

Department of Public Health Sciences

I. Educational Objectives

As socioeconomic levels advance, the demand for a healthy life is rising day by day, which in turn increases the demand for various healthcare policies, institutions, and health sciences. Since all these changes ultimately aim at improving the quality of life, especially enjoying a healthy life, the necessity for research in the field of health sciences is expected to increase continuously.

In the Department of Public Health Sciences, students acquire multi-dimensional and multi-sectoral professional theories spanning from genes to population health, and domestic and international policy and politics. The program not only fosters independent research capabilities but also educates students to develop insightful skills to look into the future of the health science industry and to cultivate professional leadership. To achieve this, the graduate school trains competent talents through diverse approaches

.II. Academic Fields (Majors)

Major in Health Policy & Management

Major in Epidemiology & Risk Management

Major in Rehabilitation Sciences

Major in Dental Laboratory Science and Engineering

Major in Environmental Health Sciences

Major in Biomedical & Food Sciences

III. Departmental Regulations

1. Classification of Major Tracks

Among the majors in the Department of Public Health Sciences, the majors in Epidemiology & Risk Management, Rehabilitation Sciences, Dental Laboratory Science and Engineering, Environmental Health Sciences, and Biomedical & Food Sciences are classified into the Natural Sciences Track. The major in Health Policy & Management is classified into the Social Sciences Track.

2. Academic Advisor and Advisory Committee

- 1) Immediately after admission, a student receives a recommendation for the most suitable academic advisor from among the department faculty through a group or individual interview conducted either in writing or face-to-face with the

Department Chair. The academic advisor is officially selected upon the respective professor's consent.

- 2) It is recommended that the academic advisor selects one co-advisor through consultation with the student.
- 3) The academic advisor and co-advisor must satisfy the criteria stated in Article 30 of the Graduate School Academic Operations Regulations.
- 4) The composition of the Advisory Committee for student guidance shall adhere to the specific major internal regulations of the Department of Public Health Sciences.

3. Course Completion and Credit Acquisition

- 1) Completed courses are designated by the academic advisor and selected upon obtaining the approval of the Department Chair.
- 2) Required Graduation Credits:
 - Master's Program: 24 credits or more
 - Doctoral Program: 30 credits or more
 - Integrated Master's/Doctoral Program: 48 credits or more
- 3) Minimum Required Major Credits to be taken within this Department:
 - Master's Program: 15 credits or more
 - Doctoral Program: 20 credits or more
 - Integrated Master's/Doctoral Program: 27 credits or more
- 4) Regarding credits completed in other departments, if deemed necessary, a student may submit an external department enrollment application form before the course registration modification period. Upon the approval of both the academic advisor and the Chair of the Department of Public Health Sciences, a maximum of 6 credits can be recognized as major credits.
- 5) Prerequisite Courses Designated by Academic Advisor:
 - For students who lack basic background knowledge for learning and conducting research due to reasons such as changing their major, the academic advisor may designate undergraduate courses or graduate courses (in the case of the Doctoral program), subject to the approval of the Department Chair. Designated courses must be completed mandatory.
- 6) When a student of the Department of Public Health Sciences completes a corresponding major course offered by the Department of Health Care Science

(refer to [Table 1] Approved Major Course Table for Health Care Science), it will be recognized as a major credit for the Department of Public Health Sciences. However, such recognized credits cannot exceed 1/2 of the total credits required for program completion.

4. Comprehensive Examination

- 1) The subjects for the comprehensive examination are determined by the academic advisor and approved by the Department Chair. The number of subjects is as follows:
 - Master's: 2 subjects among major courses
 - Doctoral: 4 subjects among major courses
- 2) Those who fail the comprehensive examination will retake the exam for the failed subjects in the following semester.
- 3) Subjects applicable for the comprehensive examination are limited to courses opened by full-time faculty members. *(As a transitional measure, the enforcement of this specific clause shall take effect from September 1, 2025.)*

5. Degree Thesis/Dissertation Submission Eligibility

Students who meet the criteria of Article 53 or Article 54 of the Graduate School Academic Operations Regulations may submit their thesis/dissertation for a degree defense if they satisfy the following additional conditions:

- Master's Program: Must publish at least 1 paper in a journal indexed (or candidate for indexing) by the National Research Foundation of Korea (NRF) or higher, OR present as the first author at least once (oral or poster presentation) at an academic conference.
- Doctoral and Integrated Programs:
 - *Natural Sciences Track Majors:* Must publish 2 or more papers as the primary author in SCI-level internationally renowned journals, OR publish 1 or more papers as the primary author in a journal ranked within the top 10% of the corresponding field. *(Papers officially accepted for publication are also recognized.)*
 - *Social Sciences Track Majors:* Must publish 2 or more papers as the primary author in journals indexed (or candidate for indexing) by the NRF or higher, OR publish 1 or more papers as the primary author in an SSCI-level journal, AND pass the preliminary thesis defense. *(Papers officially accepted for publication are also recognized.)*

6. Miscellaneous

- 1) Matters not explicitly specified in these bylaws shall comply with the Academic Regulations and Enforcement Rules of the Graduate School.
- 2) Detailed matters shall follow the internal major regulations of the Department of Public Health Sciences.

Addenda

- 1) (Transitional Measures) Among students who entered prior to the 2012 academic year, if students majoring in Clinical Pathology, Radiological Science, Biomedical Engineering, or Public Health & Nutrition complete corresponding major courses offered by the newly established departments (Department of Integrated Biomedical and Life Sciences, Department of Biosystems and Biotechnology), those courses will be recognized as their major courses.
- 2) (Transitional Measures) Limited to students who changed their affiliation to the Department of Public Health Sciences in connection with the BK21 Plus Project, if they complete corresponding major courses in the Department of Integrated Biomedical and Life Sciences, those courses will be recognized as major courses for the Department of Public Health Sciences.
- 3) (Transitional Measures) These bylaws apply starting from students entering in the 1st semester of 2015. Students who entered prior to the 2nd semester of 2014 may choose to follow either these bylaws or the pre-revised bylaws through consultation with their academic advisor.
- 4) (Transitional Measures) Among these revised bylaws, "5. Degree Thesis/Dissertation Submission Eligibility" applies to students entering from March 1, 2008.
- 5) (Transitional Measures) Among these revised bylaws, the graduation credits specified in Clause 2 of "3. Course Completion and Credit Acquisition" apply to students entering from March 1, 2021.

IV. Courses Offered by the Department of Public Health Sciences

Core Common Courses (기초공통과목)

Course Code	Course Title	Credits (Hours)
HEL 506	Biostatistics	3(3)

HEL 507	Introduction to Health Systems and Policy	3(3)
HEL 508	Research Ethics for Public Health Scientists	1(1)
HEL 510	Advanced Public Health I	3(3)
HEL 511	Advanced Health Sciences II	3(3)
HEL 512	Proposal Writing for Social Science Research in Public Health (Master's)	1(1)
HEL 513	Proposal Writing for Population Health Research (Doctoral)	1(1)
HEL 514	Introduction to Trans-Disciplinary Public Health Research	3(3)
HEL 515	Principles of Epidemiology	3(3)
HEL 516	Proposal Writing for Biomedical Research in Public Health III	1(1)
HEL 517	Seminar in Trans-Disciplinary Public Health Research I	1(1)
HEL 518	Seminar in Trans-Disciplinary Public Health Research II	1(1)

Major Courses (전공과목)

1. Major in Health Policy & Management (보건정책관리학전공)

Course Code	Course Title	Credits (Hours)
HEL 677	Advanced Healthcare Database	3(3)
HEL 684	Advanced Healthcare Marketing	3(3)
HEL 688	Health Information Technology	3(3)
HEL 689	Hospital Management Information System	3(3)
HEL 690	Seminar in Pharmaceutical Policy	3(3)
HEL 706	HIM Strategy	3(3)
HEL 717	Qualitative Research Methods	3(3)
HEL 718	Social Science Research Methods For Public Health	3(3)

HEL 923	Public Healthcare Services	3(3)
HEL 926	Seminar in U-Healthcare Services	3(3)
HEL 931	Healthcare Microeconomics	3(3)
HEL 934	Healthcare Systems of American and European Countries	3(3)
HEL 941	Healthcare BI Seminar	3(3)
HEL 942	Health and International Development	3(3)
HEL 943	Welfare State, Social Policy and Health	3(3)
HEL 945	Politics of Health Policy	3(3)
HEL 946	Health Policy and Media	3(3)
HEL 947	Methods for Health Equity Studies	3(3)
HEL 948	Understanding Health Insurance	3(3)
HEL 949	Hospital Management Analysis	3(3)
HEL 955	Healthcare Accounting and Cost Management	3(3)
HEL 959	Survey Methodology	3(3)
HEL 962	Family Demography and Health	3(3)
HEL 1632	Advanced Seminar in Health Policy & Management	3(3)
HEL 1639	Seminar in Healthcare Organization Management	3(3)
HEL 1641	Macro-Comparative Methods for Health and Health Policy Analyses	3(3)
HEL 1642	Seminar in Law and Public Health	3(3)
HEL 1643	Healthcare Strategic Planning	3(3)
HEL 1655	HIM seminar	3(3)
HEL 1870	Healthcare BI strategy	3(3)

2. Major in Epidemiology & Risk Management (역학·위해관리학전공)

Course Code	Course Title	Credits (Hours)
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HEL 964	Scientific Writing in Epidemiology	3(3)
HEL 658	Principles of Exposure Measurement in Environmental Epidemiology	3(3)
HEL 681	Social Epidemiology	3(3)
HEL 686	Multi-Level and Panel Data Analysis	3(3)
HEL 687	Structural Equation Modeling in Health Research	3(3)
HEL 714	Methods for Community-Based Participatory Health Research (CBPR)	3(3)
HEL 715	Community Health Program Planning and Evaluation	3(3)
HEL 716	Sociology of Health & Illnesses	3(3)
HEL 878	Analysis of non-continuous variables	3(3)
HEL 937	Categorical Data Analysis	3(3)
HEL 939	Case Studies in Global Health Promotion and Intersectoral Action for Health	3(3)
HEL 953	Primary Care and Community Health Promotion	3(3)
HEL 958	Multivariate Data Analysis using STATA	3(3)
HEL 959	Survey Methodology	3(3)
HEL 960	Epidemiologic Methods	3(3)
HEL 1637	Seminar in Health Communication	3(3)
HEL 1648	Case Studies in Epidemiology	1(1)
HEL 1649	Minority & Health	3(3)
HEL 1651	Advanced Epidemiologic Methods	3(3)
HEL 1653	Math for Health Scientists	3(3)
HEL 1654	Mathematical Statistics	3(3)
HEL 1864	Designs and Methodological issues of Environmental Epidemiology	3(3)
HEL 1869	Precarious Work & Health	3(3)

HEL 1871	Statistical Consultation	3(3)
HEL 1872	Survival and Longitudinal Data Analysis	3(3)
HEL 1873	Social Determinants of Global Health	3(3)
HEL 1874	Bayesian Data Analysis	3(3)
HEL 1876	Advanced Topics in Statistics	3(3)

3. Major in Rehabilitation Sciences (재활과학전공)

Course Code	Course Title	Credits (Hours)
HEL 592	Gerontology	3(3)
HEL 593	Neuroscience	3(3)
HEL 594	Motor Control & Learning	3(3)
HEL 595	Cardiacpulmonary Diseases & Chronic Disabilities	3(3)
HEL 596	Advanced Clinical Examination & Intervention Skills	3(3)
HEL 597	Rehabilitation Psychology	3(3)
HEL 598	Clinical Reasoning	3(3)
HEL 599	Clinical Decision Making	3(3)
HEL 600	Seminar I	3(3)
HEL 601	Computational Biomechanics	3(3)
HEL 602	International Studies on Health Care	3(3)
HEL 603	Neurological Basis of Motor Control	3(3)
HEL 604	Understanding Health Policy and Physical Therapy Management	3(3)
HEL 605	Health & Medical Informatics	3(3)
HEL 840	Clinical Diagnostics	3(3)
HEL 841	Movement Science	3(3)
HEL 842	Evidence Based Treatment	3(3)

HEL 845	Advanced Health Administration & Management	3(3)
HEL 846	Administration Policy in Rehabilitation	3(3)
HEL 847	Electrodiagnosis	3(3)
HEL 848	Seminar II	3(3)
HEL 849	Advanced Study of the Sensorimotor Systems in Health and Disease	3(3)
HEL 850	Topics on Pain Management	3(3)
HEL 851	Mechanisms in Pain Perception	3(3)
HEL 852	Early Childhood Development Research	3(3)
HEL 853	Advanced Neuroscience	3(3)
HEL 854	Motor Control Principles Applied to Neurological Dysfunction	3(3)
HEL 1682	Dynamics Of Human Movement	3(3)
HEL 1644	Research Methods in Health Sciences	3(3)
HEL 1875	Research Methodology for Motion Analysis and Rehabilitation Equipment	3(3)

4. Major in Dental Laboratory Science and Engineering (치의기공학전공)

Course Code	Course Title	Credits (Hours)
HEL 607	Scientific Writing in Dental Laboratory Science and Engineering	3(3)
HEL 611	Assessment of Research Papers in Dental Laboratory Science and Engineering 1	3(3)
HEL 613	Advanced Fixed Prosthodontics Lab Technology	3(3)
HEL 616	Dental Laboratory Science and Engineering Seminar 1	3(3)
HEL 617	Dental Bio-Engineering Techniques and Applications	3(3)
HEL 618	Linear models of Experimental Statistics	3(3)

HEL 620	Individual work 1	3(3)
HEL 621	Advanced Prosthodontics, Lab Technology	3(3)
HEL 622	Survey Research of Dental Laboratory Science and Engineering	3(3)
HEL 627	Fundamentals of Experimental Statistics	3(3)
HEL 628	Investigation Study in Dental Industry	3(3)
HEL 629	Health Promotion in Dental Laboratory Science and Engineering	3(3)
HEL 856	Assessment of Research Papers in Digital Dental Industry	3(3)
HEL 860	Dental Bio-Engineering Ceramics	3(3)
HEL 861	Advanced Esthetic Dentistry, Lab Technology	3(3)
HEL 862	Advanced Dental Implants, Lab Technology	3(3)
HEL 863	Dental Bio-Engineering Metals	3(3)
HEL 866	Mandibular Movement and Articulator	3(3)
HEL 867	Research Method of Dental Laboratory Science and Engineering	3(3)
HEL 868	Dental Laboratory Science and Engineering Seminar 3	3(3)
HEL 869	Dental Imaging System	3(3)
HEL 870	Individual work 2	3(3)
HEL 871	Advanced Dental Laboratory Science	3(3)
HEL 873	Dental Laboratory Science and Engineering Seminar 2	3(3)
HEL 875	Data Processing in Dental Laboratory Science and Engineering	3(3)
HEL 879	Scientific Writing in Dental Industry	3(3)

5. Major in Environmental Health Sciences (환경보건학전공)

Course Code	Course Title	Credits (Hours)
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HEL 656	Environmental Bioassay	3(3)
HEL 659	Environmental Administration and Law	3(3)
HEL 663	Water Pollution and Ecotoxicology	3(3)
HEL 664	Principles of Environmental Risk Assessment	3(3)
HEL 670	Environmental Health Seminar II	3(3)
HEL 1663	Toxicity and Risk Management	3(3)
HEL 1664	Research Methods in Toxicology	3(3)
HEL 1669	Environmental Health Seminar I	3(3)
HEL 1670	Principles of Data Analysis	3(3)
HEL 1671	Health & Global Environment	3(3)
HEL 1672	Aerosol Technology	3(3)
HEL 1673	Advanced Environmental Health	3(3)
HEL 1674	Environmental Ecology and LCA	3(3)
HEL 1675	Advanced Environmental Chemistry	3(3)
HEL 1676	Atmospheric Science	3(3)
HEL 1679	Applied Toxicology	3(3)
HEL 1681	Analytical Methods & Exposure Assessment	3(3)
HEL 1687	Seminar in Environmental Microbiology	3(3)
HEL 1692	Environmental Health Technique of Indoor Air in Life Environment	3(3)
HEL 1693	Environmental Health and Energy	3(3)
HEL 1694	Advanced Renewable Energy	3(3)
HEL 1695	Research Methods in Environmental Health I	3(3)
HEL 1696	Risk and Toxicity Assessment	3(3)
HEL 1698	Research Methods in Environmental Health II	3(3)

HEL 1861	Life Environment	3(3)
HEL 1862	Advanced Water Management	3(3)
HEL 1866	Public Health Risk Assessment	3(3)

6. Major in Biomedical & Food Sciences (보건생명·식품과학전공)

(Offered by Department of Public Health Sciences and Interdisciplinary Program in Integrated Biomedical and Life Sciences)

Course Code	Course Title	Credits (Hours)
HEL 1636	Nutritional Epigenetics	3(3)
HIL 564	<i>[Title Missing in Document]</i>	3(3)
HEL 1638	Methods in Biomedical Research	3(3)
HEL 1645	Advanced Public Health Microbiology	3(3)
HEL 1646	Advanced Bacteriology	3(3)
HEL 1647	Bioinformatics	3(3)
HIL 551	Special Topics in Clinical Chemistry	3(3)
HIL 552	Special Topics in Hematology	3(3)
HIL 553	Bacterial Genetics	3(3)
HIL 554	Special Topics in Clinical Biochemistry	3(3)
HIL 556	Special Topics in Molecular Diagnostics	3(3)
HIL 558	Seminar in Clinical Laboratory Science	3(3)
HIL 559	Applied Laboratory Science	3(3)
HIL 560	Methodology of Genetic Engineering	3(3)
HIL 562	Chemistry of Biomolecules	3(3)
HIL 563	Research & Application of Clinical Laboratory Medicine 1	3(3)
HIL 632	Research & Application of Clinical Laboratory Medicine 2	3(3)
HIL 634	Assessment of Nutrition Status	3(3)

HIL 636	Research in Cultural Aspects of Food	3(3)
HIL 637	Physical Chemistry of Food	3(3)
HIL 638	Lipid Chemistry	3(3)
HIL 640	Food Safety and HACCP	3(3)
HIL 641	Data Analysis in Food and Nutrition	3(3)
HIL 642	Food Instrumental Analysis	3(3)
HIL 643	Food Immunology	3(3)
HIL 644	Lipid Metabolism	3(3)
HIL 645	Medical Nutrition Therapy in Metabolic Diseases	3(3)
HIL 646	Nutrigenomics	3(3)
HIL 647	Food and Nutraceuticals	3(3)
HIL 648	New Food Materials and Biomaterials	3(3)
HIL 649	Nutrition Biochemistry	3(3)
HIL 802	Special Topics in Advanced Clinical Hematology	3(3)
HIL 803	Topics in Microbiology Research	3(3)
HIL 804	Special Topics in Immunology	3(3)
HIL 805	Molecular Basis of Infectious Disease	3(3)
HIL 806	Special Topics in Advanced Biochemistry	3(3)
HIL 807	Introduction to Antibiotics	3(3)
HIL 808	Flowcytometry and Blood Disease	3(3)
HIL 809	Stem Cell Biology	3(3)
HIL 810	Developmental Biology	3(3)
HIL 811	Stem Cell Therapy	3(3)
HIL 812	Advanced Molecular Biology	3(3)
HIL 813	Gene Therapy	3(3)

HIL 815	Special Topics in Antibody Engineering	3(3)
HIL 881	Advanced Nutrition Physiology	3(3)
HIL 882	Current Topics in Nutrition Science	3(3)
HIL 886	Food and Spatial Aesthetics	3(3)
HIL 889	Advanced Food Hygiene	3(3)
HIL 890	Microbial Toxicology	3(3)
HIL 891	Food Enzymology	3(3)
HIL 892	Methods in Nutrition Research	3(3)
HIL 893	Trend of Biotechnology and Food Industry	3(3)
HIL 894	Aging Nutrition	3(3)
HIL 895	Nutritional Epidemiology	3(3)
HIL 896	Research in Traditional Food	3(3)
HIL 897	Advanced Food Processing and Biotechnology	3(3)
HIL 898	Lipid Biotechnology	3(3)
HIL 1631	Topics in Advanced Experimental Cookery	3(3)
HIL 1633	Industrial Microbiology	3(3)
HIL 1635	Vitamin and Mineral	3(3)

[Table 1] Approved Major Course Table for Health Care Science

(헬스케어사이언스학과 전공 인정 과목표)

These courses offered by the Department of Health Care Science are recognized as official major credits for students in the Department of Public Health Sciences.

Course Code	Course Title	Credits (Hours)
HCS 502	Introduction to Healthcare	3(3)
HCS 504	Theory of Health Insurance	3(3)
HCS 506	Health Justice	3(3)

HCS 501	Comparative Health Systems Around the World	3(3)
HCS 503	Seminar in Healthcare Human Resources Management	3(3)
HCS 505	Implementation Science in Public Health	3(3)
HCS 508	Aging in Public Health & Long-Term Care System	3(3)
HCS 507	Gender and Health	3(3)
HCS 510	Public Health Psychology	3(3)
HCS 512	Biobehavioral Health	3(3)
HCS 514	Smart Healthcare	3(3)
HCS 509	Digital and Healthcare	3(3)
HCS 511	Urban Environment and Community	3(3)
HCS 513	Hospital Information System	3(3)
HCS 516	Hazardous Substances and Health	3(3)
HCS 518	Health and Environment Convergence Technology Policy	3(3)
HCS 520	Healthcare Data Management Strategy	3(3)
HCS 515	Introduction to Machine Learning	3(3)
HCS 517	Intermediate Health Statistics	3(3)
HCS 519	Health Big Data Analysis	3(3)
HCS 522	Cohort Analyses using KOGES	1(1)