

|| Department of Environmental Horticulture ||

| Educational Purpose |

The department of environmental horticulture cultivates students who can contribute to the development of the nation, society, and church, and furthermore to the health and happiness of mankind by producing high quality food and beautifying surrounding environment. Students acquire diverse and useful knowledge of environmental horticulture as well as newly developed cutting-edge technologies and information by faithfully studying and researching basic subjects and the latest research projects to cultivate the ability to apply them to the real life.

| Educational Objectives |

The Environmental Horticulture Department is:

1. Studying, cultivating and preserving nature,
2. Seeking to improve the city and human environment, which has become damaged by the pollution and contamination from industrialization, and urbanization,
3. Designing and rearranging Nature to increase its value to humanity, through the lay out and landscaping of horticulture ornamentation,
4. Producing organic agriculture products, safe foods and garden produce,
5. Manufacturing and circulating flower horticulture plants, as an Applied Science that creates a keener appreciation of the value of Nature in the daily life,
6. Based on the holistic educational doctrine that balances an intellectual, spiritual and physical education, which is the educational doctrine of this university,
7. Trains horticulture professionals, such as:
 - (1) manufacturing and circulation professionals,
 - (2) research workers for the government,
 - (3) teachers,
 - (4) researchers in current agriculture problems,
 - (5) landscape architects or designers for city horticulture,
 - (6) flower ornament makers using flower horticulture plants
 - (7) and Horticultural Therapists using herbs and medicinal plants.

8. Trying our best:

- (1) to prepare our graduates to start work immediately upon their graduation, in Korea or elsewhere, through the learning of a foreign language and practical techniques,
- (2) retain foreign students,
- (3) produce internationally competent and talented men and women,
- (4) prepare students to attend top administrator's courses.

| **Bylaws** |

Article 1 (Majors)

The majors in this department include Horticulture, Plant Factory(Smart farm), Flower Decoration, Environmental Horticultural Design, Herb and Aromatherapy, Landscaping, Organic Agriculture, Golf Course Management, Functional Food, Classification Ecology, and Environmental Chemistry.

Article 2 (Admissions)

- ① Matters related to the admissions comply with the Graduate School Regulations and its Bylaws.
- ② M&D combined program and master's program are for those who have obtained or are expected to obtain a bachelor's degree from a 4-year university in Korea or abroad. The doctoral program is for those who have obtained a master's degree in the same field (agricultural policy, agricultural law, land, and horticultural therapy) from a graduate school in Korea or abroad.

Article 3 (Curriculum)

- ① Required major courses are designated by the academic advisor.
- ② Students may take prerequisite courses under the guidance of their academic advisor, and the prerequisite courses are designated by their academic advisor.

Article 4 (Credits and Graduation Requirements)

The Students must complete the coursework according to the curriculum and earn the required number of credits. Also, students must obtain the qualification for submitting the thesis/dissertation by passing a foreign language test and comprehensive examination and pass the thesis/dissertation review.

1. For the master's program, students must earn at least 3 credits of common essential courses, 3 credits of required major courses, and 18 credits of elective major courses.

2. For the doctoral program, students must earn at least 6 credits of common essential courses, 3 credits of required major courses, and 27 credits of elective major courses.
3. For the M&D combined program, students must earn at least 6 credits of common essential courses, 6 credits of required major courses, and 48 credits of elective major courses.
4. Common essential courses can be replaced with subjects designated by the department (Special Topics in Biblical Botany I and II)

Courses	Master's Program (credits)	Integrated Program (credits)	Doctoral Program (credits)
Common Essential Courses	3	6	6
Required Major Courses	3	6	3
Elective Major Courses	18	48	27
Thesis/Dissertation	P	P	P
In Total	24	60	36

Article 5 (Foreign Language Test)

Matters related to the foreign language test comply with Graduate School Regulations and its Bylaws

Article 6 (Comprehensive Examination)

- ① Matters related to the comprehensive examination comply with Graduate School Regulations and its Bylaws
- ② The test subjects are two subjects designated by the advisor from among the major subjects.

Article 7 (The Thesis/Dissertation)

- ① Matters related to the academic advisor and the thesis/dissertations comply with the Graduate School Regulations and its Bylaws.
- ② The doctoral dissertation can be reviewed only when at least one paper is published in an academic journal registered with the National Research Foundation(NRF).

Article 8 (Committee of the Environmental Horticulture Department of the Graduate School)

- ① Purpose: The Committee of the Environmental Horticulture Department of the Graduate School is established to comprehensively review important matters related to the operation of the Graduate School and important matters of the Environmental Horticulture Department.

- ② Composition: The Committee of the Environmental Horticulture Department of the Graduate School is composed of the department chair and department professors, and the department chair acts as the chairperson.
- ③ Term of Office: The term of office of the chairperson is consistent with the term of office of the department chair.
- ④ Function: The Committee of the Environmental Horticulture Department of the Graduate School discusses, deliberates, and decides on the following matters.
 - 1. Matters concerning the establishment and revision of educational objectives
 - 2. Organization and revision of the department's curriculum
 - 3. Planning and execution of academic activities for graduate students
 - 4. Matters related to the admission and graduation
 - 5. Matters related to thesis/dissertation guidance
 - 6. Appointment of thesis/dissertation advisors and reviewers
 - 7. Matters concerning foreign language test and comprehensive examination
 - 8. Selection of scholarship recipients
 - 9. Matters concerning department budget
- ⑤ Meetings: The committee is convened by the chairperson when the chairperson deems it necessary, and the meeting of the committee is opened with the attendance of a majority of the members present, and resolutions are made with the consent of a majority of the members present. The chairperson has the same voting rights as the members.

Article 9 (Student Council)

The student council of the Department of Environmental Horticulture, an autonomous organization that promotes research and cooperation among students, can be organized.

Article 10 (Mutatis Mutandis)

Matters not specifically stipulated in these bylaws comply with the Graduate School Regulations.

| Curriculum |

「Master's Degree Required Courses」

Course No.	Course Title	Credits
2002308	연구방법론 I (Research method I)	3
2002309	연구방법론 II (Research method II)	3
2002166	통계학특론 I (Advanced Statistics I)	3
2001846	통계학특론 II (Advanced Statistics II)	3
2002115	논문 (Thesis or Dissertation)	P

「Doctoral Degree Required Courses」

Course No.	Course Title	Credits
2002347	환경원예학특론 I (Advanced Environmental Horticulture I)	3
2002348	환경원예학특론 II (Advanced Environmental Horticulture II)	3
2002115	논문 (Thesis or Dissertation)	P

「Integrated Master's & Doctoral Degree Required Courses」

Course No.	Course Title	Credits
2002308	연구방법론 I (Research method I)	3
2002309	연구방법론 II (Research method II)	3
2002166	통계학특론 I (Advanced Statistics I)	3
2001846	통계학특론 II (Advanced Statistics II)	3
2002347	환경원예학특론 I (Advanced Environmental Horticulture I)	3
2002348	환경원예학특론 II (Advanced Environmental Horticulture II)	3
2002319	환경생물학특론 I (Advanced Environmental Biology I)	3
2002115	논문 (Thesis or Dissertation)	P

「Elective Courses」

Course No.	Course Title	Credits
2001867	개화생리특론 I (Advanced Flowering Physiology I)	3
2001868	개화생리특론 II (Advanced Flowering Physiology II)	3
2002351	계통분석방법론 I (Theory and Practice of Phylogenetic Analysis I)	3
2002352	계통분석방법론 II (Theory and Practice of Phylogenetic Analysis II)	3
2001878	고급계통분류학 I (Advanced Biological Systematics I)	3
2001883	고급계통분류학 II (Advanced Biological Systematics II)	3
2002310	고급나노화학 (Advanced Nanochemistry)	3
2001879	고급분자계통학 I (Advanced Molecular Systematics I)	3
2002353	고급분자계통학 II (Advanced Molecular Systematics II)	3
2002354	고체물성화학 (Solid State Chemistry)	3
2000175	골프장관리특론 (Advanced Golf Course Management)	3
2001871	골프장조성및관리실무연구특론 (Case Studies on Golf Course Construction and Management)	3
2000192	관상화훼학특론 (Advanced Theory of Ornamental Floriculture)	3
2000278	그린디자인학특론 (Advanced Green Design)	3
2000300	기기분석 I (Instrumental Analysis I)	3
2002355	기기분석 II (Instrumental Analysis II)	3
2002356	나노과학특론 (Special Topics in Nanoscience)	3
2002311	나노독성화학 (Nanotoxicological Chemistry)	3
2002357	나노생명화학 (Nanobiological Chemistry)	3
2002358	나노환경분석화학 (Nanoenvironmental Analytical Chemistry)	3
2001870	녹화지반분석및진단 (Analysis and Diagnosis in Vegetation Soil System)	3
2001852	농업경영및분석 (Agricultural Economics and Analysis)	3
2002359	대기환경화학 (Air Pollution Chemistry)	3
2000384	도시조경계획론특론 (Advanced Urban Landscape planning)	3
2001881	동물분류학특수연구 I (Special Research in Systematic Zoology I)	3
2001882	동물분류학특수연구 II (Special Research in Systematic Zoology II)	3
2002360	무기재료화학 (Inorganic Materials Chemistry)	3
2001885	무척추동물학특론 (Advanced Invertebrate Zoology)	3
2001887	분자계통학연구론 (Research in Molecular Systematics)	3
2000697	생장조절물질특론 (Advanced Plant Growth Regulator)	3
2002312	생태학특론 I (Advanced Ecology I)	3
2002313	생태학특론 II (Advanced Ecology II)	3
2002361	선인장과 다육식물특론 I (Advanced Cacti and Succulents I)	3
2002168	선인장과 다육식물특론 II (Advanced Cacti and Succulents II)	3
2002345	성서생물학특론 I (Advanced Bible Biology I)	3
2002346	성서생물학특론 II (Advanced Bible Biology II)	3
2002302	성서식물학특론 I (Advanced Bible Plant I)	3
2002303	성서식물학특론 II (Advanced Bible Plant II)	3
2002362	세포생물학 (Cell biology)	3
2002363	수목분류학 (Dendrology Taxonomy)	3
2000810	수목학특론 (Advanced Dendrology)	3
2002364	수질환경화학 (Water Pollution Chemistry)	3

Course No.	Course Title	Credits
2000830	스포츠잔디시공특론(Advanced Sports Turf Establishment)	3
2002365	스포츠잔디조성및관리실무연구특론 (Case Studies on Sports Turf Construction and Management)	3
2000829	스포츠잔디최신과제 Current Issues in Sports Turfgrass)	3
2000832	습지생태학 Wetland ecology)	3
2002366	시설원예학특론 I (Advanced Controlled Horticulture I)	3
2002367	시설원예학특론 II (Advanced Controlled Horticulture II)	3
2002368	식물공장생산학 I (Plant Factory Production I)	3
2002369	식물공장생산학 II (Plant Factory Production II)	3
2000843	식물분류학특론 I (Special Topics of Plant Taxonomy I)	3
2000844	식물분류학특론 II (Special Topics of Plant Taxonomy II)	3
2002370	식물생리학특론 I (Advanced Plant Physiology I)	3
2000845	식물생리학특론 II (Advanced Plant Physiology II)	3
2002374	식물생명공학특론 (Advanced Plant Biotechnology)	3
2002314	식물생화학특론 I (Advanced Plant Biochemistry I)	3
2002371	식물생화학특론 II (Advanced Plant Biochemistry II)	3
2002372	식물세포유전학연구론 (Method in plant cytogenetics)	3
2001850	식물스트레스반응특론 (Advanced Plant Stress Response)	3
2002373	식물염색체공학 (Plant chromosome technology)	3
2002320	식물육종학특론 I (Advanced plant breeding I)	3
2002321	식물육종학특론 II (Advanced plant breeding II)	3
2000850	식물조직배양학특론 I (Advanced Plant Tissue Culture I)	3
2000851	식물조직배양학특론 II (Advanced Plant Tissue Culture II)	3
2001843	식용작물학 I (Food Crop I)	3
2001847	식용작물학 II (Food Crop II)	3
2002782	식용작물학특론 I (Advanced Food Crop I)	3
2001855	식품독성학 (Food Toxicology)	3
2000911	실내원예조경특론 (Advanced Theory of Ornamental Interscape)	3
2001844	아로마테라피 I (Aromatherapy Theory and Practice I)	3
2000929	아로마테라피 II (Aromatherapy Theory and Practice II)	3
2001877	야생동물관리학 (Wildlife Management)	3
2002375	양봉학특론 I (Advanced Beekeeping I)	3
2002376	양봉학특론 II (Advanced Beekeeping II)	3
2001875	양서파충류학 (Herpetology)	3
2002383	양액재배특론 I (Advanced Hydroponics I)	3
2002384	양액재배특론 II (Advanced Hydroponics II)	3
2002308	연구방법론 I (Research method I)	3
2002309	연구방법론 II (Research method II)	3
2001062	원예디자인특론 (Advanced Horticulture Design)	3
2001063	원예미학특론 (Advanced Horticulture Aesthetics)	3
2001064	원예색채학특론 (Advanced Theory of Environmental Decoration Color)	3
2001865	원예영어실무특론 (Advanced English in Horticultural Job)	3
2001065	원예조경공간디자인특론 (Advanced Theory of Horticultural Landscape Architecture Space)	3
2001838	원예조경장식물특론 (Advanced Theory of Horticultural and Landscape Decoration)	3

Course No.	Course Title	Credits
2002322	원예치료학특론 I (Advanced Horticultural Therapy I)	3
2002323	원예치료학특론 II (Advanced Horticultural Therapy II)	3
2001851	원예학세미나 (Horticultural Seminar)	3
2002386	원예학특론 I (Advanced Introductory Horticulture I)	3
2002387	원예학특론 II (Advanced Introductory Horticulture II)	3
2001140	인공지반녹화특론 (Advanced Theory of Green space Design on)	3
2002315	자생식물학특론 (Advanced Native Plant)	3
2002316	작물보호학 I (Crop Protection I)	3
2002317	작물보호학 II (Crop Protection II)	3
2002388	작물육종학 I (Crop Breeding I)	3
2002389	작물육종학 II (Crop Breeding II)	3
2001869	잔디병해충 방제론 (Pest Management in Turfgrass)	3
2001209	잔디학특론 (Advanced Turfgrass Science)	3
2002390	잡초학특론 I (Advanced Weed Control I)	3
2002391	잡초학특론 II (Advanced Weed Control II)	3
2001873	재배학특론 I (Advanced Crop Production I)	3
2001670	재배학특론 II (Advanced Crop Production II)	3
2001886	저서생물학 (Benthic Biology)	3
2001839	전공영어특론 (Advanced Major English)	3
2001848	정원설계특론 (Advanced Garden Design)	3
2001273	정원학특론 (Advanced Garden)	3
2001282	조경사특론 (Advanced Landscape History)	3
2001283	조경학특론 (Advanced Landscape Architecture)	3
2001874	조류학 (Ornithology)	3
2002392	종자학특론 I (Advanced Seed Science I)	3
2001607	종자학특론 II (Advanced Seed Science II)	3
2001357	채소학특론 I (Advanced Vegetable Crop I)	3
2002167	채소학특론 II (Advanced Vegetable Crop II)	3
2001375	첨단녹화기술특론 (Advanced Theory of Environmental Techniques of Revegetation)	3
2002393	토양비료학특론 I (Advanced Soil and Fertilizer I)	3
2002394	토양비료학특론 II (Advanced Soil and Fertilizer II)	3
2002395	토양화학 (Soil Chemistry)	3
2002166	통계학특론 I (Advanced Statistics I)	3
2001846	통계학특론 II (Advanced Statistics II)	3
2001857	특별주제 I (Special Topic I)	3
2001858	특별주제 II (Special Topic II)	3
2001437	파이토케미칼 (Phytochemicals in Vegetables and Fruits)	3
2001860	플로랄컬러디자인 (Floral Color Design)	3
2001880	해양생물학특론 I (Advanced Marine Biology I)	3
2001884	해양생물학특론 II (Advanced Marine Biology II)	3
2001491	행동생태학특론 (Behavioural Ecology)	3
2002396	허브가공학특론 I (Advanced Herb Craft I)	3
2002397	허브가공학특론 II (Advanced Herb Craft II)	3

Course No.	Course Title	Credits
2002398	허브식물학특론 I (Advanced Herb Craft I)	3
2002399	허브식물학특론 II (Advanced Herb Craft II)	3
2001861	현장연구 I (Field Study I)	3
2001862	현장연구 II (Field Study II)	3
2001506	화예장식재료학특론 (Advanced Theory of Floral Art Decoration Materials)	3
2001507	화예장식학특론 I (Advanced Theory of Floral Art I)	3
2001508	화예장식학특론 II (Advanced Theory of Floral Art II)	3
2001856	화훼디자인사 (Flower Design History)	3
2001514	화훼학특론 (Advanced Floriculture)	3
2001517	환경공학특론 (Environmental Engineering)	3
2001519	환경생태조경식물학특론 (Advanced Theory of Environmental Ecology Landscape Architecture Planting)	3
2002747	환경생태학특론 I (Advanced Environmental Ecology I)	3
2002748	환경생태학특론 II (Advanced Environmental Ecology II)	3
2001521	환경시학특론 (Advanced Theory of Environmental View Landscape)	3
2002349	환경생물학세미나 I (Seminar in Environmental Biology I)	3
2002350	환경생물학세미나 II (Seminar in Environmental Biology II)	3
2002319	환경생물학특론 I (Advanced Environmental Biology I)	3
2002318	환경생물학특론 II (Advanced Environmental Biology II)	3
2001524	환경원예학세미나 I (Seminar in Environmental Horticulture I)	3
2001835	환경원예학세미나 II (Seminar in Environmental Horticulture II)	3
2002347	환경원예학특론 I (Advanced Environmental Horticulture I)	3
2002348	환경원예학특론 II (Advanced Environmental Horticulture II)	3
2002780	환경장식색채학특론 (Advanced Theory of Environmental Decoration Color)	3
2002385	환경화학특론 (Special Topics in Environmental Chemistry)	3
2002545	정신의학 (Psychiatry)	3
2002781	아로마테라피특론 I (Advanced aromatherapy Theory and Practice I)	3
2000931	아로마테라피특론 II (Advanced aromatherapy Theory and Practice II)	3

| Courses Information |

Research methods I, II

In this class, students introduce the trends in their research-related fields, establish the concept of an academic thesis, and learn how to write a dissertation and academic thesis through practical learning through seminar presentations.

Advanced Statistics I, II

In this class, students systematically learn the basics of statistics necessary for environmental horticulture through a simple and practical statistical package (SAS) that is the basis for the design and analysis of the results from biological experiments. Statistics I and II are operated variably according to the field of study and the semester in which it is opened.

Advanced Bible Plant I, II

In this class, students study and research the types, classifications, physiology, and overall ecological characteristics of plants in the Bible. Biblical Botany I and II are operated variably according to the field of study and the opening semester.

Advanced Bible Biology I

In this class, students study and research the types, classifications, physiology, and overall ecological characteristics of animals in the Bible.

Thesis or Dissertation

This course is for learning about how to write a dissertation. It also focuses on doing some experiments on their research and collecting sources for dissertation.

Advanced Flowering Physiology I, II

In this class, students learn Floral induction, Floral Bud Initiation, Floral Bud Development, and Flowering of SDP, LDP, DNP, and SLDP flower crops.

Theory and Practice of Phylogenetic Analysis I, II

In this class, students learn at an advanced level how to study and analyze the characteristics of biological taxa and the phylogenetic relationship between taxa.

Advanced Biological Systematics I, II

In this class, students establish a taxonomy for the animal taxa constituting the biological system, identify the taxa's characteristics, and learn the relationship between each taxon at an advanced level.

Advanced Nanochemistry

In this class, students learn overall functional nanomaterial development such as carbon nanotubes, graphene, gold and silver nanoparticles, semiconductor nanometal

oxides, device analysis, principles of electron microscopy, catalyst applications, and bio applications.

Advanced Molecular Systematics I, II

In this class, students learn at an advanced level how to study and classify the concept of species and phylogenetic relationships between groups of organisms at the molecular level.

Solid State Chemistry

In this class, students explore the knowledge of methods for manufacturing various inorganic solid samples, including crystalline and amorphous materials, and study methods for electrical, magnetic, and optical properties according to the combination of each sample. Based on this, students acquire basic knowledge about developing new materials.

Case Studies on Golf Course Construction and Management

In this class, students learn various examples of design specifications, plant species selection, construction methods, and management for the golf course's tee, fairway, and green formation when designing and constructing a domestic golf course.

Advanced Theory of Ornamental Floriculture

In this class, students learn about various ornamental plants' cultivation, management, use, reproduction, and color.

Advanced Green Design

In this class, students research plant-centered, eco-friendly designs, suggest development plans and establish and study design plans.

Instrumental Analysis I

In this class, students learn the basic theory of general analytical chemistry equipment, the instrument's principle, and the measurement method. Principles of analytical instruments, including chromatography and spectroscopic analysis, are included.

Instrumental Analysis II

In this class, students learn the basic theory of general food and chemical equipment, the principle of the equipment, and the measurement method. Principles of analytical instruments, including GC, HPLC, spectrometer, AA, and spectroscopic analysis, are included.

Special Topics in Nanoscience

In this class, students learn the concepts of advanced nanoscience, analysis methods of nanomaterials, self-assembly, synthesis of metal nanoparticles, application of nanoparticles, carbon nanomaterials, and hybrid nanocomposite materials.

Nanotoxicological Chemistry

In this class, students learn about the effects of nanomaterials on the environment and human health and safety risks through a chemistry approach.

Nanobiological Chemistry

In this class, students learn about nano chemical reactions in the living body, such as nano-trace elements and biomolecules that combine nanotechnology and life sciences, electron microscopy, nanostructures in vivo, types, and reactions of metal complexes, and biosensors.

Nano Environmental Analytical Chemistry

In this class, students understand the properties of nanomaterials, the concept of quantitative and qualitative analysis, the principles of instrumentation, and operation methods, and learn the knowledge to utilize the instrument by performing physical property measurement and analysis.

Analysis and Diagnosis in Vegetation Soil System

In this class, students learn practices and examples of sampling, analysis methods, and prescriptions for ground soil, which are important factors when creating gardens, parks, slope slopes, and sports turf green spaces.

Agricultural Economics and Analysis

In this class, students study agricultural economics and business management aspects for analysis and approach to agriculture and learn successful farming planning techniques by learning economic theory, agricultural product price analysis, and production technology analysis for efficient agricultural management.

Air Pollution Chemistry

In this class, students learn the methods and concepts for chemically approaching and treating the theories about the occurrence and effects of various air pollutants and their movement through diffusion.

Advanced Urban Landscape planning

In this class, students create alternatives by collecting, analyzing, and synthesizing data on natural science, morphology, aesthetics, and engineering related to landscape architecture. Through this, students study the process of making the city and design plans.

Special Research in Systematic Zoology I

In this class, students establish a taxonomy for the animal species constituting the animal kingdom, identify the characteristics of each animal group, and learn the relationship between each animal at an advanced level.

Special Research in Systematic Zoology II

In this class, students establish a taxonomy for the animal species constituting the animal kingdom, identify the characteristics of each animal group, and learn the relationship between each animal at an advanced level.

Inorganic Materials Chemistry

In this class, students learn the structure, properties, selection, and application of materials. Specifically, students learn the knowledge and concepts of atomic bonding and structure of materials, equilibrium states, heat treatment, metal materials, ceramic materials, and composite materials.

Advanced Invertebrate Zoology

In this class, students learn at an advanced level the comparative morphology and physiology of invertebrates, taxonomics, ecology, behavior, and human influences.

Research in Molecular Systematics

In this class, students learn at an advanced level how to create a phylogenetic tree by analyzing the characteristics of taxa and the phylogenetic relationship between taxa at the molecular level.

Advanced Plant Growth Regulator

In this class, students study the interaction of PGRs characteristics, environment, and genetics necessary for plant growth control and learn about dormancy and flowering physiology, which is widely applied in horticultural crop cultivation and release control.

Advanced Ecology I

In this class, students study the impact of human activities on the environment and changes in biodiversity due to environmental changes from an ecological perspective.

Advanced Ecology II

In this class, students study the effects of global environmental changes on various animal and plant biodiversity changes from a comprehensive perspective.

Advanced Cacti and Succulents I

In this class, students learn and study the classification, physiological ecology, use and processing, distribution, and export of cacti and succulents, which are desert plants and representative export crops of Korea.

Advanced Cacti and Succulents II

In this class, students practically research and experiment with the cultivation, processing, distribution, and export of grafted cacti and succulents, the symbolic export crops of Korea.

Advanced Bible Biology I

In this class, students study and research the types, classifications, physiology, and overall ecological characteristics of living things in the Bible.

Advanced Bible Biology II

In this class, students learn to study and apply the characteristics of plants that are didactic and can be applied to real life through the creatures shown in the Bible.

Advanced Bible Plant I

In this class, students study and research the types, classifications, physiology, and ecological characteristics of plants in the Bible.

Advanced Bible Plant II

In this class, students learn to study and apply the characteristics of plants that are didactic and can be applied to real life through biblical plants.

Cell Biology

In this class, students learn about the molecules that make up cells, the shape and function of organelles, cytogenetic issues, and the differentiation and interaction of cells.

Dendrology Taxonomy

In this class, students learn the theory and principle of classification of trees used in horticulture and forestry and research and understand the application technology and scope of use.

Advanced Dendrology

In this class, students study and learn the theory, technology, and scope of use of ornamental trees used as landscape trees.

Water Pollution Chemistry

In this class, students approach the occurrence and cause of water pollution, such as domestic sewage, factory wastewater, and leachate, from a chemical point of view and learn measures and contents for improving and preventing water pollution.

Advanced Sports Turf Establishment

In this class, students learn turf composition and soil analysis theories and develop practical skills by practicing turf composition. In addition, students will be equipped with field application skills in turf construction through BM construction cases, such as visiting golf courses and stadiums.

Case Studies on Sports Turf Construction and Management

In this class, students learn various cases of sports turf design specifications, plant species selection, construction methods, and management in the relevant climate zone when creating stadiums and golf courses around the world.

Current Issues in Sports Turfgrass

In this class, students select research trends, special topics, and individual tasks for planting, management, ground, and construction in the sports turf field, such as golf courses and stadiums. Students will have lectures, presentations, and topic discussions.

Wetland Ecology

In this class, students study the adaptation of animals and plants to wetland environments, dynamics in freshwater and salt lakes, topography, hydrology, and biogeochemistry.

Advanced Controlled Horticulture I

In this class, students learn about the importance of facilities in cultivating horticultural crops, study the structure and environmental control methods within the facility, and learn how to use facilities to increase productivity efficiently.

Advanced Controlled Horticulture II

In this class, students study the structure of the facility for the annual supply of horticultural crops and the method of environmental control in the facility and study the efficient use of the facility to increase the productivity of economical horticultural crops.

Plant Factory Production I

In this class, students learn about the theory and practical cultivation techniques for plant factory optimization through technology trends, research trends, and case studies.

Plant Factory Production II

In this class, students learn about the theory and practice for optimization and efficiency of plant factories through case studies of specially designed and designed plant factories.

Special Topics of Plant Taxonomy I

This course introduces the basics and theories of plant classification and teaches the basics and techniques for understanding and classifying terms. In particular, it focuses on the basics of taxonomics and has high utility in crop cultivation and arboretum.

Special Topics of Plant Taxonomy II

In this class, students study the taxa and their relationship by expanding the classification of plants to trees and whole plants, along with actual field trips.

Advanced Plant Physiology I

In this class, students study optimal cultivation techniques by interpreting various phenomena that occur in plants, such as physiological metabolism and classification, disasters, moisture, and nutrients, at a higher level than general plant physiology.

Advanced Plant Physiology II

In this class, students experiment and learn to derive and apply new methods by analyzing and researching photosynthesis, respiration, and product dynamics in physiological aspects.

Advanced Plant Biotechnology

In this class, students learn about the understanding and application of biotechnology, such as genetic recombination technology, crop production and breeding, and plant functional material production, based on academic knowledge in related fields that are the basis of biotechnology, such as molecular biology and biochemistry.

Advanced Plant Biochemistry I

In this class, students learn general knowledge of biochemical mechanisms such as plant constituents and photosynthesis, carbon fixation, and the functions of their metabolites.

Advanced Plant Biochemistry II

In this class, students research and learn biochemical mechanisms such as plant components, photosynthesis, carbon fixation, function, production, and transformation of metabolites.

Method In Plant Cytogenetics

In this class, students learn about various plant cytogenetic research methods using molecular biological techniques and understand the latest research fields and research methods.

Advanced Plant Stress Response

In this class, students learn the basic principles and theories of plant reactions due to stress on plant growth and analyze the physiological and biochemical effects of environmental changes before and after the harvest of horticultural crops on plants.

Plant chromosome technology

In this class, students understand the structure of chromosomes, cell cycle, chromosomal abnormalities, chromosome distribution patterns, and sex chromosomes at the chromosomal level of cells.

Advanced plant breeding I

In this class, students learn the basics of genetics, the basics of breeding, and various plant breeding techniques for breed improvement and discuss the latest breeding directions.

Advanced plant breeding II

In this class, students understand plant breeding methods for breed improvement and

various techniques through practice and lectures and discuss the latest breeding directions.

Advanced Plant Tissue Culture I

In this class, students learn methods such as disease-free production and mass production by cultivating the tissues of various crops and further understand and experiment to develop skills that are the basis for breeding and improving horticultural crops.

Advanced Plant Tissue Culture II

In this class, students learn professional tissue culture techniques and learn and experiment to develop the ability to perform tissue culture of various horticultural crops through actual practice.

Food Crop I

In this class, students learn post-harvest management techniques, such as cultivating and storing rice used as a staple food in Korea. Specifically, students learn rice production and supply, growth and development process, paddy soil and atmospheric environment and varieties, and cultivation management skills necessary from sowing to harvest.

Food Crop II

In this class, students learn about Korea's staple foods: wheat, corn, barley, soybeans, potatoes, and sweet potatoes. Specifically, students learn their origin, classification, propagation, physiological and ecological characteristics, variety, cultivation environment, cultivation technique, post-harvest management technique, and use.

Advanced Food Crop I

In this class, students learn post-harvest management techniques such as cultivating and storing rice used as a staple food in Korea. Specifically, students learn rice production and supply, growth and development process, paddy soil and atmospheric environment and varieties, and cultivation management skills necessary from sowing to harvest.

Food Toxicology

In this class, students study the properties, physiological reactions, and methods of toxic substances that can be contained in food and toxic substances produced by food contamination and the proliferation of microorganisms.

Advanced Theory of Ornamental Interscope

In this class, students learn about designs and designing methods considering the amount of light, artificial ground, irrigation, and maintenance.