Meat and Meat Products

Code: 102649
ECTS Credits: 6

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<th>Type</th>
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<tr>
<td>2502445 Veterinary Medicine</td>
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Contact

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Email: Montserrat.Mor-Mur@uab.cat

Use of Languages

Principal working language: catalan (cat)
Some groups entirely in English: No
Some groups entirely in Catalan: Yes
Some groups entirely in Spanish: No

Teachers

Josep Yuste Puigvert

Prerequisites

There are no official prerequisites, but it is essential that the CTA students deepen the knowledge of Methods I and II, pilot plant practices; the Veterinary students the knowledge of Morphology and function of muscle tissue and Food Technology. Those from the two degrees, the knowledge of Biochemistry and food science.

Objectives and Contextualisation

The meat industry is one of the main among all food industries and in some contexts it is the majority. In Catalonia it reaches a third of the total and occupies up to 37% of the workers of the alimentary one. On the other hand, the science of meat and its derivatives has been studied systematically and cartesian for many years, so that it brings knowledge to this basic sector of food for various reasons.

The above facts lead to the consideration of offering CTA students the possibility of furthering this science through an optional subject.

Knowledges

The student must acquire adequate knowledge of the meat properties, the processes of conservation and / or transformation that are applied in industries, the effects of processing on the microbiological and organoleptic characteristics, the nutritional and functional properties of meat and finally, the less common treatments being in development.

Skills or aptitudes

The student must acquire the skills of analysis, intervention and resolution, since as a professional he will have to deal with situations (problematic or not), such as routines, changes, innovations, developments, conflicts, lack of conformity, etc. The professional must also exercise educational or training functions to improve the activities or solve the problems, whether you are a technician or an inspector.
Attitudes
The student must be aware of his role as a professional who should contribute to a better supply of meat to the population, with an adequate knowledge of the demands of this responsibility. The student will also have to feel the need for continuous development of their knowledge and skills, with an interest in their own professional improvement.

Competences

Food Science and Technology
- Apply knowledge of the basic sciences to food science and technology.
- Apply the principles of processing techniques and evaluate their effects on the quality and safety of the product.
- Apply the scientific method to resolving problems.
- Develop individual learning strategies and planning and organisation skills.
- Identify pathogenic, spoilage, and industrially-useful microorganisms, along with the conditions that are favourable or unfavourable to their growth in foods and in industrial and biotechnological processes.
- Search for, manage and interpret information from different sources.
- Show understanding of the mechanisms by which raw materials deteriorate and the reactions and changes that take place during storage and processing, and apply the methods for controlling this.

Learning Outcomes

1. Apply the scientific method to resolving problems.
2. Apply the technological processes that are specific to milk and dairy products, meat and meat derivatives, fish products, egg products and vegetable products, and understand the modifications to the final product that these processes make.
3. Develop individual learning strategies and planning and organisation skills.
4. Discern the critical control points in each food production process in businesses in the dairy, meat, fishing and aquaculture, eggs and egg products and fruit and vegetable sectors, and also in group catering businesses.
5. Foresee and solve problems that are specific to the food industries.
6. Recognise the changes, spoilage and adulterations that can affect milk, meat, fish products, eggs, vegetables and products deriving from these, and also products made in group catering businesses.
7. Recognise the importance of fermentation processes and appreciate the role of microorganisms in industrial processes.
8. Relate the characteristics of foods to their physical properties.
9. Search for, manage and interpret information from different sources.
10. Select food conservation methods that slow down deterioration.

Content

Chapter I. SCIENCE OF MEAT AND OBTAINING OF FRESH MEAT

Unit I. PHYSICOCHEMICAL CHARACTERISTICS OF MEAT

Unit II. POST-MORTEM MUSCULAR BIOCHEMISTRY

Unit III. INDUSTRIAL PROCESSING OF CARCASSES


Unit IV. QUALITY OF MEAT

Unit 8. The natural microbiota and the added one. Origin and evolution of microorganisms in fresh meat. Main microbial groups. Frequent parasites in meat. Control methods. Useful microorganisms and alterators. Bioconservation


Chapter II. TECHNOLOGY OF MEAT AND DERIVED PRODUCTS.

Unit V. GENERALS ON TECHNOLOGY OF MEAT PRODUCTS


Unit VI. DEHYDRATED-CURED MEAT PRODUCTS


Unit VII. COOKED MEAT PRODUCTS


Unit VIII. OTHERS


Hands-on practicum

Laboratory: 3 days, 7.5 hours total
Pilot Plant: 3 practices (2, 2.5 and 4 hours).

Seminars: Description of meat products (2 hours); videos on industrial processes (2 hours); Discussion of the results of the practices and tasting of products (2 hours).

Methodology
• Master classes where the student acquires the basic concepts of the subject.
• Laboratory practices: complete and reinforce the knowledge acquired in the master classes.
• Pilot plan practices: complete and reinforce the knowledge acquired in the master classes and allow the acquisition of pilot work skills.
• Seminars: they complete and reinforce the knowledge acquired in the master classes and allow the acquisition of skills in process modeling and interpretation of conceptual tables.

The practical sessions are of compulsory attendance and the lack of assistance must be justified
• Preparation of cases:
Preparation and evaluation of the proposed cases, telematically or in pairs. It involves the search, selection and analysis of information.

The teaching material used in the subject will be available on the Virtual Campus and / or Moodle Classrooms.

Activities

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Assessment

I) 50% note: from various tests that will be done throughout the course: Practices (attendance, attitude and results), tests in class before beginning the big blocks, self-study

II) 50% note: final exam that includes all the subjects treated. It will be an examination of all the knowledge, abilities and aptitudes reached. All the information provided throughout the course will be contemplated.

Assessment Activities

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Bibliography

General manuals (they all are in the library or in the food technology offices)

Electronic books (accessible from a computer connected to a UAB IP or through xpv net)

- [http://www.knovel.com/web/portal/main](http://www.knovel.com/web/portal/main) (Food science)
- [http://www.sciencedirect.com](http://www.sciencedirect.com)

o Encyclopedia of meat science

o Encyclopedia of food and nutrition

Scientific and technical journals

* [British Poultry Science](http://www.meatami.com)
* [Cárnica 2000](http://www.meatami.com)
* [EUROCARNE](http://www.meatami.com)
* [Fleischwirtschaft International](http://www.meatami.com)
* [The Journal of Applied Poultry Research](http://www.meatami.com)
* [Journal of Muscle Foods](http://www.meatami.com)
* [Meat Processing](http://www.meatami.com)
* [Meat Science](http://www.meatami.com)
* [Procesamiento de la Carne](http://www.meatami.com)
* [Poultry Science](http://www.meatami.com)

Adreces web

- International Meat Secretariat (IMS): http://www.meat-ims.org
- World's Poultry Science Association (WPSA): http://www.wpsa.com
- AMI. Meat safety: http://www.meatsafety.org
- Joint Institute for Food Safety and Applied Nutrition, Food safety risk analysis clearinghouse.: http://www.foodrisk.org/meat_poultry.cfm
- Asociación Española de Empresas de la Carne (ASOCARNE): http://www.asocarne.com
- Asociación de Industrias de la Carne de España (AICE): http://www.aice.es
- Asociación Nacional de Almacenes Frigoríficos de Carnes y Salas de Despiece (ANAFRIC): http://www.anafric.es