

## SPRING COURSE DESCRIPTIONS

Students can earn from 12 to 15 credits. All courses at Perrotis College are in English and receive 3 US credits each.

Note: All courses marked with \* need a minimum of five students to run.

All courses support the school's philosophy of learning by doing, offering hands-on experience in our labs or fields. Students gain a unique European perspective into the agro-technology sector and benefit from the school's holistic approach.

Students can choose courses from the following fields of study:

- ✓ Sustainable Agriculture and Management
- ✓ Food Science & Technology
- ✓ International Business & Food Business Management
- ✓ Environmental Science
- ✓ Digital Marketing

### **Greek Cultural Experience**

***Greek Cultural Experience is a mandatory course for all terms.***

This core course introduces students to Modern Greek life and culture, including basic elements of Greek language, history, society, cuisine and traditional dance. The course enriches the students' experience by visiting important archaeological, religious and nature sites throughout Greece. Students are introduced to basic concepts that enable them to understand and respond to cultural differences.

## Sustainable Agriculture and Management

### **Introduction to Agro-Environmental Systems** *(Year 2= 4000 level class)*

This course introduces the major parts of the agro-environmental continuum and a systems approach to sustainable soil-plant-water management. Students learn the major processes and mechanisms of each system component, the interaction between the components and the major consequences from management practices that lead to environmental problems.

### **Entomology** *(Year 2= 4000 level class)*

Students learn the principles of entomology, insect problems and control and environmental impact of insecticides. Students learn insect morphology, physiology and taxonomy. Major insects and problems they cause in crops and in stored food and feed are addressed. Also covered is the environmental effect from insecticide use for crop protection and basic solutions for sustainable crop protection.

### **Environmental Soil Science** *(Year 2= 4000 level class)*

This course covers the fundamentals of soil ecological functions, genesis and classification; physical and chemical properties of soils that determine the suitability of soil for production of field, vegetable and fruit crops; soil organic matter; plant nutrients; and fertilizer composition. The course also introduces the Codes of Good Agricultural Practice. Agricultural land at the School's location and the surrounding region is used for practical, hands-on laboratory instruction.

### **Botany and Plant Propagation** *(Year 2= 4000 level class)*

This course introduces students to the fundamentals of botany and methods of plant propagation (sexual and asexual) of major cultivated plants. Students learn key information related to plant propagation including basic materials and methods used. In addition to the fundamentals of plant botany, through the course students understand the impact of biotechnology (tissue culture) on contemporary agricultural products and practices and nursery production.

### **Principles of Genetics and Plant Breeding** *(Year 2= 4000 level class)*

Through this course, students gain fundamental knowledge of plant genetics and breeding, including an understanding of cell structure and functions, organism genetics and plant selection methods. Plant reproductive systems are studied and key breeding objectives are identified.

### **Field Crop Production** *(Year 3= 5000 level class)*

In this course students are introduced to basic principles of field crop production systems, including crop specific input requirements, various cultural practices (sustainable, contemporary, integrated, organic), harvesting, and cost analysis for major field crops of the EU and the world.

### **Weed Science and Management** *(Year 3= 5000 level class)*

As weed management practices change and herbicide resistance continues to grow, understanding the role of weeds in agro-ecosystems is important. This course introduces students to the fundamentals of weed science and management using conventional, biological and high-tech methods for weed control for sustainable production.

### **Olive Production Systems** *(Year 3= 5000 level class)*

Greece is third in the world for olive production with millions of trees across the country! This course introduces students to the primary cultural practices and management involved in sustainable olive production. Students learn about soil and climate factors affecting productivity for both table olives and olive oil varieties. Traditional systems, integrated production, and new innovative technologies and systems, such as high planting densities adapted for full mechanical harvesting, are included.

### **Viticulture** *(Year 3= 5000 level class)*

Viticulture is the science, production, and study of grapes, dating back thousands of years. In this course students are introduced to the main aspects of viticulture, characteristics of grape varieties, and sustainable management practices. Students learn the fundamental requirements of grape production and the value of table and wine grape varieties.

**Crop Nutrition and Soil Fertility Management** (Year 3= 5000 level class)

This course provides students with fundamental knowledge of plant nutrition and soil fertility as well as how they affect crop productivity. Also covered is the use of fertilizers to achieve sustainable production. Students learn to provide best fertility management practices as well as diagnose nutrient problems. *Prerequisite:* 2000 level Environmental Soil Science or equivalent.

**Fruit Tree Production** (Year 3= 5000 level class)

Students learn in-depth knowledge of fruit tree production systems, their management and methods to control major pests and fruit tree diseases. Soil-climate requirements and management aspects are also addressed. *Prerequisite:* 2000 level Botany and Plant Propagation or equivalent.

**Ecological Agriculture** (Year 4= 6000 level class)

Creating biodiverse and globally sustainable land management systems is key to Ecological Agriculture. This course introduces students to the fundamentals of ecological (organic) agriculture, under a variety of soil and climatic conditions. A holistic approach is used to help students understand the complexities of agro-ecosystems and recommend best management practices. Students will be able to enhance the sustainability of a range of agricultural management scenarios, analyze various farming practices, and evaluate crop species. *Prerequisite:* 3000 level Field Crop Production, Plant Physiology or equivalent.

**Greenhouse Technology and Management** (Year 4= 6000 level class)

This course introduces students to the various types and functions of greenhouses, plant responses to greenhouse environment, environmental control systems, construction materials, heating-cooling irrigation-fertilization systems, and the special management practices required to operate them under soil and soilless conditions. Students are exposed to various levels of technologies used for automation processes, production, and maintenance of crops. Students learn about the major types of greenhouses, materials for construction, and appropriate technologies. *Prerequisite:* 2000 level Botany and Plant Propagation or equivalent.

**Soil and Water Resource Management** (Year 4= 6000 level class)

Students gain an introduction to the major soil, physical and chemical properties affecting plant growth and soil management. Also covered are problematic soils, water and wind erosion, and soil and water pollution. Students learn how to apply modern approaches to the sustainable management of these resources. *Prerequisite:* 2000 level Environmental Soil Science or equivalent.

## Food Science & Technology

**Food Preservation and Process Technology** (Year 2= 4000 level class)

The course covers the principles and practices of food processing & preservation techniques, and how these relate to distribution, storage, quality and safety of food. Major techniques are addressed and their effect on shelf life and food quality are examined. Students utilize a range of food processing/preservation equipment to demonstrate practical skills and techniques and evaluate experimental results.

**Introduction to Biochemistry** (Year 2= 4000 level class)

The course introduces aspects of biochemistry pertaining to biological systems and food.

The structure of important biological molecules is studied and the relationship between structure and biological role of selected compounds in biological systems. The dynamic nature of basic biochemical mechanisms in cells and their constituents is examined

**Introduction to Physical Chemistry** (Year 2= 4000 level class)

The course provides an understanding of the underlying principles of physical chemistry and how these are relevant for the food sector. Topics including thermodynamics and the importance of water in food systems are covered.

**Applied Microbiology** *(Year 2= 4000 level class)*

Students gain an understanding of the types and causes of food borne disease and food contamination affecting the human population. How such diseases and contamination can be controlled in the work place and in the home is also addressed.

**Principles of Food Chemistry** *(Year 2= 4000 level class)*

This course introduces students to the chemistry of the major and minor components of foods and explores the relationship between the chemistry of food components and their functional properties in food systems. Students learn the behavior and interactions of the main ingredients in food systems and how destabilized conditions can be regulated.

**Sensory Analysis of Food** *(Year 3= 5000 level class)\**

Food is never a single sensory experience. In this course students gain an understanding of the principles and practices of food processing and preservation techniques, sensory analysis, and how these relate to distribution, storage, quality, and safety of food. Students learn the basic physiological mechanisms of each of the senses: sight, smell, taste, touch, and hearing, and their involvement in sensory analysis. Students also set up, carry out, analyze, and comment on the results of sensory analysis panels.

**Confectionary Technology** *(Year 3= 5000 level class)\**

The confectionery industry is an important sector of the food manufacturing industry producing a wide range of products, both small and large scale. With increasing competition, there is a need for product and process control to optimize raw material utilization. This course examines the relationship between raw materials and processing operations.

**Food Labeling and Composition** *(Year 3= 5000 level class)\**

This Course aims to evaluate the way in which the legal background affects the food industry in relation to labeling and compositional requirements. Students assess the establishment of the minimum legislative standards required in the global food industry and identify the responsibilities and liabilities of the consumer and food business operators.

**Chemical Analysis of Food** *(Year 3= 5000 level class)\**

Microbiology and hygiene are inextricably linked with the food industry. This module introduces the student to microorganisms, their nature and properties and how they relate to the environment and to food. Students learn causes and types of food poisoning, and understand the application of preservation to prevent food poisoning, including safe hygienic practices.

**Dairy Technology** *(Year 3= 5000 level class)\**

In this course students learn about technological and commercial issues related to the processing of liquid milk. Also covered in the course is how dairy products are manufactured, stored and handled, providing students the theoretical and technical skills needed for use in the dairy industry.

**Applied Food Safety** *(Year 4= 6000 level class)*

There is an increasing need for qualified personnel who assume overall responsibility for food safety issues. This module prepares the student for the demands of industry with regard to food safety and to understand how food safety is driven in Europe and world-wide.

**Food Product Development** *(Year 4= 6000 level class)*

This course covers critical appraisal of the key and subsidiary processes relating to the food product development process including food safety and quality parameters required before any product can be launched. Students learn to plan, develop, produce and launch a new food product within a given time scale, budget and other criteria.

## International Business

### **Management II** (Year 2 =4000 level class)

This course provides an overview of organizational behavior. The student is encouraged to develop a critical appreciation of the structure, systems and operation of organizations, the behavior of people at work and the influence of such systems on human behavior. It is designed to give the student an understanding of the need for organizational effectiveness. It covers a wide range of issues, emphasizing the complex inter/intra-relationships between individual and group behavior, organizational structure and organizational processes.

### **Marketing II** (Year 2 =4000 level class)

Through Marketing II, students develop an appreciation of the importance of advertising and the role branding plays in the marketing strategies, giving them the opportunity to explore brand equity. The course introduces students to basic advertising terminology, enables them to develop marketing skills to enhance their knowledge of the practical and theoretical issues involved in branding and advertising, and teamwork skills, such as organization; negotiation; delegation; co-operation; leadership.

### **Business Environment II** (Year 2 =4000 level class)

This course enables students to gain a systemic understanding of business. Students develop an appreciation of how economic, political, societal, and technological variables influence organizational structure and the ability of companies to meet customer requirements in a profitable manner. Students gain an understanding of the concepts of macro-economics and learn how external factors influence the size and structure of organizations..

### **Entrepreneurship** (Year 3= 5000 level class)\*

This course introduces students to fundamental considerations involved in planning and executing the start-up of a small business venture. It concentrates on selected critical aspects of a business plan in the areas of orientation, selecting company type, strategic planning, financial considerations, location, and layout. Additional topics include effective operation of an established business with emphasis on product and service innovation, human resource management, marketing, and inventory control.

### **Food, Taste and Society** (Year 3= 5000 level class)\*

Students are introduced to the socio-cultural aspects of food, both in a family and public context. The role of food and drink choices as identity markers and as a means of self-disclosure is addressed. Such an understanding facilitates students' ability to undertake new product development in the food and tourism sectors.

### **Consumer Behavior and New Product Development** (Year 3=5000 level class)\*

The decision to make a purchase involves much more than meets the eye. The course introduces students to the social science concepts, principles, and theories that explain consumer behaviors. Students learn to identify the needs of the consumer and manufacturer for new food products, review an area of food not fully exploited where a new product could be introduced and describe the development of this new product.

### **Operations Management** (Year 3= 5000 level class)\*

The course provides students with the skills necessary for managers employed in an industrial firm. In particular, students learn how operations interrelate to and support strategic objectives; to use management tools and techniques to ensure operations meet requirements for efficiency and effectiveness and to apply quality standards to the operational performance of an organization.

### **Quality in the Agri-Food Sector** (Year 3= 5000 level class)\*

In this course, students review minimum legislative standards required for food products to satisfy customer preferences. The responsibilities and liabilities of the consumer and manufacturer are also addressed.



**Current Issues** (*Year 4= 6000 level class*)

This multidisciplinary course to merge the business, social, political, economic, legal, environmental and scientific factors that influence food markets, both locally and globally. It aims to develop students' critical and analytical perspectives on a variety of topics by exposing them to new developments and advancements in these areas. This course includes guest lectures and field trips.

**Strategic Management** (*Year 4= 6000 level class*)

This course focuses on the implementation phase of strategic management, consisting of analysis and choice, both of which are vital links in the management process. Through analysis and decision-making, students learn to set long-term objectives and to determine which strategies best fit a company's mission and changing circumstances. This course also examines the basic ideas of long-term objectives, generic strategies and grand strategies, and how to build sustainable competitive advantages and maximize shareholder value.

## Environmental Science

**Atmospheric Science and Air Pollution** (*Year 3= 5000 level class*)\*

The module covers the physical laws governing the structure and evolution of atmospheric phenomena, and topics such as emissions in the atmosphere, transformation, transport and deposition of air pollutants. Students gain a scientific and technical background in air pollution assessment with a particular focus on major aspects of air quality science, including a broad overview of air pollution problems. Effects on the ecosystem, on climate, on humans and in artificial environment will be described. Special focus will be given in *state-of-the-art* techniques for assessment of pollutants of interest such as VOCs, as well as particles and the compounds adsorbed on them (e.g. PAHs and heavy metals). Moreover, indoor air pollution will be explicitly addressed.

**Environmental Technologies** (*Year 3= 5000 level class*)\*

As a multidisciplinary module, this course equips students with a wide range of advanced skills including the use of environmental sampling, monitoring and use of analytical techniques, GIS mapping technology, communication skills, environmental management, data analysis and all procedures that constitute the scientific field of Environmental Technologies. Students learn to manage environmental projects from planning through to implementation and maintenance. Through applied knowledge of health, safety and environmental requirements, students are able to evaluate scientific problems in environmental science and related fields, and to apply their skills for designing and implementing systems to prevent, control and clean-up environmental contamination.

**Coastal Management** (*Year 3= 5000 level class*)\*

This course addresses the physical, chemical, biological and geological processes of the marine environment with emphasis on the coastal zone. Students develop a perspective on critical matters such as the management of maritime resources, e.g., fisheries, aquaculture, marine mineral resources, the identification, monitoring and management of pollution and the effects of Climate Change and geo-hazards. Students also apply modern techniques (e.g., Remote Sensing and Geographic Information Systems) in the study of the coastal zone and the systematic monitoring / understanding of the effects of anthropogenic activities in the coastal environment.

**Environmental Monitoring and Risk Assessment** (*Year 3= 5000 level class*)\*

This module introduces students to multi-media sampling techniques and analytical methods for evaluation of outdoor/indoor air, soil/surfaces, and water. Environmental science and industrial hygiene approaches for anticipating, recognizing, evaluating, and controlling hazards are covered, with the primary focus on recognition and evaluation of contaminants, including data interpretation for risk reduction and regulatory compliance. The module also emphasizes environmental investigative techniques, instrument selection, and quality control, including documentation, calibration, and sample management. An overview of historical and current environmental issues, including public health and environmental impacts for air, surface water, groundwater, and soil contamination, is presented.

**Air, Water and Waste Water Treatment** (Year 3= 5000 level class)\*

This course is devoted to introducing students to the physical and chemical processes that are involved in air, water and wastewater treatment procedures while also providing them with the knowledge to design and critically assess different treatment methods. The module provides insight into key principles for the design, modelling and control of water supply and wastewater collection networks (underground infrastructure), and water treatment processes. Students will be introduced to contemporary methods for drinking water and wastewater treatment.

**Health Impact and Risk Assessment** (Year 4 = 6000 level class)

This course explores the procedures/methods of Health Impact Assessment and how it affects decision and policy making. Students gain a basic understanding of health impact assessment (HIA) in theory and practice. Students are introduced to the concepts, principles and methods of analysing the risk of disease or accidents that may be attributed to the environment and the workplace. Particular emphasis is given to methods of assessing human exposure pathways to environmental agents, duration of exposure prediction of the dose-response relationships.

**Environmental Field Studies** (Year 4= 6000 level class)

Students participate in a residential field course aimed at testing their ability to carry out an environmental project of their own design. Students are instructed on the different types of sampling methods employed in various habitats. The course includes a combination of lectures, tutorials and interactive practical classes that allow the student to become highly proficient in a practical and spatially based skill-set highly relevant in today's working environment.

## Digital Marketing

**Search Marketing II** (Year 2= 4000 level class)

This course covers the design and optimization of effective and efficient “AdWords” campaigns by maximizing reach and awareness to target audiences while maximizing Return on Advertising Spend (ROAS). Students learn to analyze the role, value and contribution of Paid Search or Pay-Per-Click Marketing (PCC) techniques as well as the importance of key phrase analysis and selection.

**Introduction to Marketing Data Analysis II** (Year 2= 4000 level class)

This course covers advanced theoretical concepts in Marketing Data Analysis. Students deepen their understanding of cutting-edge trends, methodologies, and technology influencing the marketing landscape. This semester refines theoretical frameworks for effective data analysis, exploring advanced topics such as marketing intelligence theories, sustainable marketing practices, and the philosophical underpinnings of data-driven decision-making. Additional focus areas include the theoretical foundations of marketing analytics tools, ethical considerations in advanced data analysis, and insights into global marketing data trends. The module on emerging technologies explores the latest advancements shaping the future of marketing data analysis.

**Introduction to Digital Marketing II** (Year 2= 4000 level class)

The aim of this course is for students to learn about the role of digital marketing and its contribution to business success. Students are introduced to the concept of generic and digital marketing and develop an understanding of and an ability to apply conceptual models together with the various marketing tools and techniques.

**Finance for Managers II** (Year 2= 4000 level class)

This course is designed to provide future managers with a level of practical understanding by covering a range of key financial areas including: how firms are funded; costs and pricing decisions; financial budgeting and making capital investment decisions. Students gain an understanding of the role of finance in the decision making process, including the principles and process of financial budgeting.

**Legal Issues in the Digital World II** (Year 2= 4000 level class)\*

This course provides an introduction to the main legal issues which affect the business world today. Practical case studies are used to help the student relate the law to real world business problems. Students learn to identify legal rules and concepts and consider the effect, and development of the law in the world of business.

**Digital Media for Marketers II** (Year 2= 4000 level class)

This course introduces students to the theories and concepts that underpin digital media in the context of marketing. Students develop practical computing, information, and media skills relevant to the digital marketing landscape. The course explores key digital media platforms, including websites, social networking sites, social streaming, and mobile phones. Students are familiarized with the use of creative software programs essential for digital marketing endeavors.

**Omnichannel Digital Communication II** (Year 3= 5000 level class)\*

This course covers Omnichannel Communication Theory and Practice. Students learn campaign optimization across different media - select media such as Facebook, Instagram, LinkedIn and YouTube.

**Creative Design Communication II** (Year 3= 5000 level class)\*

The creative aspects of digital design are explored, including copywriting and semiotics, semantics and concept development are addressed in this course.

**Digital Content, Copyright and Creativity II** (Year 4= 6000 level class)

This course deepens students' expertise in digital marketing by exploring advanced strategies in content creation, outreach, and campaign management. Through a comprehensive examination of content creation techniques, targeted social network outreach, and paid digital marketing campaigns, students will gain practical insights into optimizing digital marketing efforts. Emphasizing ethical considerations, emerging trends, and hands-on experience in a capstone project, the course aims to equip students with the advanced knowledge and skills needed to excel in the dynamic realm of digital marketing.

**International and Global Marketing in a Digital World II** (Year 4= 6000 level class)

Students are introduced to the theory and practice of digital marketing in a globally competitive environment. Additionally, the course helps students to build an understanding of the management capabilities needed in the international and global digital marketing decision making process and provides the opportunity to explore in depth the conceptual frameworks which influence international global digital marketing. Finally, students are given the opportunity to apply the analytical and business skills built in previous modules to the international and global digital marketing decision making process.

**Innovation and Entrepreneurship II** (Year 4= 6000 level class)

This course provides students with an understanding of the nature, purpose and practice of innovation and entrepreneurship in a context of swift and dynamic change in national and global economies. An introduction into the world of innovation, change management and entrepreneurship is also included. Students are challenged to pull together critical concepts of process improvement, entrepreneurial orientation and innovation into a single framework within a backdrop of sustainable entrepreneurship. *Prerequisite:* an entry level marketing or entrepreneurship course.

**Influencer Marketing II** (Year 4= 6000 level class)

This course explores the influencer marketing industry regarding the monetization and contracts between brands and influencers. Topics covered include the dark side of Influencer Marketing, such as fake followers and bots, or online scams. Legal issues and ethics are also discussed. This course equips students with the management and technical skills necessary to operate in an influencer marketing environment and understand important aspects of it. By the end of the course, students will have insights into contract agreements and legal and future implications of influencer marketing.