

## . – Economic fundamentals of the Agri-food System

PROF. GABRIELE CANALI-CLAUDIO SOREGAROLI

### Economics of the Agri-food System

PROF. GABRIELE CANALI

#### *COURSE AIMS AND INTENDED LEARNING OUTCOMES*

The main aim of the course is to provide students with a good understanding of the complex structure of a modern agri-food system, and of major changes in the structure and competitive environment as well as in terms of product and process innovation. The main focus is on understanding the evolution and the main characteristics of a modern agri-food system in developed economies, but few topics about developing economies will also be analysed. Agricultural policies and their effects on the evolution of the agri-food systems are also presented and analysed. Finally the course aims also to provide a good understanding of the main factors affecting the modern global market of agri-food products.

At the end of the course, students are expected to show a good knowledge of the main structural characteristics of a modern agri-food system, the ability to describe and understand this system, as well as to analyse and identify main factors affecting the markets of agri-food products. The group work and presentation will also give them the possibility to develop students' ability to identify the most important economic information, develop some analysis and make a good presentation of main results of their analysis.

#### *COURSE CONTENT*

	CFU
1. The modern agri-food system: origin, structure and trends	0.5
- Traditional agriculture: characteristics and organisation.	
- Transition to a modern agri-food system: determinants and effects.	
- The modern the agri-food system: evolution and characteristics.	
- Technical change in the agri-food system.	
- Vertical disintegration of the production process and vertical integration.	
- The supply chain and the value chain.	
2. The agricultural sector in the agri-food system.	0.5
- Structural evolution of the agriculture sector.	
- The agricultural enterprise.	
- Role and characteristics of the family-run enterprise.	
- Price fluctuations of agricultural products.	
3. The food industry in the agri-food system.	1.5
- The evolution of the food industry.	
- Competitive strategies of food firms.	
- Innovation in the food industry.	
- Internationalisation of food firms.	
- Multi-National Enterprises (MNEs): costs and benefits.	
4. Structure and evolution of the food distribution sector.	1.0
- From traditional distribution to modern distribution.	
- Structure, concentration and development of the retail distribution industry.	
- Competitive strategies of retailers.	
- Performance and evolution of a modern food retail system.	
5. The role of consumer in the agri-food system.	0.5
- Structure and trends of food regimes and food balances.	
- Evolution of food expenditure.	
- Evolution of consumer behaviour in developed economies.	
- The role of quality.	
- Globalisation of tastes and preferences and market segmentation.	
6. Agricultural and food policies.	1.0
- The evolution of the Common Agricultural Policy and its effects on Italian and European agri-food systems.	
- Agri-food policies and quality.	

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- Elements of policies for food safety policies.
  - Tools for vertical and horizontal coordination, cooperation and competition.
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### **READING LIST**

There is no specific course textbook. Reading material, references and presentations will be available on the web (Blackboard) the end of each section of the course.

### **TEACHING METHOD**

The course is based on traditional lectures, supported by slides, and supplemented with some topic-specific discussions. At least one group work and presentation is organized in order to give the students the possibility to get in touch with real data about main characteristics of the agri-food system of one country or main world market data for one specific agri-food product.

### **ASSESSMENT METHOD AND CRITERIA**

The assessment is based on an intermediate written test on the first half of the program, group work and final written exam. The final grade is obtained as a weighted average of the results: 45% for the intermediate test, 5% for the group work (s), and 50% for the final written exam on the second half of the program.

Each written test is structured on few (5 to 8) open questions; answers are evaluated with reference to coherence and completeness.

Students must pass both written test with a grade greater or equal to 15/30 but the final weighted average must reach at least 18/30. All partial grades (intermediate written test and group work(s) have a validity for one academic year. Passing the intermediate written test is NOT a prerequisite to take the final exam; in this case, in the final written exam the student will have to answer to questions on the entire program,

### **NOTES AND PREREQUISITES**

A basic knowledge of microeconomics (demand, supply, perfect competition and monopoly) is expected.

Professor Gabriele Canali receives students in his office in Cremona, at the second floor, at the time posted on the web.

## **Microeconomics for the Agri-food System**

PROF. CLAUDIO SOREGAROLI

### **COURSE AIMS AND INTENDED LEARNING OUTCOMES**

This module aims to provide students the main concepts of microeconomic analysis at an intermediate level. Starting from key analytical tools such as equilibrium analysis and comparative statics, the module introduces the demand and supply analysis of agricultural and food markets using both theoretical and empirical models. Using constrained optimization, the module deals with consumer theory and production and cost theory that are then contextualized in profit-maximizing output choices in perfectly competitive markets and in monopolies.

At the end of the module, students will learn to use microeconomics tools to interpret choices of individual agents (consumers and firms) and their implications to market analysis. Students will learn how to choose appropriate empirical models to describe markets and the role of exogenous variables. Students will be able to derive demand and cost functions from specific utility/production functions and will understand the relevance of their properties. Finally, students will distinguish short-run and long-run concepts in deriving market supply in perfectly competitive markets and how this supply differs when considering profit maximizing choices of a monopolist.

This module prepares for later-year courses in which students learn how to study the economic aspects of the agri-food system in depth.

### **COURSE CONTENT**

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	CFU
1. The functioning of markets:	1.0
- Demand and supply	
- Elasticity	

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- Market equilibrium and comparative statics	
2. The theory of consumer behaviour	1.0
- Preferences and utility	
- Utility maximization and choice	
- Income and substitution effects	
- Market demand and surplus	
3. The theory of production	1.5
- Production functions	
- Cost curves	
- Profit maximization and supply	
4. Market forms:	1.5
- Perfect competition and monopoly	
- Output choice and efficiency considerations	

### **READING LIST**

D. BESANKO-R. BRAEUTIGAM, *Microeconomics, International Student Version*. Wiley Publishers, 5<sup>th</sup> ed, 2015.  
W. NICHOLSON-C. SNYDER, *Microeconomic Theory: Basic Principles and Extensions*, South-Western CENGAGE Learning, 11<sup>th</sup> ed, 2011.

### **TEACHING METHOD**

The teaching will consist in lectures following the course content, along with readings and problem sets involving students with an in-depth learning-by-doing approach. Emphasis is in practice problems and exercises, grounding the theory in the real agri-food system. Both graphical and mathematical approaches are used with an emphasis in understanding their linkages.

### **ASSESSMENT METHOD AND CRITERIA**

The assessment consists in two written open-book exams:

- A first intermediate test is optional, will last 75 minutes, and consists of 3 questions weighting 10 points each. The questions include problems related to the first two parts of the program concerning the functioning of markets and the theory of consumption behaviour. The test is passed if a minimum score of 18 points is reached.
- A final test is compulsory and will be different according to the results of the intermediate test.
  - o Students that passed the intermediate test will have 75 minutes to answer 3 questions, weighting 10 points each, concerning the theory of production and market forms. The test is passed if a minimum score of 18 points is reached. The final grade will be obtained if both tests are passed and computed as a weighted average of the results of the intermediate test weighting 40% of the final grade and the final written test weighting the remaining 60%.
  - o Students that did not pass or take the intermediate test will have 120 minutes to answer 5 questions, weighting 6 points each, concerning the whole program. The test is passed if a minimum score of 18 points is reached.

Student assessment aims at evaluating the student ability to reason and rigorously analyse the topics covered during the course, as well as the proper use of terminology and ability of problem solving to real world cases.

### **NOTES AND PREREQUISITES**

Professor Claudio Soregaroli will receive students at the end of the classes.