UNIVERSITÀ DEGLI STUDI DI BARI ALDO MORO

DiSSPA – Dipartimento di Scienze del Suolo, della Pianta e degli Alimenti

MUR
Ministero dell'Università e della Ricerca
DIPARTIMENTO DI ECCELLENZA
2023-2027

COURSE OF STUDY *Bachelor degree: Food Science and Technology (L26)*
ACADEMIC YEAR *2023-2024*
ACADEMIC SUBJECT *Quality of fish production (3 ECTS) - (I.C. Quality of animal products (6 ECTS)*

General information	
Year of the course	*Third*
Academic calendar (starting and ending date)	*Second semester (February 26th – June 21st, 2024)*
Credits (CFU/ETCS):	3
SSD	*Quality of fish production (AGR/20)*
Language	*Italian*
Mode of attendance	*No Compulsory*

Professor/ Lecturer	
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Department and address	Dipartimento di Scienze del Suolo, della Pianta e degli Alimenti, 2° piano - Studio n. 7
Virtual room	Piattaforma Teams
Office Hours (and modalities: e.g., by appointment, on line, etc.)	*Monday to Friday by appointment only.*

Work schedule	
Hours	

Total	Lectures	Hands-on (laboratory, workshops, working groups, seminars, field trips)	Out-of-class study hours/ Self-study hours
75	20	10	45
CFU/ETCS			
3	2	1	

Learning Objectives	The course aims to acquire knowledge about the quality of fish products of interest for food processing by illustrating the main factors that influence it. It will also acquire analytical methodologies that can determine the quality of fish production and the tools to interpret the result
Course prerequisites	Knowledge of biology and chemistry.

Teaching strategie	The teaching will be mainly delivered through, the topics of the course will be treated with the help of Power Point presentations, projections of in-depth videos and technical visits to fish farms.
Expected learning outcomes in terms of	
Knowledge and understanding on:	• Knowledge of factors of production affecting the quality of fish products • Knowledge of the technical aspects of fish quality management • Knowledge of the multiple application problems on quality along the entire aquaculture supply chain • Knowledge of current scientific and technological developments in

	the field
Applying knowledge and understanding on:	• Ability to apply knowledge in the many areas related to the production and evaluation of the quality of fish products with particular reference to the treatment of fish products in relation to production characteristics • know how to understand and use the results of research and experimentation in the sector, increasingly expanding its professional preparation for solving problems in the management of the fish supply chain.

Soft skills	• Ability to correctly orient choices to ensure high quality standards of the fish product
	• Ability to analyse and link knowledge on different species of zootechnical interest commercial shelf-life of foods and food safety.
	• Communicating knowledge and understanding:
	  o Ability to express in oral and written form the theoretical concepts acquired, using appropriately the scientific language and the specific lexicon used for the description of the quality of fish products.
	  o Ability to describe, also through application examples, the practical aspects and the potential impact of this discipline on the research and development and quality control activities of the food industry.
	  o Ability to assess the influence of individual process steps on the chemical and sensory quality of the finished product.
	• Capacities to continue learning:
	  o Ability to deepen and update their knowledge on the application of the impact of the handling procedure in aquaculture and on the killing procedure on post-mortem quality.
	  o Ability to use the most appropriate conservation techniques in relation to the type of fish product.

Syllabus	
Content knowledge	• Structure and purpose of the course. The multiple meanings of the concept of quality when applied to fishery and aquaculture products. The consumption of fish in Italy. Product quality. Operating methods in the main species of both breeding and fishing. Nutritional and dietary quality. The new LARN (Recommended Intake Levels of Energy and Nutrients for the Italian Population, edition 2012) as a prerequisite for understanding the range of coverage of human needs on average allowed by fish products. Synthetic reference to the compositional characteristics of fish, molluscs and crustaceans in the meaning of "naturally functional foods" recently attributed to these foodstuffs. Recent guidelines for proper nutrition labelling and information (GDA): principles and application to fish products. Description of catch fishing, aquaculture and mariculture and their influence on the quality characteristics of fishery products. Organoleptic quality. Mode of capture, killing and transport. Classes of freshness. Methods of evaluating the fresh product. Labelling and traceability. Freshness quality. Post-fatal modifications to fish, molluscs and crustaceans, as a cognitive prerequisite to illustrate the main chemical, physical and sensory methods currently available to capture these transformations. Quality Index Method (QIM): inspiring principles and undisputed advantages for the evaluation of Freshness quality.
Texts and readings	• Lecture notes and lecture materials provided during the course. Alasalvar C., Miyashita K., Shahidi F., Wanasundara U. Handbook of seafood quality, safety and health applications. Wiley-Blackwell, Chichester, West

	Sussex, UK, 2010. Lie Ø. (Ed.), Improving farmed fish quality and safety. Woodhead Publishing Limited, Cambridge, UK, 2008. • Martinsdottir E., Sveinsdottir K., Luten J., Schelvis-Smit R., Hyldig G., Valutazione sensoriale della freschezza del pesce – Manuale di riferimento per il settore ittico. QIM-Eurofish, Svansprent ehf, Iceland, 2004.
Notes, additional materials	• Scientific papers • Nollet L.M.L. Toldrà F. (Eds), Sensory analysis of foods of animal origin, Cap. da 12 a 17, CRC, Boca Raton, FL, USA, 2011
Repository	All teaching material will be available to students on web platforms (class Teams code *hltde1t*).

Assessment	
Assessment methods	The exam consists of an oral test on the topics developed during the theoretical and theoretical-practical lessons in the classroom, in the laboratory and in the didactic visits, as reported in the Teaching Regulations of the Degree Course in Food Science and Technology (art. 9) and in the study plan (Annex A). For students enrolled in the course year in which the teaching is carried out, there is an exemption test, which consists of a written test on topics developed by the date of exemption. The test will be evaluated in thirtieth and in case of positive outcome, in the final oral exam the interview will focus on the remaining part of the teaching content. The results of the exemption test contribute to the assessment of the proficiency test and are valid for one academic year.
Assessment criteria	• Knowledge and understanding: • Describe the solution to the multiple application problems along the entire aquaculture supply chain, from breeding to the quality of the final product. • Describe the technical aspects of quality management of the fishery product in relation to the scientific and technological aspects of the sector. • • Knowledge and understanding applied: • Apply techniques related to areas related to the production and evaluation of the quality of fishery products and, in particular, exhibit. • Apply the results of research and experimentation of the sector aimed at solving problems in the management of the fish supply chain. • Autonomy of judgment: • Correctly orient the choices to ensure high quality standards of the fish product and evaluate the influence of the individual process steps on the chemical and sensory quality of the finished product. • Communication skills: • To express the technical-scientific lexicon in an appropriate way and to justify the statements on the arguments. • Describe, also through application examples, the practical aspects and the potential impact of this discipline on the research and development and quality control activities of the fishing industry.
Final exam and grading criteria	The grade of the exemption test and the proficiency examination is attributed in thirtieth. For students who have taken the waiver test with a mark of 18 or more, upon completion of the proficiency test, the assessment is expressed by the arithmetic mean of the grade of the two tests. To achieve a high assessment, the student must have developed independent

	judgment and adequate argumentation and exposure skills.
Further information	