

## COURSE DESCRIPTION

### COURSE DETAILS

Title (of the course): **INSPECCIÓN Y CONTROL ALIMENTARIO**

Code: 101489

Degree/Master: **GRADO DE VETERINARIA**

Year: 4

Name of the module to which it belongs: HIGIENE, TECNOLOGÍA Y SEGURIDAD ALIMENTARIA

Field: HIGIENE Y SEGURIDAD ALIMENTARIA

Character: OBLIGATORIA

Duration: SECOND TERM

ECTS Credits: 6.0

Classroom hours: 60

Face-to-face classroom percentage: 40.0%

Study hours: 90

Online platform: <http://moodle.uco.es>

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## COURSE DESCRIPTION

### PREREQUISITES AND RECOMMENDATIONS

#### Prerequisites established in the study plan

B1 Certificate of English language is required

#### Recommendations

None specified

### INTENDED LEARNING OUTCOMES

CT1	Resolution of problems.
CT3	Capacity to put knowledge into practice.
CT4	Make decisions.
CE69	Medical judgement and legal basis of inspection.
CE70	Ante and post mortem veterinary inspection.
CE71	Inspection of establishments and products.
CE73	Food Safety and Public Health.

### OBJECTIVES

The objective of this subject is that students acquire the necessary knowledge about general concepts of Food Inspection and Control according to the competences in this field, and necessary skills and abilities for its application in Food Safety:

- Food Legislation
- Health criteria and inspection legal fundamentals.
- Veterinary ante and post mortem inspections at slaughterhouses.
- Inspection of food establishments and products.
- Good Hygienic Practices and HACCP system applied to the food inspection.
- Hygienic control of food handling and manufacturing process.

Food safety and public health. T

This subject works the specific competences recommended from the World Organisation for Animal Health about training of Veterinarians.

### CONTENT

#### 1. Theory contents

1. Theoretical contents

GENERAL CONTENTS

- Lesson 1. Food Inspection and Control concept.

CHAPTER I.-Inspection and Control of slaughterhouses, meat industries, meat products and meat by products

- Lesson 2. Species of animals for slaughter. Carcasses classification. Requirements for animal living transport and animal welfare.
- Lesson 3. Basic functions and hygienic requirements of slaughterhouses.
- Lesson 4. Ruminants meat processing. Obtention and management of Specified Risk Materials (SRM).
- Lesson 5. Swine meat processing.
- Lesson 6. Tasks of the official veterinarian in slaughterhouse. Global Inspection. Ante-mortem inspection.



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- Lesson 7. Post-mortem Inspection. Health marking.
- Lesson 8. Emergency slaughter.
- Lesson 9. Inspection and control in poultry and lagomorphs slaughterhouses.
- Lesson 10. Inspection and control of meat from game.
- Lesson 11. Traditional swine slaughter. Meat from bullfight.
- Lesson 12. Inspection and control of meat products.
- Lesson 13. Residues or contaminants in meat.
- Lesson 14. Bacteriological analysis of meat.
- CHAPTER II.- Inspection and Control of fish and fishery products
- Lesson 15. Inspection of fish products. Legislation. Frauds.
- Lesson 16. Health risk from consumption of fishery products.
- Lesson 17. Hygienic aspects and control of fishery products distribution.
- Lesson 18. Inspection of molluscs, crustaceans, echinoderms and tunicates of commercial interest.
- CHAPTER III.- Inspection and Control of raw milk and dairy products
- Lesson 19. Health requirements for dairy farms and establishments of milk transformation.
- Lesson 20. Inspection and control of raw milk. Identification and registration of agents, establishments and containers for traceability.
- Lesson 21. Control of food business operators.
- Lesson 22. Inspection and control of different milk and dairy products: heat treatments, conserved milk, fermented milks, cream, butter, icecream and cheese.

Application of research in teaching:

The PAIDI research groups to which the teachers belong (AGR-170, AGR 202), develop a research work in the following lines involved in the subject:

- Prediction models of microbial growth in foods.
- Development of food quality management, prediction and control software.
- Food safety. Control of pathogenic microorganisms in food.
- Microbial ecology of hive products.
- Halal certification

The application of the results of the research in the teaching of this subject takes place through the exhibition of examples during the theoretical and practical classes (seminars and laboratory).

## 2. Practical contents

### 2. PRACTICAL CONTENTS

#### LABORATORY: INSPECTION AND CONTROL OF FISH

- Identification, freshness evaluation and fraud detection methods of commercial fish species

#### LABORATORY: INSPECTION AND CONTROL OF MEAT

- Triquinella analysis - Determination of antibiotics

#### LABORATORY: INSPECTION AND CONTROL OF MILK

- Determination of physico-chemical, enzymatic and microbiological parameters of milk

#### LABORATORY: INSPECTION AND CONTROL OF EGGS

- Categorization and determination of quality parameters of eggs.

#### SEMINARS

- Showing of videos on slaughterhouses
- Multi-annual national control plans (MANCP)
- Decisions concerning meat at the slaughterhouse
- Mushrooms: Identification of toxic and edible species
- Fish, molluscs and crustaceans: Identification of main species of commercial interest

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### SUSTAINABLE DEVELOPMENT GOALS RELATED TO THE CONTENT

Good health and well-being  
Responsible consumption and production

### METHODOLOGY

#### General clarifications on the methodology (optional)

None

#### Methodological adaptations for part-time students and students with disabilities and special educational needs

Each particular case will be considered

#### Face-to-face activities

Activity	Large group	Medium group	Small group	Total
Assessment activities	3	-	-	3
Lab practice	-	-	12	12
Lectures	30	-	-	30
Seminar	-	15	-	15
<b>Total hours:</b>	<b>33</b>	<b>15</b>	<b>12</b>	<b>60</b>

#### Off-site activities

Activity	Total
Information search	10
Reference search	20
Self-study	60
<b>Total hours</b>	<b>90</b>

### WORK MATERIALS FOR STUDENTS

Dossier - <http://moodle.uco.es>  
Oral presentations - <http://moodle.uco.es>

### EVALUATION

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Intended learning	Document Analysis	Exams	Placement reports
CE69	X	X	X
CE70	X	X	X
CE71	X	X	X
CE73	X	X	X
CT1	X	X	X
CT3	X	X	X
CT4	X	X	X
<b>Total (100%)</b>	<b>20%</b>	<b>60%</b>	<b>20%</b>
<b>Minimum grade</b>	<b>0</b>	<b>4</b>	<b>5</b>

(\*)Minimum mark (out of 10) needed for the assessment tool to be weighted in the course final mark. In any case, final mark must be 5,0 or higher to pass the course.

### Method of assessment of attendance:

Complete attendance will add 1 point in final mark formula

### General clarifications on instruments for evaluation:

Partial theoretical tests are not performed.

80% of practices and seminars must be completed, not just assistance.

If the practical session content is passed, this qualification will be permanently valid without repeating the practices.

All the evaluation instruments will be used in the continuous evaluation, valuing both the activities carried out in person and not, also teaching with videoconferences.

The final grade of the seminar and laboratory activities (20%) must exceed a minimum of 5 on a scale of 10 to be considered in the final evaluation.

The contents taught in large and small groups will be evaluated in the face-to-face final exam and must exceed a minimum of 5 on a scale of 10 to be considered in the final evaluation and will have a weight of 60% in the final grade.

Students of second or higher enrolment will bear all the note's weight in the final exam if they have previously completed 80% of the practical sessions.

The validity time of each evaluation method explained will depend on whether you are a first-time or repeater.

### Clarifications on the methodology for part-time students and students with disabilities and special educational needs:

Each particular case will be considered

### Clarifications on the evaluation of the extraordinary call and extra-ordinary call for completion studies:

The evaluation of repeaters in both exams will be 100% of the weight in the final exam, having taken 80% of the practical sessions in previous years.

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First-time students in the extraordinary exam will be subject to what is stated in the general clarifications.

The extraordinary call in September is for students who have consumed, at list, one call, in the current course or in previous courses. The evaluation will be for contents and criteria show in the teaching guide of the subject.

In the case of the extraordinary call for completion of studies, to pass the subject it is necessary to pass a final exam on the theoretical and practical contents of the same included in the teaching guide of the previous course.

In any of these calls, it is necessary to obtain a mark equal to or greater than 5 in the final exam to pass the subject.

### Qualifying criteria for obtaining honors:

*Obtention of final marks 9 or 10 and outstanding participation and interest*

## BIBLIOGRAPHY

### 1. Basic Bibliography

#### Carne y productos cárnicos

- Ninios et al. (2014). Meat Inspection and Control in the Slaughterhouse. Wiley Blackwell. UK
- Buncic, S. (2006). Integrated Food Safety and Veterinary Public Health. CABI.
- Domínguez Vellarino, J.C. (2011). Inspección ante-mortem y post mortem en animales de producción. Patologías y lesiones. Servet.
- Moreno, B. (2006). Higiene e Inspección de Carnes-1. Díaz de Santos. Madrid
- Moreno, B. (2003). Higiene e Inspección de Carnes-2. Díaz de Santos. Madrid
- Gracey, J.E. (1989) Higiene de la Carne. Interamericana-MacGraw-Hill
- Infante Gil, J. y Costa Durao (1990). Atlas de Inspección de la carne. Grass Ediciones. Barcelona
- Serrano, S. y M. Jodral. (1998). Despiece de Vacuno y Ovino (Video). Servicio de Publicaciones de la Universidad de Córdoba.
- Serrano, S.; M. Jodral; E. Gutiérrez-Rave. (1996).Despiece de Vacuno (Libro Electrónico) Servicio de Publicaciones de la Universidad de Córdoba.
- Ordoñez, J.A. (Editor). Tecnología de los Alimentos. Volumen II. Editorial Síntesis. Madrid.
- Ministerio de Agricultura, Alimentación y Medio Ambiente. Programa Nacional Plurianual de Vigilancia, Control y Erradicación de la Encefalopatía Espongiforme Bovina. 2016-2017.
- Junta de Andalucía. Consejería de Salud y Bienestar Social. Instrucción 115/2012. Instrucciones sobre los controles específicos de Inspección Veterinaria en Matadero

#### Pescado y productos de la pescado

Hastings, Philip A.; Walker, H.J.; Galland, Grantly R. (2015) Fishes: A Guide to Their Diversity, Ed. University of California Press, USA

Abaroa C., Perez-Villarreal B., González de Zarate A., Aboitiz X., Bald C., Riesco S. y Picaza N. (2008): Frescura del pescado: guía visual para su evaluación sensorial. Ed.AZTI Tecnalia.

De Juana, E. y De Juana, J.R. (1987). Guía de Pescados y Mariscos de Consumo Usual en España. Omega, Barcelona.

FAO (2009) Guidelines for risk-based fish inspection. FAO, Rome.

F.R.O.M. (1995). Catálogo de Denominaciones de Especies Acuícolas Españolas. Tomo I. Peces. Ministerio de Agricultura, Pesca y Alimentación, Madrid.

F.R.O.M. (1995). Catálogo de Denominaciones de Especies Acuícolas Españolas. Tomo II. Crustáceos. Moluscos. Otros Grupos. Ministerio de Agricultura, Pesca y Alimentación, Madrid.

F.R.O.M. (1990). Catálogo de Denominaciones de Especies Acuícolas Foráneas. Tomo III. Peces, crustáceos, moluscos. Ministerio de Agricultura, Pesca y Alimentación, Madrid.

F.R.O.M. (2009) Manual práctico sobre pescados y mariscos frescos. Ministerio de Agricultura, Pesca y Alimentación, Madrid .ISBN: 978-84-491-0960-7

Garrido López, J.R. y García Sarasa, C. (2004) Manual de clasificación de frescura de especies de interés pesquero





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 Hall G.M. (2001). Tecnología del Procesado del Pescado. Ed. Acribia, S.A. Zaragoza  
 Hall G.M. (1997). Fish Processing Technology. Ed. Blackie Academic and Professional, NY.  
 Huss, H.H. (1999). El Pescado Fresco: su Calidad y Cambios de su Calidad. FAO, Documento Técnico de Pesca. Dinamarca. <http://www.fao.org/docrep/v7180s/v7180s00.htm>  
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 Jodral, M. (2001). Moluscos y Crustáceos Comestibles: Guía Descriptiva y Otras Aportaciones. Salud Pública, Seguridad Alimentaria, AGR-202. UCO.  
 Jodral, M. (2001). Pezguía. Salud Pública, Seguridad Alimentaria, AGR-202.  
 Lotina, R. y M. Hornaechea. (1975). Peces de Mar y de Río. Vol. 1, 2, 3 Y 4. Ediciones Urmo, S.A. Barcelona.  
 Madrid Vicente A. (1998) El pescado y sus productos derivados. Ed. Mundi-Prensa Libros, S.A.  
 Muss, B.J. y Dahlstrom, P. (1981). Los Peces de Agua Dulce de España y Europa, 2ª ed. Omega, Barcelona.  
 Ordoñez Sánchez, J.I. (2011) Guía de identificación de filetes y rodajas de pescado de consumo usual en España . Editorial Díaz de Santos, Madrid  
 Ruitter A. (1999) El pescado y los productos de pesca. Composición, propiedades nutritivas y estabilidad. Acribia. Zaragoza.  
 Ruitter A. (1995) Fish and fishery products: composition, nutritive properties and stability. Ed. CAB International, Wallingford, U.K.,

### Leche y productos lácteos

- García de Tena, A., Gámiz, P., Barba, C. (2018). Manual técnico sobre controles de la cadena alimentaria en el sector lácteo de Andalucía. Consejería de Agricultura, Pesca y Desarrollo Rural. Junta de Andalucía.
- Casado, P. (1991). Guía para el Análisis Químico de la Leche y los Derivados Lácteos. Ed. Ayala.
- Alais, Ch. ((1985). Ciencia de la leche. Ed. Reverté. Barcelona
- Ordoñez, J.A. (Editor). Tecnología de los Alimentos. Volumen II. Editorial Síntesis. Madrid.
- FAO. Milk testing and quality control. <http://www.fao.org/ag/againfo/resources/documents/MPGGuide/mpgguide2.htm>

## 2. Further reading

None

## COORDINATION CRITERIA

Common evaluation criteria  
 Tasks deadlines  
 Tasks performance

## SCHEDULE

Period	Assessment activities	Lab practice	Lectures	Seminar
1# Fortnight	0,0	0,0	5,0	6,0



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**COURSE DESCRIPTION**

<b>Period</b>	<b>Assessment activities</b>	<b>Lab practice</b>	<b>Lectures</b>	<b>Seminar</b>
<i>2# Fortnight</i>	0,0	0,0	5,0	4,0
<i>3# Fortnight</i>	0,0	2,0	5,0	0,0
<i>4# Fortnight</i>	0,0	4,0	5,0	2,0
<i>5# Fortnight</i>	0,0	3,0	5,0	3,0
<i>6# Fortnight</i>	0,0	3,0	5,0	0,0
<i>7# Fortnight</i>	3,0	0,0	0,0	0,0
<b>Total hours:</b>	<b>3,0</b>	<b>12,0</b>	<b>30,0</b>	<b>15,0</b>

The methodological strategies and the evaluation system contemplated in this Course Description will be adapted according to the needs presented by students with disabilities and special educational needs in the cases that are required.