

Department of Industrial Health

► General Introduction

Industrial Health is the discipline devoted to the control of those environmental factors arising in or from the workplace that may cause sickness, impaired health and well-being among workers

► Education Objectives

To produce efficient hygienist who are controlling occupational health hazards and having knowledge or craft concerned with industrial hygiene

► Course Descriptions

Category	Seme-ster	Years	Code	Courses	Credit	Hours		Note
						theory	practice	
Basic Courses	1	Freshmen	02214	Physics	3	3		
			01504	Environmental Sanitation	3	3		
Basic courses	2	Freshmen	02215	Introduction to Chemistry	3	3		
			02683	Industrial Health Statistics	3	3		
Required Courses	1	Sophomore	01679	General Chemistry Lab	2		4	double major
Elective courses	1	Sophomore	01505	Industrial Health Statistics	3	3		
			01506	Ergonomics	3	3		
			01507	Labor Physiology	3	3		
			01508	Computer Practice	1		2	
			01672	Organic Chemistry	3	3		
			01673	Fluid Mechanics	3	3		
Required Courses	2	Sophomore	01879	Industrial Hygiene Management	3	3		double major
			01510	Industrial Safety Management	3	3		double major
			01654	Analytical Chemistry and Lab.	3	2	2	double major
Elective courses	2	Sophomore	01629	Public Health	3	3		
			01636	Introduction to Air Pollution	3	3		
Required Courses	1	Junior	01514	Industrial Ventilation Engineering	3	3		double major
Elective courses	1	Junior	01516	Noise Vibration and Lab.	3	2	2	
			01517	Industrial Safety and Health Policy	3	3		double major

			01518	Industrial Psychology	2	2		
			01519	Safety - Health Education	2	2		
			02684	Industrial Health Special Subject	3	3		
			02685	Industrial Hygiene and Lab.	3	2	2	
Required Courses	2	Junior	01521	Working Environment Measurement and Estimation	3	3		double major
Elective courses	2	Junior	01522	Working Environment Lab.	2		4	
			01524	Industrial Ventilation Lab.	2		4	
			01525	Industrial Toxicology	3	3		
			01526	Occupational Disease Management	3	3		
			01818	Sanitartal Regulation	2	2		
			02484	Food Sanitation	3	3		
Elective courses	1	Senior	01530	Occupational Epidemiology	3	3		
			01531	Indoor Air Pollution	2	2		
			02494	Industrial to Health subject	3	3		
			02687	Assessment of Worked Musculoskeletal Disorders	3	3		
Elective Courses	2	Senior	03209	Instrumental Analysis and Lab.	3	1	4	
			01533	Safety and Hygiene Protection	2	2		
			01535	Health Promotion	3	3		
			01536	Insect Control	3	3		
			03210	Seminar on industrial Health	3	3		
			01503	Environmental Field Practice	2		4	

► **02214 Physics**

Physics is learning a general basic content of physics, and improving a problem solving skill based on understanding of a fundamental principle of physics.

► **01504 Environmental Sanitation**

To learn various knowledges for promoting and maintaining comfort and pleasant environment among air, tap and sewage water, house, wastes, etc. surroundings human.

► **02215 Introduction to Chemistry**

Study on the basic principles of environmental chemisrty

▶ **02683 Industrial Health Statistics**

Principles of industrial hygiene, including anticipation, recognition, evaluation, and control of chemical and physical agents will be explained and discussed. Topics, such as occupational exposure limits, occupational health standards, and ergonomics, will also be discussed.

▶ **01679 General Chemistry Lab.**

In the course of study, students learn basic theory of general chemistry and experiment of chemical reaction.

▶ **01505 Industrial Health Statistics**

This course is designed to introduce a basic concept in statistics for students in Industrial health. Data collection and analysis is a main theme of studying this subject. And the technique collecting disaster statistics and prevention of occupational hazard is to help.

▶ **01506 Ergonomics**

Ergonomics is applied to the design for the machine, tool, environment related to the human to increase safety, usability, work efficiency et al. Therefore, this course, ergonomics, concerns with human factors and application methodology on man-machine system to enhance matching and compatibility.

▶ **01507 Labor Physiology**

In the course of study, for structure and function and homeostasis of human body, physical and chemical factors elucidate the biochemical mechanism. From the knowledge of anatomical structure and physiological function to basic medicine, students learn optimum physiological condition of human body in workshops.

▶ **01508 Computer Practice**

In this course of study, based on the knowledge of introduction to Computer Science, students learn word processor and Excel, Power Point in applied PC program, and Disk-operating System (DOS) and PC-Utility.

▶ **01672 Organic Chemistry**

Organic Chemistry is the chemistry of the compounds of carbon Organic Chemistry is studied to finding out what chemical reaction are, how they take place, and how they can be used to synthesized compound we want. So we must research their nomenclature, structure and method of synthesize, synthesize mechanism. One of the major problem in organic chemistry is to find out how the atom arranged in molecular, that is to determine the structure of organic compounds.

▶ **01673 Fluid Mechanics**

Students analyze and assess harmful physical, chemical, and biological factors that occur in industrial sites and acquire general theoretical knowledge to establish industrial hygiene control measures.

▶ **01879 Industrial Hygiene Management**

The purpose of this course is to understand harmful to human, physical, chemical and biological materials in workplace. Accepted on the concept of hazardous substances, hazardous substances. Planning, establishing and evaluating by means of industrial hygiene measures will be discussed.

▶ **01510 Industrial Safety Management**

This subject will help develop a strategy for the safety manager to develop an effective policy to eliminate the dangers and causes of industrial accidents.

▶ **01654 Analytical Chemistry and Lab.**

Analytical skill is very important to chemistry and applied chemistry. Therefore, in the course of study, students learn qualitative and quantitative analysis, namely, the nature of the solution, chemical equilibrium, acid-base reaction, titration of chemical precipitation and oxidation-reduction, gravimetric analysis, and instrumental analysis.

▶ **01629 Public Health**

To learn knowledges promoting and maintaining health for community resident through learning the environmental sanitation, health education, health management and controlling communicable and adult disease.

▶ **01636 Introduction to Air Pollution**

Study on the basic principles of air quality and air pollution

▶ **01514 Industrial Ventilation Engineering**

This course is grasped firmly the fundamental conception of industrial ventilation, and is known well the design theory of ventilation equipments. Also, this gets students trained the technical method of maintenance and control for ventilation systems.

▶ **01516 Noise Vibration and Lab.**

Due to severe noise and vibration, the hearing loss and vibration disease is increased. Through lectures and experiments, this course is to reduce the damage of the human body as the overall theory and skills of noise and vibration.

▶ **01517 Industrial Safety and Health Policy**

In this subject, We can help you with any information that you may need about internal and external industrial safety and health issues. We will provide you or your management with all the newest and high quality safety measures that will meet the national safety and health standards. We will help to make an ability to control your company a safer place to work.

▶ **01518 Industrial Psychology**

In this subject, We will study the theory on indivisual worker characteristics, the human behavior process and human error, and how work fatigue and stressful work conditions can lead to careless around dangerous machinery.

▶ **01519 Safety - health Education**

The goal of this process is to learn methods and contents that ia related to education about preventing occupational diseases and industrial accidents through achievement of standard work and promotion of safty-health awareness.

▶ **02684 Industrial Health Special Subject**

To provide essential data on taking lesson and starting work through expressing and comment on Korean and foreign paper concerned with industrial health.

▶ **02685 Industrial Hygiene and Lab.**

The students will learn the laboratory work related to all aspects of Industrial Hygiene. This course will provide students with an understanding of and experience with characteristics of hazardous substances from workplace and determine the toxicity. Students will learn how to operate the devices.

▶ **01521 Working Environment Measurement and Estimation**

A measurement of worker exposures to harmful agents is highly important for evaluation of Industrial health. Topics including calibration of equipments, sampling strategy, and analytical methods will be explained. Comparing and evaluating the measurements and standards will be discussed.

▶ **01522 Working Environmental Lab.**

In the course of the study, students learn applied method in control of working environment in connection with measurement, analysis, evaluation and measures of many of harmful chemicals.

▶ **01524 Industrial Ventilation Lab.**

This course is applied the design theory of ventilation equipments, and is known well the checking and measuring method to be required the repair, maintenance, and control of ventilation systems.

▶ **01525 Industrial Toxicology**

In this course of study, students learn toxicological and biological mechanism of various chemicals, principal of toxicological effects from human body of toxicants in workshops.

▶ **01526 Occupational Disease management**

To take aim of setting up preventive measure of occupational disease, understanding stressors arising and occurred mechanism from occupational disease, and analyzing type of occurring disease owing to exposure of hazards in workplace.

▶ **01818 Sanitary Regulation**

To take lesson in food sanitary regulation, infectious disease prevention act, waste controlling act, tap water act, public health act, etc. for sanitary work.

▶ **02484 Food Sanitation**

To understand preventive and blocking method from food poisoning (pathogenic microbial, chemicals, natural poison) in food, to study removal method of pollutant and to examine pollutant close.

▶ **02686 Risk Assessment of Chemicals**

To train for assessable ability to understanding characteristics, health disorder, economic effects and treating point of various substances (chemicals, biological, physical stressors).

▶ **01530 Occupational Epidemiology**

In this course of study, students learn concept and study area of occupational epidemiology, association between occupational disease and their related factors, methodology for evaluation of cause of occupational disease and their prevention.

▶ **01531 Indoor Air Pollution**

The purpose of this study is to survey the distribution patterns of particulate matters(PM), volatile organic compounds(VOCs) emission in the various indoor environments and to understand the health effects. As the results of this study, it is learned theory by applying(using) methods measurement of the indoor air pollutions and evaluation of the health risk for the critical pollutants.

▶ **02494 Industrial to Health subject**

Principles of industrial hygiene, including anticipation, recognition, evaluation, and control of chemical and physical agents will be explained and discussed. Topics, such as occupational exposure limits, occupational health standards, and ergonomics, will also be discussed.

▶ **02687 Assessment of Worked Musculoskeletal Disorders**

We will educate about the causes of risk factors and the signs and symptoms of MSD's. To prevent MSD's which are caused by the physical aspects of work such as repetitive simple work, computer job and handling of heavy loads, etc.

▶ **03209 Instrumental Analysis and Lab.**

This course discusses basic issues concerning gathering, analyzing and measuring various water pollutants in accordance to the Water Pollution Assessment Regulations. Students practice qualitative and quantitative analysis of water pollutants with instrumental analysis such as GC, HPLC and LC etc.

▶ **01533 Safety and Hygiene Protection**

The goal of this process is to learn methods and contents that ia related to education about preventing occupational diseases and industrial accidents through achievement of standard work and promotion of safety-health awareness.

▶ **01535 Health Promotion**

Students understand the roles, functions and duties of national health administration organizations that are established for public health. Students learn how to plan and manage accurate and efficient health administration policies based on scientific resources that are gathered from scientific surveys, researches, tests, and examinations.

▶ **01536 Insect Control**

To understand transmissive mechanism, kind and shape of insect being harmful to human and to study protective method harmful insect.

▶ **03210 Seminar on industrial Health**

Students review various present situations, and then raise several concerns, and also understand the method to find solutions for industrial Health with researches, presentations, and discussions. Also, they study the

technique of scientific researches, writing a paper, and presentation.

► **01503 Environmental Field Practice**

To understand the present state and achievable method measuring and analyzing of harmful factors existent in workplac.