam.

Both master’s degree and Ph.D. candidates are assigned an academic advisor upon entry into their program. Some may want to seek a co-advisor. Students can change their academic advisors during their first year. Each year, 5 master’s level students and 3 Ph.D. level students are assigned to a academic advisor.
What Do You Study?

**General Courses**
Qualitative Research Methods in Education
Quantitative Research Methods in Education
Historical and Philosophical Research of Education

**Electives**
Other Courses
Students from other areas of study may need to earn a minimum number of prerequisites from undergraduate courses in the Department.

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**Professors**

- Jee-hun Lee, Ph.D.
  [Professor, Philosophy of Education, jehlee@jnu.ac.kr]
- Hyung-yeel Koh, Ph.D.
  [Professor, Sociology of Education, henky@jnu.ac.kr]
- Yong-hwan Lee, Ph.D.
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- Hoi-soo Kim, Ph.D.
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- Sung-Hyun Cha, Ph.D.
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- Ju-ri Joeng, Ph.D.
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- Ju-mi Lee, Ph.D.
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**Laboratories**
- e-Learning Lab
- Multimedia Lab
- Test Development Lab
- Reference Room
- Seminar Room
- Teaching Behaviors Analysis Room
- Teaching Behaviors Observation Room
Graduate Studies in Early Childhood Education

Programs for the master’s degree and doctoral degree provide advanced professional training in early childhood education. Programs broaden and deepen graduate students’ knowledge in the field of early childhood education and/or enable certified early childhood teachers to improve their professional competence in teaching young children. At the master’s level, the coursework is mostly prescribed, but doctoral students participate in individually tailored learning opportunities including research, coursework, and personal preparation.

Degree Requirements

Master’s degree students are required to earn 24 credits to graduate. Doctoral students are required to earn 36 credits in order to graduate.

What Do You Study?

Required Courses

Study on Early Childhood Curriculum
Educational Statistics and Research
Design in Early Childhood Education
Research for Master’s or Doctoral Degree

Electives

Other Courses

Students from other undergraduate majors may need to take a certain number of prerequisite classes from the undergraduate and postgraduate courses in the Department.

Professors

- Young-Ok Kim, Ed.D.
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- Kyung-Sook Kim, Ph.D.
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Laboratories

Seminar rooms are available for graduate students to facilitate their research activities.
Graduate Studies in Social Studies Education

This program is designed to strengthen educators’ theoretical knowledge as well as to provide experience in educational research. The Ph.D. Program is designed to prepare students to become educational scholars in areas of history education, geography education, ethics education, and social science education.

Degree Requirements

Master’s degree candidates are required to earn 24 credits (a minimum of 12 credits in this department). They must also pass a comprehensive exam (in 2~3 other subjects) and a foreign language exam.

Ph.D. candidates are required to earn 36 credits (minimum of 18 credits in this department). They must also pass a comprehensive exam (in 4 subjects) and a foreign language exam. Furthermore, students must present a thesis proposal and a research paper at a scholarly conference at least once before submitting a thesis.

All students are assigned a supervisor based on research interests and major.

What Do You Study?

General Courses
Education Theory for Social Studies
Text Analysis for Social Studies
Methods and Assessment in Social Studies Education

Seminars in Social Studies Education

History Education Major Courses
Development of History Texts
Studies of History Instructional Methods
Theory of History Education
Studies of History Classrooms I
Studies of History Classrooms II
Studies of Korean History Texts
Recent Studies of Korean History
Recent Studies of European History
Recent Studies of Asian History
Studies of European History Texts

Ethics Education Major Courses
Studies of Asian History Texts

Studies of International Politics
Topics in Oriental Thought
Studies in Unification Problems
Studies on Korean Ethical Thought
Studies in British and American Ethical Thought
Readings on Korean Ethical Thought
Studies in Apriori Ethics and Dialectic Ethics
Studies on Anthropology
Studies in Ethics on the Principle of Gender Equality
Seminar in Economic Education
Economics Seminar
Democracy & Citizenship Education
Seminar in Law-Related Education
Seminar in Law
Seminar in Social Culture Education
Studies in Modern Ethical Thought
The Relations Between Religion and Ethics
Applied Ethics Seminar
Studies on Ethics and Values Education
Studies in Theories of Moral and Ethics Education
Topics in Logic and Essay of Moral and Ethics Education
Studies in Teaching evaluation of Moral and Ethics Education

**Geography Education Major Courses**
Advanced Lecture of Geosystem Education
Advanced Lecture of Structural Geomorphology Education
Contemporary Development of Geography Thought Education
Education of Field Survey for Geomorphology Information
Geostatistical Analysis
GIS & Remote Sensing
Practices in Geographic Curriculum
Research Methodology in Physical Geography
Research Methodology in Urban Geography
Research Methodology in Economic geography
Research of Quaternary Environment
Research on Education of Contemporary Cultural Space
Research on Education of Cultural Geography
Research on Education of Migration and Diaspora

Seminar in Climatic Geomorphology
Seminar in climatic geomorphology and climatic changes
Seminar in Development Studies
Seminar in Economic Geography Education
Seminar in Location Theory
Seminar in Physical Geography
Seminar in population Geography Education
Seminar in Rural settlement Planning Education
Seminar in Urban Geography Education
Seminar in Urban Structure Theory Education
Seminar in World Urban Region Education
Seminar on Education of Social Geography
Seminar on education of contemporary human geographic issues
Seminar on Education of Critical Geography
Seminar on Education of Feminist Geographies
Seminar on Education of Historical Geography
Seminar on Education of Social Space in the City
Seminar on Research Methods of Geographic Education
Studies in Curriculum of Geography Education
Studies in Industrial Region
Studies of Cartography and GIS
Studies of Environmental Geography Education
Studies of System Analysis if Pedology
Studies of World Geography Education
Topics on History of Geography Education Thoughts

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**Professors**

**History Education**

- Hee Myeon Yoon, Litt.D.
  [Professor, Modern Korean History, yoonhm@jnu.ac.kr]
- Man Kyu Park, M.A.
  [Professor, Modern and Contemporary Korean History, mkpark@jnu.net]
- Young Hyo Lee, Ph.D.
  [Professor, Western History/ History Education, leeyh678@hanmail.net]
- Chong Ju Chung Litt.D.
  [Professor, Ancient & Medieval Korean History, shanti@jnu.ac.kr]
- Young Ok Lee Ph.D. in History
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Ethics Education

- Kee-Hyeon Kim, Ph.D.
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- Young-Ran Roh, Ph.D.
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- Tak-Joon Jung, Ph.D.
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- Gu-Sup Kang, Ph.D.
  [Associate Professor, Unification Education, gusupkang@gmail.com]

Geography Education

- Kyung-Sook Jeon, D.Sc.
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- Cheol-Wong Park, Ph.D. in Geog.
  [Associate Professor, Geography Education and Geomorphology, cwpark@chonnam.ac.kr]
- Kyong-Hwan Park, Ph.D.
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- Yong-Gyun Lee, Ph.D
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- Jin Kwan Kim, Ph.D.
  [Assistant Professor, Physical Geography, Geomorphology, jinkwankim77@gmail.com]

Laboratories
- Research Center for Regional Geographic information
- Multimedia classroom and GIS Laboratories
Graduate Studies in Ethics Education

Graduate programs in Ethics Education prepare educators by broadening and deepening students’ knowledge in the field of ethics education, and enabling secondary school teachers to enrich their background in teaching and to improve their professional competence. The coursework contains studies in Western ethics and Eastern ethical thoughts, together with studies of North Korea in preparation for national reunification.

What Do You Study?

- Topics in Oriental Thought
- Studies in Unification Problems
- Studies on Korean Ethical Thought
- Studies in British and American Ethical Thought
- Readings on Korean Ethical Thought
- Topics in Political and Social Thought
- Studies in Apriori Ethics and Dialectic Ethics
- Studies in Practical Philosophy
- Studies on Korean-Chinese Contemporary Philosophy
- Studies on Anthropology
- Studies in Ethics on the Principle of Gender Equality
- Studies in Modern Ethical Thought
- The Relations Between Religion and Ethics
- Applied Ethics Seminar
- Studies on Ethics and Values Education
- Studies in Theories of Moral and Ethics Education
- Topics in Logic and Essay of Moral and Ethics Education
- Studies in Teaching evaluation of Moral and Ethics Education
- Studies in Confucian Ethics
- Studies in Buddhist Ethics
- Seminar in Theories of Ethics Education in Korea
- Topics in Anglo-American Thoughts
- Readings of Western Ethics Writings
- Studies in Western Ethical Thoughts
- Seminar on Moral Psychology
- Study of Moral Curriculum and Method

Professors

- Kee-Hyeon Kim, Ph.D.  [Professor, East Asian Ethics, 47korea@hanmail.net]
- Young-Ran Roh, Ph.D.  [Professor, Western Ethics, yrroh@hanmail.net]
- Tak-Joon Jung, Ph.D.  [Professor, Moral Education, jungtj1@hanmail.net]
- Gu-Sup Kang, Ph.D.  [Associate Professor, Unification Education, gusupkang@gmail.com]
Laboratories
- Graduate Seminar Room
Graduate Studies in Department of Culture Contents

Graduate studies in the Department of Culture Contents covers such topics as cultural industries of the future in the field of advanced content authoring, distribution, professional manpower, and information technology (IT)-based business in order to train highly-skilled workers.

Degree Requirements

Master’s degree candidates must earn 24 credits. All students are able to earn up to 9 credits each semester. Students must also pass a comprehensive exam and a foreign language exam as well as submit a master’s thesis.

An academic advisor is appointed to each graduate student based on the student’s interest and with the permission of the advising committee.

What Do You Study?

- Thesis Research (3)
- Advanced Information Security (3)
- Software Development Management (3)
- Topics in Internet (3)
- High-quality Statistical Analysis (3)
- Decision Making Methodology (3)
- Decision Making Seminar (3)
- Digital Culture Business Seminar (3)
- Introduction to E-Business (3)
- E-Business Strategy (3)
- Special Topics in IS Research (3)
- Introduction to Information Security (3)
- Security and Privacy (3)
- Advanced Electronic Commerce Security (3)
- Advanced Computation Theory (3)
- Sensor Networks (3)
- RFID System Applications (3)
- Topics in Mobile System (3)
- Advanced Operating System (3)

- Topics in Embedded System (3)
- Topics in Mobile Platform (3)
- Advanced Mobile Communication (3)
- Topics in Information Retrieval System (3)
- Data Mining (3)
- Advanced Distributed System (3)
- Topics in Convergence System (3)
- Advanced Multimedia System (3)
- Advanced Web Programming (3)
- Topics in Network Game (3)
- Topics in Graphics and Video Processing (3)
- Topics in Web Information System (3)
- Topics in Culture Contents Planning (3)
- Topics in Web Design (3)
- Machine Learning (3)
- Computer Vision (3)
- Image Pattern Recognition (3)
- Topics in Digital Image Processing (3)
Professors

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  [Assistant Professor, Multimedia Programming and Pattern Recognition, sunyjsp@chonnam.ac.kr]
- Yong-Min Kim, Ph.D.
  [Assistant Professor, Information Security and Electronic Commerce Systems, ymkim@chonnam.ac.kr]
- Min-Suk Yoon, Ph.D.
  [Associate Professor, MS and IS, msyoon@chonnam.ac.kr]
- Seung-Bong Park, Ph.D.
  [Assistant Professor, e-Business Models and e-Business Strategy, parks@chonnam.ac.kr]
Graduate Studies in English Education

The Department of English Education offers a well-organized training program and in-depth M.Ed. and Ph.D. postgraduate courses in English Language Education. The graduate program of the Department aims to prepare graduates to take a leading role in fields related to English education, English language, and English literature. They will become experts in the interrelated areas of English education. The courses focus on concepts, principles, and theories of English education and provide a general background in English language and literature, with a special focus on ELT. The department’s curricula are tailored and structured to appeal to those who are interested in exploring all areas of linguistics and literature. Successful graduates who obtain the degree of Master of Education or Doctor of Philosophy in Education are expected to take the role of researchers and specialists in the fields of English language, English literature, and English education.

Degree Requirements

Part-time students are limited to earning less than 9 credits per semester. Ph.D. candidates who require supplementary credits (aside from those who hold Master’s degrees in English Language and Literature or English Education) may earn more than 9 credits per semester. A total of 12 credits may be transferred into the program.

All students must pass a qualification examination prior to presenting a thesis. Students must also pass a foreign language test (minimum scores on TOEIC and CBT TOEFL are 730 and 213, respectively). All theses must be handed in for perusal before a thesis is officially submitted for examination. A total of 6 faculty members shall sit on the thesis examining board.

Master’s degree candidates must earn 24 credits and Ph.D. candidates must earn 36 credits (18 from Department courses) to graduate. A supervisor is assigned to all students. Faculty members are limited to supervising 3 students and teaching 2 courses each semester.

All students enrolled since 2005 must publish at least 1 paper in a national journal or submit memoirs (co-publications with supervisors are also acceptable).

What Do You Study?

Major
Research Method in TEFL (3)
Testing in TEFL (3)
TEFL Methodology (3)

ELT Materials Development (3)
Theoretical Foundation of TEFL (3)
Applied Linguistics (3)
English Discourse Analysis (3)
Second Language Acquisition (3)  
Sociolinguistics and TEFL (3)  
Psycholinguistics and TEFL (3)  
English Pedagogical Grammar (3)  
Topics in TEFL Methodology (3)  
Seminar on TEFL (3)  
English Applied Phonetics (3)  
English Phonology (3)  
English Syntax (3)  
English Semantics (3)  
English Pragmatics (3)  
Topics in English Linguistics (3)  

English Linguistics and TEFL (3)  
Seminar on British and American Poetry (3)  
Seminar on British and American Novel (3)  
Seminar on British and American Drama (3)  
Seminar on British and American Criticism (3)  
Seminar on EAP (English for Academic Purposes) (3)  
British and American Literature Education (3)  
British and American Culture and English Education (3)  
Feminist British and American Literature (3)  
The Western Classic and Its Pedagogy (3)

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**Professors**

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**Graduate Studies in Physical Education**

The Department of Physical Education was established in March 1973 with the aim of fostering physical education teachers. In the 33 years since its inception, the Department has produced over 1,000 physical education teachers. The Department has 7 Professors in various branches of learning and there are currently over 100 students enrolled.

**Degree Requirements**

Students are required to earn the required number of credits to graduate. Students must also pass a comprehensive test, a foreign language exam, and fulfill computer certification requirements.

**What Do You Study?**

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<tr>
<th>Topic</th>
<th>Topic</th>
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<tr>
<td>Basis in Kinesiology</td>
<td>Sports Culture of Walk Literature</td>
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<td>Research in the Aged Sports Psychology</td>
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<td>Fitness Prescription for the Aged</td>
<td>Topics In Social Psychology of Sports</td>
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<td>Research for Master's or Doctoral Degree</td>
<td>Research in Sports Sociology</td>
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<td>Topics in Public Health Crash Course</td>
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<td>Research in Social Problem and Sports</td>
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<td>Topics in Social Problem and Sports</td>
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<td>Research in Biomechanics</td>
<td>Experiments in Sport Psychology</td>
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<td>Topics in Biomechanics</td>
<td>Topics in Sport Psychology</td>
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<td>Research in Sports for All</td>
<td>Sports History and Phenomenon</td>
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<td>Topics in Sports for All</td>
<td>Topics in Sports History</td>
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<tr>
<td>Research I in Sports Management and Marketing</td>
<td>Communication of Sports and Culture</td>
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<td>Seminar II in Sports Management and Marketing</td>
<td>Topics in Sports Ethics</td>
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<tr>
<td>Research in Sports Tourism</td>
<td>Research in Sports Medicine</td>
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<td>Topics in Sports Tourism</td>
<td>Topics in Learning of Sports</td>
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<tr>
<td>Research in Sports Pedagogy</td>
<td>Sports Philosophy Search</td>
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<td>Topics in Sports Pedagogy</td>
<td>Topics in Philosophy of Sport Education</td>
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<tr>
<td>Research in Sports Marketing</td>
<td>Research in Exercise Test and Exercise</td>
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<td>Topics in Sports Marketing</td>
<td>Exercise and Healthcare</td>
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<td>Topics in Sports Marketing</td>
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</table>
Exercise and Neuromuscular Physiology
Motion and Senility
Exercise and Physiology for the Aged
Exercise and Obesity
Exercise, Metabolic and Lifestyle Disease
Research in Exercise and Geriatric Disease
Exercise and Cardiopulmonary Function
Exercise and Ergonomics
Exercise and Weight Management
Analyzed Method in Sports Technique
Research in Exercise Physiology
Topics in Exercise Physiology
Experiments in Kinesiology
Research in Kinesiology
Topics in Exercise Science of Nutrition
Research in Exercise Hygiene
Research in Motor Control
Topics in Motor Control
Research in Motor Learning
Topics in Motor Learning
Applied Biomechanics I
Application Exercise Dynamics
Topics in Teaching Theory of Physical Education

Professors

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Graduate Studies in Special Education?
Special Education is a form of education that arranges special curricula that fits the characteristics of physically and mentally challenged students who have trouble learning in mainstream schools.

Degree Requirements
Master’s degree candidates are required to earn 24 credits to graduate. Ph.D. candidates are required to earn 36 credits.

What Do You Study?

- Audiology (3)
- Qualitative Research Methodology (3)
- Education for Children with Intellectual Disability (3)
- Research in Psychology of Children with Intellectual Disability (3)
- Teaching-Learning Theories for Children with Intellectual Disability (3)
- Seminar in Education for Children with Intellectual Disability (3)
- Research in Education for Children with Severe Intellectual Disability (3)
- Research in Cerebral Palsy (3)
- Advanced Seminar in Children with Moderate Disabilities (3)
- Seminar in Health Impairments (3)
- Education for Children with Visual Impairments (3)
- Research in Psychology of Children with Visual Impairments (3)
- Teaching-Learning Theory for Children with Visual Impairments (3)
- Seminar in Education for Children with Visual Impairments (3)
- Research in Language Development (3)
- Case Study in Communication Disorders (3)
- Advanced Seminar in Children with Hearing Impairments (3)
- Seminar in Emotional and Behavioral Disorders (3)
- Seminar in Attention Deficit Hyperactivity Disorder (3)
- Positive Behavioral Support (3)
- Research in Social Skills Interventions (3)
- Research in Augmentative and Alternative Communication (3)
- Trends and Issues in Emotional and Behavioral Disorders (3)
- Applied Behavior Analysis (3)
- Single-Subject Design (3)
- Autism Spectrum Disorder (3)
- Psychological Measurements and Testing (3)
- Practice of psychological tests for children with disabilities (3)
- Research Methods in Special Education (3)
- Parents Education for Children with Disabilities (3)
- Special Education and Lifelong Education (3)
Special Education Administration (3)
Statistics for Educational Research (3)
Seminar in Early Childhood Special Education (3)
Seminar in Counseling for Children with Disabilities (3)
Research in Special Education System and Policy (3)
Special Education and Multimedia (3)
Child Neuropsychology and Education (3)
Seminar in Managing Early Childhood Special Education Institutions (3)
Advanced Seminar in Early Childhood Special Education (3)
Research in Special Education Technology (3)
Advanced Statistics for Educational Research (3)
Education for Children with Multiple and Physical Disabilities (3)
Research in Psychology of Children with Multiple Physical Disabilities (3)
Seminar on Therapeutic Education for Children with Multiple Physical Disabilities (3)
Seminar in Education for Children with Severe and Multiple Disabilities (3)
Advanced Seminar in Communication Disorders (3)
Research in Language Development of Children with Hearing Impairments (3)
Assessment & Evaluation of Students with Learning Disabilities (3)
Advanced Seminar in Education for Children with Learning Disabilities (3)
Teaching & Learning Strategies for Students with Learning Disabilities (3)
Studies in Mathematics Education for Students with Learning Disabilities (3)
Studies in Reading and Writing Disabilities (3)
Seminar in Early Childhood Special Education Curriculum (3)
Methodology in Qualitative Research (3)
Counseling Processes and Techniques (3)
Group Counseling for Students with Disabilities (3)
Family Therapy for Students with Disabilities (3)
Counseling Case Studies for Students with Disabilities (3)
Seminar in Communication Disorders (3)
Anatomy & Physiology of Speech Organs (3)
Diagnosis and Assessment of Communication Disorders (3)
Seminar for the Person Hearing Impairments (3)
Studies on Psychology of Students with Learning Disabilities (3)
Trends and Issues in Learning Disabilities (3)

Professors

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Graduate Studies in Science Education

The Doctoral Program of science education confers Doctor of Philosophy in Science Education candidates. The program aims to develop professionals in the research and practice of science education. It consists of five majors: physics education, chemistry education, earth science education, biology education and mathematics education, and Science Gifted Education.

Degree Requirements

The academic year consists of two semesters, each comprising 15 weeks of instruction. A maximum of 12 credits earned at other universities or colleges with doctoral degree programs, prior to entering the Graduate School, may be transferred for the doctoral degree program. For all students of the program at least 18 credits are required, consisting of 9 credits in science or mathematics education courses, and 9 credits in science or mathematics content courses. (For physics education major students of the program, at least 24 credits are required, consisting of 9 credits in science education courses and 15 credits in science content courses). Doctoral students must give more than two presentations in international or nationwide academic journals before presenting their doctoral thesis. (For physics education major doctoral students, students must give more than two presentations in international or nationwide academic meetings. They must also publish more than one publication in a nationwide academic journal). Doctoral degrees shall be conferred upon the candidate who has fulfilled all the above conditions, passed the comprehensive examination, fulfilled the one foreign language requirement and submitted a thesis for approval.

What Do You Study?

Common
Teaching and Learning Theory in Science Education
Learning Theory for Scientific Inquiry I
Learning Theory for Scientific Inquiry II
Psychology Methods in Science Education
Research Methods in Science Education
Issues in Science Education Research
History of Science and Science Education
Philosophy of Science and Science Education
Teaching and Learning Theory for the Gifted in Science

Development of Learning Materials for the Gifted in Science
Teaching Science, Technology and Society
Seminars in Science Education I
Seminars in Science Education II
Study in Science Education I
Study in Science Education II
Multimedia and Science Education
History of Mathematics and Mathematics Education
Topics in Mathematics Education
Philosophy of Mathematics Education

Physics Education Courses
Topics in Mathematical Physics
Assessment of Physics Learning
Physics Learning and Context
Teaching Physics Experiment
Advanced Statistical Physics Education
Advanced Modern Physics Education
Understanding Contemporary Physics
Relativity Education
Condensed Matter Physics Education
Advanced Optics Education
Advanced Mechanics Education
Advanced Electromagnetism Education
Topics in Quantum Physics
Advanced Thermal Physics Education
Analysis of Physics Curriculum and Development of Teaching Materials
Special Topics in Physics Education
Advanced Physics Experiment
Physics Education and Computers
Physics Education and Electronics
Seminar on Physics Education
Secondary school physics Experiment Research
Mechanics Education
Electromagnetism Education
Quantum Physics Education

Chemistry Education Courses
Curriculum and Evaluation in Chemical Education
Teaching Methods and Material Development in Chemical Education
Research Methodology in Chemical Education I
Research Methodology in Chemical Education II
Teaching and Learning Theories in Science Education
Advanced Analytical Chemistry
Teaching Methods and Development of Chemical Experiments
Special Topics in Instrumental Analysis
Electrochemistry
Advanced Organic Chemistry
Spectroscopy in Organic Chemistry
Special Topics in Organic Reactions
Advanced Inorganic Chemistry
Special Topics in Coordination Compounds
Organometallic Chemistry
Advanced Physical Chemistry
Advanced Quantum Chemistry
Kinetics
Inquiry Teaching in Chemistry Education
Seminar in Chemistry Education
Special Topics In Physical Chemistry
Special Topics in Chemistry Education
Special Topics in Inorganic Chemistry

Biology Education Courses
Theory and Practice in Biology Education
Research Methodology in Biology Education
Biology Curriculum Study
Evaluation in Biology Education
Seminar in Biology Education
Biology Teaching Methods and Materials
Inquiry Teaching in Biology Education
Data Analysis in Research of Biology Education
Biology Education Using Science History
Systematic Zoology Education
Animal Physiology Education
Ecology Education
Microbiology Education
Molecular Biology Education
Vertebrate Anatomy Education
Genetics Education
Cell Biology Education
Systematic Botany Education
Plant Molecular Genetics Education
Plant Physiology Education
Developmental Biology Education
Environmental Biology Education
Seed Plants Anatomy Education

Earth Science Education Courses
Advanced Topics in Earth Science Education
Advanced Teaching Materials in Earth Science Education
Teaching Methodology in Earth Science Education
Curriculum & Evaluation of Earth Science Research Method of Earth science education
Inquiry in Cosmology Education
Advanced Mineralogy and Educational Experiment
Petrogenesis and Educational Experiment
Educational Study in Stratigraphy
Educational Study in Paleontology
Inquiry in Igneous Petrology
Educational Methodology on the History of the Earth
Study on Geological Structure Education
Educational Seminar on Geological Resources
Topics on Geology of Korea
Inquiry in Synoptic Meteorology
Studies on Micrometeorology
Advanced Climatology and Education Practice
Oceanography Education
Geophysics Education
Educational Study on Atmospheric Science
Atmospheric Science in Ocean
Inquiry of Optical Crystallography

**Science Gifted Education Courses**
Teaching and Learning Theory for the Gifted in Science
Development of Learning Materials for the Gifted in Science
Evaluation of Gifted Education in Science Curriculum for Gifted in Science Creativity and Science Education
Study of Teaching Material for Gifted in Science Research of Gifted Education in Science
Leadership of Gifted in Science
Science History and Creativity
Development of Physics Program for Science Gifted
Development of Chemistry Program for Science Gifted
Development of Biology Program for Science Gifted
Development of Earth Science Program for Science Gifted

**Mathematics Education Courses**

**Home Economics Education Courses**
Advanced Food Science Education
Advanced Experimental Cookery Education
Advanced Food Chemistry Education
Advanced Clothing Materials Education
Advanced Culture of Costume Education

Professors

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Earth Science Education

Mathematics Education
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- Eun-Hah Wee, Ph.D.
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- Nan-Sook Yu, Ph.D.
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Laboratories

Physics Education
- Physics Education Laboratory
- Emerging Materials & Devices Laboratory

Chemistry Education
- Chemistry Education Laboratory
- Photo and Electrochemical Energy materials Laboratory (PEEL)
- Energy Transfer Laboratory
- Organic Materials Laboratory

Biology Education
- Plant Molecular Genetics Laboratory
- Biology Education Laboratory
- Animal Embryology Laboratory
Graduate Studies in Mathematics Education

The aim of the Master’s or Doctoral course is to educate professionals and researchers so that they can carry out academic investigations into the issues relevant to mathematics education such as teaching and learning, curriculum, psychology, philosophy, technology, and mathematics history. In order to achieve this goal, the curriculum of the course consists of basic and intensive subjects with extensive theories of mathematics education coupled with social sciences and mathematics.

Degree Requirements

Master's degree candidates are required to earn 24 credits. They must also pass a comprehensive exam (3 subjects) and a foreign language exam, and present a thesis proposal before submitting a degree-seeking thesis or dissertation. All students are assigned a supervisor based on research interests and major.

What Do You Study?

| Teaching Materials for Algebra | History of Mathematics and Mathematics Education |
| Teaching Materials for Analysis | Philosophy of Mathematics Education |
| Pedagogy of Mathematics | Teaching of Secondary School Mathematics |
| Teaching Materials for Geometry | Curriculum in Mathematics Education |
| Topics in Algebra I | Psychology of Mathematics Education |
| Topics in Algebra II | Assessment in Mathematics Education |
| Topics in Analysis I | Mathematically Gifted Education |
| Topics in Analysis II | Research Methodology in Mathematics Education |
| Topics in Geometry | Mathematics Educational Technology |
| Topics in Topology | Teaching Analysis in Secondary School |
| Topics in Mathematical Statistics | Teaching Algebra in Secondary School |
| Combinatorics | Teaching Geometry in Secondary School |
| Topics in Applied Mathematics | Teaching Probability and Statistics in Secondary School |
| Mathematics Using Computers | Mathematics Teaching and Learning materials |
| Psychology of Learning Mathematics | Teaching Discrete Mathematics in Secondary School |
| History of Mathematics Education | Topics in Algebra and Education |
| Studies in Mathematics Education | |
Topics in Analysis and Education
Topics in Geometry and Education
Topics in Mathematics Education

Professors

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- Chunyoung Oh
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- Sik Lee
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Laboratories

- Highly modernized lecture rooms - Lecture on theory of mathematics and mathematics education using various multimedia
- Computer laboratory - Practice of mathematical theory and teaching & learning of mathematics
- Materials room for teaching & learning of mathematics - Articles, Reports, Books, Software, Teaching Aids, etc.
- Materials room for gifted education - Materials for gifted education and the practice of gifted education
Graduate Studies in Korean education

The Ph.D. program in Korean Education was established in March 2002 through collaboration with the Department of Education. Then the Department of Korean Education was established in 2008. Since that time, students have, through the program accumulated, expert and intricate knowledge of Korean language and literature in addition to polishing their teaching and leadership skills.

The mission of the Department is to cultivate educational leaders who will work to improve Korean education in local, national, and international settings. This is accomplished through the promotion of critical thought, research, and reflective practice related to teaching and learning, curricula, instruction, policy, and teacher education.

The master's and doctoral programs focus on both theory and practice, along with appropriate research preparation in a collaborative social context, grounded in the realities of schooling. The diversity of students and teachers in the program is led by research-active faculty members who regularly present at various academic conferences each semester and frequently publish their work in leading scholarly journals. Master's and doctoral students will conduct research and critically examine curricula, means of assessment, and the characteristics and politics of learning environments.

Faculty members in the Department of Korean Education believe that Korean language and Korean culture represent the roots of Korea as a nation, and strengthening the field of Korean education will enable the country to better participate and be fully represented in an increasingly globalized world.

Degree Requirements

Students must acquire 24 (M.A.) and 36 (Ph.D.) credit hours in major courses and 3 credit hours in thesis research to complete the course. All students must pass graduation qualification examinations (a foreign language exam and a comprehensive exam) before submitting the final copy of the thesis.

What Do You Study?

Studies in Literary Criticism
Studies in Comparative Literature
Methodologies in Korean Language Instruction
Studies on Korean School Grammar Korean

Studies on Sociolinguistic Instruction
Studies on Dialects and their Instruction
Studies on Korean Language Policy
Studies on the Instruction of Literary Criticism
Studies on Instruction in Creative Writing
Studies on Literary Instruction (Authors & Writings)
Studies in the Instruction of Hyangga & Lyeoyo
Studies in the Instruction of Sijo & Kasa
Studies on Instruction in Sino-Korean Poetry
Studies on Teaching Materials in Sino-Korean Literature
Studies on Drama Instruction
Topics in the Instruction of Literature
Studies on Evaluating Korean Language Proficiency
Studies on the Instruction of Applied Linguistics
Seminar on Korean Criterion Instruction
Studies on Issues in Korean Literature
Seminar on Literary Instruction
Studies on Korean Instruction Curricula
Topics in Korean Language Instruction
Seminar on Teaching Writing
Seminar on Teaching Reading
Seminar on Teaching Speech / Speaking
Studies on the Instruction of Media Language
Studies on the Instruction of Old Korean Essays
Studies on the Instruction of Oral Poetry
Studies on Teaching Oral Narratives

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**Professors**

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- Chil-Seong Im, Ph.D.
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- Cheol No, Ph.D.
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- Young-Hee Yang, Ph.D.
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- Keun-Ho Kim, Ph.D.
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Graduate Studies in Political Science

Political science is a discipline that aims to find the best way to realize the best political system in which human beings can manage their lives with happiness and freedom. In this sense, political science is a systematically and theoretically academic major. The political science major is also designed to help students to understand political phenomena and to encourage them to become prudent political participants.

In the Department of Political Science, students are encouraged to contribute to the development of political science with theoretical judgment and applicability on political phenomena in the vortex of reality. Students are also expected to develop various political theories and research methods learned by the undergraduate education.

Degree Requirements

Master’s degree candidates are required to earn 24 credits to graduate and maintain an average grade of B or higher (3.0 based on a 4.5 scale). Ph.D. candidates are required to earn an additional 36 credits and maintain an average grade of B or higher.

Students who fulfill all course requirements are to pass both a comprehensive exam and a foreign language exam. Students then may write and submit a thesis.

What Do You Study?

- Ancient and Medieval Political Thoughts (3)
- Advanced Comparative Political Theories (3)
- Advanced Korean Politics (3)
- Advanced Research Method in Political Science (3)
- Advanced Studies of Political Theories (3)
- American Politics (3)
- City and Local Politics (3)
- Comparative Congressional Politics (3)
- Comparative Political Economy (3)
- Comparative Political Parties (3)
- Comparative Study of Political Culture (3)
- Contemporary Political Thoughts (3)
- Cyberpolitics (3)
- Election Campaign (3)
- European Politics (3)
- Gender and Politics (3)
- Global Korean Network and International Co-op (3)
- Global Politics of the Environment (3)
- Globalization and National Responses (3)
- History of International Politics (3)
- Human Rights and International Relations (3)
- International Relations of North Eastern Asia (3)
- International Politics of the Ocean (3)
- Japanese Politics (3)
- Korean Political Parties (3)
- Latin American Politics (3)
- Media and Politics (3)
Modern Political Ideologies (3)
Modern Political Thoughts (3)
Nationalism and International Relations (3)
Oriental Political Thoughts (3)
Political Behavior (3)
Political Economy on the International Migration (3)
Quantitative Political Analysis (3)
Readings in International Relations (3)
Research of International Conflicts (3)
Russian Politics (3)
Seminar in International Political Economy (3)
Seminar in Korean Political Economy (3)
Seminar on Comparative Labor Politics (3)
Seminar on South-North Korea Relations (3)
Studies in International Organization (3)
Studies in International Political System & Process (3)
Studies in Korean Foreign Policy (3)

Studies in Korean Unification (3)
Studies in North Korean Politics (3)
Studies in Political Change (3)
Studies in Political Philosophy (3)
Studies of Chinese Politics (3)
Studies of International Politics (3)
Studies on Elections (3)
Studies on Korean Legislative Politics (3)
Study on Peace and War (3)
Theories of National Security strategy (3)
Theories of International Relations (3)
Theories of Modern Democracy (3)
Theory of the State (3)
Topics in Foreign Policy (3)
Topics in Korean Political History (3)
Topics in Korean Political Thoughts (3)
Women and Political Thoughts (3)
Research for the Master’s or Doctoral Degree (3)

Professors

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Graduate Studies in this institution of Public Administration

Since 1980, the Graduate School of Public Administration has focused its efforts on teaching and studying the modern theories and applications of public administration. It also aims to contribute the development of the nation by educating competent administrators.

Degree Requirements

Candidates eligible for the master’s degree program are:
- Anyone who has graduated from a four year college and has been awarded a bachelor’s degree
- Anyone who has a bachelor’s degree or master’s degree from a foreign university
- Anyone who is recognized by the Ministry of Education and Human Resources as having equivalent qualifications to the coursework requirements of a regular four-year college program when he or she passes the appropriate entrance examination.

The length of the coursework shall normally be two years and six months. A period of no longer than four years and six months shall be allowed for completion of the master’s degree program of the Graduate School of Public Administration.

The number of class days must exceed 180 for each academic year. A minimum of 24 credits are required for completion of the master’s degree. A student who has a different major area from that of his undergraduate courses will have to take some undergraduate courses. The GPA should be B or better.

Up to twelve credits earned at other foreign or domestic universities and colleges can be transferred for the master’s degree program of the School. However, a maximum of 6 credits earned at other foreign or domestic universities or colleges before entering the Graduate School may be transferred for the master’s degree program.

The courses offered at the Graduate School of Public Administration may be divided into daytime courses and evening courses. Students are required to attend more than two-thirds of their classes, and achieve a grade of C or better. However, a student must earn a CAPA of B or better to be awarded a Master’s degree of Public Administration.

Master’s degrees shall be conferred upon the candidate who has fulfilled all of these requirements.

The School may offer non-credit programs to individuals who need specialized or technical knowledge in order to carry out their jobs. International students or government officials who have equivalent qualifications may be accepted as special supernumerary students through an extra examination.
What Do You Study

Study of Examples of NGOs
Police administration
Measuring analysis I
Measuring analysis II
High class administration
Public choice theory
Study of example of public policy
Public enterprise seminar
Bureaucracy theory
Regulation policy theory
Urban planning theory
Marketplace and government
Human resource policy
Personnel matters of administration seminar
Disaster management theory
Electronic Government theory
The government’s budget theory
Government and NGO
Government accounting theory
Policy theory
Policy enforcement theory
Policy formulation theory
Organization and society
Formation design theory
Local finance theory
Local administration theory
Korean administration theory
Administrative reform theory
Administrative ethics
Administrative Theory 2
Administration investigation theory 2
Administrative philosophy

Environmental policy
Environmental policy seminar
History of science of public administration
Administration investigation theory 1
Administrative Theory 1
Administration and law
Korean administration history
Local administration seminar
Chinese administration
Organizational analysis theory
Organization and individual
Study of literature of policy studies
Policy theory special lecture
Policy Analysis and Evaluation
Government knowledge management seminar
The government’s budget seminar
Intergovernmental relation theory
Disaster management policy
Personnel matters of administration
Population and future administration
Policy of (the) city theory
Leadership seminar
Cultural policy
American public administration
Development administration theory
Public health administration theory
Comparative administration theory
Social science methodology 1
Social science methodology 2
Social welfare policy seminar
Social policy theory
Industrial policy theory
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Graduate Studies in Sociology

Sociology is the study of the relationship between humans and human lifestyles and society. Sociologists study the structure of human society as a conglomerate of people who interact with each other.

Degree Requirements

Master’s degree candidates are required to earn 24 credits. Ph.D. candidates are required to earn an additional 36 credits. All graduate students are assigned an academic advisor based on research interests.

What Do You Study?

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<thead>
<tr>
<th>Classical Sociological Theories (I)</th>
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<td>East Asian Societies</td>
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<td>Methodology of Social Science</td>
<td>Political Sociology</td>
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<td>Practice of the Social Statistics</td>
<td>Sociology of Knowledge</td>
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<td>Research for Master’s or Doctoral Degree</td>
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<td>Classical Sociological Theories (II)</td>
<td>Sociology of Religion</td>
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<td>Contemporary Sociological Theories (II)</td>
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<td>Literature and Society</td>
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<td>Sociology of Labor</td>
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<td>Social Movement</td>
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<td>Sociology of Family</td>
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<td>Information and Society</td>
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<td>Sociology of Gender</td>
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<td>Social Survey (II)</td>
<td>Culture Theory</td>
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<td>Social Change</td>
<td>Sociology of Human Rights</td>
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<td>Comparative Sociology</td>
<td>Social Statistics</td>
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<td>Seminar on Asian Thought</td>
<td>Seminar on the Minority</td>
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<td>Regional Studies on Foreign Countries</td>
<td>Sociology of Leisure</td>
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<td>Art and Society</td>
<td>Seminar on Social Development</td>
</tr>
<tr>
<td>Seminar on Visual Sociology</td>
<td>Social Welfare</td>
</tr>
<tr>
<td>Women and Society</td>
<td>Seminar on Urban Society</td>
</tr>
</tbody>
</table>
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Graduate Studies in Psychology

The Department of Psychology began offering MA programs in 1984 and Ph.D. Programs in 1996. As of 2017, we have conferred 180 MA and 24 Ph.D. degrees. Each year 15-20 new students are enrolled for M.A.s and 4-7 students for Ph.D. programs.

Currently about 70 graduate students in doctoral and Master’s Programs are actively engaged in research and educational activities to become professionals in a variety of settings, including academia, government, and industry. The major research areas include: clinical psychology (child psychotherapy, PTSD, etc.), counseling psychology, cognitive-neuropsychology, socio-cultural psychology, learning, psychology of aging, the psychology of sexuality, and industrial/organizational psychology.

Degree Requirements

Master’s degree candidates are required to earn 24 credits to graduate (at least 12 credits from the Psychology Department courses). Ph.D. candidates are required to earn 36 credits (at least 18 credits from the Psychology Department courses). Students not holding a bachelor’s degree in psychology are required to take 12 additional credits from the undergraduate psychology programs.

What Do You Study?

Both MA candidates who earn 18 credits and Ph.D. candidates who earn 27 credits may take the qualifying exam. Students who are required to earn additional undergraduate course credits may take the exam after earning 30 credits.

Every graduate student is assigned to an academic advisor based on research interests.

History and Systems of Psychology (3)      Special Issues in Counseling Psychology (3)
Seminar in Research Methods (3)            Behavior Therapy (3)
Research Methodology (3)                   Advanced Developmental Psychology (3)
Qualitative Research Methodology (3)       Developmental Psychopathology (3)
Practices in Clinical Psychology (3)       Psychology of Adolescence (3)
Psychopathology (3)                        Psychology of Human Sexual Behavior (3)
Psychotherapy (3)                          Adult Development and Aging (3)
Practices of Psychodiagnosis (3)           Special Issues in Developmental Psychology (3)
Counseling Techniques I (3)                Advanced Industrial Psychology (3)
Counseling Techniques II (3)               Psychology of Industrial Culture (3)
Group Counseling and Psychotherapy (3)     Special Issues in Industrial Psychology (3)
Organizational Behavior and Job Stress (3)  
Psychology of Consuming (3)  
Psychology of Advertising (3)  
Advanced Survey Methodology (3)  
Multivariate Statistics (3)  
Advanced Statistics (3)  
Design of Psychological Experiments (3)  
Advanced Clinical Psychology (3)  
Advanced Organizational Psychology (3)  
Advanced Physiological Psychology (3)  
Psychopharmacology (3)  
Practices in Clinical Psychology (3)  
Special Issues in Clinical Psychology (3)  
Psycho-diagnosis (3)  
Practices in Psycho-diagnosis (3)  
Cognitive Therapy (3)  
Rehabilitation Psychology (3)  
Art Therapy (3)  
Advanced Psychology of Personality (3)  
Advanced Counseling Psychology (3)  
Seminar on Psychobiology (3)  
Neuropsychological Assessment (3)  
Seminar in Biological Psychology (3)  
Neuropsychological Assessment (3)  
Advanced Psychology of Learning (3)  
Neuropsychology (3)  
Advanced Cognitive Psychology (3)  
Psychology of Memory (3)  
Cognitive Science (3)  
Cognitive Neuropsychology (3)  
Special Issues in Cognitive Psychology (3)  
Social Cognition (3)  
Psychology of Thought (3)  
Seminar in Psychology of Learning (3)  
Advanced Psychology of Language (3)  
Psychophysics (3)  
Advanced Social Psychology (3)  
Advanced Methodology in Social Psychology (3)  
Special Issues in Social Psychology (3)  
Cross-cultural Psychology (3)  
Advanced Cultural Psychology (3)  

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Laboratories

Psychological Testing Lab
This Lab is equipped with various psychological testing tools (K-WAIS-IV, BGT, MMPI-II, MMPI-A, Rorschach, SCL-90R, PAI, Sentence Completion Test, SNSB-II), camcorder, and voice recorder.

Cognitive Neuropsychology Lab
This Lab is for EEG/ERP and behavioral researches on cognition, attention, emotion, and language. Main experimental equipment include one electromagnetic-wave shielding booth, three sound-proof experimental booths with control booths, one soundproof room for a group experiment, multichannel EEG amplifiers with electrode cap kits (made by BrainProducts), E-Primes with response boxes (made by PST), and PCs with LED monitors.

Clinical Neuropsychology Lab
This Lab is for bio-signal researches on various abnormal cognition and emotion. Main experimental equipment include one electromagnetic-wave shielding booth with a control room, a multi-channel amplifier for physiological indices (e.g., EMG, SCR, HR; made by AD Instruments), Polygraph (made by Grass), MP Data Acquisition System (made by Biopac systems), and PCs with LED monitors.

Behavioral Observation Lab
This Lab is equipped with behavior observation systems including two soundproof booths, video-monitoring systems, and PCs with LED monitors, and a variety of psychological testing tools, making an ideal environment for research on interpersonal interactions or small group dynamics. In addition, researchers conduct behavioral experiments on an individual basis.
Graduate Studies in Library and Information Science

The graduate program in Library and Information Science educates students on information theory and the pursuit of scientific knowledge. The studies deal with the ideas and methods of knowledge relation and management and other issues that involve libraries. There is an increasing market for graduate studies in Library Information Systems that has raised the status of librarians, archivists, and academic specialists.

Degree Requirements

Master's degree candidates are required to earn 24 credits. Ph.D. candidates are required to earn an additional 36 credits. All graduate students are assigned an academic advisor based on research interests.

What Do You Study?

- History of Library and Information Science
- Research Methodology in Library and Information Science
- Studies in Comparative Library and Information Science
- Research for Master's or Doctoral Degree
- Studies in Public Libraries
- Studies in Textual Bibliography
- Studies in DBMS
- Multimedia Production
- Theory of Comparative Classification
- Advanced Indexing and Abstracting
- Theory of Cataloging
- Advanced Information Science
- Theory of Information Retrieval
- Studies in Collection Development
- Theory of Information Network
- Special Topics in Information Related Law
- Studies in Information Center Buildings
- Advanced Information Center Management
- Assessment of Library and Information Center Series
- Studies in Information Services
- Exercises in Reading Archives
- Studies in Korean Calligraphic History
- Seminar in Information System Analysis and Design
- Advanced Information Service
- Advanced Subject Heading
- Practice of Korean Paper Restoration
- Advanced Information Processing
- Information Seeking Behavior
- Studies in Comparative Classification
- Studies in Theory of Cataloging
- Studies in Special Media
- Studies in Automatic Cataloging
- Special Topics in User Studies
- Special Topics in Comparative Library and Information Science
Bibliometrics
Studies in Indexing and Abstracting
Studies in Information Retrieval
Field Work (Ⅰ)
Field Work (Ⅱ)
Archival Preservation
Research for Public Libraries
Special Topics in Meta Data
Studies in Meta Data
Theory of Bibliotherapy
Advanced Scholarly Information
Information Services
Seminar in Information Management
Seminar in Library Policy
Studies in Information Policy
General Study in Information Organization
General Study in Information Management

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### Laboratories

- LIS Graduate Study Room
- Information Processing Lab
- LIS Library
**What is Communication?**

The discipline of communication focuses on how people use messages to generate meanings within and across various contexts, cultures, channels, and media. The discipline promotes the effective and ethical practice of human communication. Communication is a diverse discipline which includes inquiry by social scientists, humanists, and critical and cultural studies scholars. A body of scholarship and theory about all forms of human communication is the basis for an ever-expanding understanding of how we all communicate.

**Department of Communication at Chonnam National University**

The Department of Communication aims to prepare its students for careers in a variety of journalism and mass communication fields. It is expected that upon completion of the department’s programs, students will be able to write, edit, and produce visuals and design for print and digital media.

The department offers both undergraduate and graduate curricula that mix academics with professional experience to ensure that students are well schooled in writing and editing and in analyzing the issues, conventions, and practices of journalism and mass communication. The departmental requirements give communication majors both guidance and flexibility in their selection of courses. Majors can pursue one of following tracks: journalism, advertising and PR, broadcasting, and cultural studies.

**Professors**

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Degree Requirements

Master's degree candidates are required to earn 24 credits. Ph.D. candidates are required to earn an additional 36 credits. All graduate students are assigned an academic advisor based on research interests.

What Do You Study?

Philosophy of Journalism
History of Korean Journalism
International Communication
Studies in Information Society
Studies in Community Journalism
Studies in Mass Culture
Seminar in Advertising
Human Communication
Political Communication
Persuasion in Communication
Culture and Interpersonal Communication
Seminar in Cultural Studies
Seminar in Public Relations
Modern Thoughts and Communication
Media Law
Political Economy of Communication
Multi-Media
Theories of Broadcasting Journalism
Mass Media & Social Movements
Media Policy
Media Management
Media Criticism
Dynamics of Advertising
Public Relations
Media Ethics
Seminar in Newspaper
Seminar in Broadcasting
Visual Communication
Education of Media

Cyber Communication
Modern Communication
Studies in Journalism
Seminar of Culture Management
Audience Studies
Qualitative Methodology
Quantitative Methodology
Speech Communication
Online Journalism
Communication & Gender
Digital media & Society
Seminar in Communication Theory
Crisis Management Theories
CSR Communication
Media Entertainment
Cultural Policy
Culture Creation & Cultural Planning
Culture Economics & Cultural Management
Studies in Digital Culture
Digital Contents & Culture Technology
Culture Contents & Media
Culture Marketing & Public Relations
Macro-Communication Theory
Micro-Communication Theory
Research Design
Understanding of Mass Communication 1
Understanding of Mass Communication 2
Careers

These job titles are not an exhaustive list, but rather, represent the types of positions most widely recruited for.

Account Associate/Manager
Advertising Manager
Associate Producer
Broadcaster
Columnist
Community Relations
Copy Editor
Creative Director
Editor
Event Coordinator
Film Editor
Foreign Correspondent
Investigative Reporter
Journalist
Marketing PR Specialist
Market Researcher
Media Buyer
Media Planner
Media Relations Coordinator
Media Researcher
Newscaster
Newsletter Editor/Creator

News Reporter
Press Secretary
Professor
Program Coordinator
Promotion Manager
Public Information Specialist
Publishing Assistant/Manager
Reporter
Sales Associate
Scriptwriter
Sports Announcer
Teacher
Video Journalist
Website Designer
Writer

Employment areas are in:
Academia
Government
Private Corporations
Non-Profit Organizations
Publicly Traded Corporations

source: http://www.careers.uiowa.edu/majors/kit/printmajor.cfm?mid=3
Graduate Studies in Geography

Geography as a graduate level, students are required on focusing more on spatial analyses in various topics. Students are also trained for critical thinking, problem solving skill, writing report/publication, and communication/presentation skill. Each student will select his/her own thesis or dissertation topic for graduation based on own interest, particularly on topics that the department is specialized such as economical geography, tourism, urban geography, environmental geography, and GIS.

Degree Requirements

Master’s degree candidates are required to earn 24 credits. Ph.D. candidates are required to earn an additional 36 credits. All graduate students are assigned an academic advisor based on their research interests.

What Do You Study?

- Seminar in Geography
- Research for Master’s or Doctoral Degree
- Topics in Economic Geography
- Research in Economic Geography
- Research in Urban Geography
- Research in the History of Geography
- Research in Social Geography
- Research in Cultural Geography
- Research in Political Geography
- Research in Historical Geography
- Advanced Cartography
- Topics in Historical Geography
- Glacial and Peri-Glacial Geomorphology
- Synoptic Climatology
- Climatic Geomorphology
- Seminar in New Geopolitics
- Topics in New Geopolitics
- Development of Environment Thought
- Seminar in Regional Analysis
- Research in Tourism Geography
- Research in Spatial and Regional Development
- Topics in Spatial Structure Analysis
- Topics in Theory of Regional Development and Planning
- Topics in Tourism Development Planning
- Topics in Regional Transportation and Analysis
- Topics in Urban Social Geography
- Quantitative Analysis in Geography
- Seminar on Geographic Information System Practice in GIS
- Topics in GIS Application
- Computer Cartography with GIS
- Development of Geographic Thought
- Seminar in Cartography
- Seminar in Financial Geography
- Seminar in Behavior Geography
- Land Use Analysis
- Urban Land Economics
Theory of Urban Planning
The City in the Third World
Theory of Urban Renewal
Seminar in Population Geography
Resources and Environment
Geography of Underdevelopment
Geographical Philosophy and Methodology
Political Geography in the Third World
Urban Economic Geography
Remote Sensing
Seminar in Field Geomorphology
Tropical Geomorphology
Topics in Environment Conservation
Study in Coastal Geomorphology
Topics in Theory of Industrial Location
Topics in Regional Theory

Research in Regional Geography
Seminar in Geography of Korea
Geography of Information and Telecommunication
Topics in European Studies
Special Area Studies
Studies in Location Theory
Geography of Labor Market
Special Topics in Economic Geography
Topics in Social Geography
Topics in Culture Geography
Research in Feminist Geography
Topics in Feminist Geography
Research in Political Economy of Space
Topics in Political Economy of Space
Research in Rural Geography
Topic in Rural Geography

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Graduate Studies in Anthropology

Anthropology is the study of human and its cultures, and is divided into sub-disciplines of cultural anthropology, archaeology, linguistic anthropology, and physical anthropology. Cultural anthropology is a comparative cultural study of the contemporary societies and attempts to understand other societies in terms of their own cultural values and symbols. Archaeology is a study on the origins and developments of cultures, and focuses on the material remains from the past and people with few or no written documents. Linguistic anthropology explores the relationship between language and culture. Physical anthropology studies human evolution and current health issues.

Degree Requirements

Students are assigned to advisors based on their research proposals. The assignment is guided by the graduate thesis committee and will be made in the first year of the program. Graduate students in the master level need 15 or more credits and those in the doctoral level need 27 or more credits to graduate. The credits should be fulfilled by anthropology courses. However, doctoral students may take up to six credits of non-anthropology courses under advisor’s supervision. Some students may be advised to take as many as four extra courses based on their previous academic background. All graduate students should take a foreign language exam as a part of their qualification for thesis submission. The exam will be taken in English, German, French, Chinese, Classical Chinese or Japanese. International students may take a Korean exam.

The thesis prospectus should be submitted to the department before the completion of four semesters for master students and eight semesters for doctoral students. The prospectus needs approval from the advisor.

Doctoral students must publish two or more research papers before the review of their doctoral thesis begins. The student must be the first or the corresponding author of at least one paper, which is published in a journal of the KCI (Korea Citation Index) level or above.

What Do You Study?

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<thead>
<tr>
<th>Sexuality and Anthropology</th>
<th>History and Culture</th>
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<td>Ecological Anthropology</td>
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<td>Anthropology of Religion</td>
<td>History of Archaeology</td>
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Seminar in Anthropology 2
Ethnoarchaeology
Special Topics in Prehistoric Archaeology of Korea
Special Topics in Western Archaeology
Special Topics in Oriental Archaeology
Archaeology of Mahan
Special Topics in Historic Archaeology of Korea
Topics of Consumption and Culture
Advanced Regional Studies
Understanding of Festivals and Culture
Documenting the Life through Ethnographic Films
Ethnicity and Nationality
Archaeology of Technology
Research of Honam Culture
Research Methods in Cultural Anthropology
Memory and Representation of Culture
Chinese Culture
Comparative studies in prehistory
Subsistence Economy and Culture
Political Anthropology
Studies in Mahan Culture
Anthropology of Religion
Area Studies of South Asia
Area Studies of Northeast Asia
Urban Anthropology
Political Anthropology
Anthropology of Ethnicity
Economic Anthropology
Minority Culture
Consumption and Culture
Urban Anthropology

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Laboratories

Archaeobotany Lab
Archaeobotany is the study of human and societies through the analysis of plant remains from archaeological sites. The research emphases of this lab include food procurement, domestication, landscape transformation, and social complexity. The types of plant remains studied include macrobotanical (seed and wood) and microbotanical (pollen and phytolith) remains.
Graduate Studies in Family Environment and Welfare

The goal of the Department of Family Environment and Welfare is to contribute to the improvement of family welfare and quality of life through the systematic studies of interaction between humans and family environment. To achieve this goal, the Department educates students about the basic theories and practical courses in the fields of human & family environment and also trains professionals who manage to solve special tasks and social problems on family welfare. The department’s Major fields consist of consumer economics, housing and interior design, child care and counseling, family studies and social welfare, and family resource management. Graduates from our department work as professors and researchers in their major fields, college instructors and professional public workers human service.

Degree Requirements

Master’s degree candidates are required 24 credits for graduation. Ph.D. candidates are required an additional 36 credits.

Graduate students are also required to pass a comprehensive exam and a foreign language exam, and to submit a thesis or dissertation for approval.

What Do You Study?

<table>
<thead>
<tr>
<th>Consumer economics</th>
<th>Facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seminar in Household Welfare</td>
<td>History on Western Interior Design</td>
</tr>
<tr>
<td>Family Financial Counseling</td>
<td>Advanced Principles in Interior Design</td>
</tr>
<tr>
<td>Research on Living Cost</td>
<td>Interior Design Studio 1</td>
</tr>
<tr>
<td>Advanced Course in Consumer Economics</td>
<td>Housing Welfare</td>
</tr>
<tr>
<td>Consumer Competencies and Education</td>
<td>Internship in Housing Welfare</td>
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<tr>
<td>Seminar in Consumer Affairs</td>
<td>Advanced Course In Housing Environment</td>
</tr>
<tr>
<td>Advanced Course in Consumer Protection and Policy</td>
<td>Housing and Community</td>
</tr>
<tr>
<td>Advanced Course in Consumer Counseling</td>
<td>Housing Planning for Special Groups</td>
</tr>
<tr>
<td>Advanced Course in Consumer Decision Making</td>
<td>History on Korean Interior Design</td>
</tr>
<tr>
<td>Theories of Decision Making</td>
<td>Contemporary Interior Design Analysis</td>
</tr>
<tr>
<td>Advanced Course in Financial Management</td>
<td>Environmental Psychology &amp; Behavior</td>
</tr>
<tr>
<td>Electronic commerce Theory</td>
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<tr>
<td>Investment Theory</td>
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<tr>
<td>Advanced Course in Korean Households</td>
<td></td>
</tr>
</tbody>
</table>

- Child care and counseling
  - Play Therapy Supervision Practice
  - Practice in Play Therapy
  - Theories of Play Therapy
  - Theories and Practices of Sandplay Therapy
  - Assessment and evaluation for children
  - Research on Day Care Program
  - Seminar in Child Care

- Housing and interior design
  - Multi Family Housing Planning and Design
  - Management of Multifamily Housing
  - Facility Management and Design for Welfare

- History on Western Interior Design
- Advanced Principles in Interior Design
- Interior Design Studio 1
- Housing Welfare
- Internship in Housing Welfare
- Advanced Course In Housing Environment
- Housing and Community
- Housing Planning for Special Groups
- History on Korean Interior Design
- Contemporary Interior Design Analysis
- Environmental Psychology & Behavior

- Child care and counseling
  - Play Therapy Supervision Practice
  - Practice in Play Therapy
  - Theories of Play Therapy
  - Theories and Practices of Sandplay Therapy
  - Assessment and evaluation for children
  - Research on Day Care Program
  - Seminar in Child Care
Theories of Parent - Education
Studies in Filial Play Therapy
Psychology Of Personality
Child and Environment
Seminar on Child Development
Advanced the child welfare
Theorise of Child Counseling
Child Psychopathology
Administration and Organization of Early Childhood Education and Care Center
Policies of Early Childhood Education and Care Art Therapy
Narrative Therapy
Cognitive learning therapy
Theory and Practice of Group Counseling

- Family studies and Social welfare
- Advanced Course in Family Relationships
- Advanced Course in Family Development
- Advanced Course in Family welfare
- Family Counseling the case study
- Family Life Education and Research
- Topics in Family Communication
- Advanced Family Therapy and Practice
- Advanced Family Studies
- Advanced Course in Social Service for the Elderly
- Social Problems
- Skills and Techniques for Social Work Practice
- Social Work Practice Theories
- Social Welfare Policy

Social Welfare Research Method
Advanced Social Welfare
Social Welfare Administration
Advanced Seminar in Social Service
Advanced female Welfare
Human Behavior & Social Environment
Advanced Community Welfare
Studies in Korean Family

- Family resource management
- Topics in Household Activities
- Management the case study
- Advanced Course in Management Theories
- Advanced Course in Management and Environment
- Special Topics in Korean Traditional Living
- Lifetime Planning
- Research on Time
- Women and Labor
- Human Resource Management
- Analysis on Family Resources Management
- Special Topics on Institutional Home Management

- Common(Methodology/Statistics)
- Advanced Statistics
- Research Method 1
- Research Method 2
- Research and Ethics
- Data Analysis

Professors

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Laboratories

- Consumer Financial Management Lab
- Housing Planning and Design Lab
<table>
<thead>
<tr>
<th>Lab Name</th>
<th>Lab Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child Care and Counseling Lab</td>
<td>Family Welfare Lab</td>
</tr>
<tr>
<td>Family Studies Lab</td>
<td>Child Development Lab</td>
</tr>
<tr>
<td>Consumer Education Lab</td>
<td>Social Welfare Lab</td>
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</tbody>
</table>
Graduate Studies in Food and Nutrition

The graduate program in Food and Nutrition aims to offer outstanding educational and research programs covering fundamental and applied aspects in the field of food science and human nutrition. The program provides in-depth knowledge of clinical nutrition, nutritional aspects of exercise, sensory and instrumental evaluation of food quality, nutrition and disease interactions, food chemistry, food microbiology, biotechnology, food processing, and functional foods. Students are provided with collaborative research opportunities in conjunction with hospitals, industry, and other research institutes. Faculty members have earned a reputation for distinguished education and research programs in the field of food science and human nutrition. Graduates are prepared for scientific and technical careers in educational institutions, government agencies, healthcare facilities, and industries.

Degree Requirements

Master’s degree candidates are required to earn 24 credits for graduation. Ph.D. candidates are required to earn an additional 36 credits. Graduate students are also required to pass a comprehensive exam and a foreign language exam, and to submit a thesis or dissertation to qualify for graduation.

What Do You Study?

- Advanced Food Chemistry
- Advance in Science of Functional Food
- Advanced Food Hygiene
- Advanced Food Microbiology
- Advanced Food Preservation
- Advanced Food Processing
- Advanced Food Science
- Advanced Molecular Nutrition
- Advanced Nutrition Education
- Advanced Statistics for Natural Scientists
- Animal Experiments in Nutrition
- Amino Acid and Protein Metabolism
- Bioenergetics
- Baking Science
- Bioinformatics
- Biotechnology of Foods
- Carbohydrate Chemistry
- Carbohydrate Metabolism
- Chemistry in Food Flavors
- Clinical Nutrition
- Current Topics in Food Science
- Current Topics in Nutrition
- Evaluation of Functional Materials
- Experiments in Food and Nutrition
- Enzymology
- Evaluation of Food
- Fermented Foods
- Food Biochemistry
- Food Marketing
- Food Toxicology
- Food and Pollution
- History of Foods
- History of Nutrition
- Hormone and Nutrition
- Immunity and Nutrition
- Instrumental Analysis
- Lipid Chemistry
- Lipid Metabolism
- Malnutrition
- Mineral Metabolism
- Molecular Biology
- Nutrition and Behavior
- Nutrition and Environment
- Nutrition for Fitness and Sports
Nutrition in Aging
Nutrition in Infancy and Childhood
Nutrition in the Community
Nutritional Biochemistry
Nutritional Epidemiology
Nutritional Physiology
Nutrition for Infants and Children
Physical Chemistry of Foods

Phytochemicals
Pigments Chemistry
Protein Chemistry
Research for Master’s or Doctoral Degree
Research in Food Science and Nutrition
Rheology of Foods
Vitaminology
World Food Problem

Professors

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Laboratories

- Antioxidant Materials Lab
- Food Microbiology Lab
- Carbohydrate Materials Lab
- Food Processing Lab
- Food Analysis Lab
- Cookery Science Lab
- Biomaterials for Functional Food Lab
- Metabolism of Functional Materials Lab
- Food Chemistry Lab
- Metabolomics Lab
- Nutritional Epigenetics Lab
- Clinical Nutrition Lab
- Experimental Foods Lab
- Food and Nutrition Lab
- Nutrition Counseling Lab
- Nutrition Assessment Lab
- Cell Culture Lab
- Instrumental Analysis Lab
- Animal Lab
- Sensory Evaluation Lab
Graduate Studies in Clothing and Textiles

The Department of Clothing and Textiles offers both Master’s and Ph.D. degree programs in Textile Science, Social Psychology of Clothing, Fashion Marketing, Clothing Ergonomics, Fashion Design, Clothing Engineering, and Traditional Korean-Western Costume. These programs are designed to prepare graduates for research, teaching and administrative positions in universities, companies, the clothing industry, and the government.

Degree Requirements

Master’s degree candidates are required to earn 24 credits (15 credits from Department courses) to graduate. Ph.D. candidates are required to earn an additional 36 credits (24 credits from Department courses). All graduate students are required to take the research for Master’s or Doctoral Degree course. To graduate, master’s degree candidates must pass a qualifying exam (3 subjects). Ph.D. candidates must also pass a qualifying exam (3 subjects). All graduate students must pass a foreign language exam.

What Do You Study?

| 3D Design of Virtual Clothing | Global Outsourcing and Technical Design |
| Active Sports Wear Design | History of 20th Century Fashion |
| Advanced Course of Dyeing | Human Morphology (Ⅱ) |
| Advanced Fashion Textiles | Integrative Fashion Communication Studio |
| Advanced Korean Costume Construction (Ⅰ) | Intellectual Properties and Fashion Startup |
| Advanced Principle of Clothing Construction | Korean Clothing Design Planning |
| Advanced Textile Evaluation | Modelism Workshop |
| Advanced Textile Finishing (Ⅰ) | On-Line Fashion Business |
| Advanced Textile Science | Research for Fashion Design Inspiration |
| Art Wear Design Workshop | Research in Dyeing Techniques and Design |
| Clothing Design and Human Morphology | Research in Fork Costume (Ⅰ) |
| Clothing Ergonomics | Research in Korean Costume Construction (Ⅰ) |
| Clothing Sizing System | Research in Natural Dyeing |
| Creative Design & Venture Studio | Research Methods in Clothing & Textiles |
| Design of Traditional Korean Costume | Research Methods in Clothing Construction |
| Digital Fashion and Research | Science of Human Sensibility |
| Ethnic Art Wear Design | Seminar in Clothing |
| Fashion and Art | Seminar in History of Oriental Costume |
| Fashion Design Culture Seminar | Senior Design Studio |
| Fashion Journalism | Silhouette Design Studio |
| Fashion Product Design Studio | Size Standardization (Ⅱ) |
| Folk Costume Field Workshop | Special Problems in Textiles |
| Garment Production | Special Tasks in Clothing and Textiles (Ⅰ) |
Special Topics in Clothing and Textiles
Special Topics in Fashion Retailing
Study in Technotextiles & Application
Study in Textile Design
Study in Up-cycling Fashion Design
Study on Fashion Designers and Collections
Sustainability & Fashion Industry
Technical Wear Design
Textile Science Seminar
Theory of Global Fashion Cultural Industry Seminar
Thermophysiology
Topics in Aesthetics of Costume
Topics in Consumer Behavior of Clothing
Topics in Environmental Factors in Clothing (Ⅰ)
Topics in Environmental Factors in Clothing (Ⅱ)

Topics in Fashion Color
Topics in Fashion Design
Topics In Fashion Marketing
Topics in Fashion Merchandise Planning and Buying
Topics in History of Korean Costume (Ⅰ)
Topics in History of Korean Costume (Ⅱ)
Topics in History of Oriental Costume
Topics in History of Western Costume & Culture (Ⅰ)
Topics in History of Western Costume & Culture (Ⅱ)
Topics in Image Making
Topics in Social-Psychology of Clothing
Topics in Stage Costume Design
Topics in Statistics (Ⅰ)
Topics in Statistics (Ⅱ)
Understanding of Traditional Clothing Works

Professors

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• Wolhee Do, Ph.D.
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Laboratories

- Textile Science Lab
- Fashion Marketing/Psychology Lab
- Clothing Human Engineering Lab
- Fashion Design Lab
- Clothing Engineering Lab
- Traditional Korean Costume Lab
Graduate Studies in Power System Engineering

The Department of Power System Engineering is committed to educating future leaders in the field of engineering. The graduate program focuses on training experts in the marine system industry, a field which requires familiarity with state-of-the-art technology. It also nurtures skills in power generation, as well as in both the mechanical and electrical engineering fields.

Degree Requirements

The graduate program aims at the instruction at the highest level of academic theory and development of capabilities to perform original research work. Applications for the Master’s Program should have achieved a good standard in an undergraduate degree course in an engineering discipline.

Candidates from other backgrounds may be considered if they have suitable qualifications and interests. Assessment of M.S. students include a combination of at least 24 credit hour course work, and a thesis based on the research project. These requirements should be fulfilled between two and three years of enrollment.

What Do You Study?

Image Visualization Engineering  Advanced Microprocessor Applications
Advanced Computer-Aided Control System Design  Advanced Mechatronics
Advanced Solid Mechanics  Advanced Nonlinear Control System
Advanced Measurement System  Advanced Linear Control System
Advanced Engineering Mathematics  Advanced Numerical Analysis
Advanced Engineering Thermodynamics  System Engineering
Advanced Machine Tools  Advanced Sequence Control
Advanced Machine Design  Advanced Combustion Engineering  1, 2
Advanced Mechanical Vibration  Advanced Heat Management Engineering
Advanced Gas-Dynamics  Advanced Thermal Power Engineering
Advanced Internal Combustion Engines  1, 2  Advanced Heat Transfer 1, 2
Advanced Dynamics  Advanced Hydraulic-Pneumatic Control
Advanced Dynamic Structural Design  Advanced Hydraulic Engineering
Control of Dynamic System  Advanced Fluid Machinery
Advanced Laser Materials and Processing  Advanced Fluid Mechanics
Finite Element Method
Advanced Lubrication Engineering
Design and Control of Automatic System
Theory of plates and shells
Adaptive Control Algorithm
Advanced Electric Machinery

Professors

- Dong-Jun Yeo, Ph.D.
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- Jung-Hwan Byun, Ph.D.
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- Woo-Gyeong Wang, Ph.D.
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Laboratories

- Internal Combustion Engine Lab
- Heat-Fluids Lab
- Applied Mechanics Lab

- Hydraulic-Pneumatic Control Lab
- Automatic Control Lab
- Dynamics of machines Lab
Graduate Studies in Fisheries Science

The aim of the Department of Fisheries Science is to contribute to the development of the nation and human society by advancing academic theories and applicable methods, and producing human resources with leadership and great creative talent. The Graduate School fosters excellent talent who will advance fisheries industries with professional knowledge. Students carry out theory and practice together, and study fishery, harbors, shipping and aquaculture. The Department of Fisheries Science consists of 2 majors: Marine Production Management, and Fishery Biology and Aquaculture.

Degree Requirements

Master’s degree candidates are required to earn 24 credits to graduate. Ph.D. candidates are required to earn an additional 36 credits. All graduate students are required to submit a thesis prior to graduation and pass a comprehensive exam and a foreign language exam.

Students are encouraged to take 9 credits in their first semester. If their grade point average exceeds 4.0 in a semester, they are allowed to take up to 12 credits the following semester. Students are not allowed to take more than 6 credits of courses taught by their academic advisor in the first semester.

What Do You Study?

| Taxonomy Invertebrate (3) | Breeding Technoscience (3) |
| Adhesion Biology (3) | Advances Algae Physiology Ecology (3) |
| Advanced Fisheries Oceanography (3) | Algae Cultivation Technoscience (3) |
| Benthos Ecology (3) | Island Biology (3) |
| Marine Invertebrate Zoology (3) | Zooplankton Feed Biology (3) |
| Aquafarm Environmental Ecology (3) | Phytoplankton Feed Biology (3) |
| Endocrinology (3) | Advances Marine Invertebrate Seed Production (3) |
| Advanced Developmental Biology (3) | Marine Restoration Ecology (3) |
| Advanced Biochemistry (3) | Marine Invertebrate Zoology Culture (3) |
| Advances Cell Biology (3) | Advances Fish Seeds Production (3) |
| Advances Fish of Fresh Water Culture (3) | Advances Aqua System (3) |
| Advanced Marine Fish Culture (3) | Advanced Science of Aquatic Resources (3) |
| Advanced Taxonomy Algal (3) | Systematic Ichthyology (3) |
| Trait and Group Genetics (3) | Biology of Fish Larva (3) |
Advanced Marine Ecology (3)  
Fish Ecology (3)  
Advanced Conservation Biology (3)  
Biological Statistics (3)  
Invertebrate Physiology Ecology (3)  
Advanced Ichthyology (3)  
Algal Culture Technoscience (3)  
Advanced Agriculture and Fisheries Market (3)  
Advanced Food Economics (3)  
Advanced Fisheries Administration (3)  
Advanced Fisheries Law (3)  
Fishing Ground Management (3)  
Advanced Biology (3)  
Fish Physiology (3)  
Advanced Molecular Biology (3)  

Professors

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• Gwan Sik Jeong, Ph.D.  
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• Kang Hee Kho, Ph.D.  
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Laboratories

- Reproductive Biology Lab  
  • Reproductive Cycle of Marine Organisms  
- Fish Thremmatology Lab  
  • Nutritional Studies of Fish  
- Reproductive Biology Lab  
  • Basic Disciplines of Fish  
- Marine Ecological Restoration Lab  
  • Biological Components of Marine Ecosystems,  
  Ecological Studies  
  • Form Environmental Ecology Lab  
  • Chemical Ecology and Marine Invertebrate Ranch Development  
- Resource Biology Physiology Lab  
  • Fisheries Biological Studies on Physiology of the Body
Graduate Studies in Aqualife Medicine

The Department of Aqualife Medicine enables students to launch professional careers in the field through exposure to balanced research and education. Generally, we study fish and shellfish, pathogenesis, disease factors, fish medicine, water environment, and host defense of aquatic organisms. Research projects cover a broad range of needs including fish medicine, fisheries industries, and food safety of fish and shellfish.

Degree Requirements

Master’s degree candidates are required to earn 24 credits to graduate. Ph.D. candidates are required to earn an additional 36 credits. All graduate students are required to submit a thesis prior to graduation and pass a comprehensive exam and a foreign language exam.

Students are encouraged to take 9 credits in their first semester. If their grade point average exceeds 4.0 in a semester, they are allowed to take up to 12 credits the following semester. Students are not allowed to take more than 6 credits of courses taught by their academic advisor in the first semester.

What Do You Study?

Research Guidance 1
- Current Topic in Bacterial Fish Pathogens
- Medical Application of Molecular Biology
- Genetics of Pathogenic Microorganism

Research Guidance 2
- Molecular Bases of Bacterial Pathogenesis
- Topics in Drug Resistance

Research Guidance 3
- Advanced Fish Anatomy
- Morphogenesis
- Advanced Invertebrate Anatomy

Experimental theory of immune biochemical techniques
- Cell Pathology

Cell biology of fish established cell lines
- Histopathology of Endocrine System

Biochemistry of fish viruses
- Toxicohistology

Virulence theory of fish pathogenic viruses
- Advanced Fish Diseases and Nutrition

Molecular epidemiology of fish viruses
- Diagnosis of Aquatic Animal Diseases 1

Diseases control practice in fields I
- Diagnosis of Aquatic Animal Diseases 2

Diseases control practice in fields II
- Fish Virology

Diseases control practice in fields III
- Natural products chemistry

Diseases control practice in fields IV
- Current Topic in Bacterial Fish Pathogens
Fish Parasitology
Ecology of Aquatic Pathogens
Management of Aquatic Animal Diseases and Public Sanitation
Advanced Environmental Disease
Environmental Analysis
Experimental Data Analysis
Advanced Animal Physiology
Environmental Physiology
Advanced Aquatic Toxicology
Research Methodology
Prevention of Epizootics
Advanced Fish Immunology
Advanced Fish Pathology
Immunological Methodology
Invertebrate Immunology
Clinical Pathology
Applied Instrument Analysis
Applied Fish Pharmacology
Safety Control of Fisheries Products
Advanced Diseases of Inveterates
Principles of Fisheries Drug
Topics in Bio-active natural products
Disease resistance of fish
Topics in microbial technology
Introduction of Bioinformatics
Cell Ultrastructure
Advanced Diagnostic Methodology
Topics in Anti-infectives
Current Topics in Immunostimulants
Current bacteriology of aquatic organisms
Biosecurity in aquatic organisms
Biological control
Mechanisms of fish virus infection
Vaccinology of fish viral infection
Immunohistochemistry
Molecular virology

Professors

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Laboratories

- Microbiology Lab
- Histopathology Lab
- Fish Disease Diagnostics Lab
- Environmental Physiology Lab
- Fish Disease Prevention Lab
- Pharmacology Lab
- Fish Virology Lab
- Clinical Lab
Graduate Studies in Food Technology & Nutrition

The objectives of the Department of Food Technology and Nutrition are i) to educate and research various disciplines as well as new theories and application technology related to food technology and nutrition in more depth, and ii) to nurture talent students with adaptability against rapidly changing food environment and nutritional problems.

Degree Requirements

Master’s degree candidates are required to earn 24 credits to graduate. Ph.D. Candidates are required to earn an additional 36 credits. Students are encouraged to take 9 credits in their first semester. If their grade point average exceeds 4.0 in a semester, they are allowed to take up to 12 credits the following semester. Graduate students are also required to pass the comprehensive exam, foreign language exam and submit a thesis.

What Do You Study?

Advanced Food Chemistry (3)  Nutrition in Life Cycle (3)
Advanced Food Science (3)    Community Nutrition (3)
Carbohydrate Chemistry (3)   Nutritional Research 1 (3)
Lipid Chemistry (3)          Nutritional Research 2 (3)
Principles of Nutrition Interaction (3)  Advanced Nutrition Theory (3)
Advanced Food Preservation (3)  Mineral Nutrition (3)
Advanced Nutrition (3)        Vitamin Nutrition (3)
Advanced Nutritional Biochemistry (3)  Nutrient Metabolism (3)
Analytical Chemistry (3)      Clinical Nutrition Research (3)
Chemistry of Food Color & Pigments (3)  Animal Experiments in Nutrition (3)
Chemistry of Food Flavor (3)  Advanced Nutrition Education (3)
Advanced Instrumental Analysis (3)  Sensory Evaluation of Food (3)
Advanced Biochemistry (3)    Food Service Industry (3)
Advanced Nutritional Chemistry (3)  Diet & Disease (3)
Food Toxicology (3)          Advanced Nutrition Counseling Education (3)
Nutrition for Fitness and Sports (3)  Advanced Cooking Science (3)

Professors

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- Sun-jae Kim, Ph.D.
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- Gin-Nae Ahn, Ph.D.
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- Sun-Hee Cheong, Ph.D.
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Graduate Studies in the Department of Naval Architecture and Ocean Engineering

Naval architecture and ocean engineering focuses on research and education in a variety of areas from basic theory to advanced technology on ship and offshore structures. The final goal of the Department lies in the design and production of the reliable and cost-effective transport systems and offshore structures which can carry out missions successfully in harsh ocean environments. The research scopes of naval architecture consist of resistance and propulsion, propulsor, structures and materials, motion and maneuverability, noise and vibration, and welding. Ocean engineering involves various scopes of technical problems that arise during the design, construction, load-out, and operation of various forms of structures developed to meet the needs of offshore petroleum and construction industries. Research on the ocean environment itself is also one of the major research fields of the Department. To meet increasingly complex technical demands, the Department extends research fields to cover rigorous analysis of detailed subjects using powerful computers. In particular, it offers on-board training courses on university-owned research and training ships.

Degree Requirements

Master’s degree candidates are required to earn 24 credits to graduate. Ph.D. candidates are required to earn an additional 36 credits. All graduate students are required to submit a thesis prior to graduation and pass a comprehensive exam and a foreign language exam. Students who gain 4.0 in a semester are allowed to take up to 12 credits in the following semester. Students are not allowed to take more than 6 credits of courses taught by their academic advisor in the first semester.

What Do You Study?

- Boundary Layer Theory(3)
- Advanced Structural Dynamics(3)
- Advanced Structural Design(3)
- Advanced Structural Analysis(3)
- Advanced Ecological Engineering(3)
- Advanced shipbuilding process(3)
- Advanced Marine Auxiliary Machinery(3)
- Advanced theory of ship motion and control(3)
- Advanced ship outfitting(3)

- Advanced hull corrosion protection(3)
- Advanced hull manufacturing automation(3)
- Advanced shipbuilding welding(3)
- Advanced theory of ship vibration(3)
- Advanced theory of noise control(3)
- Advanced Fisheries Physics(3)
- Advanced Numerical Methods(3)
- Reliability and Probabilistic Engineering Design(3)
- Advanced Hydrodynamics(3)
Finite Element Method(3)  Advanced Ocean Ecosystem Modelling(3)
Advanced Applied Mechanics(3)  Advanced Dynamical Oceanography(3)
AdvancedComputationalStructuralAnalysis(3)  Advanced Operational Oceanography(3)
Computational Fluid Mechanics(3)  Advanced Ocean Remote Sensing(3)
Advanced Optimal Design(3)  Ocean Data Assimilation and Inverse Method(3)
SedimentTransportandLittoralProcesses(3)  Advanced Ocean Information Analysis(3)
AdvancedCoastalandHarborEngineering(3)  Advanced Ocean Informatics(3)
Coastal and Ocean Numerical Modelling 1(3)  Advanced Marine Geographical Information
Coastal and Ocean Numerical Modelling 2(3)  System(3)
Advanced Marine Measurement(3)  Advanced Water Wave Mechanics(3)
On-siteandProjectStudyonOceanEngineering(3)  Turbulent Diffusion Theory in the Ocean(3)
SpecialTopicsonMarineSurveyTechniques 1(3)  Environmental Planning Methods(3)
Analysis of Offshore Structure(3)  Advanced Marine Environmental Engineering(3)
Introduction to Ocean Thought(3)

Professors

- Moon-Ock Lee, Ph.D.  [Professor, Environmental Hydraulics
  (Coastal Oceanography), leemo@jnu.ac.kr]
- Ok-Sam Kim, Ph.D.  [Professor, Manufacturing
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- Il-Heum Park, Ph.D.  [Professor, Coastal and Ocean
  Engineering, parkih@jnu.ac.kr]
- Jong-Kyu Kim, Ph.D.  [Professor, Ocean Informatics,
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- Hee-Jong Choi, Ph.D.  [Professor, Ship Design,
  chiohj@jnu.ac.kr]
- Jee-Hun Song, Ph.D.  [Professor, Ship Structural Vibration,
  jhs@jnu.ac.kr]
Graduate Studies in Environmental Oceanography

The graduate program in Environmental Oceanography utilizes scientific and technological education and the application of marine environment studies. Students wishing to be advanced researchers in the field may choose from among 8 majors offered through the program.

Degree Requirements

Master’s degree candidates are required to earn 24 credits to graduate. Ph.D. candidates are required to earn an additional 36 credits. All graduate students are required to submit a thesis prior to graduation and pass a comprehensive exam and a foreign language exam.

Students are encouraged to take 9 credits in their first semester. If their grade point average exceeds 4.0 in a semester, they are allowed to take up to 12 credits in the following semester. Students are not allowed to take more than 6 credits of courses taught by their academic advisor in the first semester.

What Do You Study?

Advanced Aquatic Environmental Processes (3) Advanced Deep Sea Biology (3)
Advanced Biology of Water Pollution (3) Advanced Marine Planktology (3)
Advanced Chemical Oceanography (3) Advanced Marine Pollution (3)
Advanced Coastal Oceanography (3) Advanced Marine Pollution Control (3)
Advanced Community Ecology (3) Advanced Marine Pollution Ecology (3)
Advanced Ecology of Fisheries Resources (3) Advanced Marine Sedimentology (3)
Advanced Estuary Ecology 1 (3) Advanced Marine Zooplanktology (3)
Advanced Estuary Ecology 2 (3) Advanced Ocean Bio-Genetics (3)
Advanced Evolutionary Ecology (3) Advanced Ocean-Ecotoxicology 1 (3)
Advanced Fisheries Oceanography (3) Advanced Ocean-Ecotoxicology 2 (3)
Advanced Geological Oceanography 1 (3) Advanced Ocean Environmental Condition (3)
Advanced Geological Oceanography 2 (3) Advanced Physical Oceanography 1 (3)
Advanced Intertidal Ecology (3) Advanced Physical Oceanography 2 (3)
Advanced Marine Biology of Benthos (3) Advanced Red Tides (3)
Advanced Marine Conservation Biology (3) Environment Analysis of Fishing Area (3)
Advanced Marine Conservation Ecology (3) Environment of Fisheries Oceanography (3)
Advanced Marine Ecology (3) Fisheries Physical Oceanography (3)
Fluid Dynamics for Oceanography (3)
Instrumental Analytical Chemistry (3)  
Marine Environmental Ecology (3)  
Ocean Animal Behavior (3)  
Ocean Eco-informatics (3)  
Paleo Oceanography 1 (3)  

Paleo Oceanography 2 (3)  
Regional Oceanography (3)  
Water Quality Control of Aquatic Culture Systems (3)  
Zooplankton Taxonomy (3)  

Professors

- Yang Ho Yoon, Ph.D.  
  [Professor, Phytoplankton Ecology and Environmental Science,  
  yoonyh@jnu.ac.kr]
- Yeon Gyu Lee, Ph.D.  
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- Hyo-Sang Choo, Ph.D.  
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- Hyun Chool Shin, Ph.D.  
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- Hyeon Seo Cho, Ph.D.  
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  hscho@jnu.ac.kr]
- Ho Young Soh, Ph.D.  
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  hysoh@jnu.ac.kr]
- Ihn-Sil Kwak, Ph.D.  
  [Professor, Zoology,  
  iskwak@jnu.ac.kr]

Laboratories

- Bio-environmental Science Lab  
- Marine Geology Lab  
- Physical Oceanography Lab  
- Benthic Ecology Lab  
- Chemical Oceanography and Environmental Pollution Lab  
- Species Diversity and Ecology Lab  
- Animal Behavior and Observation Lab
Graduate Studies in Fisheries and Ocean Policy

The Department of Marine and Fisheries Policy in the field of marine fisheries management and economic development through the theoretical framework and industrial research and Professors of practical applicability and practical knowledge based on this field, the expertise and practical knowledge acquisition combines the global marine industry in the field of conductive management trains professionals.

Degree Requirements

Master’s degree candidates are required to earn 24 credits to graduate. Ph.D. candidates are required to earn an additional 36 credits. All graduate students are required to submit a thesis prior to graduation and pass a comprehensive exam and a foreign language exam. Students are encouraged to take 9 credits in their first semester. If their grade point average exceeds 4.0 in a semester, they are allowed to take up to 12 credits the following semester. Students are not allowed to take more than 6 credits of courses taught by their academic advisor in the first semester.

What Do You Study?

e-Supply Chain Management Seminar (3)  Advanced Aqua System (3)
Service Management Seminar (3)  Aquafarm Environmental Ecology (3)
Performance Management Seminar (3)  Advanced Algal Taxonomy (3)
Port Management Seminar (3)  Algae Cultivation Technosciences (3)
Computer Simulation (3)  Advanced Marine Fish Culture (3)
Freight Movement Theory (3)  Marine Restoration Ecology (3)
Advanced Industrial Location Theory (3)  Advanced Nutritional Chemistry (3)
Advanced Fisheries Administration (3)  Advanced Aquatic Prices (3)
Experimental Data Analysis (3)  Marine Environmental Policy (3)
Fisheries Environmentalism (3)  Maritime Investment Analysis (3)
Advanced Marine Ecology (3)  Advanced Lipid Chemistry (3)
Advanced Biodiversity and Conservation  Advanced Food Hygiene (3)
Biology (3)  Advanced Fisheries Chemistry (3)
Advanced Molecular Genetics (3)  Food Resources Processing (3)
Advanced Science of Aquatic Resources (3)  Seminar 1 (3)
Advanced Fisheries Oceanography (3)  Seminar 2 (3)
Seminar 3 (3)
Advanced Agriculture and Fisheries Market Structure (3)
Advanced Food Economics (3)
Advanced Fisheries Law (3)
Advanced Compensation Method for Fishing Right (3)
Advanced Fishing Ground Management (3)
Industrial Organization for Logistics (3)
Advanced Fisheries Economics (3)

Advanced Economics Form (3)
Advanced Fisheries Policy (3)
Advanced Fishing Informatics (3)
International Marine Management System (3)
Advanced Cooperative (3)
Coastal Environmental Management (3)
Advanced Fishery Trade (3)
Advanced Marine Fisheries Control (3)

Professors

- Woon Kyo Lee, Ph.D.
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- Gwan Sik Jeong, Ph.D.
  [Professor. Fish Culture and Nutrition. ksjong@jnu.ac.kr, +82-61-659-7162]
- Kyeong Ho Han, Ph.D.
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- Kyeong Ho Kang, Ph.D.
  [Professor. Invertebrate Culture. mobidic@jnu.ac.kr, +82-61-659-7165]
- Sang Duk Choi, Ph.D.
  [Professor. Aquaculture Environment Ecology. choisd@jnu.ac.kr, +82-61-659-7166]
- Kang Hee Kho, Ph.D.
  [Professor. Molecular Physiology. kkh@jnu.ac.kr, +82-61-659-7168]

Laboratories

- Reproductive Biology Lab
  The reproductive cycle of marine organisms
- Thremmatology Lab
  Nutritional studies of fish
- Reproductive Biology Lab
  Basic disciplines of fish
- Marine ecological restoration Lab
  Biological components of marine ecosystems, Ecological Studies
- Environment ecology Lab
  Chemical ecology and marine invertebrate Ranch Development
- Resource Biology Physiology Lab
  Fisheries Biological Studies on physiology of the body
Graduate Studies in Veterinary Medicine

The College of Veterinary Medicine offers graduate studies leading to the Master of Science and Doctor of Philosophy degrees in Veterinary Medical Sciences to prepare students for careers in biomedical science. The professional DVM Program is not a graduate degree program, and applications are handled separately from the graduate program. The graduate program provides training in basic and applied veterinary medical research for qualified students with a baccalaureate degree or a DVM or equivalent degree.

The major areas of concentration in graduate studies are administered by three departmental programs: Basic Veterinary Science, Preventive Veterinary Science and Veterinary Clinical Sciences. Within these departmental programs, training includes appropriate coursework and research in areas such as Comparative Anatomy and Physiology, Pharmacology, Biochemistry/Molecular Biology, Comparative Toxicology, Immunology, Pathology, Parasitology, Epidemiology, Infectious Diseases, Veterinary Internal Medicine, Surgery, Theriogenology, Veterinary Medical Imaging and Laboratory Medicine.

The educational direction of the College embraces teaching knowledge and techniques to produce highly-trained veterinarians, for service in advanced basic medical sciences, clinics, and public health areas.

Degree Requirements

The length of coursework for graduate programs shall be 2 years or more for the master’s degree program, 3 years or more for the Ph.D. Program, and 4 years or more for the joint master’s and Ph.D. degree program.

Master’s degree candidates are required to earn 24 graduate credits and Ph.D. candidates are required to earn 60 graduate credits including credits already earned for the master’s degree. Students may not take more than 12 credits a semester. A grade of C or better is acceptable in the master’s degree program, and a grade of B or better in the Doctoral Program.

What Do You Study?

<table>
<thead>
<tr>
<th>Adult Stem Cells</th>
<th>Advanced Veterinary Bacteriology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Medical Informatics</td>
<td>Advanced Veterinary Biochemistry</td>
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<tr>
<td>Advanced Molecular Biology</td>
<td>Advanced Veterinary Clinical Pathology</td>
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<tr>
<td>Advanced Morphological Techniques</td>
<td>Advanced Veterinary Embriology</td>
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<tr>
<td>Advanced Public Health</td>
<td>Advanced Veterinary Histology</td>
</tr>
<tr>
<td>Advanced Veterinary Anatomy</td>
<td>Advanced Veterinary Pharmacology</td>
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</table>
Swine Pathology
Target Organ Toxicology
Techniques in Experimental Parasitology
Therapeutic Biology
Toxicologic Mechanism
Trends of Recent Vaccine Development
Veterinary Alimentary Pathology
Veterinary Anesthesia
Veterinary Arthropodology
Veterinary Chemotherapy
Veterinary Clinical Diagnostics
Veterinary Clinical Pharmacology
Veterinary Dentistry
Veterinary Dermatopathology
Veterinary Diagnostic Pathology
Veterinary Endocrinology and Reproduction
Veterinary Endodontics
Veterinary Epistemology
Veterinary Helminths
Veterinary Immunopathology
Veterinary Molecular Pathology
Veterinary Neuroanatomy
Veterinary Neuropathology
Veterinary Neurosurgery
Veterinary Oncopathology
Veterinary Operative Surgery
Veterinary Ophthalmology
Veterinary Periodontics
Veterinary Pharmacology of Autonomic Nervous System
Veterinary Pharmacology of Central Nervous System
Veterinary Protozoology
Veterinary Respiratory Pathology
Veterinary Surgery of Abdominal Organs
Veterinary Surgery of Cardiovascular System
Veterinary Surgery of Obstetrics
Veterinary Surgery of Urogenital Organs
Veterinary Topographic Anatomy
Veterinary Toxicopathology
Veterinary Vaccinology
Viral Disease of Poultry
Viral Immunology
Wild Animal Theriogenology
Zoonosis and Exotic Disease

Professors

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• Kyoung-Oh Cho, Ph.D.
  [Professor, Avian Diseases, choko@chonnam.ac.kr]
• Tae-Ho Ahn, Ph.D.
  [Professor, Vet. Biochemistry
Laboratories

**Avian Diseases Lab**

The multi-disciplinary study on avian diseases regards not only poultry but also pets and wildlife birds. Our mission is the education of undergraduate, graduate, professional, and post-doctoral students in effective disease control, precise prevention strategies, and rapid and accurate diagnostic methods to meet current and future societal needs for avian medicine and public health.

*Main Research Interests:*

The major research interest focuses on the cellular virology of viral enteric and viral hepatitis, and its correlation with bile acids in both humans and animals.

**Veterinary Anatomy Lab I**

The Veterinary Anatomy Lab focuses on and researches the structure of animals. Basic data is collected through the approaches to macro and micro-morphological study to understand the normal animal body.

*Main Research Interests:*

1) Biological dosimetry of radiation
2) Radioprotection
3) Radioecology

**Veterinary Anatomy Lab II**

*Main Research Interests:*

1) Neuroimmunology
2) Infrared sensory systems
3) Testicular ischemia
4) Learning and memory
Veterinary Biochemistry Lab

Veterinary biochemistry is a field of life sciences that studies various life phenomena in animals by physical and chemical methods. It forms the foundation of all other veterinary medicine.

In particular, veterinary biochemistry examines molecular structures, functions, and metabolisms of macromolecules in animals, and helps to clarify other veterinary sciences on a molecular level. Furthermore, this subject provides the theoretical basis to be applied to veterinary preventive medicine and other clinical fields.

**Main Research Interests:**
1) Development of early diagnostic methods for liver diseases using cytochrome P450 family as a biological marker.
2) Establishment of a database for cytorome P450 proteomes in disease-induced animal models.
3) Development of cytochrome P450 protein micro-arrays using cytomimetic phosphopid monolayers.
4) Study of the interaction between cytochrome P450 family and molecular chaperones.
5) Development of efficient production methods of recombinant proteins using the regulation of protein translocation machinaries in Escherichia coli.

Veterinary Infectious Disease Lab

The Lab researches the characterization and analysis of causative agents of infectious animal diseases and effective methods of preventing and controlling infectious animal diseases caused by viruses or bacteria.

**Main Research Interests:**
1) Application of molecular and immunological methods to epidemiological studies and analysis of causative agents of infectious diseases of animals.
2) Development of rapid and accurate diagnostic methods by application of molecular and serological methods.
3) Application of modern vaccine technology to prevent infectious diseases that cause economic problems.
4) Research on molecular immunology to enhance the immune response of vaccines by activation of host immune systems.

Veterinary Medicine Lab I

This Lab is divided into five units containing clinical recording, relationships between veterinarian and owner, drawing up prescriptions, methods of drug administration, and routes of administration for therapeutic agents. The courses also consider physical examination and diagnostic and therapeutic techniques for small and large animal diseases.

**Main Research Interests:**
1) Milk quality of dairy goats
2) Udder characteristics of Saanen dairy goats
3) Disease in the dairy goats
4) Alcohol positive milk in dairy goats
5) Disease of mammary gland in dogs

Veterinary Medicine Lab II

This Lab teaches skilled clinical techniques. It considers the handling and restraint of animals, classic clinical diagnosis for major organs, methods of sampling for diagnosis, and field practice of herd health. The final goal is for students to be capable to diagnose animal diseases.

**Main Research Interests:**
1) Production and Metabolic disease in dairy cattle and Hanwoo
2) Mastitis in dairy cows
3) Prevention of neonatal disease and acquire of immunity in neonatal
4) Heard health management
5) Complementary and alternative veterinary medicine
Veterinary Microbiology Lab

This Lab’s current research work is focused on the respiratory and enteric diseases in swine and poultry and on the immunological responses to biologically activity materials. The Lab uses luminometers and flow cytometers to assay phagocyte activity and conducts lymphocyte analysis.

**Main Research Interests:**
1) Development of vaccines using specific gene deletion
2) Studies on Mycoplasmal disease
3) Immunological assessment on the biological activity materials for industrial animals

Veterinary Theriogenology Lab I

Reproductive performance is one of the most important factors in determining the profitability and longevity of animals. Some animals have a longer postpartum interval and may still be acyclic during the period when they should be inseminated. Average individual and herd fertility is far from the reproductive and economic optimum. Therefore the Lab is concerned with improving reproductive efficiency and control of diseases in animals.

**Main Research Interests:**
1) Understanding and confirming reproductive status using vaginal cytology, reproductive hormones (Progesterone, Estrogens) analysis and ultrasonography (optimal breeding and mating time, initial detection of gestational features, prediction table of parturition day, postpartum period).
2) Differential diagnosis and treatment of reproductive dysfunctions using reproductive hormones (Progesterone, Estrogens) analysis and ultrasonography (pregnancy diagnosis, abortion, ovarian and uterine disorders, examination of reproductive organs).

Veterinary Theriogenology Lab II

**Main Research Interests:**
1) Differential diagnosis and treatment of reproductive dysfunctions using ultrasonography and reproductive hormones (Progesterone, Estrogens) analysis in farm animals.

2) Understanding and confirm of reproductive status using vaginal cytology, reproductive hormones analysis and ultrasonography in small animals.

Veterinary Parasitology Lab

The Veterinary Parasitology Lab is committed to the clinical diagnosis and consulting of parasitic diseases of pets and livestock animals of Korea, as well as teaching veterinary students parasitology. Particular research interests lie in study of the dirofilariasis of dogs and cats, zoonotic parasites, and wild animal diseases.

**Main Research Interests:**
1) Canine and feline dirofilariasis
2) Parasitic diseases of wild animals
3) Zoonotic parasites of pet and wild animals
4) Electromagnetic biology in infection and immunity

Veterinary Pathology Lab I

The Department of Veterinary Pathology is primarily responsible for running undergraduate courses (5) in the College of Veterinary Medicine, and the graduate courses (12) in the Graduate School. This Lab has been actively providing qualified diagnostic services on animal diseases as requested mainly from the Chonnam National Veterinary Education Teaching Hospital, small animal clinics, field veterinarians, practitioners, farmers, city zoos, and animal shelters.

**Main Research Interests:**
1) Diagnostic services of animal diseases
2) Development of diagnostic methods and pathogenesis of viral diseases in ruminants
3) Development of vaccine and pathogenesis of zoonotic viral diseases in animals
4) Clinicopathological approaches to zoonotic and contagious infections in small animals

**Veterinary Pathology Lab II**

The Department of Veterinary Pathology is primarily responsible for running the undergraduate courses in the College of Veterinary Medicine and graduate courses in the Graduate School. Recent research interests are focused on the development of diagnostic tools using DNA chips, and protein chips and multiplex PCR for important socio-economical diseases such as enteric diseases of swine fever virus infection, bovine tuberculosis, and PMWS.

**Main Research Interests:**

1) Development of DNA chips and protein chips system for the diagnosis of animal diseases
2) Development and application of PCR based methods (RT-PCR, real-time PCR) for the diagnosis of zoonotic diseases

**Veterinary Pharmacology Lab**

Veterinary Pharmacology is the study of the properties of chemicals used as drugs for therapeutic and diagnostic purposes in veterinary medicine. Students study the scientific basis of chemicals and practice drug therapy in this Lab. They also learn experimental techniques to measure smooth muscle contractilities and systemic blood pressure.

**Main Research Interests:**

1) Mechanism of the smooth muscle contraction
2) Cardiovascular effects of drugs
3) Toxic effects of drugs

**Veterinary Physiology I**

Physiology is a branch of biology that deals with function and coordinated activities of cells, tissues, and organs. The study of physiology offers students not only the satisfaction of knowing something about the workings of the body, but it also provides students with a deep, perhaps even profound, understanding of it. The study of physiology broadens students’ scientific interests and widens the scope of their outlook.

**Main Research Interests:**

1) Regulatory functional mechanisms of embryonic stem cells
2) Hormonal regulation of cell function
3) Measurement of physiological parameters of bio-organs

**Veterinary Physiology II**

This Lab researches physiological functions of animals as it relates to mechanisms from molecular to body levels. We aim to establish basic conceptions of normal physiology to understand the study of the abnormal function of the body. Thus, veterinary physiology is introduced first in the veterinary curriculum.

**Main Research Interests:**

1) Molecular mechanism of metabolic syndrome
2) Pathogenesis of nephropathy under abnormal conditions
3) Study of the regulation of growth factors in vivo and in vitro

**Veterinary Public Health Lab**

The principal task of veterinary public health is the protection of human health by the applications of veterinary medicine. This Lab was established to introduce the fields of research, knowledge, training, and education of veterinary public health. Veterinary public health comprises many aspects of veterinary science and the Lab covers the role of veterinarians and other related professionals in the protection of human health through the safe production of foods of animal origin, control of zoonotic diseases, and environmental contamination.

**Main Research Interests:**

1) Diagnosis, surveillance, and elimination of zoonoses
2) Quality and safety assurance in food production (meat, milk, and eggs)

3) Genetic characterization of Jindo for preservation of the species’ purity

4) Development of recombinant protein vaccine

Veterinary Surgery Lab 1

The Department of Veterinary Surgery researches and teaches surgical diseases and anesthesia in animals. General surgery includes the general principles of anesthesia, treatment of shock, presurgical management, aftercare of patients, wound healing, and various surgical diseases which occur in animals.

The Lab has special experience in a full range of surgery related to the gastrointestinal system, respiratory system, cardiovascular system, urogenital system, nervous system, and muscular-skeletal system, as well as general surgical techniques. In clinical rotations, students will experience physical examination and diagnosis, surgical treatment, and management during surgery in real clinical situations.

**Main Research Interests:**
1) Wound healing and nerve regeneration
2) Osteoporosis and osteoporosis related fractures
3) Orthopedic and soft tissue surgery
4) Polycystic Ovary (PCO)

Veterinary Surgery Lab II

**Main Research Interests:**
1) Oral mucosa wound healing
2) Inhibition of plaque formation and gingivitis
3) Arthritis diagnosis and therapeutic measures

Veterinary Toxicology Lab

Toxicology is the study of the adverse effects that result from the interactions between chemicals and biological systems. We educate and research toxicological characteristic chemicals and biological toxins encountered by domestic animals and pets.

Emphasis is placed on 1) toxic effects on target organs, toxic mechanism, and detoxification of toxins, 2) developing a diagnosis of intoxication, and 3) identification of appropriate treatment strategies for each toxicosis.

**Main Research Interests:**
1) Study on reproductive and developmental toxicity evaluation and toxic mechanisms
2) Safety evaluation and risk assessment of chemicals
3) Study on oxidative damage and toxic mechanisms
4) Development of consultation of new functional drugs and foods
Graduate Studies in Pharmacy

The mission of the Department of Pharmacy is to create highly qualified pharmaceutical scientists and healthcare professionals. Graduate program of the College focuses on introducing up-to-date scientific knowledge and cutting-edge technologies in various areas to graduate students to better equip them for collaborative and/or independent research. Areas of academic specialization of the faculties in the College include Pharmacognosy, Medicinal chemistry, Physical pharmacy, Toxicology, Applied pharmacology, Bioanalytical chemistry, Biopharmaceutics, Natural products chemistry, Pharmaceutical chemistry, Pharmacology, Molecular pathology, Molecular biology, Immunology, Structural biochemistry, and Bionano-pharmaceuticals, Pharmacotherapy, and Applied pharmacology.

Degree Requirements

Master’s degree candidates are required to earn 24 credits to graduate. Ph.D. candidates are required to earn additional 36 credits. Half of the required credits must come from Department courses. Students must also pass the foreign language exam and final exam (based on 3 subjects for master’s degree candidates and 4 subjects for Ph.D. candidates).

Graduate students are also encouraged to publish their research at the SCI level. All students are assigned an academic advisor based on research interests.

What Do You Study?

<table>
<thead>
<tr>
<th>Biotechnology of Medicinal Plants</th>
<th>Pharmaceutical Polymer Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Pharmacognosy</td>
<td>Theory of Pharmaceutical Dispersion System</td>
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<tr>
<td>Biological Evaluation of Natural Products</td>
<td>Advanced Drug Delivery System</td>
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<td>Biosynthesis of Natural Products</td>
<td>Advanced Toxicology</td>
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<td>Advanced Medicinal Plant</td>
<td>Methods for Neurotoxicology</td>
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<td>Bioinorganic Chemistry</td>
<td>Degenerative Diseases</td>
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<td>Neuronal Interactions</td>
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<td>Advanced Chemistry of Chemotherapeutic Agents I</td>
<td>Preventive Toxicology</td>
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<td>Advanced New Drug Development</td>
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<td>Advanced Pharmaceutical Manufacturing</td>
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<td>Chemistry I</td>
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Advanced Pharmaceutical Manufacturing
Chemistry II
Advanced Spectrophotometry
Advanced Analytical Biochemistry
Advanced Chromatography
Current Trends in Analytical Biochemistry
Advanced Biopharmaceutics
Advanced Pharmacokinetics
Advanced Pharmaceutics
Advanced Pharmacodynamics
Advanced Pharmacogenomics
Structure Elucidation of Natural Products
Research Techniques in Natural Products Chemistry
Advanced Medicinal Natural Products Chemistry 1
Advanced Medicinal Natural Products Chemistry 2
Natural Product Drug Development
Advanced Pharmaceutical Chemistry I
Advanced Pharmaceutical Chemistry II
Computer Modeling for New Drug Development 1
Computer Modeling for New Drug Development 2
Computer Modeling for New Drug Development 3
Immunological Methodology 1
Immunological Methodology 2
Advanced Immunology 1
Advanced Immunology 2
Molecular Pharmacology
Receptor Pharmacology
Current Topics in Pharmacological Sciences
Signal Transduction and Regulation
Experimental Models and Design in Research
Advanced Pathophysiology I
Advanced Pathophysiology II
Molecular Pathophysiology
Biochemistry of Signal Transductions
Advanced Molecular Biology I
Advanced Molecular Biology II
Molecular Endocrinology
Experimental Molecular Biology
Molecular Oncology
Structural Biochemistry
Advanced Topics in Protein Structure
Protein Biochemistry
Bioinformatics
Protein Structure Determination and Analysis
Advanced Biomaterials-Based Pharmaceutical/Therapeutical Sciences
Advanced Analytical Biotechnology/
Nanotechnology/Information Technology
Advanced Site-specific Drug Targeting
Advanced Topics in Biopharmaceuticals/
Biomedicines
Herbal pharmacotherapy 1
Herbal pharmacotherapy 2
Pathogenesis of infectious diseases
Research techniques of Immunomodulatory drugs 1
Research techniques of Immunomodulatory drugs 2
Pharmacology of metabolic diseases 1
Pharmacology of metabolic diseases 2
Translational Research 1
Translational Research 2
Pharmacology of reactive oxygen species
Seminar on Pharmaceutical Science 1
Seminar on Pharmaceutical Science 2
Seminar on Pharmaceutical Science 3
Seminar on Pharmaceutical Science 4

Professors

• Bo Gil Choi, Ph.D.
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- Young Ran Kim, Ph.D.
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- Joo Young Huh, Ph.D.
  [Assistant Professor, Applied Pharmacology, jooyhuh@jnu.ac.kr]

**Laboratories**

- Medicinal Chemistry Lab I
- Physical Pharmacy Lab
- Bioanalytical Chemistry Lab
- Pharmacetics Lab
- Natural Products Chemistry Lab
- Organic Pharmaceutical Chemistry Lab
- Pharmacology Lab
- Pathophysiology Lab
- Molecular Biology Lab
- Immunology Lab
- Structural Biochemistry Lab
- Bionano-Pharmaceuticals Lab
- Pharmacotherapy Lab
- Applied Pharmacology Lab
Graduate Study on Music

The Department of Music cultivates talented individuals in order to produce professional musicians and educators. The department offers students exceptional opportunities to develop their musical skills and expand their artistic horizons.

Degree Requirements

Credit Requirements

Master: at least 24 credit hours
Doctor: at least 36 credit hours

Comprehensive Examinations

Qualifying Examinations

Master: at least 2 courses including history, literature of each major
Doctor: at least 3 courses including history, theory, literature of each major

Language Examination

possible to take after completion of at least 1 semester

Recital Requirements

Master: completion of 1 degree recital
Doctor
- String, Wood, Brass, Percussion Major: solo recitals (3 times)
  chamber recital (1 time)
  concerto (1 time)
- Voice Major: solo recitals (4 times)
  leading role in opera or grand choir (1 time)
- Composition Major: doctoral composition chamber recital (2 times), composition and recital of solo or chamber works (2 times), composition and recital of grand composition work (choir, orchestra, opera)
- Piano Major: solo recitals (3 times), chamber recital (1 time), concerto with orchestra or ensemble (1 time)

What Do You Study?
Master
Advanced Piano Pedagogy
History of Classic and Romantic Period
Symphonic Literature
Winds Seminar 1, 2
History of Contemporary Music
History of Renaissance and Baroque Period
Vocal Literature
Vocal Seminar 1, 2
Chamber Music Literature
Art Management
Art Philosophy
Opera Seminar 1, 2
Music Aesthetics
Music Analysis
Acoustics
Composition Seminar 1, 2
Electronic Music
Conducting
Conducting Seminar 1, 2
Computer Music Composition
Piano Seminar 1, 2
Contemporary Music Techniques
Contemporary Music Literature
Survey of History of Music
Analysis of Tonal Music
Research Seminar
Instrument Individual Instruction in Major 1, 2, 3
Vocal Music Major 1, 2, 3
Composition Major 1, 2, 3
Piano Major 1, 2, 3
Orchestral Conducting 1, 2, 3

Doctor
Music of the Classic and Romantic Period
Symphonic Literature Seminar
History of Contemporary Music
Music of the Renaissance and Baroque Period
Chamber Literature and Music Seminar
Art Management
Philosophy of Art
Music Literature Seminar
Music Literature Seminar
Aesthetics of Music
Music Analysis
Cognitive Psychology of Music
Music Theory
Musicology
Acoustics
Tonal Music Literature
Computer Music Composition
Piano Literature Seminar
Piano Seminar
Contemporary Music
Instrument Individual Instruction in Major 4, 5, 6, 7
Vocal Music Major 4, 5, 6, 7
Composition Major 4, 5, 6, 7
Piano Major 4, 5, 6, 7

Professors

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- Su-Kyung Shin, D.M.  
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• Hyejung Lee, Diplom
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• Byung-Woo Kong, Perfectionnement
  [Assistant Professor, Voice
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• In-Woock Park, M.A.
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• Yun-Joo Na, D.M.A.
  [Assistant Professor, Cello
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Laboratories

- Yehang Hall is a professional concert hall with 450 seats.
- Jieum Hall has 150 seats and is also used for lectures and master classes.
- 50 practice rooms with soundproofing.
- Music listening room with more than 10,000 CDs and 3,000 scores.
- Computer music lab with 20 computers with various midi systems.
Graduate Studies in Fine Arts

The graduate program in Fine Arts is an intensive program that trains students for careers in the art world. The program is a rigorous learning experience designed to provide training as preparation for professional positions in art-related fields in the future. The courses offered are built on advanced programs with emphasis on 6 majors including Korean Painting, Oil Painting, Sculpture, Visual Communication Design, Craft Arts, and Arts Theory.

Degree Requirements

Master’s degree candidates are required to earn 24 credits to graduate. Ph.D. candidates are required to earn an additional 36 credits. All students are required to pass the necessary examinations and submit a thesis or dissertation with the approval of the advisory committee.

What Do You Study?

Master’s Courses

Theory of Craft Arts
Topics of Modern painting
Theory of Design Media
Art Criticism
Seminar on Theory of Art
Topics of Analysis of Artists
Sculpture : Praxis 1, 2, 3
Theory of Korean Painting
Seminar : Korean Painting
Korean Painting : Praxis 1, 2, 3
Theory of Contemporary Art
Topics in Environmental Sculpture
History of Korean Painting
Visual Design : Praxis 1, 2, 3
Seminar : Visual Design
Craft Arts : Praxis 1, 2, 3
Seminar : Craft Arts
Design Management

Ph.D. Courses

Research of Techniques in Korean Painting 1,2,3
Seminar : Topics in Korean Painting
Comparison Research of Techniques Eastern and Western Paintings
Research of Theory of Asian Painting 1, 2
Techniques of Korean Mural Paintings
Research of Painting Techniques 1, 2, 3
Topics in the History of Philosophy of Korean Art
Topics in Controversial issues of Contemporary Arts
Seminar : Asian Contemporary Arts
Research of Materials in Art

Conservation
Seminar : Realism Arts
Topics in Arts and Cultural Policy
Painting & Drawings : Praxis 1, 2
Seminar : Contemporary Sculpture
Study on painting theory 1, 2
Planning of Works for Graduation Exhibition
Research of art Scenes in the 21st Century
Research of Techniques in Sculpture 1, 2, 3
Seminar : Topics in Contemporary Sculpture
Comparative Research of Modern/Contemporary Sculpture 1, 2
Art and Human Body
Theory of Fine Arts
Topics in Interpretation of Sculpture
Seminar : Dissertation 1, 2
Research of Techniques in Visual Design 1, 2, 3
Seminar: Topics in Visual Design
Paradigm of Visual Design
Topics in Design and Sign
Topics in Design and Form
Topics in Media
Topics in Design Marketing
Design and Psychology
Research of Digital Communication
Research of Techniques in Craft Arts 1, 2, 3
Seminar : Topics in Craft Arts
Research of the History of Korean Craft Arts
Topics in Craft Arts Marketing
Topics in Materials and Techniques
Topics in the Design of Spatial Craft Arts
Theory of Environmental Craft Arts
Research of the History of Korean Modern / Contemporary Arts
Specialized Research of Selected Areas as Major in Art Theory 1, 2
Theory of Contemporary Korean Art Criticism
Concentrated Research of Korean Art History
Concentrated Research of Western Art History
Topics in Interpretation of Works of Art
History of Cultures in the East and West
Research of aesthetics in the West
Topics in Contemporary Art
Seminar of study on painting

Professors

• Dae-Gil Kim
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• Gyu-Chul Choi
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• Jin Hur
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• Kum-Hee Jung
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• Chul-Woo Kim
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• Ho-Jung Nam
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• Ku-Yong Lee
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• Kee-Moon Seo
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• Jung-ho Jung
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Laboratories
- Traditional Korean Paper Making
- Lacquer Ware Drying Room
- Computer Graphic Lab
- Electric and Gas Heated Pottery Kiln
Graduate Studies in Traditional Korean Music

The Department’s 30 faculty members offer lectures in 30 master’s courses on special education in the theories and practice of traditional Korean music.

Degree Requirements

Students can take 9 course units per semester for a total of 27 units. It is necessary to conduct a musical performance after finishing three terms for major practice.

Upon earning 9 credits, excluding transfer credits, and with the recommendation of the supervisor, a student may take the foreign language exam (in English, French, German, Chinese, or Japanese, or Korean for international students).

Upon earning 18 credits, and with the recommendation of the supervisor, students may take the general exam (based on 3 subjects).

What Do You Study?

| Koryeo Dynasty Music                        | Korean Folk Music                           |
| Old Scores                                 | History of Korean Arts                      |
| Major of Traditional Korean Music          | African and South American Music            |
| Major (1-8)                                | Musical Instrument and Acoustics            |
| Folk Music                                 | Musical Literature                          |
| Analysis of Thesis                         | Philosophy of Art                           |
| Research for Master’s or Doctoral Degree   | Esthetics of Music                          |
| Korean Shamanistic Rhythm                  | Theory and Method in Music Anthropology     |
| Analytical Study on Thesis                 | Musicology                                  |
| West Asian Music                           | Japanese Music                              |
| Korean Folk Music Orchestra                | Aesthetics of Korean Music                   |
| Ethnomusicology                            | Music of Choseon Dynasty                    |
| Studies and Analysis of Sanjo              | Chinese Music                               |
| East Asian Music                           | Temporary Music                             |
| Poetry and Music                           | Pansori and Literature                      |
| Modern History of Korea                    | Studies and Analysis of Pansori             |
| Music History of Choseon Dynasty           | Ancient and Medieval History                |
| Korean Iconography Music                   | Korean Musical Palaeography                 |
Analysis of Korean Music

Professors

• Ai-Soon Seong, P.R.
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• In-Sam Jeon, P.R.
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• Yong-Shik Lee P·R
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• Sang-yeon Kim, P.R.
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Laboratories

Over 35 training rooms, individual exercise rooms, Orchestra Lab, Chamber Orchestra Lab, Korean Classical Opera, Phonograph Record Room, 450-seat Professional Performance Hall, 1600-seat Auditorium
Graduate Studies in Korean Language and Literature

In the Department of Korean Language and Literature, history and structures of Korean spoken and written language are studied scientifically. Also, classical and modern literature are appreciated, criticized, and researched. Spoken language and written language are the most basic methods to express the human mind and a resource to construct the mental system. Therefore, we study the nature of language with the usage of Korean language in life and Korean literature, the essence of language art. The graduate program enables students to understand the history, modes, and rules of Korean language and literature in a deeper sense.

The Department educates students on the theory of speech skills, the theory of literature appreciation, the theory of general writing, and the theory of creative writing, and allows them to put them to practical use to help students improve their language skills, aesthetic sentiments, and writing skills. That is, general studies and education concerning Korean language and literature, development of language skills, and culture of aesthetic appreciation are the aims of this Department.

Degree Requirements

Master’s degree candidates are required to earn 24 credits to graduate. Ph.D. candidates are required to earn an additional 36 credits. The exact courses are determined after consultation between students and academic advisors. Students may earn up to 9 credits per semester, or up to 6 credits per semester for those students with a full-time job. Up to 9 credits may be transferred into the Master’s Program, and up to 12 credits into the Ph.D. program.

In order to be eligible for thesis submission, all graduate students must pass a foreign language exam. There are three thesis examiners for master’s degree candidates and five for Ph.D. candidates. Of the five examiners of a Ph.D. thesis, two come from outside Chonnam National University. All graduate students are assigned an academic advisor based on research interests.

What Do You Study?

Korean Linguistics Major Courses

Studies in Old Korean (3)
Studies in the History of Korean Language (3)
Studies in Korean Lexicology (3)
Studies In Korean Semantics (3)
Studies In Korean Syntax (3)
Studies in the History of Korean Linguistics (3)
Research Methodology of Korean Linguistics (3)
Studies In Korean Morphology (3)
Studies in the Trends of Literary Thoughts (3)
Studies in 'Hunminjongum' (3)
Philological Studies of Korean Linguistics (3)
Studies in Modern Korean (3)
Studies in Sociolinguistics (3)
Studies in Cultural Linguistics (3)
Studies in Korean Education (3)
Studies in Textlinguistics (3)
Research of Local Language (3)
Literary Language & Metaphor (3)
Local Languages and Culture Research (3)
Studies in Discourse Analysis and Pragmatics (3)
Studies in the Historical Grammar of Korean (3)
Studies in Korean Phonology concept (3)
Further research in Korean Phonology (3)
Studies in the Loan Character System (3)
Studies in Contemporary general semantics (3)
Studies in Contemporary general Syntax (3)
Further research in the History of Korean Language (3)
Introduction to Studying Korean Linguistics (3)
Further research in Studying Korean Linguistics (3)

Korean Classic Literature Major Courses
Studies in 'Ka-sa' (3)
Research Methodology of Classical Korean Literature (3)
Studies in Old Korean Poetry (3)
Studies in Korean Folklore (3)
Studies in 'Hayng-Ka' (3)
Studies in Poetry of the 'Korea' Dynasty (3)
Studies in 'Si-Jo' (3)
Seminar in Sino-Korean Literature (3)
Studies in Classical Korean Novels (3)
Studies in Classical Korean Essays (3)
Studies in Classical Korean Literary Works (3)
Studies in Classical Korean Authors (3)
Topics in Classical Korean Novels (3)
Studies in the History of Classical Korean Novels (3)
Studies in Oral Poetry (3)
Studies in the Korean Folk Narratives (3)
Studies in Sino-Korean Literary Criticism (3)

Studies in the History of Sino-Korean (3)
Study of Korea Hansi (3)
Works of Classical Korean Literature (3)
History of Classical Korean Literature (3)
History of Research in Classical Korean Literature (3)
A Study on PANSORI Literature (3)
Studies in Old Korean Literature (3)
Research of Local Culture's Law Data (3)
Research Methodology of Korean Folklore & Oral Literature (3)

Modern Korean Literature Major Courses
Studies in Stylistics (3)
Studies in Middle Korean (3)
Studies in History of Modern Korean (3)
Studies in Modern Korean Novels (3)
Studies in Modern Korean Poetry (3)
Research Methodology of Modern Literature (3)
Studies in Modern Korean Drama (3)
Studies in Korean Literary Criticism (3)
Studies in the Enlightenment Period Korean Literature (3)
Studies in the Theory of the Poetry (3)
Studies in the Theory of the Novel (3)
Studies in the Theory of Modern Literary Criticism (3)
Studies in Descriptive Methodology of Modern Korean Literary History (3)
Studies in History of Korean Poetry (3)
Studies in History of Korean Novels (3)
Studies in the History of Modern Korean Literary Criticism (3)
Topics in Modern Korean Poets (3)
Topics in Literary Theory (3)
History of Studies in Modern Korean Literature (3)
Studies in Theory of Modern Korean Drama (3)
Seminar in Contemporary Korean Literature (3)
Studies in Drama (3)
Studies in the History of Korean Modern Theatre (3)
Topics in the Honam Literature (3)
Topics in Modern Korean Author (3)

Professors

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- Seung-Joo Baek, Ph.D.
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- Kyung-Sun Jo, Ph.D.
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Graduate Studies in English Language and Literature

The Department of English Language and Literature has a thriving postgraduate program. The Department’s program aims primarily to train future teachers of all kinds, from those who wish to work in large public universities and small undergraduate colleges to those who will engage themselves in English language teaching in various types of institutions. The program emphasizes the ability to develop analytical and critical thinking, as well as the ability to master innovative and scholarly work in specialized fields.

The program comprises two core areas of study: Linguistics and Literature in English. The area of Linguistics in English includes specializations in English Syntax, English Semantics, and English Phonology. The area of Literature in English includes specializations in English Poetry, English Novels, and English Drama. The department offers many courses that focus on literary genres and critical theories, as well as studies in the chronological periods of British literature, American literature, and Anglophone world literature.

The program is now in the process of expanding its field of study, so that it may become more inclusive of contemporary interdisciplinary studies such as cultural studies, gender studies, and film studies. Another important change in the program will be to integrate Applied Language Studies in order to offer a diploma in English as an International Language.

Degree Requirements

Master’s degree candidates must earn 24 credits and pass a foreign language exam and a qualifying exam based on the list of subjects provided by the Department. Students must also submit a thesis of original scholarly and critical work, signed and approved by the committee of three faculty members.

Ph.D. candidates must earn an additional 36 credits and pass two foreign language exams and a qualifying exam based on a list of subjects provided by the Department. Students must also submit a dissertation, an original and substantial work of scholarship, signed and approved by the committee of five faculty members.
What Do You Study?

**Literature in English Major Courses**
- 16th and 17th-Century English Poetry (3)
- 18th-Century English Novel (3)
- 18th-Century English Poetry (3)
- 19th-Century American Novel (3)
- 19th-Century English Novel (3)
- 19th-Century English Poetry (3)
- 20th-Century American Novel (3)
- 20th-Century English Novel (3)
- 20th-Century English Poetry (3)
- Modern American Poetry (3)
- Twentieth-century British Drama (3)
- Early Modern British Drama (3)
- Special Topics in American Novel (3)
- Ethnic American Literature (3)
- Studies in American Poetry (3)
- Studies in Old English (3)
- American Poetic Traditions (3)
- American Drama (3)
- Special Topics in American Literature (3)
- Milton (3)
- Victorian Prose (3)
- Shakespeare's Tragedies (3)
- Shakespeare's Comedies (3)
- Special Topics in English Novel (3)
- Studies of Major Authors (3)
- Special Topics in British Literature (3)
- History of British and American Literary Trends (3)
- British and American Literacy Criticism (3)
- Research Methods in English Literature (3)
- Topics in English & American Literature 1 and 2 I (3)
- Special Topics in British and American Culture (3)
- Special Topics in British & American Novel (3)

**Special Topics in British & American Literature (3)**
- Special Topics in English Novel (3)
- Special Topics in British & American Drama (3)
- English-speaking World Literature 1 and 2 (3)
- Medieval English Literature (3)
- Contemporary American Fiction (3)
- Contemporary American Poetry (3)
- Contemporary British Novel (3)
- Contemporary British and American Drama (3)
- Contemporary Literary Theory I and II (3)
- Seminar on Western Classics (3)

**English Linguistics Major Courses**
- Sociolinguistics (3)
- Psycholinguistics (3)
- Teaching English as a Foreign Language (3)
- English Teaching Method (3)
- Modern English Grammar 1 and 2 (3)
- English Phonology I and II (3)
- Topic in English Phonology (3)
- English Semantics I and II (3)
- English Syntax I and II (3)
- Research Methods in English Linguistics (3)
- English Morphology (3)
- English Pragmatics (3)
- General Linguistics (3)
- Second Language Acquisition (3)
- Laboratory Phonology (3)
- Formal Language Theory (3)
- Applied Linguistics Seminar (3)
- Research Method in Applied Linguistics (3)
- English Education Seminar (3)
- English Pedagogic Grammar (3)
- Testing in TEFL (3)
- Historical Linguistics (3)
Professors

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- Robert Grotjohn, Ph.D.
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- Mi-Ra Oh, Ph.D.
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- Hee-Kyung Nah, Ph.D.
  [Professor, American Novels, hknah@chonnam.ac.kr]
- Yoon-Hee Na, Ph.D.
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- Seunghyun Baek, Ph.D.
  [Assistant Professor, Applied Linguistics, sh3940@jnu.ac.kr]
- Keun Young, Shin, Ph.D.
  [Assistant Professor, Syntax-Semantics, kyshin@jnu.ac.kr]
- Yeon-Min, Kim, PhD.
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- Mark W. Murdaugh, M.A.
  [Visiting Professor, EIL, mwmurdau@hotmail.com]
- Scott Allan Findlay
  [Visiting Professor, TESOL, scottfindlay@yahoo.com]
- Joori Lee, Ph.D.
  [Professor, Contemporary English Literature, joorilee00@gmail.com]
Graduate Studies in Japanese Language and Literature

Graduates can pursue careers in business, the media, the Ministry of Foreign Affairs, trading, and high school and university education systems.

Degree Requirements

Characterized by being systematic and in-depth, graduate programs in Japanese Language and Literature and Japanese Studies aim to produce experts able to contribute to the study of Japanese in Korea.

All students may earn up to 9 credits per semester. The Faculty Committee may decide to add to the requirements of graduate students based on their prior transcripts. Master’s degree candidates may earn up to 15 additional credits while Ph.D. candidates may earn up to 9. Up to 9 credits may be transferred into a Master’s Program and up to 12 credits into the Ph.D. program.

In order to be eligible to submit a thesis, Ph.D. candidates must have at least two papers published in academic journals, including one in an international journal. A master’s degree candidate must earn 3 credits from 2 courses outside his/her area of specialization. All students must pass a foreign language exam. There are three examiners for master’s degree theses and five for Ph.D. theses. One or more examiners for Ph.D. theses must come from outside of Chonnam National University.

Ph.D. applicants must pass a foreign language entrance exam in English or another foreign language, including German, French, Chinese, Japanese, or Chinese characters.

Each faculty member is limited to teaching 2 courses per semester, with the exception of co-teaching duties.

Master’s degree candidates are required to earn 24 credits in order to graduate. Ph.D. candidates are required to earn an additional 36 credits. The exact courses are determined by the Department Head.

The student’s supervisor is normally determined near the end of a student’s first semester. A supervisor is assigned based on their research interests. In this regard, students are encouraged to provide the Department with a statement of interest no later than one month before the appointment deadline.

Candidates for degrees first submit their thesis proposals to their respective supervisors. Then, their supervisors arrange for them to present their proposals at department-wide meetings.

What Do You Study?
Japanese Language Major Courses

Japanese Grammar
Research Methods in Japanese Linguistics
Japanese Linguistics I
Japanese Linguistics II
Theories of Japanese Language Teaching
Reading in Classical Japanese Reading Materials
The History of Japanese Language.
Japanese Phonology
Japanese Phonetics
Ancient Japanese
Modern Japanese
Sociolinguistics
Classical Japanese Language
General Linguistics
Seminar in Japanese Linguistics I
Seminar in Japanese Linguistics II
Sino-Japanese Phonology
Introduction to Interpretation and Translation
Introduction to Applied Linguistics
Second Language Acquisition Theory and Practice
Studies on Modern Japanese Verses

Japanese Literature Major Courses

Method of Japanese Literature I
Method of Japanese Literature II
Comparative Literature of Korean and Japanese
Seminar in Comparative Literature of Korean and Japanese
Modern Japanese Literature I
Modern Japanese Literature II
Japanese Popular Culture I
Japanese Popular Culture II
Classical Japanese Poetry
Classical Japanese Prose
Classical Japanese Drama
Comparative Studies in Korean and Japanese Classical Literature
Japanese Literature and Film
Japanese Women’s Literature
Sino-Japanese Literature

Special Topics in Modern Japanese Literature
Modern Japanese Novels
Seminar in Basic Translation
Special Topics on Comparative Study of Korean and Japanese Literature
Studies on Japanese Literary Theories
Studies on History of Japanese Poetry and Religion
Studies on Modern Japanese Literary Criticism
Studies in Modern Japanese Religious Literature
Seminar on East Asian Poetry
Seminar on Traditional Japanese Play
Translation Studies in Contemporary Japanese Poetry
Seminar in Translation for Specific Areas
Translation Studies in Modern Japanese Poetry
Seminar on Japanese Translation

Japanese Culture Major Courses

Seminar in Korean and Japanese Comparative Culture
History of Cultural Exchange between Korea and Japan
Research Methods in Japanese Culture
Japanese Folklore Literature
Seminar in History of Japanese Thoughts
Japanese History
Special Study of Japanese Society
Seminar in Modern Japanese Culture
Seminar in Japanese Folk Belief
Seminar in Japanese Community Society
Seminar in Korean and Japanese Mass Culture
Intercultural Communication
Special Lecture
Japanese Education and Information
Research Methods in Japanese Education 1
Research Methods in Japanese Education 2
Seminar in Japanese Folklore
Seminar in Japanese Culture
Seminar on Japanese Studies
Seminar on East Asian Culture
Seminar on Contemporary Japanese Society
Seminar on Japanese Language and Thoughts  
Seminar on Japanese Culture and Thoughts  
Seminar on Japanese Society and Culture  
Seminar on Religious Culture in Japan  
Seminar on Korea-Japan Relations  
Seminar in Korean and Japanese Comparative

Professors

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- Hyeon Il Moon, M.A.  
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- Iida Saroi M.A.  
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Laboratories

The Seminar Room (room 409 in Liberal Arts Building 2) is reserved for graduate students’ seminars. This room can also be used as a study space.

The resource room (room 114 in the Liberal Arts Building 2) houses theses from Korean and overseas universities, periodicals published abroad and at home, and a variety of visual materials and related equipment.
Graduate Studies in Chinese Language and Literature

By training students in analytic skills across general and particular academic areas, the Department produces professionals in Chinese Language and Literature.

Degree Requirements

The Department of Chinese Language and Literature provides a program in comparative literature as part of graduate studies. The program aims to equip students with the skills needed to apply their expertise in Chinese Language and Literature as well as to advance studies in Korean Language and Literature.

Master’s degree candidates are required to earn 24 credits to graduate. Ph.D. candidates are required to earn an additional 36 credits. The exact courses will be selected by their upon consultations between supervisors and students. All students are not allowed to take more than 9 credits per semester.

Students in joint master’s and Ph.D. programs are not required to earn additional credits. Up to 9 credits may be transferred into a Master’s Program, and up to 12 into a Ph.D. program.

In order to be eligible to submit a thesis, students must pass a foreign language exam. There are three committee members for master’s degree theses and five for the Ph.D. dissertation.

What Do You Study?

GRADUATE COURSES

<table>
<thead>
<tr>
<th>Course</th>
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<td>Classical Chinese Grammar</td>
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<tr>
<td>Comparative Studies in Culture of Korean and Chinese</td>
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<tr>
<td>History of Chinese Linguistics</td>
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<td>History of Chinese Literary Thoughts</td>
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<td>History of Chinese Speech Sound</td>
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<td>Introduction to Chinese Culture</td>
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<td>Methodology of Classical Chinese Literature</td>
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<td>Modern Chinese Grammar</td>
<td>3</td>
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<td>Practical Exercise in Chinese Language and Culture 1</td>
<td>3</td>
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<tr>
<td>Practical Exercise in Chinese Language and Culture 2</td>
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<tr>
<td>Research for Master’s or Doctoral Degree</td>
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<tr>
<td>Research on Chinese Cultural Narrative</td>
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Contemporary Chinese Literature (3)
Modern Chinese Novels (3)
Modern Chinese Literary Criticism (3)
Modern Chinese Prose (3)
Modern Chinese Poems (3)
Ancient Chinese Phonology (3)
Archaic Chinese Phonology (3)
Chinese Commentariology (3)
Chinese Dialectology (3)
Chinese Ideography (3)
Chinese Linguistics (3)
Chinese Mythology and Primitive Culture (3)
Chinese Phonology (3)
Chinese Semantics (3)
Seminar in Literary Debates in Modern Chinese Literature (3)
Seminar in May Fourth Literature (3)
Seminar in Methods of Research in Modern Chinese (3)
Seminar in Modern Chinese Literature (3)
Seminar in New Era Literature (3)

Special Studies in Classical Chinese Drama (3)
Special Studies in Chinese Culture (3)
Special Studies in Chinese Prose (3)
Special Studies of Classical Chinese Novels (3)
Special Studies of Chinese Classics (3)
Special Studies of Chinese Grammar (3)
Special Studies of Chinese Ideography (3)
Special Studies of Chinese Linguistics (3)
Special Studies of Chinese Literary Criticism (3)
Ancient Literary Criticism Works (3)
Chinese Regional Culture (3)
Ancient Chinese Poems (3)
Arts Performance (3)

Bone Inscription and Bronze Inscription (3)
Chinese Aesthetics (3)
Chinese Cinema History (3)
Chinese Classic Drama (3)
Chinese Classic Drama Criticism (3)

Classical Chinese Novels (3)
Classical Chinese Prose (3)
Chinese Folklore (3)
Chinese Life Culture (3)
Chinese Literary History (3)
Chinese Literature and Film Arts (3)
Chinese Novel Criticism and Theories (3)
Chinese Publication History (3)
Chinese Rhetoric and Lexicology (3)
Chinese TV Drama (3)
Ci-Fu (3)

History of Culture Exchange between Korea and China (3)
Jiang-chang (recite-chant) Literature (3)
Modern Chinese Drama (3)
Modern Chinese Literature (3)
Modern Chinese Works (3)
Original Types in Chinese Culture (3)
The Cultures of Minority Nationality (3)
Modern Chinese Writers (3)
Chinese Verse Literature (3)
Ci-qu (3)
Rhyme Dictionaries (3)
Rhyme Tables (3)
Tang-Song Prose (3)

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Laboratories

A seminar room (room #409 in the Liberal Arts Building #2 and room #206 in Liberal Arts Building #1) houses master’s and doctoral thesis from overseas or Korean universities, Korean and foreign periodicals, and various visual resources.
Graduate Studies in German Language and Literature

The Department of German Language and Literature provides a graduate program in comparative literature. The program is aimed to equip students with the skills needed to apply their expertise in German Language and Literature while advancing studies in Korean Language and Literature.

Degree Requirements

Master’s degree candidates are required to earn 24 credits to graduate. Ph.D. candidates are required to earn an additional 36 credits. The exact courses are determined upon consultation between students and supervisors. All students may earn up to 9 credits per semester.

Up to 9 credits may be transferred into the Master’s Program, and up to 12 into the Ph.D. program.

In order to become eligible to submit a thesis, students must first pass a foreign language test. A Ph.D. candidate must pass tests in German and English.

There are three external examiners for the master’s degree and five for the doctoral degree. Of the five examiners of a Ph.D. thesis, two come from outside of Chonnam National University.

All students are assigned to academic advisors based on their research interests.

What Do You Study?

GRADUATE COURSES
Comparison of Korean and German Literature (3)
Contemporary German Novels (3)
German Kinder und Jugendliteratur (3)
German Classical Literature (3)
German Classicism and Romanticism (3)
German Literature and Arts (3)
German Literature and German Philosophy (3)
German Literature in the 20th Century (3)
Modern European Drama and Play (3)
Modern German Literature (3)
Modern German Poetry (3)
Modern German Theater (3)

Recent German Drama and Theater (3)
Special Studies in German Literature I (3)
Special Studies in German Literature II (3)
Special Topics in German Literature I (3)
Special Topics in German Literature II (3)
Special Topics in German Literature III (3)
German Drama (3)
German Eco-Literature (3)
German Feminist Literature (3)
German Literature Engagement (3)
German Modern Literature (3)
German Novels (3)
German Poetry (3)
Korean and German Comparative Literature (3)
Literary Criticism and Essays (3)
German Contemporary Literature (3)
German Writers I (3)
German Writers II (3)
German Writers III (3)
German Writers IV (3)
Themes in German Literature I (3)
Themes in German Literature II (3)
Theory of Comparative Literature (3)
Theory of Trends of German Literature (3)
Theory on German Literaturwissenschaft (3)
Modern German Literature I (3)
Modern German Literature II (3)
German Realism and Naturalism (3)
German Romantic Literature (3)
German Literature in the 20th Century I (3)
Hermeneutics (3)
Literature and Text Linguistics (3)
Modern Critical Theory (3)

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- Ja-Kyung Cho, Ph.D.
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  [Invited Professor, German Literature, minou, oh@web.de]

Laboratories

The Department has one seminar room (room #307 in the 2nd Humanities Building), which doubles as a study space for graduate students.

The resource room (room #103 in the 2nd Humanities Building) houses theses from overseas and Korean universities, periodicals published abroad or at home, and a variety of visual materials.
Graduate Studies in French Language and Literature
The Department has contributed to cultural exchanges between Korea and France, thus advancing Korean culture. Graduates have also played an important role in improving Korea’s relationships with Europe and Africa.

Degree Requirements
Characterized by being systematic and in-depth, the Department’s graduate programs aim at producing experts in French Language and Literature. These experts can also contribute to advancing studies in Korean Language and Literature.

In order to establish eligibility for degrees, master’s degree and Ph.D. candidates have to earn at least 12 and 18 credits, respectively. In principle, full-time students and part-time students can respectively earn up to 9 and 6 credits per semester. Supplementary credit requirements for a student may be made based on the student’s previous transcripts. Master’s degree and Ph.D. candidates may earn up to 12 and 9 supplementary credits respectively.

In order to be eligible to submit a thesis, graduate students must pass a foreign language exam. Ph.D. candidates must pass both French and English language exams.

There are three examiners for the master’s degree and five for the Ph.D. theses. Up to three (master’s) and four (Ph.D.) thesis examiners come from within the Department. At least one or more thesis examiners for the Ph.D. must come from outside Chonnam National University.

All students are assigned a supervisor based on research interest. A faculty member can supervise up to three master’s students and up to five Ph.D. students from the same class.

What Do You Study?
- The Late 19th Century Novel (3)
- Special Topics in Structural Linguistics (3)
- The Problem of Writing (3)
- Nouveau Roman (3)
- Methods of Discourse Analysis (3)
- Conversational Analysis (3)
- Sociolinguistics (3)
- Existentialist Novel (3)
- Psycholinguistics (3)
- Lexicology (3)
- Philosophy of Language (3)
- Semantics (3)
- Feminist Literature (3)
- Pragmatics (3)
- Sociology of Novel (3)
- Medieval Poetry (3)
Medieval Roman (3)
The Aesthetics of 18th Century (3)
Studies in Methodology of French Language Education (3)
Lexicography (3)
The Critics of Mythology and Hermeneutics of Text (3)
The Early 20th Century Novel (3)
Theories of French Versification (3)
French Poetics of the Lyric (3)
Studies in French Films (3)
Nouvel Vague (3)
Myth and Literature (3)
Literature and Psychoanalysis (3)
Literature of War (3)
The Modern Art of French (3)
French Area Studies (3)
Studies in French Popular Culture (3)
European Culture Analysis (3)
Research on the space cultural and communication (3)
Studies in French Cultural Administration and Policy (3)
Studies in french culture marketing (3)
Topics in comedy (3)
Topics in tragedy (3)
Drama and performance (3)
Topics in reception of French drama (3)
Special Topics in Semantics (3)
Topics in French cultural cities (3)
Topics in French cultural industries (3)
Topics in French complex cultural space (3)
Topics in French performing art (3)

Special topics in cultural area of French language

Renaissance literature (3)
Topics in literature of enlightenment (3)
Topics in fiction of early-romanticism (3)
Topics in fiction of romanticism (3)
Topics in fiction of realism (3)
Topics in fiction of naturalism (3)
Topics in poetry in the sixteenth century (3)
Topics in poetry of romanticism (3)
Topics in poetry of symbolism (3)
Topics in poetry of surrealism (3)
Topics in French present poetry (3)
Topics in classical drama in the middle ages (3)
Topics in modern/present drama (3)
Topics in moralist literature (3)
Topics in fiction authors (3)
Special topics in literary criticism (3)
Topics in structuralism (3)
Topics in modern literary criticism (3)
Methods of fiction analysis (3)
Methods of poetic analysis (3)
Topics in drama analysis (3)
Topics in new criticism (3)
Theory of modern language (3)
Research methods in linguistic study (3)
History of French language (3)
History of French language study (3)
Phonology (3)
Special topics in phonology (3)
Studies in phrase (3)
Methods of syntactical analysis (3)
Special topics in syntax (3)
Theory of modern grammar (3)
French stylistics (3)
Interpretation and translation studies (3)

Professors

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• Chul Lee, Ph.D.  
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Laboratories

The Seminar Room (Room #205 in the 1st Humanities Building) is reserved for graduate students’ seminars. This Seminar Room can be also used as a study space. The Resource Room (Room #102 in the 2nd Humanities Building) holds theses from domestic and overseas universities, domestic and overseas periodicals, and a variety of visual materials and related equipment.
Graduate Studies in Philosophy
The objective of the Department of Philosophy is to explore the origins of the world and the nature of human beings. The graduate program in Philosophy educates students to be qualified faculty members, researchers, or equivalent professionals.

Degree Requirements
Master’s degree candidates are required to earn 24 credits, up to 9 credits each semester. Candidates also have to pass a comprehensive exam and foreign language exam as well as submit a thesis.
Ph.D. candidates are required to earn 36 credits and pass a comprehensive exam and foreign language exam. Students must also submit a dissertation. An academic advisor is appointed to each graduate student based on the student’s interest and with the permission of the advising committee.

What Do You Study?
Contemporary Korean Thoughts (3)
Economy • management and Philosophy (3)
Studies in Philosophy of Confucius and Mencius (3)
Science • Technology and Philosophy (3)
Special lecture on The Glocal humanities (3)
Human Right in Glocal Culture (3)
Glocal Communication and Solidarity (3)
Studies in Philosophy of Lao-Tzu and Chung-Tzu (3)
logic and communication (3)
Studies of "Discussion Theories" (3)
Mahayana Buddhism (3)
Topics in Taoism Philosophy (3)
Eastern and Western nation’s values and Moral philosophy (3)
Study on Philosophy of Law of East and West (3)
Comparative Studies in East and West Thought (3)
Eastern and Western nations with Philosophy of law (3)
The arts of Eastern and Western nations with Aesthetics (3)
Special Lecture on Eastern and Western Ethical Theory of History (3)
Natural philosophy of Eastern and Western nations (3)
Special Lecture on Eastern and Western natural Philosophy (3)
Seminar in Comparative Philosophy (3)
Comparative Studies on Eastern and Western Philosophical Research Method (3)
Special Lecture on Eastern and Western Modern Philosophy (3)
Metaphysics of Eastern and Western Philosophy
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<td>Trans-metaphysics special lecture</td>
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<td>East Asian Buddhism</td>
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<tr>
<td>The Study of East Asia Thought Exchanges History</td>
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<td>Culture · Art and Philosophy</td>
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<td>Studies in Cultural Philosophy</td>
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<td>Studies in Aesthetics</td>
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<td>Social exclusion and solidarity</td>
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<td>Human Rights and Welfare</td>
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interpretation II (3)
Studies in Tien-tai and Hua-Yem Thoughts (3)
Philosophical Education for Teenager 1 (3)
Philosophical Education for Teenager 2 (3)
Studies in Kant's Practical Philosophy (3)
Studies in Kant's Ethics (3)
Study on Kant's theoretical philosophy (3)
Study on French Phenomenology
Plato I (3)
Plato II (3)
Interdisciplinary Philosophical Research Method (3)
Studies in Korean Buddhism (3)
Studies in Korean Neo-Confucianism (3)
Study on Korean Practical-Learning (3)
Seminar in Comparative Seminar in Confucianism, Taoism and Buddhism (3)
Seminar on Korean Confucianism (3)
Study in Hermeneutics (3)
Study of Hegel's Logic (3)

Hegel's Philosophy (3)
Topics in Hegel's Philosophy (3)
Seminar in Contemporary German Philosophy (3)
Studies in Modern Legal Philosophy (3)
Study on Changes of Modern Society and Paradigm of Social Welfare (3)
Seminar in Contemporary Anglo-American Philosophy (3)
Seminar in Contemporary Europe Philosophy (3)
Studies in Contemporary Ethics (3)
Seminar in Contemporary France Philosophy (3)
Studies in Phenomenology (3)
Crossing Studies & Research Ethics(doctor course) (3)
Crossing Studies & Research Ethics(master course) (3)
Study in Greek Philosophy (3)
Seminar in Greek Philosophy (3)

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- Kang-Seo Rhee, Ph.D.
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- Kim Su Rasmussen, Ph.D.
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Graduate Studies in History

Since its establishment along with Chonnam National University in 1952, the Department of History has grown to be one of the most respected departments within the University and in Korea. The Department is certainly the most prestigious in the field of history in the south-western region of Korea.

The Department has 11 full-time faculty members, 17 part-time instructors, 30 full time graduate students. All faculty members are committed to helping students think critically and independently about the human past, and understand how cultures evolved into what they are today. Divided into three areas of study, Korean History, Asian History, and Western History, the areas of expertise among faculty members range across the major geographical and chronological fields in the discipline from ancient Korean History to contemporary US History. The Department enjoys a reputation for excellence in both undergraduate and graduate teaching. The Department offers bachelor’s, master’s, and Ph.D. degrees in History.

Degree Requirements

Master’s candidates are required to earn 24 credits to graduate. Ph.D. candidates are required to earn an additional 36 credits. All students are required to pass foreign language exams and a qualifying exam. Prior to submitting a thesis, students must deliver more than one presentation at a Department seminar. Students are also required to publish more than one paper in an academic journal.

All students are assigned a supervisor after their first semester based on research interests.

What Do You Study?

Research for the Master’s or Doctoral Degree

East Asia Major Courses

Studies in Reforms and Revolutions in Modern Chinese History (3)
Seminar in Asian History (3)
Topics in Asian History I (3)
Topics in Asian History II (3)
Studies in the History of Asian Historiography (3)
Studies in the History of Chinese Movement (3)
Studies in Chinese Modernization (3)

Studies in Chinese Cultural History (3)
Topics in Chinese Institutional History (3)
Studies in the Aristocratic Institutions of Medieval and Ancient China (3)
Studies in the History of Medieval and Ancient Chinese Thought (3)
Studies in Medieval and Ancient Chinese Political History (3)
Studies in Contemporary Political Thought and Intellectual History of China (3)
<table>
<thead>
<tr>
<th>Western History Major</th>
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<tbody>
<tr>
<td>Studies in Government Organizations of Sung, Yuan, Ming, and Ching Dynasties (3)</td>
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<td>Studies in Socioeconomic History of Medieval and Ancient China (3)</td>
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<td>Studies in Japanese Political History (3)</td>
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<td>Studies in Chinese Pre-modern History (3)</td>
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<td>Studies in Chinese Gentry (3)</td>
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<td>Studies in Socioeconomic History of Modern China (3)</td>
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<td>Studies in Japanese Feudal Society (3)</td>
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<td>Studies in Intellectual History of Japan (3)</td>
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<td>Studies in the History of East Asia International Relations (3)</td>
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<td>Studies in Korean Social History (3)</td>
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<td>Studies in Modern Korean Nationalism (3)</td>
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<td>Studies in Local Korean History (3)</td>
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| Seminar in Ancient Western History (3) |
| Seminar in Modern Western History (3) |
| Studies in History of Western Thought (3) |
| History of Western Historiography (3) |
| Seminar in Medieval Western History (3) |
| Seminar in Contemporary Western History (3) |
| Theories of History (3) |
| Studies in Contemporary History of Korea (3) |
| History of European Labour Movement and Socialism (3) |
| Studies in Imperialism (3) |
| Studies in French History (3) |
| History of Rome (3) |
| Studies in Totalitarianism (3) |
| History of the Reformation (3) |
| History of American Foreign Policy (3) |
| History of Revolution (3) |
| History of Ancient Greece (3) |
| Research for the Master’s or Doctoral Degree (3) |
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Laboratories

- Library
- Seminar Room
- Research Center for History and Culture
Introduction

This interdisciplinary course was established at Chonnam National University’s Graduate School in the second semester of 2010. The purpose of this course is to enable students to translate Korean and East Asian classics in Chinese characters into modern Korean.

The educational goal of this course is firstly to enhance students capability to translate various classics which consist of Chinese characters based on Korean culture. Secondly, to develop basic ability to conduct research on Oriental studies including literature, history and philosophy in Korea and China. Thirdly, to have students reach the highest level possible to research Korean studies and Honam studies by using a wide range of classical materials.

To achieve this goal, students will be given opportunities to learn how to translate Korean and East Asian classics, including translation theory and means. In addition, various educational and research programs according to the nature of classics written in Chinese characters and the access methods to those texts.

The annual entrance quotas are ten for a two-year master’s course (4 semesters) and five for a three-year doctorate course (6 semesters). The curriculum has 40 to 70 courses in the fields of literature, history and philosophy related to translation skill and contents.

This course is believed to establish the identity of Korean national culture by training professionals who are able to translate Korean and East Asian classics in Chinese characters into modern Korean. Additionally, it will contribute to spreading Korean culture and promoting humanities by developing cultural contents.

Degree Requirements

Entrance exam: Applicants must take the entrance exam.

Qualification test for master’s thesis or doctoral dissertation: Before submit thesis/dissertation, students must take a foreign language test one of their choice (except Chinese characters). A comprehensive examination also must be taken. Master’s students must take two courses in each of the four fields: Korean literature, Chinese literature, History, and Philosophy. Ph.D. students must take three of these courses. All the students must choose the courses that they already took.

Translation work as a substitute of Master’s or doctoral dissertation: Master’s or doctoral dissertations can be substituted by translation work which contains academic annotation and footnotes, and has never been translated before by others. Only students who published material at least two articles in academic journals are qualified to apply for candidacy for doctoral dissertation.
Academic advisors: Academic advisors, the Professors of interdisciplinary course, should be appointed by faculty committee. However, students’ opinions will be also considered in choosing their advisors. If there is no professor who can advise student’s research in the interdisciplinary course, academic advisor can be appointed from one of Chonnam National University’s professors.

**Programs**

- Study of Korea Han si
- Readings in collected Works of Classical Korean Literature
- the Original of Classical Korean Literature
- Studies in Old Korean Literature
- Studies in the History of SinoKorean
- Studies in Classical Korean Essays
- Seminar in SinoKorean Literature
- Studies in Classical Korean Literary Works
- Studies in Sino Korean Written Words
- Studies in the Korean Paleography
- Topics in the Korean Palaeography
- Studies in the Korean Epigraphy
- Topics in the Korean Epigraphy
- Seminar in Korean Historical Records 1
- Seminar in Korean Historical Records 2
- Studies of Ci-qu
- Classical Chinese Grammar
- Chinese Ideography
- Studies of Tang-Song Prose
- Studies of Chinese Verse Literature
- Studies in Chinese Classical Prose
- Studies in Jiang-chang(recite-chant) Literature
- Studies in Chinese Classical Novels
- Studies in Ancient Chinese Poems
- Seminar in Korean Confucianism in Yi-Dynasty
- Studies in Korean Neo-Confucianism
- Topics in Confucianism Philosophy
- Seminar in Confucian Classics
- Studies in Korean Buddhism
- Topics in Taoism Philosophy
- Studies in Chinese Neo-Confucianism
- Studies in Chinese Buddhism
- Seminar in the Buddhist Scriptures
- Research for the Master's or Doctoral Degree
- Studies in Korean Historical Biographies 1
- Studies in Korean Historical Biographies 2
- Translation Stylistics
- Seminar in Sino-Korean Style
- History of Translation
- Exercises in Cursive Writing 1
- Exercises in Cursive Writing 2
- Study of Seal Character
- Study of Bibliography
- History of Korea Calligraphy
- The Study of a Han-Ja beginner's book
- Gauge mark methodology
- Translation Practice of Sino-Korean Poetry
- Translation Practice of Sino-Korean Prose
- Method of Honam Classic Documents
- Catalogue Theory and Bibliography
- References for Chinese Classics
- Zuzi's selected Works
- Lectures On A Poem
- Lectures On a Confucian Classic
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Office

College of Humanities Building #2, room 126
Graduate Studies in Interdisciplinary Program in Teaching Korean as a Foreign Language

The Interdisciplinary Program in Teaching Korean as a Foreign Language was established for training professional teachers who can systematically instruct Korean to foreign learners, both home and abroad. In order to maximize the training of Korean teachers, it includes subjects such as foreign language teaching methods and Korean linguistics.

Degree Requirements

Master’s degree candidates are required to earn 24 credits to graduate. Ph.D. candidates are required to earn an additional 36 credits.

In order to be eligible for thesis submission, all graduate students must pass a comprehensive exam and a foreign language exam. There are three thesis examiners for master’s degree candidates and five for Ph.D. candidates.

All graduate students are assigned an academic advisor based on research interests.

What Do You Study?

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<tr>
<th>Applied Linguistics (3)</th>
<th>Korean Lexicology (3)</th>
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<td>Advanced Studies in Korean Orthography (3)</td>
<td>Korean Orthography (3)</td>
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<td>Advanced Studies in Korean Literature (3)</td>
<td>Korean Language Testing (3)</td>
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<td>Advanced Studies in Korean Culture (3)</td>
<td>Korean Pronunciation Pedagogy (3)</td>
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<td>Advanced Studies in Theories of Korean Language Teaching (3)</td>
<td>Linguistic Typology Seminar (3)</td>
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<td>Advanced Studies in Teaching of Korean Pronunciation (3)</td>
<td>Methodologies on the Researches of Korean Education (3)</td>
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<td>Advanced Studies in Teaching of Korean Grammar</td>
<td>Multicultural Education (3)</td>
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<td>Advanced Studies in Teaching of Korean Vocabulary (3)</td>
<td>Modern Linguistics Seminar (3)</td>
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<td>Contrastive Analysis in Linguistics (3)</td>
<td>Principles of Korean Language Teaching (3)</td>
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<td>Curriculum Development of Korean Education (3)</td>
<td>Second Language Acquisition (3)</td>
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<td>Introduction to Korean Literature (3)</td>
<td>Sociolinguistics of Korean (3)</td>
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<td>Korean Traditional Culture (3)</td>
<td>Studies in Text Linguistics (3)</td>
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<td>Studies in Korean Literature Education (3)</td>
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<td>Studies in Curriculum Development of Korean</td>
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</table>
Education (3)  
Studies in Conversation Analysis (3)  
Studies in Bilingual Education (3)  
Seminar In Korean Language Education (3)  
Studies in Teaching Aids in Korean Language Education (3)  
Studies in Chinese Language Education (3)  
Studies in Teaching Aids in Korean Language Education (3)  
Studies in Korean Culture Education (3)  
Studies in Pragmatics (3)  
Studies in Korean Language Education Policy (3)  
Studies in Korean Pragmatics (3)  
Studies in Korean Semantics (3)  
Studies in Korean Language Education Policy (3)  
Studies in Korean Pragmatics (3)  
Studies in Korean Semantics (3)  
Studies in Korean Literature (3)  

Seminar on the Exercise Types in Foreign Language Teaching (3)  
Teaching Productive Skills of Korean (3)  
Teaching of Korean Grammar (3)  
Teaching Practice of Korean as a Foreign Language (3)  
Teaching Receptive Skills of Korean (3)  
Theories of Korean Grammar (3)  
Theories of Korean Teaching Materials (3)  
Theories of Language Teaching (3)  
Theories of Korean Vocabulary Teaching (3)  

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Graduate Studies in History

The Interdisciplinary Program in Heritage was established to develop creative and original culture by cultivating the experts and professionals who excavate and conserve Korean culture in the 21st century, the age of culture. For the program, interdisciplinary cooperation was made with nine related departments including Architecture, Korean Music, Korean Language Education, Korean Literature, Fine Arts, History, Food and Nutrition Science, Clothing, and Anthropology. We have offered a master’s degree since 2003 and doctor’s degrees since 2005.

Cultural Heritage Studies is the science covering research on all kinds of culture, cultural assets or national properties, tangible heritage, and intangible, lost heritage. This interdisciplinary Program aims to develop knowledgeable professionals and experts in cultural heritage studies who are equipped with related expertise and skills through our field-centric systematic educational approach, studying general topics related to culture and cultural properties.

Degree Requirements

Through the program, we expect to see our future scholars, experts, and professionals equipped with research capabilities in cultural heritage or knowledge in national cultural properties for the related institutes, international and domestic museums, and art galleries.

What Do You Study?

Research for the Master’s or Doctoral Degree

Generals

Appraisal of Cultural Properties (3)
Cultural Properties Protection Law (3)
Methodology of Cultural Properties (3)
Theory of Cultural Properties Policy (3)
Methodology of Cultural Heritage Designation (3)
Cultural Heritage Festival and Tourism (3)
Development of Cultural Heritage Contents (3)
Methodology of Excavation and Investigation (3)
Methodology of Conservation Science (3)
Methodology of Restoration (3)
Methodology of Earth Surface Investigation (3)
Korean Cultural Sphere (3)
History of Korean Culture (3)
Materials of Korean history (3)
Korean Religious Culture (3)

Tangible Cultural Heritage

Architectural Heritage (3)
Ancient Official Documents (3)
Modern Cultural Heritage (3)
Mahan Cultural Heritage (3)
Collection of Literary Works (3)
Buddhist Literature (3)
Buddhist Art (3)
Buddhist Pagoda (3)
Ancient Private Documents (3)
Stone Cultural Heritage (3)
Underwater Cultural Heritage (3)
Tomb and Funerary Heritage (3)
Traditional Clothing (3)
Traditional Calligraphy (3)
Traditional Painting (3)

Intangible Cultural Heritage
Metal Craft (3)
Ceramics and Pottery (3)
Woodworking (3)
Folk Games (3)
Masonry Stone Construction (3)
Music Literature (3)
Traditional Korean Instruments (3)
Traditional Vocal Music (3)

Traditional Recipes (3)
Korean Clothing Construction (3)

Monument
Livelihood Activities (3)
Annual Customs (3)
Dietary Life (3)
Clothing Culture (3)
Residential Life (3)
Scenic Sites and Monument (3)
Historic Sites Heritage (3)
Natural Monument (3)

World Culture
World Cultural Heritage (3)
World Natural Heritage (3)
Memory of the World (3)
Intangible Cultural Heritage (3)
Development of Traditional Food Culture (3)
Theory of Traditional Asian Culture (3)

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Laboratories

- Study Room
- Research Center for History and Culture
Graduate Studies in Mathematics

The graduate program in the Department of Mathematics offers advanced studies of quality instruction and research in pure and applied mathematics, which leads to master’s and doctoral degrees in Mathematics. The Master’s Program in Mathematics involves fundamental graduate coursework on various subjects and gives students opportunities to carry out research visions or plans. The Ph.D. program in Mathematics offers students wider and deeper theoretic training for various abstract materials and guides them to become professional mathematicians. Research fields of the Department include algebra, analysis, geometry, topology, applied mathematics, and mathematics education. In addition, the Department sponsors colloquia on the topics of various fields of mathematics for graduate students.

Degree Requirements

Upon completion of required courses in the first semester, students are expected to select a thesis advisor and begin research.

Master’s degree candidates may take the qualifying exam upon earning 18 credits, and take the foreign language exam upon earning 9 credits.

Ph.D. candidates may take the qualifying exam upon earning 27 credits, and take the foreign language exam upon earning 9 credits.

Master’s degree candidates are required to earn 24 credits from electives, 1 credit from a research course, and 9 credits from undergraduate mathematics courses for candidates where majors are not mathematics.

Ph.D. candidates are required to earn 36 credits from electives, 1 credit from a research course, and 9 credits from undergraduate mathematics courses for candidates whose majors are not mathematics.

What Do You Study?

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Advanced Differential Geometry II (3)
Complex Manifolds I (3)
Complex Manifolds II (3)
Lorentzian Geometry I (3)
Lorentzian Geometry II (3)
Modern Topology I (3)
Modern Topology II (3)
Algebraic Topology I (3)
Algebraic Topology II (3)
Topological Groups (3)
Topics in Topology I (3)
Topics in Topology II (3)
Topics in Topology III (3)
Differential Topology (3)
Topological Transformation Groups (3)
Functional Analysis I (3)
Functional Analysis II (3)
Harmonic Analysis (3)
Several Complex Variables I (3)
Several Complex Variables II (3)
Operator Algebra I (3)
Operator Algebra II (3)
Applied Analysis I (3)
Applied Analysis II (3)
Nonlinear Analysis (3)
Real Analysis (3)
Complex Analysis (3)
Theory of Ordinary Differential Equations I (3)
Theory of Ordinary Differential Equations II (3)
Partial Differential Equations I (3)
Partial Differential Equations II (3)
Topics in Numerical Analysis
Numerical Methods of Differential Equations I (3)
Numerical Methods of Differential Equations II (3)
Applied Numerical Analysis (3)
Probability Theory I (3)
Probability Theory II (3)
Combinatorics (3)
Numerical Matrix Theory (3)
Mathematics Pedagogy (3)
Topics in History of Mathematics (3)
Analysis Teaching Materials (3)
Geometry Teaching Materials (3)
Topics in Mathematical Education (3)

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- Bok-Hee Im, Ph.D.
  [Professor, Algebra, Group Theory and their Generalizations, Non-Associative Rings and Algebras, Cryptology, bim@jnu.ac.kr]
- Hyeong-Kwan Ju, Ph.D.
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- Jeong-ook Kim, Ph.D.
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- Min-Kyu Kwak, Ph.D.
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Equations, Ordinary Differential Equations, Dynamical Systems, mkkwak@jnu.ac.kr

• Young-Bok Chung, Ph.D. [Professor, Analysis, One or Several Variable Complex Analysis, ybchung@jnu.ac.kr]

• Jong-Taek Cho, Ph.D. [Professor, Geometry, Riemannian Geometry Related with Contact Structures, CR-Structures or Complex Structures, jtcho@jnu.ac.kr]

• Byeong-Chun Shin, Ph.D. [Professor, Applied Mathematics, Numerical Analysis, bcshin@jnu.ac.kr]

• Young-Joo Lee, Ph.D. [Professor, Analysis, Several Variable Complex Analysis, leeyj@jnu.ac.kr]

• Hong-Sung Jin, Ph.D. [Professor, Applied Mathematics, hjin@jnu.ac.kr] (Uniform Superconvergence Wavelets)

• Dae-Heui Park, Ph.D. [Professor, Topology, dhpark3331@jnu.ac.kr] (Algebraic Topology, Semi-Algebraic Topology)

• Do-Yong Kwon, Ph.D. [Associate Professor, Number Theory, doyong@jnu.ac.kr]

• Sang-Wook Kim, Ph.D. [Assistant Professor, Algebra, swkim.math@jnu.ac.kr]

- Laboratories

**Algebra Lab**
Research is carried out on prime factorization, a solution of various equations and symmetry.

**Analysis Lab**
Research is conducted on functions and their differentiation or integration. Many laws of nature are described by differential equations.

**Geometry Lab**
Research is conducted on the curve, surface, and structures of space.

**Topology Lab**
Research is conducted on invariability under continuous deformations, such as spheres, tubes, and Moebius strips.

**Applied Mathematics Lab**
Research is conducted on cryptography, coding theory, computational mathematics, numerical analysis, communications, information mathematics, financial mathematics, and bio-mathematics.
Graduate Studies in Statistics

The Department of Statistics offers advanced graduate programs leading to master’s and doctoral degrees in Statistics. The goal of our graduate programs is to educate students to have an in-depth knowledge of Statistics. Our graduate program balances theory and applications, including solid mathematical training, modeling, data analysis, and computation. Electives are regularly offered in active areas. Recent offerings have included Bayesian data analysis, bio-informatics, categorical data analysis, longitudinal and spatial data modeling, sequential analysis, and survival analysis. The Master’s Program in Statistics prepares students for professional opportunities in research areas and in the IT industry. The Ph.D. program in Statistics prepares students for careers in a wide spectrum of topics in data and statistics. Ph.D. candidates have opportunities for rigorous training in theoretical statistics as well as applied research topics.

Degree Requirements

All students are assigned a supervisor to oversee their work.

Master’s candidates are required to earn 24 credits and develop a thesis. Students in this program must pass a written exam in statistics and complete the following courses: Theory of Statistical Inference, Regression Analysis Theory, and Multivariate Statistical Analysis.

Three committee members including the advisor are nominated by the Department to approve the thesis (approval must be given by at least two-thirds of the committee).

Ph.D. candidates are required to earn 36 credits and develop a thesis. Students in this program must pass a written exam in statistics. This exam consists of three parts: 1) theoretical statistics (one of Theory of Statistical Inference and Large Sampling Theory), including probability and mathematical statistics; 2) applied statistics (one of Linear Statistical Models, Experimental Design Theory, and Advanced Statistical Quality Control), including statistical design and data analysis; and 3) a major field of research (one of Topics in Statistical Computing, Survey Method Theory, Time Series Analysis, The Analysis of Cross-classified Categorical Data).

Five committee members including the advisor are nominated by the Department to approve the thesis (approval must be given by at least four-fifths of the committee).
What Do You Study?

General Course
Research for Master’s or Doctoral Degree

Master’s Program
Multivariate Statistical Analysis
Regression Analysis
Theory of Statistical Inference 1
Theory of Statistical Inference 2

Ph.D. Program
Introduction to Advanced Statistics

Electives
Experimental Design
Linear Statistical Models
Topics in Sampling Theory
The Analysis of Cross-classified Categorical Data
Topics in Stochastic Process
Large Sampling Theory
Advanced Statistical Quality Control
Non-parasitic Statistics

Topics in Statistical Computing
Advanced Statistics Seminar
Topics in Time Series Analysis
Bayesian Statistics
Survey Method
Statistical Pattern Recognition
Survival Analysis
Intermediate Statistical Data Analysis
Advanced Statistical Data Analysis
Statistical Data Mining
Contents Development for Web-based Education of Statistics
Reliability Theory
Statistical Image Analysis
Advanced Statistical Programming Language
Monte Carlo Method and Statistical Computation
Advanced Categorical Data Analysis
Advanced Statistical Methods in Biometry
Statistical Methods for Geo-sciences
Advanced Statistical Consulting and Practice

Professors

• Wan-Hyun Cho, Ph.D.
  [Professor, whcho@jnu.ac.kr]
  (Data Mining, Image Partition or Searching)
• Young-Sook Son, Ph.D.
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  (Time Series Analysis, Data Mining, Bayesian Statistical Inference)
• Jeong-Soo Park, Ph.D.
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  (Design and Analysis of Computer Experiments (Simulation), Meteorological Statistics, Educational Statistics, Statistical Computing)
• Jang-Sun Baek, Ph.D.
  [Professor, jbaek@jnu.ac.kr]
  (Nonparametric Function Estimation, Multivariate Analysis, Bioinformatics, Pattern Recognition)
• Il-Su Choi, Ph.D.
  [Professor, ichoi@jnu.ac.kr]
  (Bayesian Statistics(MCMC), Mathematical Biology, Environmental Ecology Statistics)
• Myung-Whan Na, Ph.D.
  [Professor, nmh@jnu.ac.kr]
  (Reliability Theory, Statistical Quality Control, Probabilistic Finite Element Method,
Probabilistic Safety Assessment)
• Eun-Sik Park, Ph.D.
  [Professor, espark02@jnu.ac.kr]
  (Longitudinal/Categorical Data Analysis, Statistical Methods in Medical Research, Clinical Trials, Bioinformatics)
• Min-Soo Kim, Ph.D.
  [Associate Professor, kimms@jnu.ac.kr]
  (Multivariate Analysis, Image Partition or Searching, Financial Statistics)
• CHI TIM NG, Ph.D.
  [Assistant Professor, easterlyng@jnu.ac.kr]
  (Time series analysis, Penalized likelihood methods, Composite likelihood methods, Stochastic calculus, Option pricing theory)
• Jae-sik Jeong, Ph.D.
  [Assistant Professor, jjs3098@jnu.ac.kr]
  (Bioinformatics (Metabolomics, Genomics), Biostatistics (clinical trials), Bayesian analysis)

## Laboratories

| Study Rooms | Bayesian Statistics Lab |
| Pattern Recognition and Image Processing Lab | Experimental Design Lab |
| Quality Control and Reliability Lab | Discrimination Analysis Lab |
| Applied Statistics Lab |

The Statistics Library is filled numerous statistics and computer science books and relevant outstanding papers.

The Computing Lab houses computers with programs such as SAS, SPSS, S-PLUS, Minitab, and MATLAB.
Graduate Studies in Physics

Physics is the most basic science to understand how and why things in the universe work, to discover the fundamental laws of nature. The graduate program in Physics aims to research all natural phenomena and laws of nature, to develop wide applications in other natural sciences, engineering, medical science, agricultural science, and social science, and to source all high technologies.

- The Department of Physics offers programs of study for B.S., M.S., and Ph.D. degrees. The Department is composed of 18 faculty members and 21 graduate students. Our research ranges from fundamental topics such as elementary particle physics and cosmology to applied areas such as material physics and optics. The graduate curriculum in the department of physics provides the background and training required to conduct high quality worldwide research.
  - Research areas: Optics, Condensed Matter Physics, High Energy Physics

Degree Requirements

The graduate program in Physics focuses on the fields of condensed matter physics, optics, and high energy physics in both education and research. After completing the required courses in classical mechanics, electromagnetism, quantum mechanics, and statistical mechanics, students are expected to choose a thesis advisor to start their own research and thesis program.

Master’s degree candidates are required to earn 9 credits from required courses (Quantum Mechanics I, Classical Electromagnetism I) and choose 1 between Classical Mechanics I and Statistical Mechanics I), 9 credits from electives. 6 credits can be earned from non-physics courses.

Ph.D. candidates are required to earn 6 credits from required courses (Quantum Mechanics II and Classical Electromagnetism II), 30 credits from electives and 24 credits from non-physics courses.

What Do You Study?

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
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<td>Classical Electromagnetism I</td>
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</tr>
<tr>
<td>Classical Electromagnetism II</td>
<td>3</td>
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<td>Quantum Mechanics I</td>
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<td>Quantum Mechanics II</td>
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<td>Statistical Mechanics I</td>
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<tr>
<td>Statistical Mechanics II</td>
<td>3</td>
</tr>
<tr>
<td>Mathematical Physics I</td>
<td>3</td>
</tr>
<tr>
<td>Mathematical Physics II</td>
<td>3</td>
</tr>
<tr>
<td>Spectroscopy</td>
<td>3</td>
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<tr>
<td>Research for Master’s or Doctoral Degree I</td>
<td>1</td>
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<tr>
<td>Integrated Optics I</td>
<td>3</td>
</tr>
<tr>
<td>Optical Design</td>
<td>3</td>
</tr>
<tr>
<td>Diffraction Theory of Optical Imagine</td>
<td>3</td>
</tr>
<tr>
<td>Many Body Physics</td>
<td>3</td>
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Topics on Equilibrium Statistical Physics I (3)
Topics on Equilibrium Statistical Physics II (3)
Topics on Non-equilibrium Statistical Physics I (3)
Topics on Non-equilibrium Statistical Physics II (3)
Quantum Field Theory I (3)
Quantum Field Theory II (3)
High Energy Physics I (3)
High Energy Physics II (3)
Topics on High Energy Physics I (3)
Topics on High Energy Physics II (3)
Research for Master’s or Doctoral Degree I (1)
Solid State Physics I (3)
Solid State Physics II (3)
Topics on Solid State Physics I (3)
Topics on Solid State Physics II (3)
Solid State Physics Laboratory I (3)
Solid State Physics Laboratory II (3)
Quantum Theory of Solids I (3)
Quantum Theory of Solids II (3)
Integrated Optics I (3)
Cosmic Ray Physics (3)
The Theory of Relativity (3)
Nuclear Physics I (3)
Nuclear Physics II (3)
Advanced Nuclear Physics I (3)
Advanced Nuclear Physics II (3)
Nuclear Structure Theory (3)
High Energy Physics Laboratory I (3)
High Energy Physics Laboratory II (3)
Applied Optics I (3)
Applied Optics II (3)
Advanced Topics on Optics I (3)
Advanced Topics on Optics II (3)
Quantum Optics I (3)
Quantum Optics II (3)
Applied Optics Experiments I (3)
Applied Optics Experiments II (3)
Laser Physics I (3)
Laser Physics II (3)
Special Topics in Advanced Physics I (3)
Special Topics in Advanced Physics II (3)
Special Topics in Advanced Physics III (3)
Special Topics in Advanced Physics IV (3)
Special Topics in Advanced Physics V (3)
Special Topics in Advanced Physics VI (3)
Physics of Magnetic Materials (3)
Mesoscopic Physics (3)
Introduction to Quantum Information Science (3)

Professors

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Laboratories

Optics Lab
Research is conducted by Kie Gon Im, Sun Hyun Youn, Heung Ryoul Noh, In Kag Hwang, and Joong Wook Lee. Areas of interest include:
- Applied Optics
- Fiber Optics
- Integrated Optics
- Quantum Optics
- Atom Optics
- Terahertz Photonics & Plasmonics

Condensed Matter Physics
Research is conducted by Jeong Ju Woo, En Jin Cho, Sang Wan Ryu, Han Jin Noh, Ha Sul Kim, Chang Sub Kim, Yun Kyu Bang, and Ki Cheon Kang.

High Energy Physics Lab
Research in nuclear and particle physics is conducted by Kyung Kwang Joo, Dong ho Moon, Jae Sik Lee, Kang Seog Lee and Ki Young Choi. Research interests include the study of the ultimate constituent of matter.

Research is carried out in the fundamentals of condensed matter physics, semiconductor physics, IT and nanotechnology. Areas of interest include:
- Solid State Physics
- Semiconductor Physics
- Applied Physics
- Nano Physics
- Optical Science & III-V Semiconductor
Graduate Studies in Chemistry

Chemists analyze, synthesize, quantitate, and design materials. They relish creating models and theories that can rationalize what happens in the laboratory. They enjoy discussing experiments and ideas with each other as well as with physicists, biologists, computer scientists, and with experts in electronics and material science. The study of chemistry prepares individuals for obvious real-life jobs in the chemical industry, education, and other related fields. More fundamentally, the department helps students to develop the ability to solve problems and to think critically. These latter skills will be more valuable to students than any specific facts, theories, and techniques they will master in the classroom. The Department is committed to providing students with a first-class education.

Degree Requirements

All students are assigned a research advisor and a research group. The first year is spent developing a research idea, while later years are spent conducting lab research and composing a Ph.D. thesis.

Most students earn 36 credits during their first 2 years. The Department’s committee selects courses necessary for students to meet academic requirements.

A qualifying exam is required after successful completion of coursework. All students are required to prepare and present a research plan, including an outline of a proposal and identification of research direction. Upon completion of course requirements and passing required exams and submitting a research plan, students will become eligible for Ph.D. candidacy.

What Do You Study?

Special Research in Analytical Chemistry II and Seminar (3)  Special Topics in Organic Chemistry II (3)
Molecular Orbital Theory (3)  Special Research in Organic Chemistry I and Seminar (3)
Physiological Chemistry (3)  Special Research in Organic Chemistry II and Seminar (3)
Special Topics in Biochemistry 1 (3)  Transition Metal Chemistry (3)
Special Topics in Biochemistry 2 (3)  Stereochomistry (3)
Quantum Chemistry (3)  Electrochemistry (3)
Organometallic Chemistry (3)  Electro-analytical Chemistry (3)
Organic Reaction Mechanism (3)  Electronics (3)
Organic Synthesis (3)  Liquid Theory (3)
Special Topics in Organic Chemistry I (3)
Natural Product Chemistry (3)  
Catalytic Chemistry (3)  
Statistical Thermodynamics (3)  
Nucleic Acid Chemistry (3)  
Heterocyclic Chemistry (3)  
Chemical Binding Theory (3)  
Chemical Kinetics (3)  
Special Topics in Environmental Analysis (3)  
Enzyme Chemistry (3)  
Organo Transition Metallic Chemistry (3)  
Bioinformatics (3)  
X-ray Crystallography (3)  
Chemistry of Nanomaterials (3)  
Supramolecular Chemistry (3)

Professors

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Laboratories
Faculty Members by Research Area

- Physical Chemistry
  • Seong-Keun Kook
  • Hyun-Dam Jeong
  • Sung Cho
  • Kyungsu Na
- Analytical Chemistry
  • Seung-Won Jeon
  • Hyun-Chul Choi
- Inorganic Chemistry
  • Hyoung-Ryun Park
  • Jun-seong Lee
  • Hyungseob Lim
- Organic Chemistry
  • Kye-chun Nam
  • Jae Nyoung Kim
  • Jong-hoon Oh
  • Sun-woo Lee
  • Jimin Kim,
- Biochemistry
  • Che-Hoon Jung
  • Jeong-Sun Kim
  • Cheol-Won Lee

Research Instruments Lab

Advanced instrumentation is an essential component of Departmental research. The Department and individual research groups collectively maintain research instruments (hardware and software) that are constantly being updated.

Major Department equipment available to research faculty members and students include the following:

- NMR 500MHz, NMR 300MHz, Nd: YAG Laser, LC (HPLC), GC, IR, TGA, UVo Vis - computational resources
- Linux PC Clusters (8nodes) - running Gaussian 98, NWChem.
- Linux PC Severs - running Gaussian 98, NWChem. Various Workstations (Alpha and SGI machines)
- University research facilities and Research Center Chonnam National University sponsors a large number of specialized centers of research and campus-wide research facilities.

Two centers that many members of the Facilities Department frequently use are the Laboratories Building Equipment Management Center and Korea Basic Science Institute.
Graduate Studies in Geological and Environmental Sciences

The department of geological and environmental sciences provides an outstanding environment for studies of the Earth and various environmental problems. The department seeks to understand the fundamental processes defining the origin, evolution, and current state of Earth systems and to use this understanding to predict future states and to solve environmental problems. The Department is composed of three major research areas as follows:

1) Pure/Basic Geology: conducting broad investigations on rocks, minerals, and fossils of past and present geological environments and predicting the future.

2) Applied Geology: geological and seismological studies of practical issues related with the geological stability of a critical structure, such as a nuclear power plant or nuclear waste disposal.

3) Environmental Geology: practical application of the principles of geology in solving environmental problems, such as soil and ground water contaminations and their remediation.

The specific research encompasses igneous/metamorphic petrology, economic mineral deposits, paleontology, sedimentary environments, environmental hydrogeology, biogeochemistry, geophysics and geodynamics. The Department’s programs include interdisciplinary research and teaching that bring the unique perspective of geology to scientific problems at diverse spatial and temporal scales. The Department currently has 8 faculty members.

In recognition of the revolutionary changes in geology, the Department recruited a new faculty member in a relatively new area: computational geodynamics studying the evolution of subduction and mantle convection using computational modeling. Currently, the Department has 23 graduate students; 140 undergraduate students are majoring in geology.

The Department’s programs offer courses leading to Bachelor’s, Master’s, and Doctoral degrees in geology. The Department’s faculty members, graduate students, and undergraduate students are involved in field, laboratory, experimental, and modeling studies to solve geological and environmental problems. The graduate programs are designed to train geology students beyond the bachelor’s degree for professional employment or for advanced research. To be admitted into the graduate program, applicants must have a bachelor’s degree in geology or an applied science, as determined by the department’s graduate committee.

Degree Requirements

Master’s degree candidates are required to earn 24 credits in addition to 1 research credit.

Ph.D. candidates are required to earn an additional 36 credits plus 1 research credit.
<table>
<thead>
<tr>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Advanced Lecture of Earth Environmental Science I</td>
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<tr>
<td>Advanced Lecture of Earth Environmental Science II</td>
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<tr>
<td>Advanced Metamorphic Petrology</td>
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<td>Advanced Field Geology</td>
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<tr>
<td>Advanced Geology</td>
<td>(3)</td>
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<tr>
<td>Geological Survey and Study</td>
<td>(3)</td>
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<tr>
<td>Advanced Petrology</td>
<td>(3)</td>
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<tr>
<td>Circum Pacific Geology</td>
<td>(3)</td>
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<tr>
<td>Study of Mineral Analysis</td>
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<td>Advanced Mineral Exploration</td>
<td>(3)</td>
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<td>Environments of Economic Geology</td>
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<td>Hydrothermal Ore Genesis</td>
<td>(3)</td>
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<td>Advance of Soil Mineralogy</td>
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<td>Ore Deposits of Korea</td>
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<td>Advanced Geophysics</td>
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<td>Advanced Vertebrate Paleontology</td>
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<td>Seminar in Tidal-Flat Sedimentology</td>
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<td>Special Topics on Geophysical Fluid Dynamics</td>
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<td>Advanced Paleontology</td>
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<td>Advanced Micropaleontology</td>
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<td>Biostratigraphy</td>
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<td>Earth History and Evolution</td>
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Non-clastic Sedimentology (3)
Principles and Topics in Sedimentology I (3)
Principles and Topics in Sedimentology II (3)
Sedimentary Basin Analysis (3)
Clastic Sedimentology (3)
Sedimentology of Coastal Environments (3)
Evolution of Depositional Environments (3)
Seminar in Earth Environmental Science I (3)
Seminar in Earth Environmental Science II (3)
Vertebrate Paleontology (3)
Geotectonics (3)
Precambrian Geology (3)
Advanced Mineralogical Petrology (3)
Petrogenesis of the Metamorphic Rocks (3)
Advanced Hydrogeology (3)
Advanced Contaminant Hydrogeology (3)
Groundwater and Transport Modeling (3)
Fractured Rock Hydrogeology (3)
Aquifer Hydraulics (3)
Groundwater Remediation (3)
Numerical Analysis and Programing for Hydrogeology (3)
Geo-microbiology (3)
Environmental Mineralogy (3)
Advanced Environmental Geology (3)
Advanced Environmental Soil Science (3)
Environmental Geo-microbiology (3)
Seismological Data Processing (3)
Geodynamics (3)
Advanced Geodynamics (3)
Deodynamic Modeling (3)
Subduction Zone Geology (3)
Mantle Geology (3)
Advanced Plate Tectonics (3)
Professors

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- Donghoon Seoung, Ph.D.
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Laboratories

Mineralogy and Economic Mineral Deposits
(Adviser: Prof. Sang-Eun Shin)

Mineralogical study of rocks and ores, and geochemical prospects of economic mineral deposits are an important subject of the Mineralogy and Economic Mineral Deposits group.

Research Interests and Current Projects:
- Study on formation process and exploration of economic mineral resources
- Mineralogical study for gem synthesis and jewelry appraisal
- Clay and non-metal mineral deposit program

Paleontology Lab
(Advisor: Prof. Min Huh)

Paleontology is the study of prehistoric animals and plants which remain or other indications that are found in sedimentary rocks. It is the branch of geology which aims to interpret the record of events in the earth’s history, past geography, paleoclimate and paleoenvironments. The Paleontology Lab is currently interested in the research on dinosaur and pterobrur fossils including footprints, eggs, bones from the Cretaceous deposits, and the ostracoda.

Research Interests and Current Projects:
- Paleontologic study on the life of past geological times
- Paleoenvironments, paleogeography, paleoclimatology, paleoecology
- Fossil excavation and its scientific preparation and conservation
- Geological investigation of buried cultural properties

Sedimentary Environments Lab
(Advisor: Prof. Seung-Soo Chun)

This Lab is focused on teaching and research on sedimentary processes, characteristics of depositional environments, and evolution models in recent and/or ancient sedimentary basins, especially in Cretaceous non-marine basins, present macro and meso-tidal flats and Quaternary
sequences (beach, dune, delta and lagoon) based on outcrop study, various core workings, petrographic study, seismic interpretation, GPR interpretation, and ichnological works.

- **Research Interests and Current Projects:**
  - Development of depositional and evolution models of macrotidal tidal-flat settings in the western coast of Korea
  - Hydrodynamic interpretation of primary sedimentary structures
  - Ichnology itself and its application to the interpretation of depositional environments and sequence stratigraphy
  - Dynamic classification of coastal environments and depositional models, and its application to coastal management
  - GPR data acquisition, processing and interpretation in sedimentary bodies
  - Basin analysis and basin tectonic setting

**Environmental Hydrogeology**
(Advisor: Prof. In-Wook Yeo)

Hydrogeology deals with the occurrence, movement, and quality of water in porous media. The Environmental Hydrogeology group is involved in a diverse spectrum of research in hydrogeology, with a strong program in fractured rock hydrogeology. In their research, faculty members and students in the Hydrogeology group use theoretical analyses, groundwater flow and contaminant transport modeling, hydrogeological field data analyses, and laboratory experiments.

- **Research Interests and Current Projects:**
  - Groundwater flow analysis in rock fractures and its modeling
  - Discontinuity network analysis and its 3-D realization
  - DNAPL migration and remediation in rock fractures
  - Bacterial transport in rock fractures
  - Reactive transport modeling of heavy metals and NAPLs

**Soil Environment and Biogeochemistry**
(Advisor: Prof. Yul Roh)

Biogeochemistry is the study of biological controls on the chemistry of the Earth’s environment and mineral formation. Biogeochemistry has been vital to the study of the Earth, and has resulted in the findings of many environmental/industrial applications such as the remediation of contaminated soil and groundwater and the microbially-induced synthesis of nanomaterials.

- **Research Interests and Current Projects:**
  - Characterization and remediation of contaminated soils
  - Naturally accelerated bioremediation of contaminated soils and groundwater
  - Microbially induced synthesis of nanoo materials
  - Assessment and characterization of nuclear power plants and nuclear waste disposal sites

**Seismology & Geophysics Lab**
(Advisor: Prof. Dong-Hoon Sheen)

Geophysics is the study of the Earth using quantitative physical methods. This group focuses especially on seismology, which is useful to study the structure of the Earth and also to reduce potential earthquake hazards. Recently, microseism, seismic source parameter estimation and earthquake early warning are main research topics.

- **Research Interests and Current Projects:**
  - Generation and propagation characteristics of microseism
  - Seismic source parameter estimation
  - Development of various magnitude relationships for earthquakes around South Korea
  - Development of earthquake early warning system in South Korea
Computational Geodynamics Lab
(Advisor: Prof. Changyeol Lee)

The advent of the computer and the numerical methods has broadly impacted most of the sciences and engineering because they allow us to process a large number of data and calculate very complicated equations such as multivariable partial differential equations. Geologists also utilize computers and numerical methods to understand the complicated evolution of the Earth. Computational Geodynamics quantitatively studies the evolution of the Earth expressed as subduction, mantle convection and orogeny using massive computations and numerical methods. Computational Geodynamics Lab focuses on the evolution of subduction including arc volcanism, back-arc stress environment and slab deformation in the mantle using computers and numerical methods. As of 2013, funded by the National Research Foundation of Korea, Computational Geodynamics Lab acquired the 120-core cluster (Mudol cluster, mudol.jnu.ac.kr) and two copies of the COMSOL Multiphysics used for the current and future research.

- Research Interests and Current Projects:
  - Computational modeling of subduction to understand arc volcanism, back-arc spreading and slab deformation in the mantle
  - Realistic computational geodynamic models including the mantle compressibility and rheology
  - Massive computational geodynamic modeling using the Mudol cluster

Earth Materials Science Lab.
(Advisor: Prof. Donghoon Seoung)

The Earth Materials Science Laboratory is a research laboratory that focuses on the role of Earth materials in (1) mineralogical processes on the crust, mantle, and deep inside core and, (2) processing of these materials to derive novel use and functionality, and (3) crystallographic access to atomic scale changes under various thermodynamic conditions.

- Research Interests and Current Projects:
  - Mineralogical investigation under extreme conditions (High-pressures and temperatures) using Diamond-anvil-cells (DACs) via synchrotron radiation lightsources and laser-induced shock waves
  - Crystallographic access to changes of the materials in atomic scale ranges
  - Fixation and sequestration of CO2, H2, and radioactive nuclides using microporous materials (MOFs, ZIFs, COFs, and Zeolites)
  - Development of 2D/3D functional materials (interstratified/porous materials)
Graduate Studies in Oceanography

The Department of Oceanography has 9 full-time faculty members and several part-time lecturers engaged in teaching and research at the graduate and undergraduate levels. The Department conducts interdisciplinary research in coastal marine environments, maintains advanced laboratories, seeks public and private research funds, and recruits and retains qualified faculty, staff, and students. It provides an effective learning environment for students who are interested in careers in marine science or related fields, and also for students who are interested in science-based management of contaminated and human-impacted coastal environments. Faculty research interests range from the ecology of phytoplankton, macro-algae, zooplankton and nekton to the biogeochemical cycle of elements and numerical modeling of coastal processes. Graduates from the Department of Oceanography hold many faculty positions in universities and colleges, as well as research positions in industry, private research institutions, national laboratories, and regulatory agencies.

Degree Requirements

Master’s degree candidates are required to earn 24 credits from various oceanography courses. They are also required to pass a foreign language exam and a qualifying exam, and submit a thesis. Ph.D. candidates are required to earn an additional 36 credits from various oceanography courses. They are also required to pass a foreign language exam and a qualifying exam, and submit a thesis.

What Do You Study?

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seminar in Marine Environment I</td>
<td>3</td>
</tr>
<tr>
<td>Seminar in Marine Environment II</td>
<td>3</td>
</tr>
<tr>
<td>Research for Master’s or Doctoral Degree</td>
<td></td>
</tr>
<tr>
<td>Regional Oceanography I</td>
<td>3</td>
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<tr>
<td>Regional Oceanography II</td>
<td>3</td>
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<tr>
<td>Estuarine Oceanography</td>
<td>3</td>
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<tr>
<td>Intertidal Oceanography</td>
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<tr>
<td>Advanced Sedimentology</td>
<td>3</td>
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<tr>
<td>Advanced Sedimentary Structure</td>
<td>3</td>
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<tr>
<td>Advanced Ancient Sedimentary Environment</td>
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<tr>
<td>Advanced Quaternary Geology</td>
<td>3</td>
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<tr>
<td>Special Topics on Tidal Geology</td>
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<tr>
<td>Fisheries Population Ecology</td>
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<tr>
<td>Advanced Fisheries Oceanology</td>
<td>3</td>
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<tr>
<td>Underwater Acoustics</td>
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<tr>
<td>Advanced Deep-sea Geology</td>
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<tr>
<td>Advanced Fish Systematics</td>
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<tr>
<td>Advanced Littoral Sedimentary Environment</td>
<td>3</td>
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<tr>
<td>Circulation in Coastal Ocean</td>
<td>3</td>
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<tr>
<td>Environmental Assessment in Coastal Ocean I</td>
<td>3</td>
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<tr>
<td>Environmental Assessment in Coastal Ocean II</td>
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<tr>
<td>Advanced Remote Sensing</td>
<td>3</td>
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<tr>
<td>Geophysical Fluid Dynamics</td>
<td>3</td>
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<tr>
<td>Advanced Ecology of Plankton</td>
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Special Topics on Benthic Ecology (3)
Special Topics on Fish Ecology (3)
Seminar in Marine Ecology I (3)
Seminar in Marine Ecology II (3)
Marine Ecological Studies (3)
Advanced Wave Dynamics (3)
Advanced Ocean Currents (3)
Advanced Tides (3)
Ocean Turbulence (3)
Advanced Dynamical Oceanography (3)
Seminar in Chemical Oceanography (3)
Advanced Seawater Analysis (3)
Seminar in Marine Pollution (3)
Advanced Carbonate Rock (3)
Advanced Physical Oceanographic Exploration (3)
Seminar in Physical Oceanography (3)
Advanced Marine Biology (3)
Advanced Clastic Sedimentary Rock (3)
Shallow Water Tides (3)

Advanced Seawater Analysis (3)
Marine Community Ecology (3)
Advanced Marine Meteorology (3)
Advanced Microbial Ecology (3)
Ecology of Marine Zooplankton (3)
Ecology of Marine Phytoplankton (3)
Numerical Modeling and Prediction I (3)
Numerical Modeling and Prediction II (3)
Marine Resource Management (3)
Marine Zoo-benthic Ecology (3)
Marine Phyto-benthic Ecology (3)
Marine Natural Product Chemistry (3)
Advanced Submarine Stratigraphy (3)
Advanced Marine Geophysics (3)
Advanced Marine Chemistry (3)
Advanced Marine Geology I (3)
Advanced Marine Geology II (3)
Advanced Chemical Oceanography (3)

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■ Laboratories

Ichthyology Lab.

(Advisor: Prof. Seong-Sig Cha)
Research is conducted on fish, ichthyology, biology, taxonomy, anatomy, evolution and life history, ecology, physiology, and stock management of fish.


Plankton Lab.  
(Advisor: Prof. Hae-Lip Suh)  
This lab conducts studies on the classification and ecosystem of marine zooplankton. Also, we focus on the trophic ecology of zooplankton in the pelagic ecosystem. In particular, we analyzed prey and predator tissue for $\delta^{13}$C and $\delta^{15}$N and used isotopic mixing models to provide estimates of the trophic dynamics in the East Sea (Sea of Japan).

Paleontology Lab.  
(Advisor: Prof. Joo-Yong, Kim)

Ecological Impact in Coastal Zone Lab  
(Advisor: Kwang-Young Kim)
Research is conducted on photosynthetic and fouling processes of coastal zones, which represents an extremely contaminated region. An effort is made to understand how prevalent environmental parameters can influence the benthic population dynamic and community structures in the various habitats.

Metal Ecology Tocisity Laboratory; MET  
(Advisor: Prof. Byeong-Gweon Lee)
Research in this lab focus on metal biogeochemistry aquatic environments. Research is conducted on chronic toxicological effects of metals to aquatic organisms, and evaluation of sedimentary quality criteria for metals.

Laboratory OF HAB Ecophysiology; LOHABE  
(Advisor: Prof. Myung Gil Park)
Research is conducted on Planktonic members of most algal group known to harbor intercellular symbionts including viruses, bacteria, fungi, and protozoa.

Climate Prediction Lab; CPL  
(Advisor: Prof. Jee-Hoon Jeong)  
This lab (CPL) conducts various studies on climate variabilities, climate change, and climate modeling. The accurate climate prediction over seasonal to interannual time-scale is a principal aim of the research.

Ocean & Climate Science Lab.  
(Advisor: Prof. Yoo-Geun Ham)
This lab conducts studies on sub-seasonal, interannual, and decadal climate variability over the tropics (e.g. El Nino, AMOC), climate change/sensitivity after the global warming, and the development of the initialization system including the data assimilation and the optimal perturbation method for sub-seasonal, seasonal to decadal prediction by using a global coupled climate model. To understand the physical mechanisms of the climate variability and the improvement of the seasonal predictability is the main aim of the research.

Physical Oceanography Lab.  
(Advisor: Prof. Byoungh-Ju Choi)
To understand physical processes in the ocean, observation data such as temperature, salinity, currents and sea level are collected and analyzed in Physical Oceanography Laboratory. We also study ocean circulation using Numerical Models and Ocean Data Assimilation. Recently, regional ocean modeling systems (ROMS) for Northwestern Pacific Ocean, Yellow and East China Sea, Korea Strait, and East Sea have been used for real time ocean prediction and research.
Graduate Studies in Biological Sciences and Biotechnology

Biological Sciences and Biotechnology is the field of study which explores the principles of life phenomena and applies the results of scientific research to high-tech industries. This is a field of cutting-edge technology which strives to promote the health and welfare of humankind, focusing on such diverse fields as medicine, health, pharmaceuticals, food, environment, agriculture and energy. It is a future-oriented industrial field that can create numerous high-value-added industries in the knowledge-based society of the 21st century.

Degree Requirements

Master’s degree candidates are required to earn 24 credits to graduate. Ph.D. candidates are required to earn an additional 36 credits to graduate.

What Do You Study?

- Advanced Mycology (3)
- Advanced Immunology (3)
- Advanced Microbial Systematics (3)
- Advanced Developmental Biology (3)
- Advanced Fermentation Technology (3)
- Advanced Molecular Biology (3)
- Molecular Cell Biology (3)
- Advanced Molecular Genetics (3)
- Advanced Biochemical Engineering (3)
- Reproductive Endocrinology (3)
- Advanced Ecology (3)
- Advanced Cell Physiology (3)
- Advanced Plant Systematics (3)
- Special Topics in Plant Physiology (3)
- Advanced Plant Ecology (3)
- Advanced Phycology (3)
- Advanced Industrial Microbiology (3)
- Analysis of Hormones in the Body (3)
- Advanced Biostatistics (3)
- Advanced Microbial Biotechnology (3)

- Infection & Immunity (3)
- Cell Signalling (3)
- Advanced Gene Regulation (3)
- Advanced Bioseparation & Purification (3)
- Advanced Carbohydrate Materials (3)
- Advanced Bioprocess Engineering (3)
- Advanced Bioreactor Design (3)
- Advanced Metabolic Engineering (3)
- Advanced Bioprocess Control (3)
- Cellular and Molecular Immunology (3)
- Bioinformatics (3)
- Functional Genomics (3)
- Developmental Genetics (3)
- Methods in Molecular Immunology (3)
- Methods in Molecular Biology (3)
- Reproductive Biology (3)
- Cell Culture Engineering (3)
- Industrialization of Natural Plant Resources (3)
- Intellectual Property Right (3)
- Aging & Cancer Biology (3)
Special Topics in Protein Separation & Purification (3)
Artificial Evolution of Protein (3)
Metabolic Disease (3)
Metagenomics (3)
Special Topics in Bioinstrumentation (3)
Special Topics in Molecular Endocrinology (3)
Molecular Physiology (3)
Comparative Genomics (3)
Special Topics in Physiology (3)
Bioethics (3)
Special Topics in Aquatic Biology (3)
Special Topics in Plant Molecular Biology (3)
Special Topics in Neurobiology (3)
Biomedical Engineering (3)
Enzyme and Proteomics (3)
Special Topics in Enzyme Processes Engineering (3)
Genomic Stability (3)
Mechanobiology (3)

Physiology of aging (3)
Seminar 1 (3)
Seminar 2 (3)
Seminar 3 (3)
Advanced Brain disease (3)
Biomolecules and Regulation of Metabolism (3)
Stem Cell Biology (3)
Stress Biology (3)
Advanced Plant Genetics (3)
Physiologically Active Substances (3)
Functional Food Biotechnology (3)
Endocrine Cancer Biology (3)
Scientific Writing in Biomedical Science (3)
Advanced systems biology (3)
Advanced Omics (3)
Research and Communication (3)
Advanced Toxicology (3)
Environmental Physiology (3)

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Laboratories

Hormone Research Center

The Hormone Research Center was established in 1995 and has educated graduate students and developed applicable technology concerning bio-active materials. Also, the Center has focused on research regarding medicine, pharmacology, and the treatment of diseases caused by hormonal abnormalities.

Equipment

Phosphoimage analyzer, MALDI-TOF, Digital viscometer, Freeze-dryer system, Scintillation counter, Elisa analyzer, Protein purification system, Deep freezer, Spectrophotometer, Luminometer, Cryocut microtome, Gel documentation system, HPLC, FACS. Ultracentrifuge (table top), Micro-injection system, Automatic DNA sequencer, Akta FPLC