

“International Bachelor Certificate” (IBC) program
(taught in English)
(Bachelor level / Undergraduate track)

List of courses
For Exchange / Erasmus⁺ students

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TABLE OF CONTENTS :

I.	IMPORTANT PRACTICAL INFORMATION.....	p. 3
II.	LIST OF IBC COURSES 2019-2020 (latest information)	p. 4
III.	IBC'S COURSES DESCRIPTION	from p. 5
	Semester 1 : Major in Animal Productions.....	from p. 5
1.	97FHC01 - French Language and Intercultural Issues	p. 6
2.	97AAE01 - Geographic Information System / Remote Sensing	p. 7
3.	97GME01 - Strategic Management.....	p. 8
4.	97ECM01 - Agricultural Policies	p. 9 & 10
5.	97SPA01 - Animal Productions	p. 11 to 18
6.	97SPA02 - Tutored Work in Animal Productions	p. 19
7.	97STA03 - Winemaking	p. 20
	Semester 2 : Major in Food Sciences.....	from p. 21
8.	97FHC02 - French Language and Intercultural Issues	p. 22
9.	97FHC03 - Rural Sociology.....	p. 23
10.	97STA01- Food Sciences	p. 24 to 29
11.	97STA02 - Food Innovation	p.30
12.	97ECM02 - International Wine Business Industry	p. 31

I. IMPORTANT PRACTICAL INFORMATION :

IBC = International Bachelor Certificate in Animal Productions (Semester 1) and Food Sciences (Semester 2)

Language of tuition: English.

Level required : level B1 minimum / level B2 recommended according to the CEFRL:
<http://europass.cedefop.europa.eu/en/resources/european-language-levels-cefr> (or equivalent)

Course load for exchange students:

PURPAN follows the European Credit Transfer System (ECTS). The IBC program totalizes 60 ECTS, out of which 53 ECTS correspond to courses available to exchange students. The remaining 7 ECTS correspond to a final internship that is only open to Certificate seeking students.

Consequently, exchange students may choose 28 ECTS for one semester, or 53 ECTS maximum for the whole academic year.

They should verify their Home Institution requirements, and check how to reach their required course load.

Course choice:

This program is at undergraduate level (end of BSc: 3rd of 4th year); it gives students knowledge in Agriculture, in particular in Animal Productions and in Food Sciences.

Semester 1 (Fall) focuses on Animal Productions,

Semester 2 (Spring) focuses on Food Sciences, with a minor in Wine Business & Communication.

Students choosing IBC courses cannot mix with courses from other programs during the same semester because it is technically impossible (timetable conflicts).

They may, however, begin with the IBC program during Semester 1 (Fall), and switch to the "Ingénieur" program (taught in French) from Semester 2 (Spring), if they have the required level in French (B1 minimum / level B2 recommended according to the CEFRL).

The IBC offer is subject to sufficient enrolment (usually 5 students minimum per semester). The opening of the IBC program is usually confirmed once we have received all the nominations, and at the latest for the application deadlines (June 1 for Semester 1 & October 1 for Semester 2).

Grading system:

PURPAN follows the ECTS grading scale. Local examinations are graded out of 20, and are translated into ECTS grades as described hereunder.

The minimum passing grade for exchange students is 10/20. Some courses may be validated with ECTS grades, based on attendance (with the mention "NC"), or may be graded with an appreciation letter including a + or - differential.

PURPAN grade	0 - <8,5	≥8,5 - <10	≥10 - <10,5	≥10,5 - <12,5	≥12,5 - <14,5	≥ 14,5 - <16,5	≥ 16,5 - 20
ECTS grade	F	Fx	E	D	C	B	A
ECTS definition	Fail	Fail	Sufficient	Satisfactory	Good	Very good	Excellent

F = Considerable further work is required

Fx = Some more work is required before the credit can be awarded

NC = No examination but the student passes the module. he/she may however receive an appreciation letter (minimum passing letter= E-, maximum= A+) for his/her work

II. INTERNATIONAL BACHELOR CERTIFICATE IN ANIMAL PRODUCTIONS AND FOOD SCIENCES 2019-2020

Semester 1 = Fall (from September to December 2019), with a focus on Animal Productions

Courses available to students :

CODE	NAME	ECTS	PAGE
97FHC01	FRENCH LANGUAGE AND INTERCULTURAL ISSUES OF STUDY ABROAD (SESSION 1) <small>LEVELS A1/A2 TO B1</small>	3	6
97AAE01	GEOGRAPHIC INFORMATION SYSTEM / REMOTE SENSING	2	7
97GME01	STRATEGIC MANAGEMENT	2	8
97ECM01	AGRICULTURAL POLICIES	2	9-10
97SPA01	ANIMAL PRODUCTIONS	14	11-18
97SPA02	TUTORED WORK IN ANIMAL PRODUCTIONS	2	19
97STA03	WINEMAKING	3	20
TOTAL FOR SEMESTER 1.....		28 ECTS	

Semester 2 = Spring (from January to May 2020) with a focus on Food Sciences

Courses available to students :

CODE	NAME	ECTS	PAGE
97FHC02	FRENCH LANGUAGE AND INTERCULTURAL ISSUES OF STUDY ABROAD (SESSION 2) <small>(FOR SEMESTER 2 ARRIVING EXCHANGE STUDENTS ONLY: LEVELS A1/A2 TO B1)*</small>	3 *	22
97FHC03	RURAL SOCIOLOGY	3	23
97STA01	FOOD SCIENCES	10	24-29
97STA02	FOOD INNOVATION	6	30
97ECM02	INTERNATIONAL WINE BUSINESS & COMMUNICATION	6	31
TOTAL FOR SEMESTER 2		25 to 28 ECTS	

** for students present during Semester 1, you will not be able to sign on for the French course starting in Semester 2 since it is the same content.*

This IBC Program may be subject to changes in ECTS and/or contents.

IBC PROGRAM

Semester 1: Fall 2019

Focus on Animal Productions

IBC PROGRAM

Semester 1: Fall 2019

97FHC01- FRENCH LANGUAGE AND INTERCULTURAL ISSUES

3 ECTS

Instructors: Ms. Marine Puech and Ms. Anne Sophie Cabrillat, visiting instructors

Prerequisites :

Some basic French is recommended but not compulsory.

Learning objectives:

- Give students a basic knowledge of French that enables them to deal with simple, everyday situations.
Level : A1/A2 to B1.
- Give students an understanding of cultural identity, of French cultural specificities and to reinforce their intercultural understanding. Finally, to facilitate their comprehension of PURPAN and what is expected of them, so as to facilitate their integration.

Course topics:

- Introduce oneself or someone else
- Expressing one's tastes,
- Ask questions and answer them in everyday life situations : at the supermarket, at the doctor's, in restaurants, with roommates, when travelling etc.
- Be able to describe simple events, in the past and in the future.
- Study the cultural map of the group and reinforce intercultural comprehension; French specificities; PURPAN culture.

Teaching methods:

- Lectures using different teaching material (grammar books and progressive communication books, audio support media like radio/television extracts etc.) and
- Immersion in real situations to build oral comprehension, interaction & fluidity in expression.
- Survey and presentations.

Skills assessment:

Oral and written examination in the 4 competences: oral and written comprehension + oral and written expression.
Group presentations for the intercultural part.
Attendance and participation will go towards the final grade.

Course readings:

Grammaire en dialogues (niveau débutant), C Miquel / Grammaire progressive (niveau débutant) / Communication progressive (niveau débutants) ...

Authentic documents

IBC PROGRAM

Semester 1: Fall 2019

97AAE01 - GEOGRAPHIC INFORMATION SYSTEM / REMOTE SENSING

2 ECTS

Instructor: Dr. Harold Clenet, PURPAN

Prerequisites :

None

Learning objectives:

- Introduce the principles of remote sensing and geographic information systems (GIS)
- Provide an overview of remote sensing and GIS applications related to land-cover and land-use
- Develop the ability to process and analyze digital remote sensing images and GIS layers.

Course topics:

- Fundamentals of geographic information systems (GIS)
- Spectral signatures and radiation interactions with earth surface features
- Spatial, temporal, spectral and radiometric resolutions
- Basic characteristics of remote sensing systems
- Classification techniques for multispectral imagery
- Land-cover / land-use mapping
- Insight into precision viticulture based on unmanned aerial vehicle (UAV) imagery

Teaching methods:

Each class will be a lecture followed by lab where you will be using GIS / remote sensing software. It is highly advised you finish all labs during designated lab time as instructor cannot guarantee additional access to computers and software necessary to complete lab activities outside of reserved course [although an attempt will be made to make such arrangements]. Avoid departing until you have fully finished lab activities.

Skills assessment:

- 40% practical work with EXCEL
- 60% final project

Course readings:

Chuvieco, E. (2009). Fundamentals of satellite remote sensing. CRC press.
DeMers, M. N. (2008). Fundamentals of geographic information systems. John Wiley & Sons.
Lillesand, T., Kiefer, R. W., & Chipman, J. (2014). Remote sensing and image interpretation. John Wiley & Sons.

IBC PROGRAM

Semester 1: Fall 2019

97GME01 - STRATEGIC MANAGEMENT

2 ECTS

Instructor: Dr. Michael Sykuta, University of Missouri

Prerequisites:

None

Course Overview:

Management principles relevant to agribusiness firms. In short, what does a manager need to know and do?

Learning objectives:

- Introduce the nature of agribusiness firms and the role of the agribusiness manager.
- Introduce the principles and practices used in the management of agribusiness industries.
- Provide students with management tools that may be applied to the types of problems they are likely to encounter in an agribusiness management career.
- Improve the student's ability to discuss agribusiness management ideas and concepts in both oral and written forms.

Course topics:

- The course will focus on the following topics:
- Agricultural productivity
- The key players of the agri-food system
- Understanding Customer Needs and Value Creation
- The Role of Marketing (marketing mission, nine functions of marketers, 5 utilities)
- The Need for and Nature of Competition
- Understanding Consumer Demand (demand elasticity, cross-elasticity, income elasticity)
- Staying Competitive, Strategic Plan
- Organizational Structure

Teaching methods:

Lectures, videos, class discussion, homeworks, projects, and tutorials

Skills assessment:

Written examination and oral presentation

Course readings:

Principles of Agribusiness Management, 4th ed. by Beierlein, Schneeberger, and Osburn.

IBC PROGRAM

Semester 1: Fall 2019

97ECM01 - AGRICULTURAL POLICIES

2 ECTS

Instructor: Dr. Giorgos Kleftodimos, University of Toulouse

Prerequisites :

None

Course Overview :

This course introduces students to policy issues arising from the operation of food and agricultural markets as well as to some analytical tools which can be used to study these issues. Food and agricultural markets provide an excellent laboratory for the application of microeconomic principles because of the prevalence of market failures and government intervention. The course examines the rationale for public intervention in agricultural and food markets, explores the functioning of the EU's Common Agricultural Policy, examines the consequences of price and income support both for the domestic economy and for world food markets, and evaluates the attempts to regulate agricultural policy interventions through rule-making by the World Trade Organization. Additional topics include regulating agriculture's impact on the environment, rural development, market power in food markets, food safety and food quality.

Learning Objectives :

- Understand the ongoing globalization of the economy
- Highlight the main agricultural policies in the presence of the WTO and the reform process (particularly in France and Europe)
- Measuring the consequences of these policies for rural areas and territories
- Consider strategies for the future of agriculture

Course Topics :

- Consumption or demand
- Production or supply
- The role of Agricultural Policy
- Goals of Agricultural Policy
- Forces that cause policy change
- Analysis of policy instruments
- Agriculture : from the GATT of 1948 to the WTO today
- World Trade Organization
- World trade and importing countries
- World trade and exporting countries
- The CAP. Why and how supporting agriculture
- Evolutions of the CAP in Europe
- The two Pillars of CAP
- European policy for agricultural quality products
- Rural development and rural policy

Teaching Methods :

Lectures/Group or Individual presentations

Skills Assessment :

Participation: 10 %
Report, Oral presentation: 90 %

Course Readings :

Recommended

Handbook of Agricultural Economics. Vol. 2B : Agricultural and Food Policy/ Bruce L. Gardner (2002)
CAP at a glance : https://ec.europa.eu/agriculture/cap-overview_en
The history of the common agricultural policy : https://ec.europa.eu/agriculture/cap-overview/history_en
Arguments for and against the Common Agricultural Policy : <http://www.debatingeurope.eu/focus/arguments-for-and-against-the-common-agricultural-policy/#.WemkrGi0PD4>
CEC (2006b). New Perspectives for EU Rural Development. Commission of the European Communities, Brussels.
European Commission (2010a). The CAP towards 2020: Meeting the food, natural resources and territorial challenges of the future, Brussels.
OECD (2005). New Approaches to Rural Policy – Lessons from around the world. Organisation for Economic Co-operation and Development, Paris.

Statistics and datas :

The world trade organization : https://www.wto.org/english/res_e/statis_e/statis_e.htm
FAO database - Food and Agriculture Organization: <http://www.fao.org/statistics/en/>
EUROSTATS : <http://ec.europa.eu/eurostat/>
ODA : <http://oda-groupe.com/fr/accueil/cours-marches/cotations-euronext>
SINER-GI Project: <http://www.origin-food.org>
Food Quality Schemes Project: <http://foodqualityschemes.jrc.es>

IBC PROGRAM

Semester 1: Fall 2019

97SPA01 - ANIMAL PRODUCTIONS

14 ECTS

This major in Animal Productions is divided into 5 main lectures topics:

1. Introduction to Animal Sciences (20%)
2. Animal Nutrition (20%)
3. Product quality (30%)
 - Geographical indications
 - Quality of Dairy products
 - Quality of meat
4. Animal Welfare (15%)
5. Animal reproduction (15%)

This major module may be subject to changes in the sub-topics ECTS and/or contents

97SPA01 - ANIMAL PRODUCTIONS

Introduction to Animal Production Science

20%

Instructor: Dr. Cindy Wood, Virginia Tech

Prerequisites:

None

Learning objectives:

- Know the different techniques and systems of animal production.
- Manage the techno-economic diagnosis of farms.

Course topics:

- Introduction to animal production science
- Animal breeding and genetics
- Animal husbandry
- Housing & facilities
- Beef cattle management
- Dairy cattle management
- Swine management
- Poultry management
- Current issues

Teaching methods:

Lectures, discussions and field visits to compare production systems

Skills assessment:

Attendance (20%)
Worksheet (20%)
Written exam (60%)

Course readings:

Applegate et al. 2015. Ag 101. U. S. Environmental Protection Agency and Purdue Research Foundation. Available: https://www.epa.gov/sites/production/files/2015-07/documents/ag_101_agriculture_us_epa_0.pdf. Accessed Sep. 16, 2018.

Arbor Acres Broiler Management Handbook. 2014. Available: http://en.aviagen.com/assets/Tech_Center/AA_Broiler/AA-Broiler-Handbook2014i-EN.pdf. Accessed Sep. 16, 2018.

Bates, R. O. and E. R. Cleveland. Basic Concepts of Genetic Improvement. PIH 06-01-04. Available: https://www.extension.purdue.edu/extmedia/PIH_abstracts/PIH-060104-W.pdf. Accessed Sep. 16, 2018.

Van Eenennaam, A. 2017. Crossbreeding for the Commercial Beef Producer. eXtension.org. Available: <https://articles.extension.org/pages/74072/crossbreeding-for-the-commercial-beef-producer>. Accessed Sep. 16, 2018.

BQA. 2015. Cattle Care and Handling Guidelines. Available: http://www.bqa.org/Media/BQA/Docs/cchg2015_final.pdf. Accessed Sep. 16, 2018.

Comerford, et al. 2017. Dairy-Beef Production. Available: <https://extension.psu.edu/dairy-beef-production>. Accessed Sep. 16, 2018.

Damron, W. Stephen. 2013. Introduction to Animal Science, fifth edition. Prentice Hall, Upper Saddle River, NJ.

Food and Beverages from France. "Livestock Farming in France". Available: <https://www.franceagroalimentaire.com/en/thematiques/french-chef-and-food-influencers/articles/livestock-farming-in-france-a-profession-requiring-ever-increasing-levels-of-passion-and-professionalism/>. Accessed Sep. 16, 2018.

FranceAgriMer. A number of factsheets are available in English, but not easy to get. The main website is <http://www.franceagrimer.fr/>. Accessed Sep. 16, 2018. Factsheets are available on the shared Google drive.

France Genetique Elevage. Information on cattle, sheep and goat genetics. Available: <http://en.france-genetique-elevage.org/France-livestock-country-.html>. Accessed Sep. 16, 2018

97SPA01 - ANIMAL PRODUCTIONS

Animal Nutrition

20%

Instructor: Dr. Samer El-Kadi, Virginia Tech (2018). To be confirmed for 2019.

Prerequisites:

None

Learning objectives:

- Know the different nutrients, digestive systems and enzymes
- Understand the digestion process
- Know the feedstuffs and feeding processes for different type of animals
- Understand feed formulation and how to use formulation softwares

Course topics:

- Nutrient classes
- Essential nutrients
- Comparative anatomy of digestive systems
 - Monogastric vs ruminants
 - Hindgut vs foregut fermenters
- Digestive enzymes
- Nutrient digestion and absorption
 - Carbohydrates (Simple sugars, complex carbohydrates)
 - Lipids
 - Proteins and amino acids
 - Nitrogen and energy metabolism
- Feedstuffs
 - Concentrates
 - Cereal grains
 - Protein feeds
 - Fats
 - Forages
 - Grasses
 - Legumes
 - Residue feeds

- Pasture, hay, silage
 - Feed additives
- Feeding
 - Monogastric animals
 - Swine
 - Poultry
 - Ruminants
 - Dairy cattle
 - Beef cattle
- Feed formulation
 - Introduction to feed formulation
 - Computer based feed formulation
 - French feeding systems
 - Feed formulation software: INRAtion and PrévAlim
 - Practical use of diet formulation software

Teaching Methods:

Lectures and field visit

Skills Assessment:

Participation: 15%

Exam: 85%

97SPA01 - ANIMAL PRODUCTIONS

Product Quality – Geographical Indications

10%

Instructor: Dr. Julien Frayssignes, PURPAN

Prerequisites:

None

Course Overview:

This course deals with the issues of the protection food products benefiting from a geographical indication (GI). These issues are bound to institutional and trade aspects, but GIs are also tools for rural and cultural development. The main difficulty today is the recognition of GI's at international scale, in particular within the framework of World Trade Organization.

Learning Objectives :

- Understand the issues related to GIs
- Understand the existing conflicts bound to the protection of GIs at international scale

Course Topics:

- Definition of Geographical Indication,
- Historical approach of GIs' protection in France and in Europe,
- Power relationship at international scale
- Study different GI examples.
-

Teaching Methods:

Lectures/Group presentations/role game (simulation of a debate bound to a GI within the framework of WTO)

Skills Assessment:

Exam: 100 % (group presentation and role game)

Course readings :

http://www.wipo.int/geo_indications/en/

<http://ec.europa.eu/trade/policy/accessing-markets/intellectual-property/geographical-indications/>

<https://www.inao.gouv.fr/eng/Official-signs-identifying-quality-and-origin/Protected-Geographical-Indications>

97SPA01 - ANIMAL PRODUCTIONS

Product Quality – Quality of Dairy Products

10%

Instructor: Dr. Bongkosh Vardhanabhuti, University of Missouri (2018). To be confirmed for 2019.

Prerequisites:

None

Course Overview:

The course introduces students to the scientific principles involved in the conversion of milk into various products and ingredients.

Learning objectives:

- Understand the global production, consumption, market and trend of dairy products.
- Understand the processes involved in the production of various dairy products and ingredients.
- Understand the quality and safety of various dairy products.
- Be able to evaluate and discuss issues surrounding the dairy industry such as safety, quality, new product development, as well as health benefits and concern.

Course topics:

- Introduction
- Dairy production, consumption, market and trade
- Fluid milk: processing and quality
- Cultured product: processing and quality
- Cheese: processing and quality
- Ice cream: processing and quality
- Dairy ingredients: processing and quality

Teaching methods:

Lectures, case studies and field visits

Skills assessment:

Participation	20%
Assignment	20%
Written Exam	60%

Course readings:

Dairy Processing Handbook. <http://www.dairyprocessinghandbook.com/>

The Dairy Science and Technology eBook. <https://www.uoguelph.ca/foodscience/book-page/dairy-science-and-technology-ebook>

The Sensory Evaluation of Dairy Products. Editors: Clark, S., Costello, M., Drake, M., Bodyfelt, F. (Eds.)

97SPA01 - ANIMAL PRODUCTIONS

Product Quality – Quality of Meat

10%

Instructor: Dr. Brian Wiegand, University of Missouri (2018). To be confirmed for 2019.

Prerequisites:

None

Learning objectives:

- Understand the major processes involved in the conversion of animals into fresh and processed meat products.
- Possess in-depth knowledge of the basic principles behind each processing operation with regard to influence on ultimate product quality and safety.
- Be capable of making critical decisions relative to the influence of ante and postmortem handling factors have on the quality, yield and utilization of meat products.
- Acquire a basic understanding of handling and preparing muscle foods safely, along with a basic understanding of meat's contribution to the human diet.
- Be able to evaluate and discuss controversial issues surrounding the muscle food industry such as: Food Safety- HACCP, Meat Inspection, Animal Welfare, Packer Concentration, Vertical Integration, Meat Pricing, Meat Grading, Diet-Health Concerns

Course topics:

- Introduction to Meat Science
- Meat and the Anatomy of Domestic Animals
- Muscle Structure
- Muscle Fiber Structure
- Associated Tissue Structures
- Composition of Animal Tissues
- Mechanism of Muscle Contraction
- Energy Metabolism for Muscle Contraction
- Conversion of Muscle to Meat
- Antemortem Factors Affecting Meat Quality
- Postmortem Factors Affecting Meat Quality
- Utilizing Muscle as Fresh Meat
- Meat Grading and Certification - Beef
- Assessing Quality and Composition - Pork , Poultry & Lamb
- Classes and Types of Processed Meat Products / Meat Curing and Fabrication
- Formulation, Blending and Pre-Blending
- Comminution and Emulsification
- Additives, Seasonings and Flavorings & Forming, Casings and Restructuring
- Smoking, Heat Processing and Aging
- Chilling and Freezing for Preservation
- Heat, Dehydration, Irradiation, and Chemical Preservation
- Meat Safety - Farm to Fork & Meat Inspection
- Microbiology of Meat
- Meat Safety and Quality Assurance Programs
- Packaging, Poultry Meat & Aquatic Muscle Foods
- Packing House By-Products

- Role of Meat in the Diet
- Meat Preparation and Cooking & Role of Meat in the Diet

Teaching methods:

Lectures, class discussion and company visit

Skills assesment:

Participation: 20%

Assignment: 20%

Final exam: 60%

Course readings:

Principles of Meat Science 5th Ed.

97SPA01 - ANIMAL PRODUCTIONS

Animal Welfare

15%

Instructor: To be confirmed for 2019.

Prerequisites:

None

Learning objectives:

- Define what is animal welfare and what influences the people's perception of animal welfare
- Discuss major factors influencing animal welfare with a specific focus on housing, nutrition and management practices (inducing pain)

Course topics:

- Welfare definitions
- Factors influencing welfare
- Legislation and future evolutions

Teaching methods:

Lectures, class discussion and company visit

Skills assesment:

Participation: 20%

Assignment: 20%

Final exam: 60%

97SPA01 - ANIMAL PRODUCTIONS

Animal Reproduction

15%

Instructor: Dr. István Egerszegi, Szent István University, Godollo, Hungary (2018). To be confirmed for 2019.

Prerequisites:

None or better if a class of Animal Physiology has been taken

Course Overview :

Students will be given basic and detailed information about the reproductive processes in farm animals. After the overview of the physiological background (hormonal and neurological) of reproduction, species-specific knowledge of propagation will be introduced to students.

Learning Objectives :

- Develop knowledge of farm animals` reproductive physiology
- Reproductive management on farm
- Increasing genetic gain

Course Topics :

- Basic reproductive physiology
- Neuroendocrine control of reproduction
- Reproductive management of ruminant species (cattle, sheep and goat)
- Swine reproductive physiology
- Poultry reproduction

Teaching Methods :

Lectures/Group presentations

Skills Assessment :

Participation : 20%
Assignments : 30%
Exam : 50%

Course Readings :

Recommended
P.L. Senger: Pathways to Pregnancy and Parturition

IBC PROGRAM

Semester 1: Fall 2019

97SPA02 - TUTORED WORK IN ANIMAL PRODUCTIONS

2 ECTS

Instructors: Dr Tiago Siqueira and Dr. Hichem Amichi, PURPAN

Prerequisites:

None

Learning objectives :

- Discover EU Animal Productions
- Learn how to carry out a bibliographical research
- Learn how to present their results on the issue chosen orally

Research topics :

They may include:

- Roles of nutrition
- Nutrients in animal feed
- Digestion and metabolism of nutrient in ruminant
- Classification of feed
- Feed intake in Livestock

Teaching Methods :

Bibliographic research on current issues in animal production

Skills assessment:

Oral presentation with power point document: 100%

Course readings:

Vary depending on the topics studied

IBC PROGRAM

Semester 1: Fall 2019

97STA03 - WINEMAKING

3 ECTS

Instructors: Dr Marco Li Calzi, PURPAN (2018). To be confirmed for 2019.

Prerequisites:

None

Learning Objectives :

- Appreciate the complex nature of wine;
- Develop a basic knowledge of the chemical, microbiological and technological aspects of red and white winemaking;
- Learn the chemical, microbiological and technological aspects of winemaking;
- Develop basic knowledge of sensory analysis of grapes and wine.

Course topics:

- Chemical composition of grapes during ripening. Parameters used to assess maturity. Soluble Solids, Ethanol, pH Acids in Grapes & Wines
- Red and white wine processing.
- Use and chemistry of SO₂ in winemaking: equilibria and reactions
- Oxidative Enzymes: Laccase and PolyPhenol Oxidase (PPO)
- Alcoholic fermentation management, problem fermentations and its diagnosis and rectification
- Malolactic Fermentation (MLF) and its management
- Post fermentation process concepts: wine stability: protein stability and potassium bitartrate (KHT) stability
- Post fermentation process: fining agents, wine blending and wine aging

Teaching methods:

Lectures, tutorials, field trips and personal work (assignments).

Skills assesment:

Mid-term test: 20%

Assignment: 20%

Tutorial: 20%

Final comprehensive exam: 40%

Course readings:

For your curiosity: Boulton, et al, "Principles and Practices of Winemaking"

For your curiosity: "Chemical Analysis of Grapes and Wine: Techniques and Concepts". P. Iland, N. Bruer, G. Edwards, S. Weeks, E. Wilkes. Patrick Iland Wine Promotions, Pty Ltd, Campbelltown, SA Australia, 2004.

World Wide Web: Additional information on many topics covered in class is available on the internet.

IBC PROGRAM

Semester 2: Spring 2020

Focus on Food Sciences

IBC PROGRAM

Semester 2: Spring 2020

97FHC02 - FRENCH LANGUAGE AND INTERCULTURAL ISSUES

3 ECTS

Instructors : Ms. Marine Puech and Ms. Anne-Sophie Cabrillat, visiting instructors

Prerequisites :

Some basic French is recommended but not compulsory.

Learning objectives:

- Give students a basic knowledge of French that enables them to deal with simple, everyday situations.
Level : A1/A2 to B1.
- Give students an understanding of cultural identity, of French cultural specificities and to reinforce their intercultural understanding. Finally, to facilitate their comprehension of PURPAN and what is expected of them, so as to facilitate their integration.

Course topics:

- Introduce oneself or someone else
- Expressing one's tastes,
- Ask questions and answer them in everyday life situations : at the supermarket, at the doctor's, in restaurants, with roommates, when travelling etc.
- Be able to describe simple events, in the past and in the future.
- Study the cultural map of the group and reinforce intercultural comprehension; French specificities; PURPAN culture.

Teaching methods:

- Lectures using different teaching material (grammar books and progressive communication books, audio support media like radio/television extracts etc.) and
- Immersion in real situations to build oral comprehension, interaction & fluidity in expression.
- Survey and presentations.

Skills assessment:

Oral and written examination in the 4 competences: oral and written comprehension + oral and written expression.
Group presentations for the intercultural part.
Attendance and participation will go towards the final grade.

Course readings:

Grammaire en dialogues (niveau débutant), C Miquel / Grammaire progressive (niveau débutant) / Communication progressive (niveau débutants) ...

Authentic documents

IBC PROGRAM

Semester 2: Spring 2020

97FHC03 - RURAL SOCIOLOGY

3 ECTS

Instructor: Dr. Alexis Annes, PURPAN

Prerequisites :

None

Course Overview :

The course focuses on the current changes affecting French agriculture, particularly the transition from productivist to post-productivist/sustainable agriculture. The course specifically explores the social dimension of agricultural sustainability: its definition and its measurement.

Learning Objectives :

- Develop knowledge of the notion of post-productivist/sustainable transition in agriculture.
- Define and measure social sustainability applied to agriculture
- Conduct an interview, analyze data and present them in an effective way

Course Topics :

- What is social sustainability?
- The post-productivist/sustainable transition in agriculture
- Farmers' adoption of sustainable practices

Teaching Methods :

Lectures/In-class discussions/Field visits

Skills Assessment :

Participation : 20 %
Assignments : 20%
Group project : 60 %

Course Readings:

Alkon A. and McCullen C. 2011. Whiteness and Farmers Markets: Performances, Perpetuations . . . contestations? Antipode, 43 (4), 937–959

Annes A. et Bessière J. 2018. Staging agriculture during on-farm markets: How does French farmers' rationality influence their representation of rurality? Journal of Rural Studies, 63, 34-45

A. et Wright W. 2015. 'Creating a room of one's own': French farmwomen, agritourism and the pursuit of empowerment. Women Studies International Forum, 53, 1-11.

Burton et al. 2008. Exploring Farmers' Cultural Resistance to Voluntary Agri-environmental Schemes. Journal of Rural Studies, 48, 16-37.

Janker, J., Mann, S. and S. Rist. 2019. Social Sustainability-A system-based framework. Journal of Rural Studies, 65, 32-42.

Lyson, T. 2004. Civic Agriculture: Reconnecting Farm, Food and Community. University Press of New England

Macias, T. 2008. Working Toward a Just, Equitable, and Local Food System: The Social Impact of Community-Based Agriculture. SOCIAL SCIENCE QUARTERLY, 89 (5), 1086-1101

Peter et al. 2000. Coming Back Across the Fence : Masculinity and the Transition to Sustainable Agriculture, Rural Sociology 65(2), 215-233

IBC PROGRAM

Semester 2: Spring 2020

97STA01 – FOOD SCIENCES

10 ECTS

This major in Food Sciences is divided into 6 main lectures topics:

1. Introduction to Food Sciences (20%)
2. Process in Food Technology (30%)
3. Microbiological quality of food (20%)
4. Quality Process and Quality Signs & Labels (20%)
5. Sensory analysis (10%)

This major module may be subject to changes in the sub-topics ECTS and/or contents

97STA01 - FOOD SCIENCES

Introduction to Food Sciences

20%

Instructor: Ms. Sophia El Andaloussi, visiting instructor (2019). To be confirmed for 2020.

Prerequisites :

None

Course Overview :

A general introductory course in food science that includes aspects of interactions of molecules in food, food preservation and processing, food additives... Students will be able to test the theoretical principles covered through laboratory experiment. They are given the opportunity to further improve their skills in the areas of observation, measurement, recording, reasoning, and reporting.

Learning Objectives :

- Understand the functional properties of main food compounds (lipids, carbohydrates, proteins, additives...)
- Anticipate the microbiological, physico-chemical and organoleptic degradations of food products and the way to decrease these degradations
- Learn about suitable preserving methods
- Optimize the microbiological, physico-chemical and organoleptic stability of food products.

Course Topics :

- The main compounds of food products
- Degradation and preservation of food products
- Food additives

Teaching Methods :

Lectures/Tutorial classes/Lab work/ Group or Individual presentations

Skills Assessment :

Participation/Attendance : 10%

Lab reports : 40%

Final oral exam : 50 %

Course Readings:

Recommended

FENNEMA, O.R. 1996. Food chemistry, 3rd edition. Editions CRC, Marcel Dekker, New York, p 1069

97STA01 - FOOD SCIENCES

Process in Food Technology

30%

Instructor : Ms. Anabelle Attia, visiting instructor

Prerequisites :

Introduction to Food Science lecture from the IBC program

Course Overview :

In this class, students will study different food processes. They will be taught how to produce a finished product (cheese, yogurt, vegetables, beverage, and bakery). They will be introduced to small scale process, industrial process, unit operations and lab equipment. Products' rheologic characteristics will also be studied.

Learning Objectives :

- Develop knowledge of food process, unit operation
- Produce a food product starting from raw mater to stabilised products
- Understand food production from different documents about raw mater, process, regulations and equipment.

Course Topics :

- Initial operations
- Size decreasing operation
- Separation operation
- Texture mixing
- Stabilization
- Packaging

Teaching Methods :

Lectures, Tutored projects of Food manufacturing, Lab works based on 3 different products

Skills Assessment :

Tutored project: 50%

Lab reports : 50 %

Course Readings:

Biochemistry
Microbiology

97STA01 - FOOD SCIENCES

Microbiological Quality of Food

20%

Instructor- coordinator : Dr. H       Tormo, PURPAN

Prerequisites :

None

Course topics:

Micro-organisms usually found in food processing

Pathogenic and spoilage micro-flora

Microorganisms useful in food technology,

- Basics in microbiology: prokaryotes, eukaryotes, virus, nutrition and growth, association to other living beings
- Food microbiology: microorganisms in food products, fermentation (why fermentation, different types of fermentation, example of fermented food products)
- Initiation lab : identification
- Food microbiology lab : study of contaminated food products.

Teaching methods:

Lectures, Lab work

Skills assesment:

Lab report

97STA01 - FOOD SCIENCES

Quality Process

20%

Instructor : Ms. Sophia El Andaloussi, visiting instructor (2019). To be confirmed for 2020.

Prerequisites :

None

Course Overview :

Hazard Analysis Critical Control Point (HACCP) is a method of controlling food safety. The objective is the prevention, elimination or reduction to an acceptable level of any biological, chemical and physical hazard.

Through the study of food hygiene regulations and several case studies, the objective is to implement the HACCP method in order to be able to identify, analyze and control all chemical physical and biological hazards throughout the food chain.

Learning Objectives :

- Know the regulations concerning the hygiene of foodstuffs (hygiene pack)
- know the good hygiene practices

- Be able to set up a HACCP plan (the 12 steps)
 - Know how to identify, analyze, control hazards
 - Be able to implement corrective actions

Course Topics :

- HACCP

Teaching Methods :

Lectures / Tutorial classes / Company visit and case study / Group presentations

Skills Assessment :

Participation/Attendance: 10%

Reports : 40%

Final oral exam : 50 %

Course Readings :

Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety

97STA01 - FOOD SCIENCES

Sensory Analysis

10%

Instructor : Olivier GEFFROY, Magali PETER, Gregory PASQUIER, PURPAN / Ms. Eileen HIGHLEY, visiting instructor (2019). To be confirmed for 2020.

Prerequisites : none, but some basic knowledge in sensory analysis is appreciable

Course Overview : Introducing students to sensory analysis through group work and Lab work on one produce

Learning Objectives :

- Acquiring the method to characterize sensory differences between products
- Knowing how to generate relevant sensory descriptors (visual, olfactive & taste testing)
- Being able to organize a sensory analysis (data coding & sampling)
- Carrying a statistical analysis of sensory data (analyzing, interpreting, synthesizing, presenting results)

Course Topics :

- Choosing one produce (in groups of 5 to 6 students) among which cookies, butter, wine
- Generating descriptors and writing a sensory analysis sheet
- Tasting sessions

- Analyzing & presenting results in a graph
- Presenting results

Teaching Methods :

- Practical work in groups

Skills Assessment :

- Oral presentation of results & Evaluation (100%)

Course Readings :

IBC PROGRAM

Semester 2: Spring 2020

97STA02 – FOOD INNOVATION

6 ECTS

Instructors : Dr. Paula Pinto, State University of Maringa (UEM) and Ms. Isabelle Leclercq, visiting instructor (2019).
To be confirmed for 2020.

Prerequisites :

97STA01- Food Sciences

Course Overview :

During this course, students will be introduced to food marketing and food innovation processes. Students will be asked to produce and innovative food product and apply all marketing tools to sell it.

Learning Objectives :

- Develop knowledge of markets, supply & demand issues
- Develop knowledge of marketing tools (Peste analysis, qualitative & quantitative studies, 4P...)
- Develop knowledge of the French Food Industry & market

Course Topics :

- Food product development: ideas generation, screening, feasibility, marketing test, commercialization and life cycle.
- Industrial property - Good practices in Research & Development in food industry
- Innovation project, creation of a new product for a real company.
- Research on food trends.

Teaching Methods :

Lectures/Group presentations/Lab work/Field visits/innovation project

Skills Assessment :

Participation/ workshops : 35 %

Food Innovation Oral Exam : 50%

Research on Food Trends Oral Presentation : 15%

Course Readings :

This Is Marketing, Seth Godin
Blue Ocean Strategy, Kim & Mauborgne
Digital Marketing & Marketing For Dummies

IBC PROGRAM

Semester 2: Spring 2020

97ECM02 – INTERNATIONAL WINE BUSINESS and COMMUNICATION

6 ECTS

Instructors : Mr. Christophe Marquet, visiting instructor and Ms. Ingrid Dauzats, visiting instructor (2019). To be confirmed for 2020.

Prerequisite:

None

Course overview:

In this class, students will be introduced to the principles of international wine business management including: global overview, principal tools and key to success. They will also be asked to create and launch a new product.

Educational objectives:

- Understand wines and sparkling wines markets
- Understand export strategies
- Study different cases of wine markets and cellars
- Create and launch a new wine product

Course topics:

- International wine business
- Still wines and sparkling wines markets overview
- Analysis of branding strategies and plans for exports
- Methodology of new brand for export market
- Marketing case studies and in-company training exercises.

Teaching Methods :

Lectures
 Case studies
 Field visits
 Hands-on Innovation project

Skills Assessment :

Participation: 20%
 Quizz examination : 20%
 Innovation project written report: 20%
 Innovation project oral presentation: 40%