

General information	
Academic subject	Fish and fishery products Hygiene and Safety Control
Degree course	Veterinary Medicine
Academic Year	2021/2022
European Credit Transfer and Accumulation System (ECTS)	3
Language	italian
Academic calendar (starting and ending date)	II Bimestre
Attendance	Mandatory

Professor/ Lecturer	
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Department and address	Veterinary Medicine Campus – Valenzano (BA)
Virtual headquarters	Department of Veterinary Medicine Sector “ Food Safety”
Tutoring (time and day)	Tuesday: 13.00-14.00 hours Thursday: 13.00-14.00 hours (upon request by email)

Syllabus	
Learning Objectives	The course provides the essential and fundamental knowledge elements to assess and manage the hygienic and safety of the fishery product chain, through knowledge of risk and hazard management and sector regulations.
Course prerequisites	The student must be familiar with EC Reg. 852/04 on production hygiene and have acquired the principles of the HACCP system; he/she must have acquired knowledge of food microbiology and environmental toxicology. EU legislation on traceability of fish and fish products,
Contents	<p>Area: Food Safety and Quality and professional Training</p> <p>Fishing techniques and quality of fishery products. Taxonomy of fishery products and taxonomic keys for the recognition of the main commercialized fish species. Techniques of conservation and processing of fishery products and safety control of production. Additives in fishery products. Food laws and standards, national and international legislation concerning the fish sector, EU legislation on traceability of fish and fish products, labelling for product traceability and labelling requirements. Techniques for the evaluation of the freshness of fishery products according to EC Reg. 2406/96. Quality analysis of canned, frozen, cured and pickled fish products. The parasites of edible fish, inspection techniques. EC Reg 2074/2005. Chemical-physical techniques for the determination of the freshness of fishery products. Mackerel poisoning, histamine and biogenic amine control according to Reg.CE 1441/07. Fish actively and passively toxic and veterinary control. Inspection of fishery products and evaluation of freshness. Microbiology of fishery products. Food Fraud in the Fisheries Sector and inspection requirements. Contaminants in the Fishery supply chain: heavy metals, pesticides, PAHs, PCBs, according to EC Reg. 1881/06.</p> <p>Application of HACCP concept in surveillance and quality assurance programmes for raw, frozen, canned, cured, irradiated, cooked and chilled, modified atmosphere packaged and freeze dried products</p>
Books and bibliography	PALESE L. A. “Il controllo sanitario e qualitativo dei prodotti alimentari della pesca”

		Ed. Piccin TIECCO G. "Igiene tecnologia degli alimenti di o.a." Ed. Edagricole	
Additional materials		Lesson Notes and slides projected in class.	
Work schedule			
Total	Lectures	Hands on (Laboratory, working groups, seminars, field trips)	Out-of-class study hours/ Self-study hours
Hours			
75	26	25	24
ECTS			
3	2	1	
Teaching strategy		<p>The theoretical part of the course takes place in a classroom equipped with multimedia tools such as PC, projector, internet connection and educational films and power point slides will be shown.</p> <p>The practical exercises are carried out both at the chemistry and food microbiology laboratories of the Food Safety Unit of DiMEV and at Apulian marineries and/or fish processing companies. During these exercises, the students, divided into small groups (maximum 10 people), are supervised by the holder of the course, by collaborators or external personnel in the case of field exercises.</p> <p>Learning tests are provided during the course.</p>	
Expected learning outcomes			
Knowledge and understanding on:		<ul style="list-style-type: none"> ○ acquire the ability to recognise the main fish species marketed and to indicate their common and scientific names ○ assessing the freshness of fishery products by applying the techniques provided by the legislation in force ○ acquire the inspection and analytical techniques for assessing the hygienic-sanitary safety of fresh and processed fishery products ○ know the fishery regulations at EU and national level 	
Applying knowledge and understanding on:		<ul style="list-style-type: none"> ○ to control the marketing of fish products at every stage of the chain ○ to carry out inspection of fresh and processed products, according to the mandatory regulations 	
Soft skills		<ul style="list-style-type: none"> ● <i>Making informed judgments and choices</i> <ul style="list-style-type: none"> ○ organize the audit system for the control of the fisheries sector ○ assess regulatory compliance in fisheries companies ○ assess yearly and sanitary frauds ● <i>Communicating knowledge and understanding</i> <ul style="list-style-type: none"> ○ carry out group exercise activities to combine theory and practice and learning to communicate in appropriate language ○ interact and communicate with technical staff in fishery products industry ○ organize presentations in power point or other media communication systems using language properties and mastery of technical-scientific terminology ● <i>Capacities to continue learning</i> <ul style="list-style-type: none"> ○ develop the desire for competence, beyond the didactic provided, as a 	

	<p>motivational factor to succeed in the profession.</p> <ul style="list-style-type: none"> ○ introduce learning topics indicated by the student
Assessment and feedback	
Methods of assessment	The verification of the acquired knowledge is verified by a practical test of species recognition, together with an inspection assessment of the freshness status of the product, and an oral test on subjects of the programme.
Evaluation criteria	<ul style="list-style-type: none"> • <i>Knowledge and understanding</i> <ul style="list-style-type: none"> ○ The student must demonstrate knowledge of inspection methods for the recognition of species, freshness of the catch, etc. ○ The student must know the inspection behaviour in case of seafood fraud. ○ The student must recognise the risks and hazards of the fish industry. • <i>Applying knowledge and understanding</i> <ul style="list-style-type: none"> ○ The student should be able to carry out an audit of standard operating procedures in fishing companies. • <i>Autonomy of judgment</i> <ul style="list-style-type: none"> ○ The student must be able to orientate himself/herself in the application of the FISH and fishery products regulations. • <i>Communicating knowledge and understanding</i> <ul style="list-style-type: none"> ○ The student must demonstrate language skills and mastery of mandatory legislation • <i>Capacities to continue learning</i> <ul style="list-style-type: none"> ○ The student demonstrates ability to learn and an interest in the discipline with in-depth scientific studies of topics not specifically included in the teaching programme.
Criteria for assessment and attribution of the final mark	<p>The examination is considered passed when the mark is greater than or equal to 18. The final assessment will be based on:</p> <p><u>Objective tests</u>: well tailored to the objectives to be checked and make the judgement absolutely independent of the subjectivity of the teacher. independent of the subjectivity of the teacher. The objectivity consists in the possibility of predetermining the "accuracy" of the answers.</p> <p><u>Non-objective tests</u>: they provide open-ended stimuli and answers and allow the evaluation of complex mental processes, such as the ability to communicate one's own thoughts, the ability to construct a logical discourse and to grasp the essential elements of an argument, the critical sense and the ability to find original solutions.</p>
Additional information	