

SPRING 2021 COURSE DESCRIPTIONS

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

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

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.

Service Learning

The Service Learning course enables students to engage in volunteer work addressing real, contemporary issues in our world today. Students enrolled in this class take part in 5-10 hours per week of volunteer service. Activities may include volunteer work in one of our departments, for example, tutoring students in English, working or volunteering with charities, NGOs, refugee centers, or ecologically-focused organizations in the greater Thessaloniki area.

Sustainable Agriculture and Management

Botany and Plant Propagation

Plant propagation creates new plants from a variety of sources including plant parts. This Course introduces students to the fundamentals of botany and methods of plant propagation of major cultivated plants (sexual and asexual) . Students learn to explain the impact of biotechnology on contemporary agricultural products and identify issues relating to commercial plant propagation.

Introduction to Agro Environmental Systems

This course introduces students to the major parts of the agro-environmental continuum through a systems approach to sustainable soil-plant-water management. Students learn to identify the major aspects of agricultural and environmental systems, the mechanisms and interactions of each component, as well as the environmental consequences of management practices.

Weed Science and Management

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 hightech methods for weed control for sustainable production.

Ecological Agriculture

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 agroecosystems 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.

Environmental Soil Science

Soil is considered one of the most important natural resources. This course introduces students to the fundamentals of soil ecological functions. Students learn about the 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 covers the application and use of plant nutrients and fertilizers, as well as soil erosion and desertification processes. Agricultural land at the school and the surrounding region will be used for practical, hands-on laboratory instruction.

Principles of Genetics and Plant Breeding

This course provides students with fundamental knowledge of plant genetics and breeding and an understanding of cell structure and functions, organism genetics, and plant selection methods. Students learn about plant reproductive systems and breeding objectives as well as the history of plant breeding including the current marketing and societal issues associated with the process.

Viticulture

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.

Field Crop Production

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.

Crop Nutrition and Soil Fertility Management

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.

Greenhouse Technology and Management

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.

Entomology

This course introduces students to entomology principles, including morphology, physiology and taxonomy. Major insects and the problems they cause in crops as well as in stored food and feed are covered. Students learn the environmental impact of insecticides and basic solutions for sustainable crop protection.

Olive Production Systems

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.

Soil and Water Resource Management

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.

Food Science & Technology

Introduction to Biochemistry

Biochemistry can be found in all areas of the life sciences, and is especially important in Food Science. This course develops students' basic knowledge of organic chemistry and understanding of biochemistry through experimenting, learning laboratory skills, and presenting data. Students learn about how chemistry is involved in food and biological systems and ultimately, the role of biochemistry in food production and processing.

Food Preservation and Process Technology

This course enables the student to gain an understanding of the principles and practices of food processing and preservation techniques, and how these relate to distribution, storage, quality and safety of food. Students learn about a wide range of preservation techniques and packaging materials as well as the effects of these techniques on shelf life and food quality.

Nutrition

Our bodies need carbohydrates, proteins, fats, vitamins and minerals to function. In this course, students learn about the role of these nutrients, categorized as macro and micronutrients, in population health and the concept of energy balance. Students learn current intake recommendations and related the concept of energy balance to their own intake and expenditure.

Dairy Technology

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

Current Issues in Food and Nutrition

This course enables the student to carry out an in-depth study in an area of their choice and communicate this knowledge and understanding through a written critical appraisal and a presentation.

Principles of Food Science for Managers

In this course students learn about the properties and chemical structures of food components and their effect on food quality. Students will understand the conditions which lead to foodborne diseases and spoilage as well as prevention methods and processing techniques.

Contemporary Nutrition

This course, which is revised continuously as new information becomes available, covers multiple aspects of nutrition on human health including bone health, cancer, the eye, the GI tract, and the brain. Scientific controversies relevant to nutrition and the food industry are also discussed.

Sensory Analysis of Food

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.

Food Safety Management Tools

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.

Food Biotechnology

In this course, students gain knowledge and understanding of the development and application of biotechnology. This includes molecular biology, applied enzymology and intact cellular systems and their role in food materials and processing. Historical and traditional aspects are covered as well as case studies in the food industry.

Chemical Analysis and Examination of Food

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.

Food Labelling and Composition

This course aims to evaluate the way in which the legal framework affects the food industry in relation to labeling and composition requirements. Students learn about legislative standards in the global food industry as well as the responsibilities and liabilities of the consumer and food business operators.

International Business & Food Business Management

Entrepreneurship

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.

Consumer Behavior and New Product Development

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.

Strategic Management

This module 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 module 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.

Food, Taste and Society

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.

Current Issues

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.

Business Environment

This course provides students a systematic understanding of business as well as an appreciation of how economic, political, societal and technological variables influence organizational structure. It also covers how companies meet customer requirements while remaining profitable.

Quality in the Agri-Food Sector

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.