# . – Food Footprint: the Environmental Impact of the Agro Food Chain

## Prof. Lucrezia Lamastra

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

During the lessons, the students will deal with the various aspects of sustainability in the agro-food chain for the production of safe and high quality food products. The introduction will be an analysis of the current scenario and of the critical issues that have to be faced to feed 10 billion people. Issues related to understand what are the impacts generated along the supply chain and how to measure and reduce them will be addressed. Focus will be on the application of quantitative tools to evaluate sustainability performances. Important will be the analysis of efficiency and identification of locations of inefficiency in food production chains. Case Studies on specific food products will be addressed in order to deepen the topic of the lessons.

By the end of the course, students will have gained in-depth awareness of the environmental impact of the agro food chain and on the instrument to measure environmental performances. This will be useful both in a strategic and operational sphere. Besides, group discussions about the case studies will allow students to develop powers of independent judgement, advanced learning potential and communication skills related to the environmental impact in the food sector.

***COURSE CONTENT***

The following topics will be explored as part of the course (with their weight in terms of ECTS):

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|  | CFU |
| **Introduction to Sustainability in the agro-food chain** | 0.5 |
| The current scenario: problems and challenges to overcome. | 0.25 |
| Legislative framework and certification standards | 0.25 |
| **Environmental impact of food production and processing** | 1 |
| Instrument to measure environmental performance | 0.5 |
| LCA: introduction and methodology | 0.5 |
| **Case studies on food products** | 2.5 |
| Environmental footprint of milk and dairy sector products | 0.5 |
| Environmental footprint of wine sector products | 0.5 |
| Environmental footprint of meat sector products | 0,5 |
| Environmental footprint of cereal and derived products | 0,5 |
| Environmental footprint of oil and vegetable processed food | 0.5 |
| **Seminars** | 1 |

***READING LIST***

A specific reading list will be prepared and communicated at the beginning of classes. The list will be differentiated between attending and non-attending students. For both groups, the corresponding reading list will be available on the “Blackboard” platform. Materials used for lessons will be available on “Blackboard” organized in folders by topic.

***TEACHING METHOD***

Face-to-face lectures will be integrated with a number of seminars led by researchers, organizations, agro and food farm experts working on the field of the sustainability in the agro-food chain. Lectures and seminars will be delivered both online and in traditional classroom. Attending students will be faced with a series of case histories to discuss in groups during lectures and seminars.

***ASSESSMENT METHOD AND CRITERIA***

Final exam is written and oral. The written part includes multiple-choice questions aimed at assessing the ability of students to apply notions acquired during the study of topics to be tested. The test consists of overall 10 choice questions (1.5 points/question) and 2 exercises (3.5 points/exercises) to be answered in one hour. Moreover 4 points could be achieved by assignments given by the professor during the lessons (4 assignments) and 5 points by the oral examination in which student presents the environmental performance of a selected food product. The food product can be chosen by the student. Final examination is obtained by adding the evaluation obtained in the test, assignments and oral discussion, or the evaluation of the test with the oral discussion or the assignments.

***NOTES AND PREREQUISITES***

***OFFICE HOURS FOR STUDENTS***

Students can contact by e-mail Dr Lamastra ([lucrezia.lamastra@unicatt.it](mailto:lucrezia.lamastra@unicatt.it)) in order to make an individual appointment at DiSTAS Department, or by TEAMS platform.