

# **COURSE DESCRIPTIONS**

## **FALL 2019**





## INTRODUCTION

International students at Perrotis College benefit from the unique educational experience that Perrotis offers while also enriching the life of our campus. The Study Abroad Department aims to enhance the academic experience of the entire Perrotis student body by connecting cultures, introducing contemporary academic programs and encouraging diversity, all in the interest of upholding the mission of the college.

Fields of Study:  
 Agriculture and Environmental Science  
 Animal Science  
 Food Science and Technology  
 International Business & Food Business  
 Management

Students can earn from 12 to 15 credits and an independent research project option is available. 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.

## GREEK CULTURAL EXPERIENCE

Greek Cultural Experience is a mandatory course for all programs. Students may also select Service Learning

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.

# AGRICULTURE & ENVIRONMENTAL SCIENCE FALL 2019

ALL COURSES ARE 3 CREDITS UNLESS OTHERWISE STATED

## GIS IN AGRICULTURE & THE ENVIRONMENT

GIS (geographic information system) allows us to visualize and interpret data in order to understand patterns, relationships, and trends. In this course, students are introduced to GIS software and technology as well as its agricultural applications. Data relating to Earth's surface is very applicable to agriculture and students work with GIS software in

order to evaluate land, soil and crop systems to provide optimum management solutions, integrating multiple layers of information. This course emphasizes hands-on experience working with producers, vendors, and researchers collecting data; developing spatial databases, analyzing data; and communicating findings.



## HORTICULTURAL SCIENCE

The study of ornamentals and edibles dates back thousands of years and continues to be an important field of study. This Course introduces students to the fundamentals of horticultural science (fruit, vegetable, flower plants). Students learn about new and innovative production systems as well as important aspects of their production management.

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**"BEING A STUDENT AT PERROTIS COLLEGE WAS A GIFT FOR ME ...THE PEOPLE, THE OPPORTUNITIES, THE RESPECT, THE DEVOTION, THE CUTTING EDGE FACILITIES - THIS PLACE HAS REDEFINED EDUCATION!"**

**- MILTIADIS ROIDIS, AGRO-ENVIRONMENTAL SYSTEMS MANAGEMENT, PERROTIS COLLEGE**

## PLANT PHYSIOLOGY

How do plants grow? More importantly how can they grow faster, better, stronger? Learn about the fundamentals of plant physiology and understand the biological processes affecting plant growth, development and yield. This course helps students understand the “plant” component of the soil-plant-atmosphere continuum, providing a background for the sustainable management of production systems.

## PRINCIPLES OF PRECISION AGRICULTURE & ENVIRONMENTAL SUSTAINABILITY

The key principles of precision agriculture and environmental sustainability are addressed. Students learn about the design and implementation of simple precision agriculture management plans, complemented by field experience using key precision agriculture tools and technologies. The PA is also related to near future changes in agro-environmental systems management in EU through the proposed reforms of CAP after 2014.

## PRECISION AGRICULTURE AND APPLICATIONS

Further explore the application of precision agriculture, building on the level five course- Principles of Precision Agriculture and Environmental Sustainability. This innovative approach to crop production management systems and decision making uses the latest technology available in agricultural and environmental practices. Students discuss issues relating to the application of key precision agriculture principles and evaluate alternative information and communication technology solutions.

## PRINCIPLES OF PLANT PATHOLOGY

Fundamental knowledge of plant-microbe interactions is needed to identify symptoms of major diseases and diagnose the causes of diseases. Students learn about major management practices for disease control, from understanding how pathogens attack to soil climate conditions favoring plant disease.

## INTRODUCTION TO ICT SYSTEMS FOR AGRICULTURE & ENVIRONMENTAL SUSTAINABILITY

In this course students are introduced to the latest computer operating systems, as well as useful hardware and software used for editing, calculations and other farm management information and decisions. Students learn to use ICT technology as it applies to agriculture and the environments, studying specific cases and developing skills.

**SUSTAINABLE RURAL DEVELOPMENT**

In this course students learn about sustainable tourism and agritourism in rural communities and the importance of community involvement. Students discuss economic, environmental, cultural, governmental and social factors related to agritourism and rural destination development and evaluate different case studies and strategies.

**INTRODUCTION TO LIVESTOCK SCIENCE**

This introductory course aims to inform students about the cell function and multiplication process; and the physiology of body functions in animals used in farm production; to introduce them to Mendelian genetics, and to enable them to identify the differences between qualitative and quantitative inheritance. The Course also examines the reproductive mechanisms during the productive life cycle of an animal; as well as housing and environmental concerns as related to productivity and quality assurance.

**ENVIRONMENTAL TECHNOLOGY & AGRICULTURAL MACHINERY**

In this course students learn the basic principles of equipment used in environmental technology. Safe use and basic repair techniques of machinery are covered as well as investment and management of farm machinery. Students also develop the skills to apply for and obtain an operator's license and carry out basic repairs.

**WASTE MANAGEMENT**

This course introduces students to specialized knowledge in areas of waste management including wastewater, solid waste and air pollution. Students develop an understanding of the complex environmental systems and growing problems associated with waste production and disposal in a developed society,

**RESEARCH METHODS- STATISTICS**

In order to gain a representative sample from large amounts of data, statistics has become a major tool in biological sciences. This course provides students with basic statistical knowledge, allowing students to properly perform data analysis, produce appropriate graphs, correlate data, use predictions models, and interpret the statistical analysis.

**MEDICINAL & AROMATIC PLANT PRODUCTION**

The history, importance and main cultural practices involved in sustainable medicinal and aromatic plant production are examined in this course. Agronomic characteristics, climatic and soil requirements, propagation methods nursery techniques, planting and maintenance are covered, with an emphasis on organic and integrated crop production methods.



**“STUDYING IN THESSALONIKI AT PERROTIS COLLEGE WAS A LIFE CHANGING EVENT FOR ME. SEEING MANY DIFFERENT CULTURES, PEOPLE, AND CUSTOMS WAS AMAZING AND AT TIMES FRUSTRATING. BUT, BEING ABLE TO ADAPT HAS MADE GROW AS A PERSON AND OPENED MY EYES TO OTHER PARTS OF THE WORLD OUTSIDE OF THE USA. I WOULD HIGHLY RECOMMEND IT TO ANY STUDENT THAT IS INTERESTED IN EXPERIENCING SOMETHING VERY DIFFERENT.”**

**- CONNOR BOLLUM, AGRICULTURAL BUSINESS, IOWA STATE UNIVERSITY**



# FOOD SCIENCE & TECHNOLOGY FALL 2019

## 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.

## INTRODUCTORY FOOD CHEMISTRY

Students develop basic knowledge of organic chemistry relevant to food science. The relationship between the chemistry of food components and their functional properties in food systems is also covered.

## NUTRITION

Our bodies need carbohydrates, proteins, fats, vitamins, and minerals to function. In this course, students learn about the role of macronutrients in population health. Students learn about current intake recommendations and the consequences of over/under consumption of these nutrients.

## FOOD SAFETY MANAGEMENT - MICROBES

Students develop an understanding of micro-organisms, their nature, properties, and how they relate to the environment and to food.

## INDUSTRIAL FOOD PROCESSING

This course provides basic technical knowledge and an understanding of industrial processing with an emphasis on methods, equipment and control parameters.

## BIOCHEMISTRY

This course builds on the level 4 biochemistry course. Students learn about metabolism in relation to human health and nutrition and recognize the metabolic changes that take place in food and food molecules. The importance of biochemistry in the food science industry is highlighted.



## 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 identify key properties and chemical structures of food components as well as the role of the food components on food production.

## MICROBIOLOGICAL ANALYSIS & EXAMINATION OF FOOD

In this course students gain an understanding of the principles and practice of microbiological analytical techniques. They learn the classes of micro-organisms important to the food industry and through theory and practice learn to determine the potential shelf life of foods.

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**"STUDENTS WHO ATTEND OUR PROGRAM GAIN INSIGHT INTO THE EXCITING FIELD OF FOOD SCIENCE AND TECHNOLOGY AND ACQUIRE TRANSFERABLE SKILLS WHILE WORKING IN OUR LABORATORIES THAT ARE EQUIPPED WITH STATE OF THE ART MACHINERY."**

**-DR KYRIAKI ZINOVIADOU**

**DEPARTMENT OF FOOD SCIENCE AND TECHNOLOGY**



# INTERNATIONAL BUSINESS & FOOD BUSINESS MANAGEMENT FALL 2019

## BUSINESS MANAGEMENT

With this course, students gain a systemic understanding of how economic, political, societal and technological variables influence business structure and the ability of companies to meet customer requirements. Students also gain knowledge and understanding of the agricultural and food sector and its role in modern society and economy.



## INTERNATIONAL BUSINESS MANAGEMENT

Business is not contained by geographic borders. In today's global market, understanding international business management is very useful. This course introduces students to a wide range of topics relating to international business management using data and case studies from local, European, and global examples of various sized firms.

## RETAIL MANAGEMENT

This course provides an understanding of fundamental retail management issues and concepts as well as the relationship between marketing and retail. Emphasis is placed on the food and drink retail sector and on issues such as location, operational organization, retail policy development and control, promotions and legal and ethical considerations.

## INTERNATIONAL MARKETING MANAGEMENT

This course introduces the fundamentals of international marketing, including entry strategies, risk assessment, global branding, cultural adaptation, regional trading blocks and intellectual property protection.

## CORPORATE SOCIAL RESPONSIBILITY

Corporate Social Responsibility is the initiatives a company takes to understand its effects on environmental and social wellbeing and how it chooses to take responsibility for its actions. In this course students apply the concepts of CSR in the context of the agriculture and food and drinks sectors.

## 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.

## PROJECT MANAGEMENT

The aim of this course is to help students develop successful project management strategies supported by performance criteria and a suitable governance structure. Students understand project management from the initial stages, become able to monitor progress and mitigate problems until finally meeting the criteria for success.

## E-COMMERCE

The marketing aspects of e-commerce are introduced in this course as well as the theory and practice of doing business over the internet. The course covers topics such as prospects for business-to-business and business-to-consumer e-commerce and options for doing business on the internet.

## 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.

## ACCOUNTING

This course introduces students to the fundamentals of accounting impacting sound business decisions. Students learn about double entry systems, journals and ledgers, accounting cycles, accumulation of financial data, payroll procedures and records, and methods of reporting.

## CONSUMER BEHAVIOR & NEW PRODUCT DEVELOPMENT

Consumers select, purchase, use, evaluate, and dispose of products and services that will satisfy their needs. This 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.



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**"OUR PROGRAM PROVIDES STUDENTS AT PERROTIS COLLEGE WITH AN IN-DEPTH UNDERSTANDING OF BUSINESS PRACTICES WHILE ALSO FOCUSING ON THE UNIQUE CHARACTERISTICS AND CIRCUMSTANCES INVOLVED IN INTERNATIONAL AGRO FOOD BUSINESS."**

**- DR. KONSTANTINOS ROTSIOS  
ACADEMIC DEAN**

# ANIMAL SCIENCE FALL 2019

## INTRODUCTION

For the first time, study abroad students will be able to enroll in courses focused on animal husbandry. Students will gain a unique European perspective into Animal Science in the American Farm School classrooms, labs and Educational Farm. The courses focus on experiential learning, combining theory and practice while gaining insight into the entire production chain, from primary production to the final product on retail shelves. Current issues and best practices are analyzed, giving students the tools necessary to make appropriate and informed choices as professionals.

## ANIMAL WELFARE

This course identifies and discusses controversial issues regarding the well-being of livestock as opposed to productivity and entrepreneurial goals of the animal industry. Topics discussed include living conditions, hygiene, diet, Students gain an understanding of why standards and actions are crucial and awareness of organizations and legislation involved in animal welfare.

## MANAGEMENT OF LIVESTOCK AND PRODUCTION

Contemporary management practices that enhance livestock productivity are addressed in this course. Also covered are product quality assurance, livestock well-being, and cost-effective parameters. Students develop entrepreneurial skills related to livestock management. Issues related to food security, legislation, and genetics are also discussed.

## NUTRITION AND CONTEMPORARY FEEDING SYSTEMS - CATTLE AND POULTRY

Students learn fundamental concepts in digestion and metabolism. Nutrients and feeds required for livestock maintenance and production are identified and students have the opportunity to create feed firsthand. Principles of food analysis are also covered as well as the relation of nutrition to other constraints in animal production. Study visits to commercial factories and farms are included.



**"TO PROFESSIONALLY EXCEL IN THE CONTEMPORARY WORLD OF AGRO-FOOD, STUDENTS NEED TO HAVE IN-DEPTH KNOWLEDGE OF THE INDUSTRY THAT IS UP-TO THE-MINUTE AND HOLISTIC."**

**- DR. EVANGELOS VERGOS  
DEAN, SCHOOL OF PROFESSIONAL EDUCATION AND DIRECTOR, AFS DEMO FARM**

