# COURSE DATA

## DATA SUBJECT

**Code:** 43137
**Name:** Product quality
**Cycle:** Master's Degree
**ECTS Credits:** 3
**Academic year:** 2026-27

## STUDY (S)

| Degree | Center | Acad. year | Period |
|---|---|---|---|
| 2144 - Master's degree in Aquaculture | Facultat de Ciències Biològiques | 1 | Second quarter |

## SUBJECT-MATTER

| Degree | Subject-matter | Character |
|---|---|---|
| 2144 - Master's degree in Aquaculture | Product quality | COMPULSORY |

## COORDINATION

MONTERO ROYO FRANCISCO ESTEBAN

# SUMMARY

# PREVIOUS KNOWLEDGE

## RELATIONSHIP TO OTHER SUBJECTS OF THE SAME DEGREE

There are no specified enrollment restrictions with other subjects of the curriculum.

## OTHER REQUIREMENTS

# COMPETENCES / LEARNING OUTCOMES

## 2144 - Master's degree in Aquaculture

Ability to work in teams.

Apreciar la importancia de los trabajos multidisciplinares (incluyendo la dimensión ética) incluso en los aspectos aparentemente técnicos de la actividad profesional.

Conocer y saber manejar las fuentes documentales relacionadas con cada asignatura, con especial atención a las fuentes accesibles mediante redes informáticas.

Familiarizarse con la elaboración de boletines de análisis.

Organizar y sintetizar información diversa para generar un todo coherente.

Poseer las habilidades manuales necesarias para el correcto manejo de los materiales e instrumental.

Students should apply acquired knowledge to solve problems in unfamiliar contexts within their field of study, including multidisciplinary scenarios.

Students should be able to integrate knowledge and address the complexity of making informed judgments based on incomplete or limited information, including reflections on the social and ethical responsibilities associated with the application of their knowledge and judgments.

Students should communicate conclusions and underlying knowledge clearly and unambiguously to both specialized and non-specialized audiences.

Students should possess and understand foundational knowledge that enables original thinking and research in the field.

## DESCRIPTION OF CONTENTS

1. CHEMICAL COMPOSITION, NUTRITIONAL VALUE, AND POST-MORTEM CHANGES IN AQUACULTURE PRODUCTS
 1.Chemical composition and nutritional value. Main constituents: lipids, proteins, and minerals. Fish in the Mediter
 2.Post-mortem and storage changes in aquaculture products. Sensory, autolytic, bacteriological, oxidation, and hy

2. PROCESSING AND PRESERVATION PROCESSES OF AQUACULTURE PRODUCTS.
 1.Refrigeration, freezing, and deep-freezing. Cold preservation and associated changes. Fresh or chilled fish. Freez
 2.Other preservation systems. Drying, salting, smoking, canning.
 3.Restructured products. Minced fish, surimi, protein concentrates.
 4.Cooked and precooked foods. Industrial production processes. Cooking. Packaging in modified atmospheres.

3. QUALITY ASSURANCE OF AQUACULTURE PRODUCTS.
 1.The HACCP (Hazard Analysis and Critical Control Points) system. Concept. Introduction and application of the sy
 2.Application of ISO 9000 and certification. Definition of ISO quality standards. Establishment and implementation

## WORKLOAD

### PRESENCIAL ACTIVITIES

| Activity | Hours |
|---|---|
| Theory | 14,40 |
| Other activities | 1,00 |
| Laboratory | 8,00 |
| **Total hours** | **23,40** |

### NON PRESENCIAL ACTIVITIES

| Activity | Hours |
|---|---|
| Attendance at other activities | 0,00 |
| Individual or group project | 0,00 |
| Independent study and work | 30,00 |
| Preparation of lessons | 15,00 |
| Preparation for assessment activities | 0,00 |
| Resolution of case studies | 0,00 |
| **Total hours** | **45,00** |

## TEACHING METHODOLOGY

Theoretical classes will be limited to the presentation of the fundamentals: Chemical composition, nutritional value,

## EVALUATION

Evaluation will be conducted through theoretical and practical exams, as well as through the completion of tasks. F

## REFERENCES


- Tecnología del procesado del pescado (George M Hall )
- Tecnologia para el pescado picado : Analisis (G.J. Grantham )
- Fish and krill protein : Processing technology (Taneko Suzuki)
- Industria transformadora de productos del mar : tendencias tecnólogicas a medio y largo plazo (Joaquina Sánchez-Molero Fernández Julio Guillermo Carreras )
- Seafoods : quality, technology and nutraceutical applications (Cesarettin Alasalvar; Tony Taylor )

- Implantación de un sistema de seguridad alimentaria según ISO 22000:2005 en una industria de la pesca (Jaime García Alcober Juan Antonio Serra Belenguer)

- Guía para el análisis de riesgos y control de puntos críticos en pescados y productos de la pesca (Pilar Muñoz Juncossa; Margarita Rivera Tapia-Ruano; Ana Sopena Pastor; José Ramón del Valle Portillo; Ana Yagüe Álvarez )

- Fish smoking and drying : The effect of smoking and drying on the nutritional properties of fish (J.R Burt London )

- El pescado y los productos derivados de la pesca : composición, propiedades nutritivas y estabilidad (Adrian Ruiter )

- El almacenamiento refrigerado en las pesquerias (Goran Londahl )

- Elaborador de conservas de productos de la pesca : manual operativo de elaboración de conservas y semiconservas de pescado y marisco (María José Rodríguez Caeiro )